



# Radiated Composite Gain Data\_Radio 4\_5GHz UNII 2C-4 and 6GHz

# Appendix C

|           |               |                 |                 |                 |                 |                 |                 |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
|-----------|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Θ(7.5°)   | -2.01/-1.84   | -1.51/-1.73     | -2.05/-2.65     | -3.26/-5.08     | -7.36/-9.59     | -13.83/-18.7    | -18.85/-13.39   | -10.58/-8.96      | -8.72/-8.96       | -9.77/-11.39      | -14.95/-17.19     | -12.39/-9.52      | -7.01/-5.57       | -5.12/-4.81       | -4.41/-4.76       | -5.3/-5.61        | -6.58/-7.15       | -6.71/-6.19       | -6.09/-5.78       | -5.65/-5.61       | -5.58/-4.65       | -3.66/-3.36       | -3.23/-2.63       | -2/-2.22          |
| Θ(15°)    | -3.22/-2.25   | -1.56/-0.83     | -0.72/-1.53     | -3.35/-5.75     | -8.48/-10.67    | -12.44/-15.47   | -16.92/-15.06   | -11.03/-8.4       | -8.32/-8.55       | -9/-11.07         | -14.35/-16.6      | -16.05/-14.9      | -15.43/-15.67     | -14.63/-10.28     | -8.54/-6.69       | -5.05/-3.71       | -3.12/-3.2        | -3.47/-4.33       | -6.97/-11.76      | -17.88/-16.27     | -10.59/-7.53      | -6.1/-6.25        | -7.19/-8.34       | -7.24/-5.77       |
| Θ(22.5°)  | -1.47/-2.51   | -2.19/-0.75     | 0.090/1.7       | -0.06/-0.2      | -1.14/-3.18     | -4.23/-3.86     | -3.97/-1.02     | -17.17/-9.44      | -4.39/-4.03       | -6.27/-6          | -2.27/-0.74       | -0.07/0.69        | 0.89/0.18         | -1.35/-3.79       | -7.49/-8.39       | -6.71/-5.91       | -5.33/-5.05       | -5.36/-3.97       | -6.18/-7.6        | -4.5/-3.02        | -4.03/-5.7        | -4.98/-2.67       | -1.27/-0.75       |                   |
| Θ(30°)    | -6.05/-4.63   | -0.31/-1.2      | 0.57/-0.64      | -0.61/0.45      | 0.19/-2.33      | -7.23/-11.58    | -7.14/-6.22     | -9.91/-15.33      | -11.71/-11.76     | -6.98/-1.08       | 1.67/1.85         | 0.73/1.25         | 2.41/-4.7         | -1.38/-2.41       | -2.2/-2.24        | -1.45/-0.1        | 0.76/1.68         | 2/1.38            | -11.94/-4.72      | -1.85/-3.38       | -2.38/0.23        | 0.09/-1.85        | -2.65/-2.33       | -2.28/-3.53       |
| Θ(37.5°)  | -6.33/-3.15   | 1.4/-2.28       | 1.56/0.18       | -0.39/-0.7      | 0.41/-0.22      | -2.59/-4.52     | -5.16/-7.5      | -11.51/-13.99     | -13.48/-19        | -6.53/-1.68       | -0.76/-0.29       | 1.06/0.46         | -0.10/-8.2        | 1.18/0.39         | 0.62/1.78         | 3.21/4.08         | 2.74/0.42         | -1.13/-1.4        | -1.6/-5.2         | -5.02/-2.56       | -3.74/-2.25       | 0.33/1.13         | -1.46/-5.14       | -3.84/-3.46       |
| Θ(45°)    | -10.65/-3.96  | -2.04/-1.98     | -1.04/-0.87     | -2.75/-3.88     | -3.41/-3.13     | -2.88/-1.32     | 1.51/0.14       | -5.53/-6.82       | -4.11/-8.28       | -9.11/-4.38       | -3.35/-1.2        | 2.21/1.8          | 0.61/0.22         | -1.31/-1.98       | 1.63/5            | 4.89/0.75         | 3.43/69           | 1.99/-1.43        | -4.2/-1.74        | -3.03/-1.85       | 0.75/-2.03        | -6.68/1.41        | 1.77/-3.07        | -4.96/-1.8        |
| Θ(52.5°)  | -11.71/-1.76  | -1.04/-1.95     | -1.55/-1.78     | -3.8/-6.15      | -2.77/-0.31     | 0.21/1.15       | 2.16/0.43       | -0.84/-1.4        | -0.4/-5.12        | -3.92/-3.15       | 0.52/1.49         | 1.65/1.63         | 0.01/-0.7         | -1.83/-0.34       | 1.85/0.06         | 3.03/2.15         | -0.21/1.69        | 2.53/2.01         | -1.09/-0.87       | -1.09/-4.4        | 2.34/0.68         | -7.57/-1.63       | 1.16/-2.41        | -5.13/-13.76      |
| Θ(60°)    | -6.79/-0.62   | 0.12/-2.55      | -9.01/-14.6     | -12.2/-16.86    | -3.16/-1.78     | 2.15/3.86       | 3.93/-2.15      | 0.63/-0.1         | 0.55/-1.81        | -2.32/-2.83       | -1.23/-1.04       | 0.49/1.34         | 0.86/-1.21        | -2.43/-3.52       | -1.47/-0.39       | 0.12/2.82         | 2.64/2.25         | 1.15/-1.47        | 1.98/-0.64        | 1.52/-2.47        | 1.18/-0.06        | -2.55/-5.16       | -1.38/-2.7        | -4.92/-10.38      |
| Θ(67.5°)  | -4.72/1.34    | 2.01/1.86       | -1.21/-6.46     | -9.18/-6.4      | -0.423/0.7      | 2.625/11        | 1.4/-0.6        | -0.61/-0.66       | -1.09/-3.95       | -1.32/-2.14       | 2.03/2.25         | 1.36/-2.81        | -2.78/-0.84       | 1.48/1.31         | -0.81/0.06        | 2.04/2.69         | 2.16/-1.48        | 0.83/-1.73        | 1.26/-0.42        | -1.21/-1.64       | 0.81/-9.34        | -1.23/-0.8        | -3.23/-5.71       |                   |
| Θ(75°)    | -4.98/1.23    | 1.98/3.3        | 0.54/-3.52      | -9.96/-4.36     | 1.17/2.63       | 1.96/4.21       | 4.85/-0.57      | 1.53/-1.22        | -2.58/-0.76       | -1.51/-4.17       | -2.93/-2.84       | 2/1.13            | -0.85/-2.64       | -3.77/-1.48       | 1.87/1.41         | -1.47/-3.85       | 0.12/1.39         | 3.1/-1.5          | -0.8/-3.57        | -0.86/0.82        | -1.98/-2.83       | 2.52/-6.69        | 0.02/-0.92        | -2.09/-3.32       |
| Θ(82.5°)  | -5.35/-0.68   | -0.32/1.72      | -1.15/-3.08     | -9.54/-5.61     | 0.31/3.8        | 0.31/2.18       | 2.83/-0.53      | 0.76/-2.01        | -5.16/-3.29       | -2.74/-2.25       | -3.93/-0.09       | -0.1/-1.69        | -1.13/-3.97       | -3.37/-1.87       | -0.71/-1.11       | -4.62/-6.49       | -1.44/-2.21       | 1.89/-1.14        | -4.18/-5.98       | -3.8/-0.29        | -3.46/-3.91       | 2.39/-5.06        | -0.3/-2.43        | -2.27/-5.92       |
| Θ(90°)    | -6.4/-3.24    | -3.11/-4.07     | -2.32/-3.01     | -9.17/-1.02     | -2.88/-1.37     | -2.62/-1.08     | -0.99/-2.72     | -1.38/-3.2        | -9.76/-4.7        | -4.12/-4.01       | -5.93/-2.79       | 0.44/-1.79        | -2.15/-2.74       | -3.27/-4.5        | -2.42/-1.4        | -6.69/-6.79       | -2.34/-5.22       | -0.99/-3.4        | -7.36/-7.93       | -11.17/-3.1       | -5.18/-8.14       | 0.77/-6.66        | -2/-4.05          | -3.63/-3.95       |
| Θ(97.5°)  | -7.44/-5.75   | -4.43/-3.04     | -4.29/-6.25     | -13.25/-10.39   | -5.2/-4.47      | -4.74/-4.32     | -2.63/-5.11     | -3.36/-6.05       | -12.57/-4.76      | -5.23/-5.84       | -6.35/-3.52       | -2.68/-4.49       | -3.04/-4.41       | -4.78/-4.63       | -5.41/-4.79       | -7.43/-6.35       | -2.97/-5.55       | -3.97/-6.87       | -8.49/-12.32      | -18.62/-7.64      | -8.31/-12.74      | -2.85/-10.3       | -5.9/-5.58        | -3.41/-4.77       |
| Θ(105°)   | -11.35/-6.45  | -7.1/-5.86      | -9.04/-14.76    | -19.05/-8.14    | -5.4/-55        | -6.11/-6.4      | -3.32/-7.84     | -12.51/-6.18      | -6.22/-9.09       | -5.55/-2.19       | -2.52/-4.96       | -7.08/-5.8        | -6.27/-7.08       | -9.84/-7.3        | -5.2/-5.55        | -5.86/-1.4        | -7.01/-10.85      | -14.9/-8.05       | -3.8/-18.52       | -5.96/-13.67      | -9.03/-7.4        | -6.87/-6.59       |                   |                   |
| Θ(112.5°) | -17.02/-11.69 | -12.28/-8.12    | -8.75/-11.16    | -9.4/-9.09      | -5.66/-6.23     | -6.74/-8.36     | -6/-11.7        | -8.37/-13.4       | -13.11/-7.38      | -8.42/-13.75      | -6.09/-7.75       | -9.47/-4.08       | -7.11/-7.15       | -8.55/-11.33      | -9.5/-8.21        | -7.89/-12.21      | -8.54/-7.04       | -10.02/-7         | -7.83/-13.21      | -18.42/-12.5      | -7.31/-17.72      | -18.42/-12.5      | -11.94/-10.62     | -9.15/-9.92       |
| Θ(120°)   | -15.57/-19.38 | -13.34/-13.92   | -8.16/-13.34    | -11.24/-10.95   | -11.04/-11.92   | -11.71/-12.15   | -9.44/-12.44    | -10.74/-14.57     | -13.88/-11.11     | -11.22/-13.82     | -8.5/-9.11        | -6.65/-9.18       | -6.68/-7.95       | -5.54/-6.61       | -10.65/-9.77      | -7.4/-12.16       | -10.05/-9.77      | -12.39/-12.09     | -8.32/-14.23      | -18.35/-19.24     | -10.69/-18.7      | -17.32/-19.04     | -18.31/-14.02     | -11.41/-16.4      |
| Θ(127.5°) | -16.33/-17.4  | -18.8/-18.28    | -15.07/-18.83   | -8.99/-14.57    | -11.67/-18.62   | -13.42/-15.61   | -10.74/-15.03   | -18.19/-18.22     | -12.79/-14.29     | -15.13/-14.22     | -11.04/-10.62     | -7.72/-2.74       | -3.77/-8.47       | -9.3/-10.45       | -9.81/-7.67       | -13.79/-10.5      | -11.76/-11.45     | -6.71/-11.45      | -15.81/-12.88     | -7.88/-12.23      | -18.7/-18.92      | -13.81/-14.01     | -18.46/-18.28     |                   |
| Θ(135°)   | -18.53/-17.86 | -16.12/-18.23   | -17.26/-10.77   | -11.02/-16.51   | -10.65/-12.7    | -10.66/-8.76    | -9.09/-13.87    | -19.18/-41        | -16.19/-18.71     | -12.35/-9.85      | -10.85/-9.12      | -17.96/-9.42      | -7.07/-10.01      | -8.92/-14.17      | -9.7/-6.36        | -13.01/-18.64     | -11.24/-9.74      | -7.31/-12.49      | -17.81/-18.6      | -10.36/-9.41      | -12.47/-17.99     | -15.74/-17.73     | -18.62/-17.59     |                   |
| Θ(142.5°) | -19.14/-19.09 | -16.71/-11.95   | -15/-18.39      | -12.19/-19.14   | -16.5/-19.4     | -18.87/-14.46   | -18.49/-18.92   | -18.43/-16.37     | -18.82/-19        | -10.79/-9.11      | -11.93/-10.3      | -9.5/-8.73        | -8.39/-8.08       | -7.9/-11.26       | -11.92/-10.57     | -10.37/-9.06      | -14.61/-15.44     | -14.92/-11.2      | -13.83/-18.42     | -18.45/-16.41     | -14.09/-12.94     | -16.06/-18.66     | -17.02/-12.2      | -13.54/-16.23     |
| Θ(150°)   | -15.64/-16.42 | -16.88/-12.79   | -16.04/-17.2    | -11.96/-14.38   | -18.37/-13.11   | -13.73/-17.06   | -16.69/-19.77   | -18.21/-18.57     | -18.85/-18.31     | -17.96/-18.75     | -18.35/-13.88     | -9.66/-10.32      | -15.19/-18.05     | -18.54/-12.58     | -11.37/-15.82     | -13.37/-13.56     | -17.88/-10.74     | -14.2/-15.87      | -18.16/-16.36     | -14.68/-17.53     | -19.26/-18.52     | -17.39/-13.84     | -1.56/-18.81      | -18.35/-18.93     |
| Θ(157.5°) | -14.53/-12.83 | -14.89/-17.2    | -14.59/-10.26   | -9.42/-11.04    | -15.97/-17.46   | -16.07/-17.71   | -18.7/-18.09    | -17.46/-16.59     | -18.46/-19.35     | -18.41/-16.57     | -16.65/-13.61     | -12.16/-10.81     | -12.14/-18.18     | -18.26/-14.88     | -14.68/-12.64     | -11.69/-13.87     | -13.99/-12.88     | -17.42/-14.63     | -13.13/-15.15     | -17.1/-18.55      | -16.5/-18.02      | -18.27/-18.53     | -17.56/-18.18     | -17.46/-18.25     |
| Θ(165°)   | -18.27/-18.3  | -18.54/-18.73   | -18.53/-14.46   | -12.37/-14.84   | -17.77/-18.31   | -18.39/-18.98   | -19.07/-19.25   | -18.64/-17.78     | -18.97/-15.02     | -11.49/-9.21      | -8.62/-9.16       | -12.31/-17.23     | -16.88/-14.25     | -13.79/-18.72     | -13.08/-9.79      | -9.31/-10.5       | -12.74/-15.52     | -17.56/-18.76     | -18.91/-18.93     | -17.39/-18.53     | -18.75/-17.71     | -18.93/-17.66     | -17.93/-17.89     | -18.13/-18.7      |
| Θ(172.5°) | -12.72/-11.94 | -11.36/-11.97   | -12.99/-15.07   | -17.14/-17.93   | -17.11/-15      | -14.28/-15.73   | -16.59/-16.35   | -15.09/-14.77     | -15.28/-16.25     | -16.16/-12.28     | -10.08/-5.98      | -10.95/-14.3      | -14.18/-14.77     | -17.31/-19.42     | -18.74/-18.05     | -17.32/-16.74     | -14.83/-13.7      | -12.96/-12.09     | -12.65/-15.09     | -16.6/-17.4       | -17.46/-16.92     | -16.43/-13.96     | -11.78/-9.74      | -8.62/-7.71       |
| Θ(180°)   | -5.2/-5.3     | -5.5/-5.96      | -6.88/-7.8      | -8.83/-9.9      | -11.44/-13.46   | -16.15/-18.56   | -17.36/-18.58   | -19.47/-17.31     | -15.33/-12.25     | -9.88/-8.65       | -8.27/-7.73       | -6.47/-5.45       | -5/-5.38          | -5.82/-5.51       | -6.16/-7.17       | -8.77/-11.31      | -15.23/-17.94     | -17.88/-18.84     | -18.04/-17.86     | -15.25/-13.68     | -13.31/-13.1      | -12.12/-11.41     | -10.66/-10.58     | -10.63/-9.65      |
| Freq(Hz)  | 6.475GHzPol.  | Phi/Ant. 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°)     | -7.67/-8.9    | -8.85/-6.51     | -6.95/-7.31     | -2.86/-8.85     | -8.7/-8.44      | -8.29/-9.02     | -9.73/-9.89     | -9.78/-9.47       | -9.11/-9.5        | -10.18/-9.48      | -10.07/-10.42     | -9.87/-9.86       | -8.45/-7.89       | -6.58/-5.58       | -4.98/-4.62       | -4.9/-5.78        | -6.26/-6.83       | -7.79/-9.36       | -12.21/-12.64     | -11.34/-8.74      |                   |                   |                   |                   |
| Θ(7.5°)   | -17.85/-11.96 | -7.48/-5.94     | -5.2/-4         | -2.9/-2.11      | -1.51/-1.32     | -1.69/-2.01     | -2.68/-3.68     | -4.9/-7.58        | -9.94/-13.35      | -14.45/-12.75     | -10.14/-8.44      | -7.37/-7.77       | -8.02/-7.2        | -7.89/-10         | -10.94/-11.11     | -11.32/-11.57     | -10.79/-12.17     | -12.86/-12.8      | -11.45/-11.07     | -10.26/-10.26     | -10.74/-9.52      | -8.96/-9.32       | -11.36/-10.99     | -10.82/-11.4      |
| Θ(15°)    | -8.36/-9.05   | -7.64/-5.69     | -4.46/-3.36     | -2.04/-1.27     | -0.6/-0.45      | -0.55/-1.42     | -3.17/-4.69     | -7.03/-10.14      | -13.89/-18.47     | -17.3/-17.72      | -18.04/-17.91     | -14.1/-12.36      | -11.36/-9.46      | -7.48/-6.55       | -7.93/-7.95       | -10.66/-13.61     | -15.05/-12.78     | -11.93/-13.06     | -12.42/-13.66     | -16.8/-17.68      | -17.06/-17.17     | -15.99/-14.19     | -19.17/-19.35     | -18.03/-13.57     |
| Θ(22.5°)  | -8.09/-17.89  | -9.33/-4.48     | -3.4/-3.43      | -3.1/-2.35      | -1.65/-1.37     | -1.5/-2.07      | -3.64/-7.17     | -18.38/-17.55     | -10.95/-6.77      | -5.71/-7.87       | -10.26/-8.85      | -10.71/-13.19     | -12.93/-13.32     | -10.46/-9.59      | -12.98/-17.21     | -10.65/-7.61      | -9.54/-6.33       | -4.98/-4.92       | -5.48/-5.78       | -9.4/-17.99       | -15.42/-14.9      | -18.06/-12.59     | -6.25/-5.48       |                   |
| Θ(30°)    | -11.68/-12.27 | -6.42/-6.3      | -8.44/-9.5      | -7.59/-5.28     | -3.54/-2.75     | -4.98/-10.72    | -17.74/-13.83   | -8.69/-5.37       | -7.28/-5.32       | -1.5/-1.65        | -4.59/-6.1        | -11.77/-11.72     | -16.93/-17.52     | -13.38/-9.68      | -8.54/-10.47      | -8.69/-6.67       | -6.47/-19.31      | -6.02/-2.74       | -3.03/-3.32       | -2.39/-0.9        | -1.07/-5.62       | -7.63/-6.07       | -10.23/-13.29     | -6.7/-8.08        |
| Θ(37.5°)  | -14.86/-14.96 | -19.43/-13.79   | -18.39/-16.12   | -16.24/-18.42   | -10.52/-5       | -2.87/-4.7      | -11.27/-9.5     | -6.32/-5.72       | -7.37/-11.6       | -2.31/-2.23       | -2.5/-4.44        | -5.37/-9.6        | -10.66/-6.15      | -10.4/-8.97       | -7.4/-15.49       | -10.49/-16.08     | -9.92/-18.69      | -10.78/-8.15      | -8.59/-1.63       | -5.79/-4.94       | -2.51/-3.5        | -4.05/-2.16       | -3.03/-1          | -8.69/-8.27       |
| Θ(45°)    | -12.59/-9     | -18.73/-10.51   | -17.09/-8.55    | -7.99/-7.86     | -19.02/-17.29   | -18.44/-10.34   | -12.66/-15.16   | -17.5/-13.96      | -6.57/-10.08      | -13.87/-4.73      | -6.39/-8.98       | -9.96/-15.08      | -14.05/-8.74      | -9.28/-10.16      | -4.41/-18.53      | -8.68/-13         | -18.55/-18.48     | -11.97/-18.55     | -5.73/-6.68       | -9.82/-12.01      | -5.77/-3.97       | -3.82/-2.94       | -0.65/-7.35       | -4.54/-9.86       |
| Θ(52.5°)  | -8.06/-8.7    | -10.01/-8.43    | -9.49/-8.1      | -6.85/-5.44     | -16.86/-17.34   | -10.68/-3.57    | -11.13/-8.13    | -11.72/-13.27     | -15.03/-9.75      | -13.36/-12.53     | -14.05/-9.77      | -14.06/-12.46     | -18.08/-12.12     | -17.92/-5.99      | -5.41/-13.57      | -6.63/-17.79      | -17.78/-12.59     | -9.36/-6.72       | -4.26/-6.02       | -2.2/-6.36        | -3.87/-5.43       | -10.71/-11.35     |                   |                   |
| Θ(60°)    | -5.63/-14.01  | -8.72/-13.21    | -11.52/-12.29   | -9.09/-10.28    | -16.99/-12.74   | -12.64/-2.97    | -12.68/-6.97    | -17.54/-11.25     | -15               |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |



# Radiated Composite Gain Data\_Radio 4\_5GHz UNII 2C-4 and 6GHz

# Appendix C

|           |               |                 |                 |                 |                 |                 |                 |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
|-----------|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Θ(60°)    | -4.73/-4.58   | -2.93/-5.19     | -14.77/-7.61    | -9.52/-8.85     | -3.54/-1.64     | -0.390/91       | 2.452/74        | 2.62/-2.24        | -2.11/-3.12       | -0.78/-1.18       | 0.910/61          | 1.890/65          | 0.87/-1.02        | -2.95/-5.82       | -2.59/0.76        | 0.880.5           | 3.74/5.4          | 3.89/161          | 0.11/-2.53        | -5.91/-3.58       | -0.18/-3.14       | -4.57/-0.77       | -3.24/-1.75       | -7.06/-8.44       |
| Θ(67.5°)  | -2.1/-0.02    | 2.28/0.57       | -9.85/-5.39     | -2.89/-9.04     | -5.34/-0.01     | 1.47/2.29       | 2.4/4.54        | 3.5/-1.27         | -5.27/-2.39       | 0.48/-2.7         | 1.08/0.05         | -4.31/0.59        | -2.61/-2.49       | -3.79/-9.3        | -3.55/0.44        | 0.64/0.9          | 2.55/4.14         | 3.4/1.5           | -0.82/-1.25       | -2.58/-0.7        | -0.03/-2.9        | -3.27/0.19        | -7.41/-3.07       | -6.82/-7.92       |
| Θ(75°)    | -0.47/1.34    | 4.2/2.1         | -8.05/-4.83     | -1.37/-5.19     | -9.19/0.52      | 0.94/1.6        | 0.152/11        | 1.84/-0.55        | -4.92/-2.61       | 0.1/-5.41         | -0.91/-1.21       | -5.89/0.8         | -2.53/-2.56       | -5.51/-10.52      | -5.11/-0.65       | -0.76/-0.22       | 0.913/92          | 2.92/2.38         | -1.68/-2.59       | -2.32/-0.4        | -1.09/-0.09       | -6.67/-1.7        | -2.71/-5.02       |                   |
| Θ(82.5°)  | -0.97/1.26    | 3.47/0.45       | -12.82/-8.92    | -4.21/-5.15     | -8.10/3.1       | -2.21/-0.12     | -2.19/-0.37     | -3.96/-2.56       | -6.23/-0.72       | -1.52/-7.88       | -5.14/-3.67       | -0.59/-0.76       | -5.66/-6.78       | -8.87/-8.3        | -5.05/-1.63       | -1.28/-3.33       | -0.29/2.91        | 2.47/1.67         | -5.52/-1.23       | -1.25/1.82        | -5.39/-1.19       | 0.330/65          | -3.43/-1.8        | -1.85/-3.69       |
| Θ(90°)    | -3.4/-0.05    | 0.7/-2.55       | -14.16/-18.48   | -7.86/-9.73     | -10.33/-2.79    | -5.71/-2.85     | -4.51/-1.16     | -7.6/-8.88        | -8.3/-2.37        | -2.82/-11.21      | -7.51/-0.54       | -2.33/-0.31       | -4.02/-10.34      | -4.81/-6.65       | -8.75/-3.62       | -1.38/-1.09       | -3.85/0.7         | 0.47/-1.13        | -9.25/-5.09       | -5.74/0.37        | -7.45/-2.93       | -0.66/-1.22       | -5.33/-3.03       | -1.55/-4.84       |
| Θ(97.5°)  | -6.37/-2.2    | -0.28/-0.42     | -10.43/-15.04   | -8.9/-11.66     | -17.2/-7.52     | -7.16/-4.66     | -7.85/-3.06     | -9.16/-7.81       | -12.65/-4.04      | -6.38/-11.52      | -10.93/-3.92      | -3.03/-4.17       | -6.48/-9.39       | -7.61/-11.52      | -2.62/-5.37       | -2.79/-9.03       | -6.18/-2.11       | -15.8/-17.46      | -19.02/-2.54      | -11.5/-6.98       | -4.95/-6.07       | -8.85/-6.18       | -1.77/-6.37       |                   |
| Θ(105°)   | -6.4/-4.36    | -3.88/-5.07     | -11.43/-10.23   | -9.57/-13.13    | -11.95/-10.31   | -10.77/-5.22    | -10.92/-8.93    | -9.67/-6.86       | -13.87/-8.97      | -10.52/-11.49     | -10.75/-7.48      | -5.58/-3.9        | -12.09/-7.45      | -12.68/-18.28     | -10.03/-9.36      | -4.13/-12.65      | -9.12/-2.22       | -3.07/-3.78       | -11.16/-12.18     | -18.63/-3.98      | -8.97/-8.17       | -9.22/-7.33       | -9.36/-9.2        | -4.85/-6.82       |
| Θ(112.5°) | -9.65/-9.65   | -8.4/-14.31     | -18.69/-15.48   | -13.23/-13.03   | -7.43/-9.52     | -11.5/-6.45     | -9.16/-8.36     | -15.83/-10.84     | -17.51/-11.48     | -18.23/-11.39     | -9.13/-4.99       | -7.76/-11.65      | -10.17/-14.3      | -12.6/-8.7        | -4.61/-10.82      | -13.09/-5.16      | -4.7/-6.88        | -17.71/-18.9      | -14.4/-3.93       | -9.62/-8.83       | -10.64/-7.58      | -14.27/-10.2      | -6.67/-6.67       |                   |
| Θ(120°)   | -9.07/-11.26  | -10.6/-12.41    | -11.95/-18.2    | -18.34/-14.61   | -19.13/-16.08   | -17.12/-12.85   | -10.62/-9.67    | -16.82/-18.49     | -10.84/-9.65      | -18.77/-11.25     | -9.79/-4.91       | -9.23/-6.8        | -13.83/-9.24      | -16.28/-12.56     | -11.95/-12.06     | -6.82/-5.63       | -17.92/-6.43      | -6.23/-9.16       | -16.52/-19.42     | -9.58/-9.35       | -8.99/-8.55       | -14.25/-11.63     | -12.66/-14.2      | -9.9/-10.96       |
| Θ(127.5°) | -7.67/-16.03  | -10.07/-13.09   | -13.56/-17.26   | -17.21/-13.77   | -12.39/-18.17   | -16.42/-9.84    | -17.85/-17.89   | -17.96/-17.6      | -12.62/-14.39     | -15.99/-14.14     | -8.32/-10.92      | -9.64/-13.66      | -16.97/-10.17     | -17.48/-8.68      | -14.75/-9.81      | -6.44/-6.92       | -17.78/-9.46      | -6.18/-7.94       | -15.49/-14.9      | -16.43/-7.17      | -4.77/-10.8       | -19.22/-9.28      | -11.99/-12.86     | -11.09/-17.11     |
| Θ(135°)   | -18.75/-18.34 | -18.99/-18.53   | -17.96/-17.8    | -17.31/-17.05   | -10.91/-17.17   | -15.97/-9.33    | -11.6/-13.24    | -14.28/-17.74     | -19.02/-15.87     | -14.57/-15.55     | -9.95/-11.27      | -8.46/-11.34      | -18.35/-14.05     | -18.93/-10.9      | -18.98/-8.3       | -5.98/-0.86       | -18.61/-18.3      | -14.11/-15.92     | -11.19/-10.3      | -10.43/-15.75     | -5.75/-11.79      | -11.78/-13.93     | -9.46/-18.16      | -17.84/-18.43     |
| Θ(142.5°) | -16.36/-17.38 | -17.59/-18.93   | -15.88/-11.17   | -11.28/-18.35   | -16.41/-14.57   | -17.27/-17.49   | -18.34/-19.28   | -18.32/-18.05     | -17.59/-13.2      | -12.06/-10.62     | -7.83/-10.82      | -18.26/-15.97     | -15.91/-19.45     | -13.99/-10.16     | -10.06/-10.84     | -16.88/-14.87     | -9.55/-18.52      | -15.03/-17.41     | -18.09/-17.61     | -14.75/-12.69     | -18.5/-13.57      | -18.61/-19.01     | -13.16/-15.03     | -15.99/-17.71     |
| Θ(150°)   | -10.19/-13.27 | -14.88/-17.16   | -18.85/-16.66   | -14.72/-18.97   | -13.7/-11.48    | -14.86/-13.51   | -14.24/-15.87   | -18.76/-19.15     | -17.65/-16.67     | -14.44/-12.09     | -11.08/-12.68     | -13.06/-18.45     | -18.55/-14.89     | -15.63/-18.65     | -17.71/-17.85     | -16.67/-19.4      | -17.3/-17.24      | -13.07/-13.33     | -15.3/-18.44      | -18.78/-17.67     | -18.87/-18.09     | -18.34/-14.54     | -12.76/-18.62     | -18.51/-16.73     |
| Θ(157.5°) | -14.53/-12.53 | -10.25/-9.57    | -12.2/-16.11    | -14.98/-14.05   | -14.31/-14.54   | -14.99/-16.95   | -18.73/-19.05   | -18.62/-18.1      | -17.36/-19.05     | -18.67/-17.44     | -18.34/-17.33     | -18.02/-18.39     | -17.72/-17.79     | -17.76/-15.94     | -16.1/-17.96      | -18.09/-15.71     | -13.48/-13.28     | -11.1/-10.86      | -12.45/-18.94     | -18.97/-19        | -17.48/-17.7      | -11.94/-14.37     | -18.75/-15.61     | -19.36/-17.44     |
| Θ(165°)   | -18.72/-17.48 | -18.73/-17.72   | -18.93/-16.18   | -16.16/-17.84   | -18.83/-19.16   | -17.86/-19.91   | -18.87/-18.22   | -19.03/-16.56     | -12.99/-16.57     | -18.4/-19.24      | -17.91/-18.75     | -17.77/-17.79     | -18.73/-14.49     | -12.33/-10.4      | -9.86/-9.17       | -8.79/-9.42       | -11.39/-14.8      | -17.25/-17.45     | -18.5/-13.57      | -13.12/-12.28     | -14.93/-17.33     | -16.07/-18.01     | -19.22/-17.9      |                   |
| Θ(172.5°) | -18.36/-19.09 | -18.47/-18.73   | -17.41/-17.37   | -18.16/-18.56   | -19.29/-17.83   | -17.73/-18.62   | -18.74/-18.6    | -16.6/-14.2       | -13.54/-12.64     | -11.1/-10.41      | -10.88/-12.28     | -14.04/-14.49     | -13.81/-12.9      | -12.12/-12.02     | -11.98/-11.65     | -11.63/-11.28     | -10.69/-10.24     | -11.56/-13.68     | -16.89/-18.26     | -18.93/-18.23     | -17.23/-18.98     | -18.65/-18.36     | -18.58/-16.41     | -13.11/-12.98     |
| Θ(180°)   | -11.13/-11.43 | -10.99/-11.05   | -10.83/-11.85   | -13.59/-15.19   | -16.4/-17.1     | -17.52/-18.86   | -19.17/-18.59   | -18.31/-19.23     | -16.09/-14.68     | -15.18/-15.36     | -15.61/-14.92     | -14.55/-15.7      | -16.38/-16.44     | -16.35/-10.91     | -10.92/-10.79     | -11.02/-11.34     | -10.84/-12.37     | -14.05/-13.97     | -15.21/-16.73     | -14.37/-13.77     | -13.38/-12.49     | -13.5/-12.76      | -11.1/-11.19      | -9.64/-8.79       |
| Freq(Hz)  | 6.995GHz      | PhiAnt.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°)     | -18.42/-13.97 | -18.05/-14.75   | -11.02/-9.5     | -7.87/-7.68     | -8.2/-8.2       | -7.34/-7.13     | -7.33/-7.55     | -7.9/-8.09        | -8.99/-9.5        | -10.59/-11.2      | -12.08/-13.15     | -15.89/-17.64     | -17.6/-18.02      | -19.13/-16.75     | -13.87/-9.69      | -8.58/-8.78       | -7.25/-7.3        | -4.88/-4.47       | -4.89/-5.36       | -5.13/-5.44       | -5.82/-5.8        | -6.79/-7.4        | -7.23/-9.21       | -15/-18.31        |
| Θ(7.5°)   | -12.13/-12.51 | -13.71/-14.91   | -17.11/-16.69   | -13.88/-13.64   | -12.47/-12.13   | -10.55/-8.95    | -8.32/-7.51     | -7.04/-6.11       | -5.72/-5.56       | -7.66/-8.41       | -12.71/-18.8      | -15.79/-11.06     | -8.32/-6.15       | -4.94/-4.75       | -2.36/-3.14       | -2.99/-3.44       | -4.22/-5.26       | -6.27/-9.16       | -7.65/-8.15       | -9.43/-10.85      | -10.41/-12.09     | -16.69/-16.38     |                   |                   |
| Θ(15°)    | -18.93/-13.95 | -9.31/-7.36     | -6.07/-5.07     | -4.16/-3.43     | -3.66/-5.12     | -9.1/-13.93     | -9.85/-5.75     | -3.85/-3.64       | -3.74/-2.59       | -1.28/-0.96       | -1.03/-2.21       | -3.83/-6.78       | -12.81/-18.46     | -18.38/-18.72     | -12.41/-9.55      | -9.85/-8.84       | -9.79/-9.52       | -5.69/-5.54       | -4.87/-4.73       | -4.04/-6.55       | -5.55/-5.3        | -5.5/-7.72        | -10.33/-16.24     | -19.18/-14.27     |
| Θ(22.5°)  | -8.56/-8.22   | -9.47/-11.01    | -9.7/23         | -5.79/-6.96     | -10.08/-12.26   | -12.19/-8.1     | -6.1/-3.82      | -2.88/-3.57       | -3.92/-3.21       | -1.51/-1.81       | -3.24/-4.95       | -8.01/-13.88      | -16.48/-12.04     | -8.49/-7.6        | -1.81/-9.42       | -7.51/-12.87      | -7.19/-7.96       | -7.89/-11.36      | -7.18/-3.46       | -3.12/-5.3        | -4.02/-0.06       | -2.36/-5.4        | -13.74/-14.6      | -14.3/-10.14      |
| Θ(30°)    | -12.81/-12.18 | -6.95/-6.16     | -4.95/-2.89     | -2.46/-5.84     | -7.31/-11.45    | -17.81/-18.57   | -11.05/-6.84    | -7.23/-4.39       | -3.59/-7.84       | -5.21/-4.44       | -0.27/-11.47      | -17.81/-16.79     | -8.58/-9.61       | -15.49/-17.42     | -7.74/-6.99       | -11.99/-11.46     | -9.57/-7.25       | -6.63/-3.72       | -2.97/-6.92       | -8.61/-6.48       | -17.78/-16.83     | -15.84/-17.2      | -15.99/-17.59     |                   |
| Θ(37.5°)  | -19.09/-7.48  | -6.72/-16.24    | -13.69/-15.27   | -17.33/-12.31   | -10.31/-6.25    | -5.18/-9.86     | -18.84/-13.86   | -8.08/-3.81       | -7.57/-5.17       | -5.02/-7.79       | -5.69/-9.3        | -16.61/-14.55     | -18.75/-12.06     | -8.6/-13.96       | -15.97/-17.91     | -18.73/-19.36     | -9.91/-10.06      | -6.45/-3.38       | -3.35/-2.19       | -2.09/-6.87       | -13.19/-18.51     | -11.09/-9.26      | -8.3/-18.63       | -13.44/-17.71     |
| Θ(45°)    | -17.45/-8.09  | -16.62/-13.77   | -10.39/-6.65    | -11.45/-11.67   | -7.79/-8.87     | -18.65/-17.55   | -8.63/-7.28     | -17.77/-9.8       | -14.62/-9.64      | -6.43/-4.29       | -5.48/-11.53      | -15.51/-13.42     | -9.86/-15.72      | -8.76/-18.82      | -18.38/-16.69     | -18.77/-13.1      | -15.51/-16.46     | -13.79/-4.46      | -4.21/-4.13       | -5.28/-11.52      | -15.45/-18.11     | -6.96/-6.3        | -5.43/-9.22       | -15/-17.52        |
| Θ(52.5°)  | -10.2/-5.78   | -11.69/-11.04   | -15.27/-9.79    | -11.74/-13.71   | -17.98/-11.15   | -6.02/-9.17     | -7.46/-9.44     | -19.3/-8.93       | -15.12/-15.86     | -18.73/-6.86      | -14.88/-6.45      | -18.74/-13.59     | -8.64/-11.29      | -18.81/-15.73     | -11.26/-16.65     | -18.88/-15.96     | -12.02/-11.99     | -9.57/-6.68       | -6.94/-6.1        | -7.44/-17.34      | -13.97/-10.91     | -5.66/-4.79       | -5.57/-7.84       | -11.93/-12.89     |
| Θ(60°)    | -9.31/-14.65  | -10.4/-11.36    | -10.25/-13.06   | -18.76/-15.81   | -15.26/-16.98   | -10.88/-10.32   | -12.73/-13.28   | -18.7/-15.03      | -12.07/-12.66     | -14.86/-12.93     | -13.85/-8.44      | -8.91/-16.83      | -16.5/-9.99       | -11.36/-14.08     | -8.87/-12.41      | -12.43/-16.96     | -8.66/-8.74       | -6.78/-7.9        | -8.01/-8.89       | -14.2/-18.86      | -18.43/-13.8      | -6.07/-3.25       | -4.82/-4.67       | -6.33/-9.41       |
| Θ(67.5°)  | -6.7/-15.38   | -11.33/-19.11   | -16.71/-14.22   | -13.45/-15.44   | -17.01/-8.61    | -18.86/-16.73   | -17.25/-18.92   | -15.85/-16.42     | -17.39/-12.87     | -18.87/-18.8      | -14.54/-7.28      | -8.2/-12.51       | -19.06/-9.41      | -13.41/-16.62     | -14.45/-8.9       | -8.76/-12.09      | -6.46/-5.71       | -7.31/-14.21      | -11.47/-12.7      | -12.29/-18.62     | -13.65/-14.01     | -10.34/-5.42      | -3.79/-6.72       | -4.69/-8.94       |
| Θ(75°)    | -11.37/-17.22 | -12.84/-12.01   | -9.14/-9.39     | -10.46/-13.13   | -13.86/-11.38   | -17.63/-13.02   | -18.31/-17.38   | -18.9/-13.73      | -13.93/-12.99     | -18.84/-17.21     | -10.03/-7.85      | -8.77/-16.88      | -17.13/-12.61     | -17.5/-5.37       | -7.29/-12.08      | -5.43/-5.94       | -7.62/-18.33      | -13.51/-17.91     | -11.75/-17        | -13.94/-15        | -14.31/-7.02      | -7.45/-6.87       | -5.59/-12.15      |                   |
| Θ(82.5°)  | -13.5/-14.83  | -11.68/-11.28   | -6.79/-8.55     | -14.63/-13.23   | -12.98/-11.19   | -8.48/-9.25     | -15.81/-18.84   | -18.25/-10.16     | -13.27/-14.75     | -14.26/-18.09     | -10.69/-9.85      | -9.01/-17.21      | -12.12/-13.61     | -14.12/-13.89     | -11.74/-6.4       | -8.29/-9.15       | -6.32/-6.7        | -10.07/-16.02     | -13.34/-17.42     | -12.52/-11.95     | -12.42/-12.11     | -11.99/-15.56     | -9.22/-11.33      | -9.99/-13.24      |
| Θ(90°)    | -18.61/-15.02 | -13.1/-11.94    | -9.96/-8.7      | -18.53/-16.17   | -17.05/-12.14   | -5.92/-13.06    | -18.49/-18.03   | -14.7/-10.94      | -13.72/-15.89     | -14.03/-14.78     | -9.08/-9.78       | -10.2/-14.68      | -14.89/-18.69     | -17.81/-12.91     | -15.17/-5.77      | -7.51/-10.87      | -6.59/-7.83       | -10.43/-17.91     | -16.79/-18.94     | -15.58/-10.71     | -11.74/-14.41     | -14.97/-18.74     | -16.19/-13.88     | -10.8/-14.54      |
| Θ(97.5°)  | -17.99/-18.45 | -15.06/-13.96   | -14.6/-11.11    | -17.92/-18.7    | -17.04/-14.1    | -5.42/-13.72    | -15.21/-13.65   | -12.28/-12.69     | -11.38/-15.53     | -13.5/-13.26      | -9.51/-10.4       | -11.32/-17.85     | -12.83/-17.49     | -13.38/-11.27     | -10.29/-7.41      | -10.46/-12.87     | -7.28/-8.62       | -15.38/-18.38     | -18.48/-18.54     | -14.61/-13.61     | -14.13/-18.15     | -18.22/-18.4      | -18.96/-12.76     | -15.96/-16.87     |
| Θ(105°)   | -18.28/-18.2  | -18.4/-10.35    | -17.77/-18.22   | -15.21/-18.78   | -17.25/-11.08   | -9.36/-14.98    | -17.99/-10.61   | -12.06/-11.44     | -10.15/-14.55     | -16.99/-10.04     | -2.66/-13.2       |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |



# Radiated Composite Gain Data\_Radio 4\_5GHz UNII 2C-4 and 6GHz

# Appendix C

|           |               |                 |                 |                 |                 |                 |                 |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
|-----------|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Θ(105°)   | -1.42/-3.38   | -3.06/-5.82     | -7.58/-6.83     | -18.76/-10.35   | -10.66/-6.49    | -5.56/-11.25    | -7.58/-8.57     | -6.41/-4.72       | -5.6/-6.82        | -3.76/-6.92       | -10.94/-6.27      | -7.4/-6.94        | -8.8/-12.49       | -6.87/-5.58       | -8.73/-2.58       | -7.23/-11.12      | -18.29/-12.04     | -6.76/-6.27       | -7.26/-3.37       | -6.77/-4.36       | -2.72/-9.1        | -18.72/-7.02      | -1.96/-8.02       | -5.65/-6.26       |
| Θ(112.5°) | -4.02/-5.33   | -6.05/-8.54     | -10.34/-11      | -18.63/-12.77   | -12.54/-5.45    | -6.21/-9.94     | -6.31/-8.44     | -7.62/-8.52       | -8.46/-9.65       | -5.73/-9.59       | -10.47/-9.03      | -8.94/-10.55      | -17.14/-18.49     | -8.28/-12.87      | -12.57/-4.16      | -9.13/-12.95      | -9.1/-17.24       | -6.58/-8.31       | -9.62/-5.79       | -7.32/-7.59       | -1.74/-9.37       | -11.62/-6.49      | -6.73/-11.64      | -9.34/-7.56       |
| Θ(120°)   | -5.23/-5.38   | -9.18/-13.37    | -13.92/-15.42   | -17.75/-15.57   | -11.79/-9.82    | -7.64/-10.9     | -10.17/-11.1    | -8.93/-10.9       | -8.55/-10.84      | -8.98/-9.91       | -13.2/-16.55      | -14.56/-8.03      | -15.16/-13.67     | -5.27/-12.19      | -18.26/-8.71      | -11.17/-12.47     | -18.14/-18.62     | -1.06/-11.55      | -8.21/-4.73       | -7.43/-8.3        | -6.38/-10.32      | -10.42/-17.36     | -10.01/-9.26      |                   |
| Θ(127.5°) | -4.67/-13.01  | -10.94/-10.6    | -18.58/-19.26   | -18.85/-18.88   | -11.47/-11.21   | -10.64/-10.21   | -11.99/-16.54   | -11.33/-11.31     | -10.26/-11.17     | -10.26/-8.01      | -13.44/-16.81     | -12.9/-11.96      | -10.44/-12.99     | -10.06/-13        | -11.72/-17.81     | -19.25/-8.85      | -13.64/-11.64     | -13.22/-16.65     | -11.25/-6.91      | -13.74/-15.88     | -6.79/-7.77       | -8.43/-11.99      | -8.47/-13.59      | -9.86/-7.18       |
| Θ(135°)   | -9.49/-14.48  | -18.22/-19.77   | -16.23/-18.96   | -13.18/-18.62   | -9.95/-8.26     | -14.58/-12.45   | -12.46/-15.65   | -10.56/-13.31     | -12.41/-12        | -13.21/-12        | -11.24/-10.55     | -19.11/-16.65     | -16.68/-15.77     | -12.13/-14.01     | -9.81/-12.12      | -7.51/-7.72       | -18.26/-11.21     | -13.76/-14.22     | -10.48/-5.54      | -10.52/-15.35     | -12.51/-12.64     | -11.53/-14.44     | -18.49/-15.51     | -11.06/-9.87      |
| Θ(142.5°) | -13.18/-12.26 | -12.02/-10.54   | -17.47/-18.51   | -9.44/-10.3     | -14.35/-11.88   | -14.32/-15.98   | -19.07/-15.29   | -11.16/-11.06     | -10.61/-13.17     | -7.68/-8.28       | -8.23/-8.29       | -9.5/-16.08       | -15.66/-14.99     | -16.85/-18.03     | -18.67/-13.94     | -18.13/-17.85     | -18.1/-18.04      | -14.59/-11.01     | -9.98/-12.1       | -16.18/-10.5      | -13.9/-13.24      | -11.61/-12.75     | -11.61/-8.91      |                   |
| Θ(150°)   | -18.67/-18.77 | -18.02/-17.74   | -18.87/-11.69   | 9.23/-8.23      | -10.05/-15.85   | -16.82/-14.4    | -14.93/-15.27   | -9.74/-8.26       | 9.8/-13.29        | -14.19/-12.67     | -11.38/-9.22      | -9.92/-12.26      | -14.42/-18.53     | -16.22/-12.13     | -10.98/-17.56     | -18.78/-18.13     | -18.88/-18.87     | -17.06/-18.91     | -18.17/-16.2      | -18.78/-18.5      | -17.32/-17.47     | -17.94/-13.35     | -10.73/-17.34     | -16.57/-12.48     |
| Θ(157.5°) | -11.39/-12.9  | -19.14/-18.74   | -12.77/-10.35   | -10.66/-11.27   | -13.23/-16.1    | -13.07/-12.39   | -14.62/-17.2    | -18.39/-14.87     | -11.21/-11.32     | -12.97/-13.73     | -13.87/-15.73     | -14.76/-13.66     | -14.54/-13.01     | -9.92/-11.07      | -15.53/-14.17     | -13.11/-16.23     | -17.98/-18.63     | -16.85/-18.46     | -18.81/-18.4      | -15.33/-14.78     | -19.23/-19.03     | -16.23/-12.99     | -12.43/-15.45     | -19.2/-13.93      |
| Θ(165°)   | -19.4/-18.45  | -19.03/-18.86   | -18.17/-14.83   | -15.29/-19.31   | -19.09/-18.55   | -18.73/-18.58   | -18.42/-18.41   | -19.32/-14.94     | -13.12/-11.88     | -10.54/-10.94     | -12.63/-13.66     | -14.38/-14.73     | -16.5/-18.97      | -18.81/-17.54     | -17.97/-16.27     | -15.57/-15.33     | -14.91/-15.22     | -17.18/-18.51     | -16.43/-11.8      | -9.44/-8.84       | -9.07/-11.79      | -16.16/-18.97     | -19.23/-18.7      | -19.24/-17.6      |
| Θ(172.5°) | -14.38/-14.75 | -13.92/-12.08   | -11.84/-12      | -12.51/-15.53   | -17.13/-18.34   | -18.76/-17.93   | -14.63/-14.95   | -15.79/-14.83     | -14.67/-14.85     | -13.88/-13.91     | -14.8/-15.77      | -16.35/-19.04     | -18.03/-17.05     | -17.47/-18.22     | -18.31/-17.5      | -17.99/-18.14     | -18.95/-17.67     | -17.93/-19.39     | -19.39/-18.74     | -18.11/-17.59     | -18.95/-19.15     | -18.2/-18.66      | -18.82/-18.62     | -18.22/-18.72     |
| Θ(180°)   | -19.17/-17.92 | -18.91/-18      | -19.37/-18.92   | -18.85/-18.02   | -18.2/-18.55    | -18.6/-17.62    | -18.19/-19.39   | -16.24/-16.37     | -16.79/-16.11     | -15.7/-15.25      | -14.51/-14.81     | -16.02/-18.1      | -18.01/-18.1      | -18.46/-19.16     | -17.71/-18.22     | -18.54/-17.93     | -17.86/-19.34     | -18.57/-18.63     | -18.79/-17.77     | -17.41/-19        | -16.75/-15.96     | -17.18/-15.7      | -14.62/-16.86     | -19.18/-17.17     |
| Freq(Hz)  | 5.785GPol.    | PhiAnt.3        | -               | -               | -               | -               | -               | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 |
| Gain      | Φ(0°)/Φ(7.5°) | Φ(15°)/Φ(22.5°) | Φ(30°)/Φ(37.5°) | Φ(45°)/Φ(52.5°) | Φ(60°)/Φ(67.5°) | Φ(75°)/Φ(82.5°) | Φ(90°)/Φ(97.5°) | Φ(105°)/Φ(112.5°) | Φ(120°)/Φ(127.5°) | Φ(135°)/Φ(142.5°) | Φ(150°)/Φ(157.5°) | Φ(165°)/Φ(172.5°) | Φ(180°)/Φ(187.5°) | Φ(195°)/Φ(202.5°) | Φ(210°)/Φ(217.5°) | Φ(225°)/Φ(232.5°) | Φ(240°)/Φ(247.5°) | Φ(255°)/Φ(262.5°) | Φ(270°)/Φ(277.5°) | Φ(285°)/Φ(292.5°) | Φ(300°)/Φ(307.5°) | Φ(315°)/Φ(322.5°) | Φ(330°)/Φ(337.5°) | Φ(345°)/Φ(352.5°) |
| Θ(0°)     | -11.86/-13.77 | -16.75/-16.58   | -16.71/-15.75   | -14.68/-11.61   | -9.06/-7.35     | -6.41/-6.22     | -6.22/-6.01     | -5.35/-6.05       | -7.69/-8.53       | -8.43/-9.36       | -10.62/-14.03     | -18.81/-17.85     | -17.29/-18.6      | -18.31/-18.42     | -17.1/-16.63      | -15.54/-13.44     | -12.22/-12.21     | -11.89/-12.44     | -12.21/-11.38     | -10.58/-10.96     | -9.99/-10.45      | -10.61/-8.76      | -8.56/-10.6       | -9.93/-9.25       |
| Θ(7.5°)   | -17.41/-17.9  | -18.17/-182     | -17.76/-19.71   | -15.72/-13.23   | -13.1/-14.49    | -14.88/-15.2    | -17.44/-19.27   | -18.16/-19        | -19.07/-18.26     | -18.73/-16.5      | -14.08/-11.96     | -10.73/-8.98      | -8.91/-10.24      | -12.44/-14.11     | -13.52/-12.67     | -11.72/-9.89      | -7.93/-4.04       | -6.31/-5.87       | -6.09/-5.36       | -4.83/-6.06       | -6.83/-6.65       | -6.97/-7.96       | -8.46/-11.68      | -11.95/-11.75     |
| Θ(15°)    | -17.41/-18.55 | -18.67/-19.32   | -17.87/-14.43   | -11.97/-12.13   | -14.67/-18.77   | -18.74/-13.37   | -9.88/-7.55     | -6.76/-6.61       | -6.23/-5.53       | -5.16/-5.58       | -5.96/-6.44       | -7.3/-7.54        | -7.8/-8.8         | -10.79/-12.35     | -11.71/-10.11     | -8.31/-7.13       | -5.64/-5.11       | -5.35/-5.57       | -6.51/-7.06       | -7.48/-9.27       | -11.28/-13.15     | -16.58/-18.01     | -18.7/-15.5       | -17.89/-19.02     |
| Θ(22.5°)  | -14.26/-14.3  | -10.45/-14.35   | -12.1/-8.32     | -7.07/-9.62     | -8.15/-13.42    | -18.05/-12.6    | -10.94/-11.3    | -6.13/-9.85       | -6.32/-5.58       | -4.16/-4.27       | -5.64/-7.6        | -5.82/-4.37       | -5.82/-7.6        | -9.47/-11.05      | -10.64/-9.82      | -8.01/-6.99       | -7.01/-5.45       | -4.06/-3.32       | -3.43/-2.74       | -1.91/-2.66       | -3.18/-5.2        | -7.35/-10.47      | -11.03/-9.61      | -11.41/-14.78     |
| Θ(30°)    | -12.32/-14.75 | -10.76/-15.01   | -15.12/-14.28   | -4.61/-9.76     | -10.25/-13.92   | -12.67/-16.97   | -10.08/-9.11    | -16.05/-11.08     | -5.56/-5.64       | -9.78/-18.12      | -13.64/-15.51     | -5.82/-8.37       | -7.27/-8.09       | -12.16/-18        | -16.68/-18.69     | -9.14/-6.58       | -11.96/-8.77      | -3.98/-4.07       | -5.6/-3.24        | -2.1/-2.92        | -1.16/-1.47       | -11.06/-13.84     | -14.42/-12.05     | -8.88/-9.3        |
| Θ(37.5°)  | -9.86/-14.25  | -9.32/-15       | -12.71/-6.09    | -8.07/-18.08    | -11.62/-9.94    | -19.4/-17.23    | -16.89/-16.31   | -8.77/-6.42       | -6.27/-8.01       | -9.09/-6.82       | -5.47/-5.56       | -5.75/-9.73       | -14.89/-13.46     | -12.53/-11.74     | -11.07/-12.2      | -9.4/-7.69        | -15.87/-10.04     | -5.33/-11.76      | -8.65/-3.48       | -4.71/-5.7        | -4.5/-5.18        | -6.47/-8.64       | -12.5/-16.92      | -9.02/-7.01       |
| Θ(45°)    | -10.79/-14.7  | -10.65/-10.35   | -13.55/-8.08    | -14.49/-14.8    | -7.88/-7.4      | -11.57/-9       | -6.62/-6.21     | -5.5/-9.44        | -14.98/-12.39     | -11.24/-9.13      | -6.97/-9.75       | -10.17/-13.34     | -15.22/-13.88     | -9.33/-9.72       | -10.81/-17.17     | -19.23/-17.26     | -16.79/-8.84      | -8.34/-18.52      | -6.16/-15.2       | -8.26/-5.53       | -6.32/-9.72       | -8.68/-8.82       | -12.28/-12.86     | -12.48/-14.93     |
| Θ(52.5°)  | -11.8/-19.38  | -14.36/-11.7    | -10.35/-10.38   | -17.67/-10.53   | -9.4/-7.19      | -7.74/-10.42    | -8.89/-7.12     | -5.35/-10.09      | -6.99/-9.3        | -14.75/-10.49     | -8.44/-10.9       | -8.93/-13.06      | -17.47/-11.11     | -16.65/-9.62      | -11.96/-18.19     | -18.54/-11.85     | -13.28/-10.07     | -18.57/-10.45     | -4.71/-9.05       | -10.64/-7.31      | -13.15/-12.1      | -8.85/-12.42      | -12.51/-7.32      | -18.04/-9.16      |
| Θ(60°)    | -12.2/-18.16  | -12.37/-12.43   | -11.87/-12.71   | -12.47/-8.84    | -17.52/-9.6     | -12.19/-17.89   | -12.68/-12.96   | -9.36/-15.94      | -6.63/-8.31       | -16.23/-12.09     | -9.74/-18.18      | -10.62/-7.45      | -17.24/-13.42     | -18.05/-15.89     | -12.02/-18.81     | -8.75/-6.81       | -13.62/-13.69     | -17.67/-14.87     | -10.86/-17.75     | -11.02/-8.53      | -9.75/-6.47       | -18.37/-9.02      | -14.62/-7.52      | -18.97/-13.57     |
| Θ(67.5°)  | -12.42/-17.91 | -14.88/-17.7    | -15.22/-16.16   | -11.51/-11.65   | -18.21/-15.97   | -17.94/-17.64   | -17.2/-18.43    | -15.57/-18.65     | -7.23/-11.38      | -13.97/-13.34     | -10.17/-11.81     | -16.64/-11.57     | -12.48/-18.81     | -8.7/-16.31       | -12.56/-16.14     | -9.6/-4.9         | -10.19/-9.36      | -18.94/-16.03     | -19.16/-72        | -13.62/-18.56     | -11.88/-6.83      | -11.54/-8.68      | -10.74/-10.45     | -17.57/-14.07     |
| Θ(75°)    | -14.44/-18.98 | -17.65/-17.97   | -19.03/-17.61   | -11.41/-15.13   | -15.77/-17.61   | -18.36/-16.86   | -18.79/-18.35   | -18.13/-16.96     | -17.12/-15.25     | -17.32/-13.88     | -11.28/-8.8       | -14.31/-14.46     | -16.4/-12.8       | -10.27/-10.78     | -12.16/-13.16     | -17.21/-6.07      | -9.84/-7.94       | -13.09/-10.64     | -11.13/-18.03     | -18.34/-14.74     | -17.52/-7.59      | -8.87/-9.98       | -11.17/-15.92     | -18.09/-16.89     |
| Θ(82.5°)  | -13.02/-17.81 | -19.21/-13.13   | -18.8/-19.35    | -12.9/-18.64    | -19.21/-18.49   | -14.58/-18.3    | -18.8/-14.56    | -17.92/-16.26     | -16.6/-18.63      | -15.6/-18.37      | -13.25/-7.21      | -14.09/-13.43     | -12.1/-16.76      | -9.33/-18.19      | -17.8/-15.71      | -14.07/-6.05      | -8.01/-7.88       | -9.76/-11.01      | -6.15/-18.61      | -14.27/-13.04     | -19.58/-11.48     | -8.43/-10.28      | -11.98/-13.79     | -18.43/-17.78     |
| Θ(90°)    | -13.99/-18.84 | -17.57/-18.35   | -18.08/-17.93   | -15.04/-14.99   | -17.76/-16.85   | -14.14/-16.47   | -18.6/-13.9     | -16.41/-17.89     | -17.74/-17.93     | -18.71/-17.56     | -16.01/-10.2      | -11.46/-16.82     | -17.38/-14.87     | -12.31/-12.97     | -18.17/-18.34     | -13.38/-10.96     | -9.93/-8.2        | -9.07/-16.22      | -5.92/-17.4       | -15.16/-13.35     | -13.56/-19.44     | -9.9/-13          | -13.79/-16.89     | -19.07/-17.15     |
| Θ(97.5°)  | -17.53/-19.31 | -19.43/-14.27   | -17.48/-17.81   | -19.04/-16.67   | -16.74/-16.54   | -14.96/-18.92   | -15.92/-13.42   | -16.71/-18.52     | -15.08/-17.37     | -18.97/-15.99     | -17.81/-12.05     | -14.35/-15.63     | -17.87/-18.38     | -12.31/-18.58     | -19.18/-17.32     | -15.64/-10.04     | -6.26/-7.57       | -9.46/-15.69      | -6.91/-11.24      | -18.34/-15.52     | -15.39/-15.51     | -16.38/-16.62     | -18.65/-16.01     | -17.02/-15.83     |
| Θ(105°)   | -19.09/-18.8  | -18.14/-37      | -18.45/-17.41   | -19.18/-17.92   | -18.47/-17.93   | -15.54/-19.17   | -17.57/-15.59   | -14.86/-17.63     | -19.07/-17.47     | -18.89/-18.95     | -18.59/-18.27     | -15.59/-16.42     | -19.14/-17.9      | -18.69/-18.54     | -19.29/-18.81     | -12.08/-11.31     | -11.61/-10.31     | -9.49/-13.6       | -9.24/-9.79       | -12.47/-17.88     | -17.63/-17.03     | -17.62/-14.36     | -18.84/-18        | -17.64/-18.69     |
| Θ(112.5°) | -16.59/-17.3  | -14.89/-17.35   | -17.9/-14.87    | -17.76/-17.58   | -15.86/-16.62   | -18.34/-16.35   | -18.92/-13.81   | -18.18/-10.3      | -19.04/-17.31     | -17.56/-16.65     | -18.22/-18.59     | -16.52/-16.27     | -17.51/-18.89     | -18.96/-16.84     | -16.49/-16.75     | -18.89/-11.58     | -8.01/-8.82       | -10.53/-12.2      | -6.27/-18.42      | -12.04/-17.93     | -18.31/-16.04     | -14.12/-17.37     | -18.85/-17.9      | -18.15/-16.67     |
| Θ(120°)   | -13.35/-18.69 | -18.73/-18.32   | -19.08/-17.72   | -16.43/-18.95   | -19.63/-17.61   | -17.92/-17.36   | -16.84/-17.52   | -18.07/-18.37     | -19.44/-17.74     | -18.18/-18.85     | -16.95/-17.52     | -18.39/-18.26     | -18.11/-18.75     | -18.92/-16.56     | -15.74/-18.55     | -17.71/-10.58     | -9.07/-10.25      | -6.72/-8.68       | -11.37/-18.48     | -17.82/-18.49     | -11.74/-18.58     | -18.4/-17.49      | -18.27/-16.95     |                   |
| Θ(127.5°) | -18.15/-18.67 | -18.22/-17.83   | -17.95/-17.18   | -14.23/-19.09   | -15.93/-16.93   | -17.76/-14.59   | -18.99/-15.66   | -18.25/-18.84     | -17.68/-18.93     | -18.67/-18.84     | -17.95/-17.92     | -18.87/-16.49     | -18.42/-16.84     | -16.84/-13.86     | -17.94/-12.05     | -13.48/-15.59     | -17.53/-13.23     | -11.81/-15.34     | -11.1/-17.91      | -19.39/-19.04     | -15.38/-18.53     | -18.08/-14.58     | -18.17/-17.19     |                   |
| Θ(135°)   | -18.47/-18.2  | -18.18/-14.29   | -15.77/-17.61   | -15.48/-18.77   | -18.77/-12.97   | -18.11/-15.41   | -17.79/-19.17   | -15.84/-19.23     | -18.17/-19.25     | -18.03/-14.68     | -17.66/-17.22     | -18.11/-19.09     | -15.77/-17.4      | -18.62/-15.06     | -14.05/-9.75      | -18.12/-15.51     | -18.1/-17.81      | -17.88/-17.94     | -17.89/-18.53     | -18.69/-19.03     | -17.82/-16.78     | -18.01/-19.27     | -19.08/-19.32     | -18.64/-17.35     |
| Θ(142.5°) | -13.59/-13.72 | -14.3/-13.72    | -15.18/-18.97   | -10.68/-12.27   | -18.13/-16.16   | -18.28/-13.9    | -13.53/-19.61   | -17.49/-18.22     | -18.08/-18.13     | -18.23/-17.68     | -15.43/-19.06     | -14.6/-15.95      | -19.38/-18.07     |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |



# Radiated Composite Gain Data\_Radio 4\_5GHz UNII 2C-4 and 6GHz

# Appendix C

|           |               |                |                |                |                |                |                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
|-----------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Θ(157.5°) | -13.7/-18.73  | -18.4/-13.31   | -11.54/-10.56  | -12.99/-19.04  | -19.24/-18.39  | -18/-17.5      | -14.22/-10.12  | -9.6/-11.59      | -13.52/-14.87    | -14.48/-12.79    | -10.07/-8.52     | -9.7/-11.47      | -15.4/-11.89     | -16.63/-11.89    | -13.22/-16.81    | -12.06/-14.61    | -18.86/-18.35    | -17.17/-15.26    | -18.26/-17.8     | -14.68/-16.86    | -18.75/-19.03    | -19.08/-19.41    | -17.75/-18.99    | -15.35/-13.12    |
| Θ(165°)   | -18.98/-18.09 | -18.08/-17.83  | -18.98/-18.64  | -18.17/-17.51  | -15.05/-14.68  | -15.11/-12.42  | -10.86/-11.49  | -11.34/-9.81     | -9.99/-11.7      | -14.17/-17.41    | -16.31/-13.39    | -11.85/-11.04    | -12.65/-17.59    | -18.57/-17.96    | -17.91/-17.51    | -18.98/-13.61    | -17/-16.95       | -18.43/-17.9     | -18.14/-16.86    | -13.43/-13.11    | -15.88/-18.99    | -19.36/-17.92    | -16.77/-17.52    | -19.13/-17.72    |
| Θ(172.5°) | -18.14/-15.09 | -13.48/-13.38  | -14.45/-16.22  | -18.46/-18.85  | -19.15/-18.75  | -18.91/-16.68  | -17.76/-14.66  | -13.13/-14.35    | -12.09/-10.7     | -9.91/-10.61     | -11.37/-12.3     | -12.69/-13.74    | -16.08/-16.31    | -16.04/-16.76    | -19.05/-19.03    | -18.35/-18.4     | -19.2/-18.38     | -18.31/-18.21    | -19.21/-17.77    | -18.58/-18.25    | -15.11/-13.37    | -9.79/-9.66      | -10.91/-13.78    | -19.13/-18.22    |
| Θ(180°)   | -16.86/-17.14 | -19.16/-18.95  | -18.54/-18.44  | -19.03/-16.61  | -15.09/-14.32  | -13.94/-13.34  | -13.49/-14.09  | -14.16/-13.5     | -12.1/-12.38     | -13.4/-13.04     | -13.82/-15.65    | -17.65/-18.89    | -18.3/-19.19     | -17.87/-17.93    | -18.46/-18.51    | -18.11/-15.8     | -14.48/-15.16    | -13.68/-11.45    | -10.96/-12.08    | -12.58/-11.85    | -12.49/-12.88    | -13.38/-14.4     | -14.7/-13.61     | -12.2/-14.31     |
| Freq(Hz)  | 6.175GPol.    | PhiAnt.3       | -              | -              | -              | -              | -              | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                |
| Gain      | Φ(0°)Φ(7.5°)  | Φ(15°)Φ(22.5°) | Φ(30°)Φ(37.5°) | Φ(45°)Φ(52.5°) | Φ(60°)Φ(67.5°) | Φ(75°)Φ(82.5°) | Φ(90°)Φ(97.5°) | Φ(105°)Φ(112.5°) | Φ(120°)Φ(127.5°) | Φ(135°)Φ(142.5°) | Φ(150°)Φ(157.5°) | Φ(165°)Φ(172.5°) | Φ(180°)Φ(187.5°) | Φ(195°)Φ(202.5°) | Φ(210°)Φ(217.5°) | Φ(225°)Φ(232.5°) | Φ(240°)Φ(247.5°) | Φ(255°)Φ(262.5°) | Φ(270°)Φ(277.5°) | Φ(285°)Φ(292.5°) | Φ(300°)Φ(307.5°) | Φ(315°)Φ(322.5°) | Φ(330°)Φ(337.5°) | Φ(345°)Φ(352.5°) |
| Θ(0°)     | -10.87/-6.72  | 4.89/-3.62     | -2.22/-1.59    | 1.39/-1.59     | -2.06/-3.19    | -3.52/-9.30    | -3.66/-4.84    | -6.58/-6.62      | -8.72/-11.02     | -9.35/-7.59      | -7.43/-7.95      | -8.42/-8.01      | -7.75/-7.03      | -5.8/-4.85       | -3.54/-2.71      | -2.05/-1.49      | -0.97/-0.74      | -0.93/-0.71      | -0.63/-0.71      | -1.43/-1.45      | -1.66/-3.57      | -3.86/-5.2       | -7.48/-9.06      | -13.6/-15.72     |
| Θ(7.5°)   | -11.81/-10.41 | -9.5/-8.82     | -8.72/-8.41    | -8.56/-8.68    | -9.71/-10.46   | -8.38/-5.98    | -4.39/-1.4     | -3.38/-2.4       | -1.93/-1.68      | -1.4/-2.26       | -4.69/-7.06      | -11.06/-16.98    | -16.26/-10.61    | -6.98/-4.61      | -2.98/-1.86      | -1.1/-0.86       | -1/-1.27         | -2.19/-3.22      | -4.88/-6.46      | -8.28/-9.2       | -11.56/-11.29    | -10.09/-10.51    | -9.81/-9.9       | -9.07/-9         |
| Θ(15°)    | -13.79/-17.72 | -17.58/-13.19  | -10.47/-10.64  | -13.47/-13.82  | -11.65/-10.56  | -9.26/-10.41   | -15.47/-18.49  | -15.24/-10.94    | -7.07/-3.46      | -2.57/-2.57      | -2.82/-4.4       | -6.69/-9.87      | -16.21/-15.49    | -12.4/-13.57     | -14.46/-10.62    | -7.25/-5.3       | -4.11/-3.82      | -4.32/-6.78      | -12.53/-17.36    | -12.09/-7.64     | -6.96/-7.05      | -8.3/-11.84      | -14.77/-17.96    | -18.18/-17.47    |
| Θ(22.5°)  | -7.87/-12.24  | -17.95/-13.27  | -8.32/-9.15    | -16.46/-19.18  | -12.83/-10.34  | -9.1/-7.71     | -8.09/-9.4     | -10.04/-9.59     | -10.19/-9.65     | -8.39/-9.38      | -9.43/-9.41      | -10.15/-12.32    | -12.39/-8.58     | -6/-6.9          | -12.04/-19.28    | -10.16/-6.3      | -4.24/-3.09      | -2.39/-3.84      | -8.4/-13.34      | -11.56/-12.57    | -12.43/-13.29    | -17.75/-17.62    | -17.79/-10.47    | -8.71/-6.42      |
| Θ(30°)    | -9.93/-7.75   | -9.35/-18.63   | -13.47/-12.64  | -16.49/-13.82  | -12.71/-13.38  | -11.86/-10.93  | -13.4/-11.41   | -8.71/-8.1       | -8.72/-8.99      | -7.77/-7.71      | -8.94/-10        | -14.18/-19.1     | -14.07/-10.22    | -6.71/-5.97      | -8.36/-7.39      | -3.08/-2.97      | -7.34/-5.67      | -2.35/-3.09      | -8.5/-5.92       | -3.91/-5.74      | -9.68/-13.45     | -18.16/-13.45    | -13.46/-14.24    | -13.26/-11.28    |
| Θ(37.5°)  | -7.46/-5.86   | -3.5/-8.44     | -10.51/-7.72   | -10.86/-11.04  | -13.62/-12.21  | -9.19/-13.42   | -13.66/-16.36  | -13.79/-9.19     | -7.07/-5.85      | -6.44/-8.9       | -10.35/-8.28     | -6.21/-13.93     | -16.69/-10.87    | -7.42/-7.03      | -9.14/-9.1       | -2.45/-3.72      | -9.2/-11.15      | -1.72/-1.81      | -8.34/-3.51      | -4.53/-10.98     | -9.49/-8.25      | -12.46/-18.87    | -17.53/-11.57    | -6.16/-5.71      |
| Θ(45°)    | -7.78/-6.42   | -3.25/-11.7    | -7/-7          | -16.41/-12.56  | -19.16/-10.34  | -13.15/-15.8   | -13.46/-15.81  | -9.68/-13.05     | -15.14/-8.85     | -7.39/-13.1      | -12.17/-10.83    | -7.1/-8.66       | -18.58/-13.31    | -15.05/-10.98    | -12.27/-8.77     | -10.01/-13.81    | -19.36/-18.98    | -5.53/-3.41      | -19/-44.1        | -7.96/-9.56      | 8.71/-14.26      | -17.91/-17.74    | -12.13/-18.4     | -9.46/-4.77      |
| Θ(52.5°)  | -8.62/-8.14   | -5.26/-10.04   | -6.71/-10.18   | -18.5/-11.91   | -18.98/-12.91  | -18.55/-10.45  | -17.45/-8.31   | -10.09/-11.56    | -14.11/-18.92    | -16.14/-12.85    | -6.3/-10.3       | -19.07/-18.67    | -10.84/-13.31    | -12.09/-13.73    | -12.89/-7.2      | -18.73/-6.74     | -12.38/-16.42    | -12.65/-6.28     | -8.79/-2.7       | -11.44/-4.38     | -6.22/-15.63     | -11.31/-10.51    | -7.6/-8.52       | -10.52/-6.32     |
| Θ(60°)    | -10.72/-10.6  | -11.9/-10.01   | -8.9/-10.45    | -10.22/-13.28  | -18.87/-17.29  | -11.55/-9.98   | -16.3/-7.66    | -11.26/-7.32     | -18.66/-14.86    | -14.43/-11.03    | -7.86/-10.69     | -12.7/-13.92     | -16.15/-8.35     | -12.34/-8.82     | -18.08/-8.61     | -13.75/-5.69     | -5.32/-18.83     | -9.62/-4.04      | -15.94/-4.71     | -11.61/-11.74    | -10.33/-10.58    | -12.01/-9.2      | -14.1/-6.9       | -                |
| Θ(67.5°)  | -14.94/-10.93 | -18.8/-6.86    | -13.16/-7.82   | -10.64/-18.5   | -18.88/-18.19  | -11.9/-17.03   | -14.9/-13.73   | -14.93/-9.88     | -18.41/-11.73    | -13.25/-11.01    | -12.35/-18.93    | -12.88/-11.42    | -16.84/-13.22    | -19.4/-10.7      | -16.29/-8        | -9.23/-8.48      | -5.18/-13.39     | -8.7/-19.1       | -14.32/-8.95     | -19.16/-7.46     | -18.1/-10.63     | -16.43/-12.84    | -15.71/-18.27    | -17.14/-7.75     |
| Θ(75°)    | -15.77/-13.35 | -16.94/-18.2   | -13.26/-9.72   | -14.54/-16.25  | -19.06/-17.37  | -13.09/-15.46  | -16.29/-18.54  | -15.28/-15.25    | -13.87/-12.62    | -11.93/-15.76    | -12.24/-16.96    | -17.9/-14.08     | -15.89/-15.61    | -18.12/-18       | -13.97/-8.61     | -5.51/-7.95      | -6.75/-15.18     | -8.31/-18.83     | -11.4/-17.43     | -19.36/-14.43    | -13.04/-13.37    | -19.31/-18.49    | -8.15/-15.41     | -17.03/-6.68     |
| Θ(82.5°)  | -15.75/-14.34 | -17.18/-10.22  | -14.02/-11.54  | -18.01/-17.68  | -18.15/-15.46  | -13.95/-19.19  | -19.29/-18.29  | -13.66/-18.37    | -15.07/-17.23    | -18.61/-16.24    | -12.28/-14.24    | -17.2/-13.83     | -19.15/-14.73    | -14.38/-19.12    | -14.95/-8.89     | -5.7/-6.07       | -9.15/-11.22     | -9.17/-12.94     | -6.44/-18.56     | -17.71/-18.57    | -14.87/-13.21    | -15.61/-17       | -7.26/-16.67     | -17.43/-9.63     |
| Θ(90°)    | -16.03/-17.2  | -12.11/-13.1   | -13.62/-17.02  | -18.86/-18.71  | -18.01/-14.24  | -12.58/-16.58  | -17.27/-18.58  | -11.79/-19.16    | -18.67/-18.27    | -8.12/-15.97     | -14.12/-11.19    | -19.04/-18.04    | -13.57/-15.79    | -14.9/-17.36     | -17.43/-7.91     | -9.63/-4.98      | -9.25/-11.32     | -12.06/-11.2     | -7.12/-14.48     | -18.19/-18.35    | -11.11/-16.1     | -18.16/-18.08    | -9.03/-19.65     | -19/-9.92        |
| Θ(97.5°)  | -15.38/-18.97 | -13.67/-17.73  | -14.8/-18.19   | -17.74/-18.58  | -17.04/-14.56  | -18.33/-18.4   | -18.12/-14.36  | -15.97/-18.85    | -15.47/-18.51    | -10.14/-18.23    | -19.07/-18.13    | -15.88/-13.07    | -19.18/-16       | -18.99/-10.45    | -9.66/-6.68      | -10.47/-10.3     | -15.15/-15.25    | -7.87/-13.7      | -18.03/-18       | -14.46/-11.93    | -17.71/-18.9     | -14.92/-12.31    | -18.71/-12.39    | -                |
| Θ(105°)   | -18.76/-17.61 | -13.16/-16.59  | -18.23/-17.12  | -17.97/-17.51  | -16.97/-13.76  | -15.97/-17.5   | -17.5/-15.41   | -13.18/-15       | -19.02/-17.03    | -18.43/-18.23    | -18.68/-13.77    | -15.71/-14.26    | -18.67/-18.23    | -18.19/-17.36    | -10.02/-7.53     | -8.6/-14.1       | -15.1/-12.64     | -9.58/-10.71     | -16.8/-14.83     | -18.21/-14.12    | -18.33/-18.82    | -17.95/-10.21    | -18.53/-19.28    | -                |
| Θ(112.5°) | -16.17/-14.24 | -11.41/-17.69  | -18.38/-15.28  | -17.73/-17.9   | -18.21/-16.52  | -19.24/-18.85  | -18.51/-16.18  | -19.47/-16.93    | -18.24/-17.23    | -15.12/-18.96    | -17.78/-14.73    | -19.27/-18.43    | -18.09/-17.48    | -17.47/-18.88    | -18.87/-16.23    | -11.35/-10.13    | -9.4/-10.59      | -14.45/-11.41    | -8.81/-8.82      | -17.74/-17.3     | -14.4/-10.19     | -13.55/-16.74    | -11.99/-12.58    | -17.87/-18.07    |
| Θ(120°)   | -13.08/-13.78 | -12.72/-17.25  | -11.9/-16.53   | -18.35/-17.47  | -17.82/-14.63  | -18.96/-18.91  | -15.31/-18.36  | -18.76/-16.5     | -18.51/-14.37    | -18.79/-19.38    | -18.11/-17.14    | -19.23/-16.84    | -18.66/-18.52    | -18.17/-18.45    | -16.04/-17.81    | -17.39/-9.9      | -19/-12.26       | -9.39/-18.92     | -10.72/-16.09    | -18.48/-17.66    | -11.44/-18.15    | -15.51/-14.72    | -16.09/-19.1     | -                |
| Θ(127.5°) | -14.94/-15.69 | -17.79/-10.56  | -14.48/-18.03  | -18.74/-12.81  | -17.43/-17.68  | -19.39/-15.21  | -18.69/-14.33  | -18.55/-18.57    | -18.09/-17.65    | -18.23/-18.75    | -19.22/-18.36    | -17.69/-16.27    | -12.13/-18.02    | -11.23/-11.89    | -14.34/-12.17    | -18.04/-11.86    | -13.99/-18.82    | -17.77/-17.92    | -17.37/-18.04    | -10.26/-15.8     | -18.63/-18.11    | -18.61/-13.92    | -                | -                |
| Θ(135°)   | -18.76/-17.4  | -12.23/-11.11  | -17.3/-17.97   | -18.99/-19.66  | -17.39/-18.81  | -18.62/-18.48  | -17.39/-13.66  | -12.37/-18.78    | -18.84/-18.75    | -18.33/-18.97    | -18.89/-18.48    | -17.49/-18.23    | -18.84/-15.76    | -17.71/-18.73    | -18.21/-17.34    | -13/-11.19       | -18.69/-12.96    | -14.57/-14.28    | -13.77/-18.79    | -17.87/-17.92    | -18.11/-13.81    | -18.78/-10.66    | -14.44/-15.16    | -14.2/-17.61     |
| Θ(142.5°) | -14.06/-10.77 | -11.31/-17.08  | -18.28/-18.49  | -16.77/-19.12  | -16.84/-17.56  | -18.56/-18.32  | -16.88/-18.03  | -19.51/-17.9     | -19.08/-18.32    | -16.21/-14.54    | -18.31/-17.83    | -16.7/-18.98     | -18.35/-19       | -17.52/-18.78    | -18.22/-18.56    | -12.61/-14.7     | -19.28/-11.96    | -13.49/-18.84    | -10.09/-17.66    | -12.31/-12.92    | -19.11/-14.04    | -15.6/-18.17     | -17.82/-17.87    | -17.31/-18.41    |
| Θ(150°)   | -8.49/-15.89  | -17.16/-13.35  | -18.98/-15.83  | -11.72/-16.07  | -18.69/-19     | -18.11/-17.39  | -17.32/-12.59  | -17.07/-18.09    | -19.17/-18.9     | -17.9/-18.99     | -18.31/-18.17    | -18.64/-18.44    | -18.44/-15.95    | -16.23/-18.56    | -18.68/-16.82    | -17.79/-12.22    | -14.78/-14.99    | -8.23/-13.15     | -19.03/-15.15    | -17.67/-19.3     | -17.81/-17.64    | -15.18/-17.46    | -19.14/-6.97     | -                |
| Θ(157.5°) | -18.89/-17.31 | -12.56/-13.35  | -14.03/-18.05  | -18.41/-18.57  | -14.69/-12.17  | -14.01/-18.71  | -15.57/-10.92  | -12.86/-16.77    | -19.3/-17.67     | -18.56/-19.25    | -18.38/-19.28    | -17.2/-19.04     | -17.32/-17.27    | -18.76/-17.09    | -18.53/-17.38    | -18.58/-19.27    | -18.98/-19.03    | -17.93/-18.16    | -16.27/-18.68    | -18.01/-18.89    | -18.7/-18.03     | -18.09/-18.02    | -18.33/-18.77    | -17.23/-12.62    |
| Θ(165°)   | -13.66/-10.45 | -12.44/-19.15  | -16.61/-15.25  | -14.33/-13.52  | -12.35/-12.73  | -17.72/-17.16  | -15.02/-12.74  | -13.36/-15.02    | -18.1/-18.99     | -19.23/-18.22    | -18.92/-19.17    | -18.29/-18.15    | -18.02/-18.4     | -19.31/-18.19    | -17.81/-18.06    | -17.31/-18.37    | -17.88/-18.04    | -15.44/-16.66    | -17.95/-18.65    | -18.46/-18.81    | -18.82/-16.03    | -16.92/-18.85    | -18.13/-12.56    | -11.75/-16.76    |
| Θ(172.5°) | -18.66/-17.09 | -18.25/-14.64  | -12.23/-12.71  | -12.42/-12.71  | -13.14/-15.36  | -19.32/-19.13  | -18.52/-18.48  | -18.72/-18.99    | -16.17/-17.94    | -17.3/-17.75     | -18.9/-18.04     | -18.52/-18.91    | -16.32/-17.2     | -18.82/-18.07    | -17.2/-18.74     | -18.19/-18.57    | -18.71/-18.84    | -18.36/-17.97    | -18.26/-17.73    | -19.1/-18.06     | -19.31/-17.71    | -17.91/-18.72    | -17.35/-14.5     | -18.09/-18.15    |
| Θ(180°)   | -19.14/-17.16 | -15.65/-14.8   | -16.65/-17.3   | -17.26/-18.4   | -18.33/-18.59  | -18.32/-18.89  | -17.81/-16.83  | -17.68/-18.36    | -17.22/-19.33    | -18.54/-19.09    | -17.93/-19.18    | -18.83/-18.03    | -18.6/-19.22     | -17.92/-17.44    | -17.02/-15.35    | -15.06/-16.95    | -18.06/-17.04    | -16.53/-17.88    | -17.37/-16.5     | -15.43/-16.27    | -19.2/-18.7      | -18.08/-18.11    | -19.05/-18.15    | -16.63/-17.5     |
| Freq(Hz)  | 6.175GPol.    | ThetaAnt.3     | -              | -              | -              | -              | -              | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                |
| Gain      | Φ(0°)Φ(7.5°)  | Φ(15°)Φ(22.5°) | Φ(30°)Φ(37.5°) | Φ(45°)Φ(52.5°) | Φ(60°)Φ(67.5°) | Φ(75°)Φ(82.5°) | Φ(90°)Φ(97.5°) | Φ(105°)Φ(112.5°) | Φ(120°)Φ(127.5°) | Φ(135°)Φ(142.5°) | Φ(150°)Φ(157.5°) | Φ(165°)Φ(172.5°) | Φ(180°)Φ(187.5°) | Φ(195°)Φ(202.5°) | Φ(210°)Φ(217.5°) | Φ(225°)Φ(232.5°) | Φ(240°)Φ(247.5°) | Φ(255°)Φ(262.5°) | Φ(270°)Φ(277.5°) | Φ(285°)Φ(292.5°) | Φ(300°)Φ(307.5°) | Φ(315°)Φ(322.5°) | Φ(330°)Φ(3       |                  |



# Radiated Composite Gain Data\_Radio 4\_5GHz UNII 2C-4 and 6GHz

# Appendix C

|           |               |                 |                 |                 |                 |                 |                 |                   |                   |                   |                   |                   |                   |                   |                   |                   |                    |                   |                   |                   |                   |                   |                   |                   |
|-----------|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Θ(7.5°)   | -14.05/-12.76 | -10.37/-8.62    | -8.12/-7.56     | -7.12/-6.68     | -6.59/-5.97     | -6.87/-8.54     | -7.11/-6.63     | -8.42/-9.64       | -9.81/-13.87      | -14.33/-15.19     | -17.79/-18.21     | -18.53/-18.27     | -16.87/-14.27     | -12.01/-9.9       | -8.36/-6.77       | -6.19/-6.32       | -6.21/-6.64        | -7.21/-6.39       | -6.33/-6.98       | -6.42/-6.58       | -7.15/-7.95       | -13.28/-16.05     | -17.51/-17.28     | -14.79/-11.89     |
| Θ(15°)    | -11.61/-9.99  | -4.94/-4.77     | -5.47/-6.21     | -5.61/-5.12     | -6.51/-9.02     | -11.48/-11.91   | -11.19/-9.67    | -9.27/-13.73      | -15.96/-19.13     | -14.38/-15.68     | -11.51/-15.41     | -18.97/-14.41     | -12.84/-14.92     | -18.28/-18.71     | -10.32/-5.53      | -3.13/-2.64       | -4.14/-8.78        | -15.57/-8.44      | -4.22/-3.21       | -3.97/-3.53       | -7.64/-9.94       | -11.14/-10.72     | -10.53/-15.89     | -18.84/-15.22     |
| Θ(22.5°)  | -6.29/-6.97   | -3.61/-2.4      | -3.92/-5.01     | -3.04/-2.08     | -4.01/-9.86     | -17.97/-15.19   | -14.61/-12.77   | -10.33/-16.27     | -18.96/-13.15     | -6.11/-6.44       | -5.21/-7.98       | -12.15/-17.84     | -18.37/-15.31     | -12.79/-15.96     | -17.84/-12.46     | -5.92/-3.06       | -3.31/-5.97        | -17.39/-4.06      | -2.81/-5          | -15.09/-15.85     | -8.68/-7.62       | -13.69/-14.56     | -6.33/-3.99       | -15.77/-14        |
| Θ(30°)    | -3.98/-5.12   | -12.28/-5.04    | -3.98/-6.6      | -8.87/-7.54     | -13.28/-15.06   | -18.09/-14.55   | -11.04/-13.8    | -11.37/-10.09     | -13.65/-12.68     | -7.02/-6.87       | -12.46/-17.82     | -17.69/-12.06     | -8.82/-11.75      | -19.03/-11.89     | -11.08/-18.28     | -17.77/-6.18      | <b>-0.92/-0.21</b> | -3.42/-5.34       | -4.18/-6.46       | -10.14/-7.4       | -7.06/-8.04       | -12.08/-18.27     | -12.61/-6.51      | -4.63/-3.98       |
| Θ(37.5°)  | -8.2/-3.66    | -7.8/-12.51     | -4.75/-11.16    | -15.77/-11.76   | -7.05/-5.91     | -10.45/-11.8    | -6.47/-12.79    | -101/-10.5        | -14.03/-11.6      | -18.38/-12.94     | -8.12/-6.4        | -13.74/-11.97     | -14.29/-18.21     | -10.8/-9.87       | -13.4/-12.28      | -9.78/-15.94      | -5.17/-1.86        | -4.36/-5.33       | -1.76/-4.95       | -7.85/-4.68       | -3.57/-4.52       | -8.24/-15         | -17.75/-10.2      | -7.46/-10.03      |
| Θ(45°)    | -11.87/-8.04  | -5.87/-13.67    | -6.31/-11.99    | -18.39/-16.6    | -8.59/-7.4      | -7.89/-17.19    | -11.19/-13.78   | -9.42/-13.95      | -10.41/-8.77      | -10.15/-3.94      | -7.4/-11.75       | -17.38/-17.03     | -15.14/-10.34     | -9.64/-17.84      | -18.23/-17.83     | -18.67/-14.57     | -18.64/-6.17       | -5.56/-5.96       | -2.04/-14.16      | -7.41/-9.57       | -10.26/-11.99     | -15.24/-12.97     | -12.31/-15.77     | -6.28/-10.3       |
| Θ(52.5°)  | -12.54/-13.11 | -10.92/-11.1    | -10.3/-15.63    | -10.61/-18.38   | -10.07/-19.02   | -10.94/-18.15   | -14.12/-17.82   | -9.95/-17.89      | -12.37/-18.9      | -7.3/-4.37        | -8.45/-6.65       | -7.46/-11.39      | -19.37/-12.04     | -12.58/-9.8       | -11.34/-17.99     | -15.96/-9.86      | -11.04/-8.33       | -9.52/-6.73       | -5.61/-11.97      | -8.68/-18.54      | -10.69/-17.12     | -13.57/-16.52     | -10.07/-14.46     | -14.86/-8.91      |
| Θ(60°)    | -15.92/-12.38 | -18.43/-16      | -19.3/-17.44    | -10.49/-19.54   | -11.32/-18.33   | -14.7/-16.28    | -15.99/-17.92   | -15.15/-13.82     | -11.13/-7.69      | -5.43/-10.51      | -15.94/-9.99      | -10.54/-18.42     | -17.48/-12.09     | -17.53/-16.53     | -11/-18.36        | -17.65/-10.87     | -11.34/-10.48      | -15.42/-10.49     | -9.59/-8.38       | -9.75/-7.91       | -9.14/-18.54      | -16.31/-17.85     | -15.79/-17.95     | -15.42/-8.83      |
| Θ(67.5°)  | -18.62/-12.09 | -12.95/-18.58   | -19.05/-17.62   | -16.71/-18.68   | -11.15/-16.21   | -17.36/-14.5    | -17.51/-17.6    | -18.28/-17.88     | -16.94/-6.15      | -6.01/-9.43       | -15.18/-15.4      | -8.88/-14.7       | -9.15/-10.52      | -9.15/-17.98      | -13.67/-15.36     | -12.35/-12.24     | -17.25/-12.72      | -18.61/-12.48     | -15.11/-11.68     | -11.34/-9.71      | -11.11/-17.68     | -18.33/-17.08     | -15.06/-14.26     | -18.11/-11.97     |
| Θ(75°)    | -13.96/-13.56 | -10.54/-12.88   | -13.01/-16.24   | -18.98/-15.81   | -11.97/-11.65   | -18.38/-13.66   | -17.83/-17.85   | -17.45/-18.6      | -14.07/-6.62      | -8.87/-9.39       | -11.51/-18.15     | -10.77/-10.62     | -15.32/-8.86      | -13.91/-9.51      | -16.09/-19.24     | -10.35/-14.72     | -8.1/-17.5         | -10.47/-7.3       | -18.54/-18.91     | -10.86/-17.22     | -12.83/-18.7      | -15.81/-18.47     | -12.18/-11.18     | -19.3/-15.08      |
| Θ(82.5°)  | -12.62/-15.53 | -12.52/-11.96   | -13.21/-13.66   | -18.81/-13.27   | -18.72/-15.19   | -19.07/-12.99   | -18.93/-14.85   | -18.69/-19.7      | -17.47/-8.46      | -13.28/-12.04     | -15.81/-11.1      | -11.36/-13.46     | -12.89/-10.57     | -9.53/-15.19      | -9.11/-13.96      | -17.14/-4.29      | -16.76/-18.09      | -11.64/-18.58     | -15.51/-18.58     | -15.25/-18.02     | -12.69/-13.97     | -10.62/-15.91     | -10.62/-15.91     | -10.62/-15.91     |
| Θ(90°)    | -17.47/-18.09 | -17.71/-12.45   | -17.5/-14.21    | -18.78/-13      | -18.24/-15.96   | -19.18/-15.19   | -18.76/-11.81   | -18.28/-17.29     | -17.44/-9.95      | -18.96/-14.2      | -18.55/-12.48     | -13.1/-18.2       | -17.87/-18.94     | -19.13/-10.14     | -9.71/-14.48      | -18.73/-16.37     | -8.29/-5.45        | -14.3/-15.65      | -13.33/-18.57     | -17.59/-12.16     | -10.02/-18.13     | -14.57/-15.34     | -7.94/-19.45      |                   |
| Θ(97.5°)  | -18.91/-15.76 | -17.66/-14.43   | -19.02/-13.92   | -18.41/-13.71   | -16.91/-19.25   | -17.16/-16.46   | -18.77/-12.24   | -18.78/-14.67     | -18.44/-12.61     | -17.3/-17.67      | -17.55/-11.44     | -14.11/-13.2      | -16.78/-17.83     | -18.26/-13.8      | -8.23/-17.88      | -16.63/-10        | -6.41/-14.43       | -10.36/-8.38      | -11.41/-15.13     | -16.05/-19.15     | -16.79/-11.27     | -17.99/-18.62     | -17.91/-11.94     | -9.13/-18.63      |
| Θ(105°)   | -18.48/-13.2  | -19.39/-10.77   | -17.97/-16.19   | -18.25/-15.03   | -16.09/-17.6    | -19.38/-17.13   | -18.04/-17.9    | -17.74/-13.47     | -17.08/-15.4      | -18.65/-17.73     | -18.37/-17.03     | -13.69/-11.56     | -19.15/-18.6      | -16.29/-18.09     | -11.32/-14.66     | -17.56/-10.15     | -7.38/-17.25       | -14.73/-9.86      | -11.1/-12.51      | -16.97/-19.24     | -12.47/-10.76     | -18.91/-15.52     | -16.49/-13.74     | -10.42/-15.52     |
| Θ(112.5°) | -18.21/-11.98 | -17.31/-12.55   | -18.95/-18.16   | -17.39/-17.67   | -15.55/-18.59   | -17.05/-17.36   | -17.73/-15.6    | -18.73/-18.3      | -17.89/-18.08     | -16.78/-16.53     | -18.91/-19.35     | -14.97/-18.67     | -16.16/-17.61     | -18.45/-13.94     | -18.42/-12.97     | -10.17/-13.62     | -15.69/-11.17      | -7.38/-11.79      | -15.72/-17.37     | -9.89/-16.11      | -18.79/-18.43     | -13.94/-13        | -10.69/-19.3      |                   |
| Θ(120°)   | -14.69/-11.2  | -16.51/-18.55   | -19.14/-17.44   | -18.24/-14.52   | -18.16/-17.58   | -18.11/-17.93   | -17.54/-18.65   | -17/-18.39        | -17.7/-18.94      | -18.1/-19.03      | -18.3/-18.66      | -18.4/-18.81      | -14.74/-12.99     | -18.44/-18.54     | -18.12/-15.73     | -17.1/-15.69      | -12.32/-11.85      | -18.9/-14.77      | -8.44/-14.29      | -15.12/-19.93     | -18.45/-16.99     | -18.96/-18.08     | -15.18/-19.06     | -17.89/-17.83     |
| Θ(135°)   | -14.76/-13.9  | -18.11/-18.76   | -15.93/-18.68   | -15.17/-16.55   | -16.09/-17.6    | -18.59/-18.08   | -18.75/-19.06   | -18.25/-18.57     | -18.16/-18.18     | -18.92/-13.8      | -16.79/-13.4      | -18.05/-18.86     | -18.13/-13.2      | -17.8/-19.2       | -17.54/-18.41     | -18.54/-11.93     | -16.03/-12.68      | -18.21/-16.09     | -15.81/-17.54     | -17.31/-18.24     | -18.82/-14        | -18.23/-18.06     | -17.77/-15.71     | -14.68/-12.82     |
| Θ(15°)    | -18.94/-18.23 | -13.21/-13.73   | -12.82/-17.38   | -13.66/-18.26   | -18.47/-17.86   | -17.59/-17.84   | -18.68/-19.11   | -18.77/-19.18     | -17.28/-18.41     | -19.65/-18.4      | -17.28/-13.69     | -15.04/-16.42     | -19.27/-16.87     | -18.59/-17.73     | -18.15/-13.32     | -13.83/-17.93     | -14.51/-15.15      | -17.8/-19         | -18.86/-19.44     | -16.32/-17.42     | -17.82/-17.5      | -14.07/-14.96     | -18.29/-15.6      |                   |
| Θ(142.5°) | -11.92/-12.08 | -12.09/-11.71   | -12.88/-17.76   | -16.06/-18.16   | -17.07/-17.23   | -19/-16.31      | -15.67/-19      | -18.9/-18.2       | -17.81/-17.55     | -17.86/-15.35     | -17.71/-18.28     | -18.66/-16.52     | -18.55/-12.13     | -13.78/-17.97     | -18.31/-18.3      | -19/-17.8         | -19.01/-17.27      | -17.69/-13.67     | -18.92/-18.8      | -18.14/-18.04     | -18.01/-17.33     | -18.44/-17.81     | -18.66/-18.04     |                   |
| Θ(150°)   | -11.66/-18.59 | -16.59/-17.2    | -13.55/-13.1    | -18.65/-18.85   | -18.46/-19.21   | -18.25/-17.05   | -18.85/-15.27   | -18.06/-17.69     | -14.38/-13.83     | -15.02/-16.14     | -18.78/-18.97     | -17.8/-18.67      | -17.91/-11.94     | -11.6/-17.56      | -17.85/-18.84     | -18.99/-19.16     | -17.98/-18.78      | -18.16/-19.15     | -18.47/-16.41     | -18.04/-18.64     | -18.36/-15.52     | -15.68/-18.77     | -18.98/-17.81     | -11.26/-17.4      |
| Θ(165°)   | -15.23/-13.31 | -11.39/-11      | -13.85/-14.79   | -19.08/-16.38   | -14.4/-18.34    | -18.96/-19.04   | -14.37/-13.02   | -18.4/-16.94      | -15.28/-18.64     | -19.21/-19.03     | -18.74/-19.14     | -18.41/-18.23     | -17.28/-18.04     | -17.64/-16.8      | -18.23/-17.67     | -19.23/-17.72     | -18.18/-16.31      | -18.79/-19.15     | -19.01/-18.54     | -18.29/-19.2      | -18.16/-18.45     | -17.18/-19.09     | -18.34/-15.14     | -14.27/-18.06     |
| Θ(175°)   | -9.47/-12.72  | -8.63/-17.65    | -13/-10.36      | -10.96/-14.15   | -17.52/-17.48   | -17.2/-11.83    | -10.36/-13.78   | -14.86/-19.25     | -18.5/-19.39      | -18.77/-17.72     | -19.06/-19.35     | -18.6/-18.19      | -17.12/-19.23     | -17.5/-18.44      | -18.04/-17.74     | -18.08/-18.69     | -16.47/-18.65      | -18.38/-14.91     | -16.32/-18.09     | -17.89/-17.69     | -18.81/-14.55     | -12.15/-11.99     | -12.64/-10.6      |                   |
| Θ(172.5°) | -18.14/-18.68 | -16.46/-14.23   | -13.76/-16.16   | -19.51/-18.52   | -15.89/-19.4    | -9.73/-9.25     | -10.38/-11.66   | -13.38/-18.84     | -19.17/-18.19     | -14.38/-13.62     | -13.92/-13.62     | -16.92/-17.27     | -15.88/-17.97     | -17.25/-17.56     | -17.71/-18.56     | -18.71/-17.96     | -16.71/-15.76      | -17.61/-19.22     | -17.19/-17.66     | -17.01/-18.42     | -17.35/-16.31     | -16.76/-13.8      | -17.28/-18.48     | -17.87/-18.45     |
| Θ(180°)   | -18.28/-18.23 | -18.84/-19.26   | -17.76/-16.67   | -14.64/-13.33   | -12.65/-13.23   | -13.82/-15.13   | -17.75/-18.96   | -17.89/-17.92     | -17.31/-18.34     | -19.1/-18.85      | -18.2/-15.87      | -18.29/-18.01     | -17.84/-18.43     | -17.73/-18.84     | -17.67/-18.07     | -17.4/-19.3       | -19.15/-18.34      | -17.71/-18.18     | -17.71/-18.49     | -17.56/-18.37     | -17.87/-18.78     | -18.18/-17.93     | -17.98/-18.47     | -18.48/-18.47     |
| Freq/Hz   | 6.995GPol.    | Theta/Ant. 3    | -               | -               | -               | -               | -               | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                  | -                 | -                 | -                 | -                 | -                 | -                 | -                 |
| Gain      | Φ(0°)/Φ(7.5°) | Φ(15°)/Φ(22.5°) | Φ(30°)/Φ(37.5°) | Φ(45°)/Φ(52.5°) | Φ(60°)/Φ(67.5°) | Φ(75°)/Φ(82.5°) | Φ(90°)/Φ(97.5°) | Φ(105°)/Φ(112.5°) | Φ(120°)/Φ(127.5°) | Φ(135°)/Φ(142.5°) | Φ(150°)/Φ(157.5°) | Φ(165°)/Φ(172.5°) | Φ(180°)/Φ(187.5°) | Φ(195°)/Φ(202.5°) | Φ(210°)/Φ(217.5°) | Φ(225°)/Φ(232.5°) | Φ(240°)/Φ(247.5°)  | Φ(255°)/Φ(262.5°) | Φ(270°)/Φ(277.5°) | Φ(285°)/Φ(292.5°) | Φ(300°)/Φ(307.5°) | Φ(315°)/Φ(322.5°) | Φ(330°)/Φ(337.5°) | Φ(345°)/Φ(352.5°) |
| Θ(0°)     | -5.96/-6.26   | -7.1/-8.22      | -9.39/-11.44    | -13.16/-14.81   | -18.3/-18.03    | -17.65/-17.95   | -14.23/-14.67   | -8.89/-8.06       | -6.96/-5.59       | -5/-4.4           | -3.97/-3.67       | -3.47/-3.85       | -1.80/-4.63       | -6.17/-7.57       | -9.98/-12.29      | -17.61/-18.51     | -17.61/-17.18      | -17.61/-15.94     | -13.37/-12.52     | -11.44/-9.25      | -9.12/-9.73       | -7.31/-7.76       | -7.02/-7.58       |                   |
| Θ(7.5°)   | -4.03/-4.17   | -4.35/-4.7      | -5.31/-5.67     | -6.45/-7.23     | -8.18/-10       | -12.54/-14.06   | -16.3/-16.07    | -13.27/-14.93     | -17.36/-14.49     | -14.38/-12.75     | -11.83/-11.86     | -10.99            | -9.71/-7.54       | -6.21/-6.14       | -6.63/-7.03       | -7.83/-9.68       | -11.55/-14.86      | -18.68/-18.6      | -17.82/-11.97     | -9.32/-6.63       | -5.02/-3.76       | -3.11/-2.9        | -2.96/-3.18       | -3.81/-4.24       |
| Θ(15°)    | -2.71/-2.02   | -2.43/-2.64     | -2.52/-2.87     | -3.67/-5.35     | -7.3/-9.29      | -10.34/-9.31    | -8.08/-7.99     | -8.54/-9.51       | -12.85/-17.61     | -18.11/-18.7      | -15.83/-14.48     | -14.55/-17.39     | -17.84/-17.22     | -9.77/-6.6        | -5.13/-4.79       | -4.98/-7.09       | -10.55/-12.88      | -11.85/-7.1       | -4.13/-3.77       | 0/-0.05           | -0.96/-2.5        | -4.67/-4.25       | -6.08/-5.54       | -4.27/-3.29       |
| Θ(22.5°)  | -2.21/-3.3    | -1.43/-2.37     | -4.92/-8.93     | -13.57/-19.06   | -16.04/-9.77    | -7.4/-6.14      | -5.51/-6.5      | -6.55/-7.65       | -6.89/-7.4        | -10.65/-13.18     | -9.86/-8.5        | -7.88/-8.21       | -13.04/-14.45     | -13.3/-12.3       | -12.28/-13.35     | -15.91/-17.76     | -12.65/-8.19       | -7.31/-9.06       | -4.11/-10.14      | 1.54/-1.45        | 0.870/0.82        | 0.630/18          | -0.22/-2.12       | -4.18/-2.88       |
| Θ(30°)    | -2.55/-1.27   | -0.93/-0.18     | -2.31/-4.56     | -6.74/-10.56    | -8.43/-4.96     | -3.4/-3.42      | -3.02/-3.46     | -7.03/-18.38      | -10.44/-5.31      | -2.61/-1.46       | -0.81/-1.76       | -3.9/-6.28        | -9.49/-9.44       | -10.03/-16.27     | -13.45/-8.38      | -7.17/-15.8       | -10.51/-5.26       | -5.25/-8.71       | -4.86/-3.04       | -4.06/-5.24       | -5.53/-4.46       | -4.29/-4.82       | -5.56/-4.65       | -5.49             |
| Θ(37.5°)  | 0.650/59      | -1.37/-0.98     | -2.78/-0.76     | -1.4/-3.02      | -4.43/-5.89     | -2.96/-2.19     | -4.41/-3.57     | -2.21/-0.57       | 0.16/-1.57        | -3.32/-3.78       | -3.53/-2.51       | -2.3/-6.44        | -6.93/-2.33       | 0.1/-3.42         | -12.69/-10.65     | -6.11/-9.1        | -8.09/-4.28        | -2.4/-2.43        | -1.16/-2.16       | -10.96            | -0.61/-3.53       | -3.01/-0.91       | 0.290/6           | -1.03/-0.87       |
| Θ(45°)    | 3.492/84      | 0.71/21         | -1.90/-44       | -0.61/-2.51     | 0.07/-0.78      | 2.320/72        | -0.950/-47      | -1.47/-0.81       | -1.07/-1.27       | 1.562/3           | 0.950/02          | -0.84/-3.6        | -10.05/-9.35      | -2.29/-2.24       | -1.33/-6.82       | -6.54/-0.66       | 0.65/-0.44         | -0.27/-4.02       | 0.31/-11          | -3.98/-3.19       | -3.79/-8.75       | -47/-0.7          | 0.43/-1.          |                   |



# Radiated Composite Gain Data\_Radio 4\_5GHz UNII 2C-4 and 6GHz

# Appendix C

|           |               |                 |                 |                 |                 |                 |                 |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
|-----------|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Θ(60°)    | -5.61-3.84    | -6.07-8.63      | -8.49-4.61      | -10.08-3.57     | -3.33-10.05     | -13.22-9.38     | -12.82-8.04     | -4.85-9.1         | -18.07-11.12      | -8.71-9.32        | -4.34-2.85        | -6.17-7.13        | -9.27-14.61       | -10.4-8.62        | -14.78-7.97       | -16.51-18.23      | -9.29-18.27       | -13.32-16.16      | -18-11.24         | -17.31-7.14       | -10.47-13.06      | -9.74-4.58        | -4.15-12.96       | -6.62-6.22        |
| Θ(67.5°)  | -5.62-2.96    | -4.91-7.57      | -8.61-4.33      | -7.19-4.78      | -4.83-7.24      | -8.92-9.77      | -13.92-11.56    | -7.82-8.64        | -18.36-18.84      | -13.79-7.83       | -3.31-5.76        | -12.75-7.15       | -12.44-9.91       | -17.31-19.2       | -10.67-6.89       | -8.22-19          | -8.46-17.9        | -19.05-13.35      | -14.54-8.81       | -10.18-10.54      | -14.33-10.77      | -10.75-7.7        | -3.29-8.85        | -5.81-7.58        |
| Θ(75°)    | -4.32-1.84    | -3.51-6.2       | -13.99-5.48     | -10.89-6.58     | -5.73-5.32      | -8.62-10.95     | -16.56-18.27    | -13.97-8.64       | -16.18-13.88      | -18.95-13.92      | -4.8-4.38         | -13.3-7.38        | -8.55-8.37        | -11.71-12.94      | -16.35-9.33       | -9.95-12.51       | -7.45-15.91       | -19.28-5.42       | -12.67-2.08       | -9.84-9.33        | -13.04-8.98       | -4.8-7.51         | -6.25-7.9         |                   |
| Θ(82.5°)  | -5.26-1.82    | -4.96-7.42      | -16.77-6.17     | -10.55-7        | -6.66-6.11      | -8.71-14.95     | -17.74-18.3     | -18.89-9.51       | -16.67-11.72      | -19.03-13.43      | -7.69-7.7         | -17.93-6.53       | -12.17-6.6        | -12.95-8.08       | -12.27-12.81      | -9.55-10.27       | -16.39-17.47      | -18.57-5.1        | -6.59-1.8         | -9.11-10.76       | -19.03-10.94      | -12.43-8.94       | -8.65-7.63        | -5.46-10.68       |
| Θ(90°)    | -5.56-2.6     | -7.17-8.06      | -18.88-8.06     | -16.88-8.73     | -7.31-6.69      | -9.44-13.96     | -19.31-18.84    | -18.75-9.91       | -10.73-12.51      | -13.75-16.05      | -12.85-8.52       | -8.8-17.79        | -9.13-6.6         | -8.52-10.06       | -11.46-17.73      | -14.12-8.13       | -12.58-17.45      | -18.24-5.24       | -18.01-2.71       | -16.52-9.66       | -17.42-13.13      | -10.94-9.27       | -8.87-6.31        | -8.2-10.41        |
| Θ(97.5°)  | -8.53-4.35    | -7.85-8.92      | -19.08-9.37     | -14.83-8.79     | -8.57-8.51      | -14.83-16.24    | -17.68-18.89    | -18.51-11.33      | -11.75-13.82      | -11.59-16.46      | -18.07-10.36      | -15.05-8.17       | -12.69-9.25       | -7.18-7.22        | -12.43-18.67      | -16.83-10.68      | -16.68-15.82      | -16.48-9.67       | -15.53-6.21       | -17.71-16.49      | -12.44-11.95      | -9.91-9.04        | -10.12-5.67       | -13.47-9.23       |
| Θ(105°)   | -9.27-5.06    | -8.96-10.63     | -16.63-9.37     | -12.54-8.94     | -8.62-10.86     | -16.32-15.6     | -12.21-17.66    | -17.81-14.15      | -13.73-13.53      | -11.83-12.27      | -14.58-16.74      | -9-8.42           | -9.03-15.85       | -8.68-7.9         | -8.98-17.97       | -15.05-18.54      | -14.76-18.36      | -11.33-18.78      | -15.6-7.37        | -15.76-17.14      | -15.81-11.12      | -11.23-6.96       | -15.14-6.78       | -14.68-7.69       |
| Θ(112.5°) | -12.5-6.11    | -10.99-10.82    | -17.56-10.54    | -9.98-9.66      | -8.22-12.06     | -17.95-18.32    | -16.76-18.94    | -19.19-14.87      | -16.78-18.74      | -15.25-15.63      | -15.33-9.21       | -9.37-12.78       | -10.39-6.19       | -9.91-16.16       | -12.31-16.01      | -16.41-16.21      | -19.02-17.71      | -12.06-18.12      | -16.05-8.22       | -18.17-12.14      | -9.4-12.14        | -11.83-10.46      | -12.36-8.22       | -18.67-6.83       |
| Θ(120°)   | -10.6-7.81    | -8.54-12.26     | -16.18-11.33    | -10.55-11.74    | -6.75-7.75      | -14.5-18.74     | -17.22-18.82    | -15.43-18.49      | -15.93-15.45      | -17.58-13.98      | -7.07-7.81        | -16.27-8.04       | -10.27-11.17      | -17.91-11.24      | -16.21-13.53      | -11.33-13.01      | -16.25-17.42      | -17.4-9.3         | -17.96-16.8       | -8.06-6.16        | -11.13-15.39      | -11.98-13.47      | -13.56-7.89       |                   |
| Θ(127.5°) | -11.44-9.98   | -7.91-10.35     | -15.9-11.52     | -8.13-13.5      | -9.76-8.18      | -12.32-17.3     | -16.69-9.88     | -17.35-14.27      | -15.09-18.07      | -17.97-13.03      | -11.94-17.26      | -19.35-17.46      | -10.2-14.6        | -17.55-11.95      | -11.37-14.05      | -10.99-12.13      | -11.75-18.47      | -17.87-18.02      | -12.92-8.36       | -14.68-11.58      | -11.77-12.34      | -12.74-10.62      | -14.75-14.27      | -14.94-9.3        |
| Θ(135°)   | -9.3-11.99    | -7.84-11.42     | -18.87-9.84     | -7.35-10.11     | -15.95-10.89    | -11.61-12.5     | -18.03-13.32    | -16.5-12.43       | -15.29-17.36      | -13.52-12.37      | -13.87-19.13      | -18.28-18.84      | -19.07-18.52      | -19.13-9.34       | -13.13-14.82      | -13.59-15.17      | -14.31-14.82      | -14.88-13.89      | -9.04-10.69       | -10.66-17.66      | -16.13-12.23      | -18.47-16.88      | -17.77-12.61      |                   |
| Θ(142.5°) | -12.22-9.69   | -11.83-16.19    | -17.47-9.02     | -6.48-10.27     | -17.73-15.12    | -11.11-11.14    | -14.31-16.68    | -18.49-13.77      | -9.05-12.6        | -12.1-12.24       | -14.76-12.02      | -18.37-16.68      | -14.49-13.67      | -9.92-9.3         | -6.27-9.96        | -10.23-18.31      | -18.23-16.36      | -18-13.78         | -8.52-16.57       | -12.95-16.15      | -17.72-13.07      | -17.49-18.46      | -17.95-11.32      | -10.37-10.54      |
| Θ(150°)   | -7.81-9.89    | -15.69-18.01    | -12.49-7.75     | -7.33-8.69      | -11.11-17.4     | -16.06-12.05    | -17.27-19.16    | -16.91-18.01      | -15.58-12.97      | -14.49-15.82      | -9.91-8.5         | -8.33-9.34        | -6.16-8.69        | -6.1-8.43         | -19.07-18.45      | -15.74-15.91      | -17.13-15.53      | -18.37-7.67       | -8.04-18.38       | -13.55-16.79      | -18.13-18.77      | -18.38-17.18      | -17.48-18.71      | -11.61-8.28       |
| Θ(157.5°) | -18.71-17.89  | -18.09-18.81    | -12.11-8.72     | -8.04-7.91      | -8.36-11.88     | -13.26-13.94    | -11.44-8.91     | -8.84-9.01        | -11.09-11.38      | -9.02-6.39        | -6.02-8.34        | -8.85-6.13        | -6.14-10.72       | -18.19-15.71      | -15.85-17.44      | -16.11-16.09      | -19.45-19.03      | -10.98-8.9        | -10.92-18.91      | -17.9-17.51       | -17.87-18.44      | -17.13-12.53      | -12.09-15.45      | -14.72-14.5       |
| Θ(165°)   | -14.5-15.01   | -19.35-18.7     | -11.24-8.84     | -7.41-6.1       | -7.78-11.23     | -12.39-17.96    | -14.45-12.9     | -13.09-11.32      | -10.47-9.3        | -5.49-4.86        | -6.16-10.48       | -18.18-14.24      | -10.71-11.89      | -17.85-18.25      | -16.11-14.34      | -18.02-16.11      | -11.37-11.69      | -14.53-16.96      | -18.71-12.35      | -12.1-13.42       | -14.08-13.55      | -15.1-18.55       | -18.55-15.77      |                   |
| Θ(172.5°) | -13.59-12.06  | -10.99-10.27    | -11.3-12.72     | -10.63-10.83    | -11.97-10.46    | -11.01-14.87    | -14.4-16.18     | -17.96-14.68      | -12.28-11.03      | -10.87-11.91      | -15.53-16.45      | -11.3-9.52        | -10.41-12.75      | -17.2-18.25       | -17.92-18.99      | -18.35-17.31      | -18.84-17.31      | -13.34-17.08      | -18.99-19.04      | -17.38-18.44      | -16.39-16.9       | -18.06-18.23      | -18.81-18.28      | -17.79-18.56      |
| Θ(180°)   | -13.12-13.57  | -14.64-16.69    | -19.04-16.97    | -16.27-15.79    | -14.55-14.52    | -15.65-15.1     | -12.62-13.53    | -17.07-10.95      | -12.25-10.78      | -10.32-10.2       | -9.4-8.73         | -8.54-10.56       | -15.05-15.73      | -14.54-13.38      | -12.21-12.21      | -14.79-18.55      | -18.95-17.68      | -16.8-17.14       | -18.49-13.96      | -13.71-15.21      | -15.7-15.42       | -13.51-12.03      | -11.76-12.3       | -11.09-11.54      |
| Freq(Pol) | 5.60GPol      | ThetaAnt.4      | -               | -               | -               | -               | -               | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 |
| Gain      | Φ(0°)/Φ(7.5°) | Φ(15°)/Φ(22.5°) | Φ(30°)/Φ(37.5°) | Φ(45°)/Φ(52.5°) | Φ(60°)/Φ(67.5°) | Φ(75°)/Φ(82.5°) | Φ(90°)/Φ(97.5°) | Φ(105°)/Φ(112.5°) | Φ(120°)/Φ(127.5°) | Φ(135°)/Φ(142.5°) | Φ(150°)/Φ(157.5°) | Φ(165°)/Φ(172.5°) | Φ(180°)/Φ(187.5°) | Φ(195°)/Φ(202.5°) | Φ(210°)/Φ(217.5°) | Φ(225°)/Φ(232.5°) | Φ(240°)/Φ(247.5°) | Φ(255°)/Φ(262.5°) | Φ(270°)/Φ(277.5°) | Φ(285°)/Φ(292.5°) | Φ(300°)/Φ(307.5°) | Φ(315°)/Φ(322.5°) | Φ(330°)/Φ(337.5°) | Φ(345°)/Φ(352.5°) |
| Θ(0°)     | -7.59-7.73    | -8.21-8.08      | -8.2-9.72       | -9.16-8.38      | -10.36-11.41    | -9.75-12.14     | -12.26-11.78    | -13.04-11.73      | -11.56-11.65      | -11.29-9.75       | -8.94-7.67        | -6.59-6.64        | -7.01-7.64        | -7.43-8.82        | -8.97-8.93        | -10.44-11.5       | -10.95-10.06      | -10.46-10.2       | -8.92-8.32        | -7.57-7.13        | -6.88-6.04        | -6.3-6.93         | -5.9-6.32         | -7.27-8.37        |
| Θ(7.5°)   | -4.35-4.04    | -3.97-4.16      | -4.67-6.28      | -8-10.01        | -10.81-13.47    | -13.02-12.51    | -13.67-8.73     | -7.84-7.6         | -8.3-3.85         | -16.78-9.19       | -6.43-7.34        | -8.3-3.85         | -1.76-7.32        | -5.17-4.66        | -4.74-5.59        | -4.14-4.45        | -5.46-6.1         | -6.78-9.95        | -10.19-19.3       | -10.12-10.06      | -15.05-10.39      | -9.75-8.31        | -6.9-6.53         | -6.26-6.06        |
| Θ(15°)    | -7.79-8.73    | -10.21-13.1     | -14.06-11       | -9.77-8.86      | -7.61-9.36      | -13.84-18.98    | -18.56-12.75    | -9.37-8.95        | -9.44-10.6        | -12.36-13.02      | -13.28-12.15      | -11.11-11.02      | -10.14-8.67       | -6.73-5.24        | -3.95-2.77        | -2.22-1.79        | -1.76-2.14        | -2.79-3.78        | -5.01-5.32        | -4.94-4.95        | -4.73-4.41        | -3.87-3.23        | -3.35-3.74        | -5.26-6.56        |
| Θ(22.5°)  | -11.43-12.35  | -15.13-15.55    | -12.01-7.77     | -7.1-6.77       | -4.94-5.62      | -6.66-7.1       | -11.68-10.24    | -9.72-9.31        | -10.88-6.94       | -12.39-7.94       | -6.25-5.05        | -4.01-4.33        | -3.31-6.73        | -1.58-0.75        | -1.09-2.53        | -3.7-3.91         | -4.43-6.36        | -8.27-8.53        | -7.42-4.54        | -2.77-1.82        | -1.82-2.75        | -3.97-5.37        | -7.33-9           | -11.93-12.61      |
| Θ(30°)    | -7.01-14.44   | -14.42-8.21     | -9.19-13.24     | -14.69-11.24    | -8.65-8.26      | -5.88-5.33      | -5.39-6.23      | -10.47-9.3        | -6.28-4.67        | -6.19-8.49        | -4.76-6.1         | -4.32-3.63        | -4-3.54           | -2.44-3.34        | -6.12-5.55        | -2.26-0.67        | -6.17-7.25        | -8.95-9.3         | -5.71-3.26        | -2.93-3.62        | -4.55-18.03       | -7.03-3.78        | -2.96-5.16        |                   |
| Θ(37.5°)  | -5.04-10.69   | -7.44-5.95      | -5.77-7.81      | -8.58-7.42      | -7.77-8.86      | -10.71-9.52     | -5.83-3.32      | -2.92-7.64        | -4.95-0.58        | -1.07-4.17        | -5.83-6.66        | -2.97-2.98        | -2.91-3.72        | -5.33-7.68        | -7.24-5.08        | -4.76-6.49        | -7.83-7.36        | -8.21-6.54        | -4.63-4.14        | -2.08-0.46        | -0.8-3.19         | -6.81-5.54        | -0.24-1.49        | 1.17-7.23         |
| Θ(45°)    | -1.14-4.75    | -10.41-7.25     | 2.2-2.93        | -5.22-5.13      | -3.93-3.16      | -5.67-9.49      | -9.89-3.2       | 0.51-0.04         | -3.88-0.98        | 1.8-1.74          | -4.56-7.41        | -4.57-1.37        | -1.03-1.14        | -1.36-3.97        | -3.86-3.59        | -5.89-6.63        | -4.45-1.03        | -0.34-4.11        | -7.66-1.93        | -6.62-0.12        | 1.72-0.43         | 0.21-0.17         | 0.893-1.2         | 2.96-0.67         |
| Θ(52.5°)  | 1.52-1.15     | -1.55-4.17      | -0.29-3.4       | -7.94-7.04      | -7.78-9.75      | -7.71-8.56      | -3.12-1.39      | -4.57-2.4         | 2.69-2.32         | -7.88-7.09        | -4.53-2.65        | -2.07-2.12        | 1.47-0.63         | 0.43-1.85         | 2.44-2.91         | 3.61-1.39         | -2.86-0.32        | 1.35-2.24         | 2.17-2.24         | 3.85-1.97         | 1.084-0.66        |                   |                   |                   |
| Θ(60°)    | 2.85-0.56     | -4.56-6.7       | 0.25-1.81       | -4.08-9.59      | -14.99-14.9     | -6.14-1.62      | -2.61-9.7       | -17.8-7.18        | -12.46-0.55       | 0.36-2.4          | -4.78-9.87        | -4.6-5.74         | -3.82-2.68        | 0.27-0.86         | 3.81-3.44         | 1.57-2.28         | 1.84-0.86         | 2.46-1.07         | -2.31-0.16        | 0.68-1.24         | 2.35-0.69         | 4.61-0.96         | 1.283-0.46        | 3.27-2.3          |
| Θ(67.5°)  | 3.75-2.51     | -2.8-6.97       | 1.7-0.14        | -2.39-7.68      | -14.77-9.93     | -2.07-1.53      | 1.99-2.59       | -8.29-7.45        | -8.07-4.92        | -3.02-1.79        | -6.16-7.06        | -5.92-2.98        | -0.87-0.92        | 2.83-3.77         | 5.314-75          | 2.42-3.7          | 2.92-1.62         | 2.61-0.57         | -3.29-1.05        | -1.63-0.2         | 22-36             | 3.17-0.09         | 0.59-2.1          | 3.66-3            |
| Θ(75°)    | 3.08-2.91     | -2.86-9.24      | 1.05-0.8        | -4.61-15.11     | -18.77-8.77     | -1.92-1.94      | 2.51-1.4        | -5.4-2.06         | -4.29-9.64        | -4.57-3.59        | -4.11-7.26        | -4.37-8.36        | 2.12-2.6          | 3.71-6.68         | 2.09-2.53         | 5.47-5.03         | 4.24-1.49         | -3.89-2.08        | -1.64-1.01        | 0.32-2.13         | 0.52-1            | 0.62-0.35         | 2.81-2.81         |                   |
| Θ(82.5°)  | 1.9-2.34      | -3.21-9.46      | -0.81-3.31      | -7.01-18.11     | -12.33-6.45     | -2.02-0.96      | 1.48-3.04       | 4.99-1.15         | -3.97-10.64       | -7.31-3.21        | -6.95-6.94        | -7.18-3.61        | 0.47-0.56         | 1.61-1.31         | 2.9-2.81          | 0.82-3.22         | 6.95-6.46         | 4.54-2.05         | -4.33-2.74        | -2.24-1.6         | -10.68            | -2.85-1.17        | -0.41-1.82        | 1.11-6.2          |
| Θ(90°)    | 0.12-0.11     | -5.13-10.14     | -3.59-5.63      | -11.92-18.19    | -13.3-9.27      | -3.41-0.7       | -0.2-2.96       | -7.77-1.99        | -4.68-10.58       | -11.24-7.61       | -7.89-9.35        | -6.03-10.32       | -2.61-4.1         | 0.3-0.01          | -0.44-0.21        | -1.94-0.24        | 4.95-6.22         | 3.92-1.55         | -2.99-0.55        | -3.54-0.47        | -3.23-1.67        | -6.72-1.28        | -0.92-5.97        | -0.50-0.18        |
| Θ(97.5°)  | -1.44-2.17    | -8.37-12.1      | -6.35-8.34      | -19.24-18.96    | -14.83-9.43     | -6.19-2.27      | -1.85-4.71      | -7.81-4.34        | -7.23-12.64       | -15.24-10.15      | -13.43-18.56      | -11.85-7.69       | -5.11-4.3         | -2.65-3           | -0.34-1.79        | -6.78-7.75        | 2.29-2.78         | -0.01-2.28        | -6.54-2.13        | -6.51-6.38        | -4.86-5           | -9.8-3.51         | -4.16-7.37        | -1.93-1.51        |
| Θ(105°)   | -2.28-4.32    | -16.31-15.14    | -11.61-12.66    | -15.21-16.07    | -13.9-12.75     | -7.99-3.89      | -3.64-4.08      | -8.93-5.02        | -8.71-15.52       | -18.31-10.22      | -15.32-15.79      | -10.25-13.16      | -5.35-6.23        | -2.69-4.76        | -4.3-1.3          | -6.45-7.35        | -0.55-1.82        | -10.17-10.56      | -8.24-6.76        | -10.42-9.36       | -11.82-8.21       | -12.23-5.54       | -9.55-6.51        | -                 |



# Radiated Composite Gain Data\_Radio 4\_5GHz UNII 2C-4 and 6GHz

# Appendix C

|           |               |                 |                 |                 |                 |                 |                 |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
|-----------|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Θ(112.5°) | -6.48/-7.89   | -15.93/-14.13   | -9.76/-13.31    | -15.95/-14.82   | -10.42/-12.53   | -17.99/-11.9    | -18.46/-18.37   | -15.68/-18.06     | -13.49/-15.19     | -11.62/-19.16     | -10.8/-10.1       | -7.74/-8.42       | -6.48/-6.88       | -8.29/-13.62      | -9.95/-17.93      | -14.72/-19.06     | -18.01/-18.28     | -18.91/-12.77     | -11.01/-15.12     | -13.05/-17.11     | -8.34/-13.28      | -15.46/-12.21     | -16.65/-18.14     | -11.07/-8.16      |
| Θ(120°)   | -8.18/-9.16   | -17.83/-10.82   | -10.99/-11.35   | -12.42/-17.46   | -11.42/-12.59   | -18.74/-18.55   | -16.91/-18.75   | -19.02/-18.88     | -17.47/-18.7      | -13.22/-13.88     | -16.96/-14.84     | -8.85/-9.43       | -15.09/-7.4       | -8.7/-12          | -9.04/-16.3       | -17.75/-12.87     | -17.25/-19.77     | -18.65/-12.92     | -17.55/-12.18     | -18.11/-15.63     | -8.14/-15.77      | -18.41/-11.96     | -19.15/-17.86     | -9.02/-7.8        |
| Θ(127.5°) | -9.31/-14.09  | -16.78/-10.47   | -10.84/-12.68   | -16.26/-18.51   | -14.74/-11.29   | -18.56/-12.16   | -14.19/-18.21   | -17.64/-15.33     | -13.79/-17.81     | -18.36/-17.77     | -16.39/-12.79     | -18.36/-17.86     | -9.44/-17.15      | -13.92/-12.11     | -14.35/-17.7      | -18.36/-13.59     | -17.14/-16.39     | -11.62/-17.41     | -15.62/-9.99      | -18.72/-17.78     | -15.63/-18.38     | -15.62/-9.99      | -9.29/-10.38      |                   |
| Θ(135°)   | -11.73/-18.92 | -15.66/-12.88   | -11.65/-15.01   | -13.52/-15.65   | -15.96/-11.96   | -15.94/-18.72   | -15.11/-16.02   | -17.35/-19.21     | -14.38/-18.31     | -14.76/-19.32     | -14.98/-18.29     | -17.39/-19.02     | -14.82/-17.06     | -12.87/-18.38     | -18.17/-13.94     | -14.18/-18.91     | -18.98/-18.81     | -18/-18.61        | -17.91/-18.06     | -15.78/-18.39     | -18.58/-17.05     | -18.51/-18.17     | -11.01/-10.28     | -10.23/-9.26      |
| Θ(142.5°) | -19.02/-18.29 | -18.94/-10.77   | -17.46/-15.55   | -14.73/-16.14   | -18.46/-10.66   | -10.67/-14.33   | -17.69/-13.12   | -11.36/-19.04     | -18.33/-18.58     | -11.99/-8.74      | -10.39/-13.42     | -15.06/-13.38     | -8.12/-9.1        | -8.97/-9.98       | -8.15/-7.83       | -11.65/-18.4      | -18.2/-18.49      | -18.11/-16.94     | -15.46/-12.13     | -18.61/-12.44     | -14.35/-18.81     | -19.15/-18.22     | -11.88/-10.12     | -9.18/-10.93      |
| Θ(150°)   | -18.44/-18.3  | -16.67/-13.45   | -10.43/-8.92    | -9.33/-12.3     | -18.57/-18.25   | -18.13/-18.73   | -18.65/-17.61   | -18.31/-13.72     | -11.91/-16.5      | -12.49/-9.14      | -9.7/-9.23        | -8.14/-9.75       | -11.88/-16.63     | -12.85/-14.49     | -14.24/-12.01     | -18.31/-12.84     | -18.91/-15.16     | -16.82/-18.03     | -15.33/-16.5      | -18.31/-15.59     | -15.73/-16.15     | -14.44/-18.94     |                   |                   |
| Θ(157.5°) | -18.96/-14.84 | -12.11/-9.06    | -7.15/-8.51     | -13.39/-19.26   | -17.19/-11.64   | -12.84/-16.29   | -18.75/-15.67   | -16.34/-17.84     | -18.85/-15.31     | -18.12/-15.83     | -9.25/-7.91       | -11.12/-11.54     | -9.11/-10.98      | -17.14/-18.49     | -19.18/-18.04     | -16.09/-15.44     | -15.9/-19.73      | -17.72/-12.51     | -12.67/-18.84     | -19.14/-11.28     | -13.68/-18.87     | -13.96/-12.58     | -15.02/-19.74     | -17.97/-17.42     |
| Θ(165°)   | -17.66/-18.54 | -18.95/-13.86   | -11.63/-13.74   | -16.22/-16.75   | -19.2/-16.56    | -19.2/-16.76    | -16.2/-12.48    | -11.99/-11.92     | -11.77/-11.86     | -11.63/-11.41     | -11.22/-11.84     | -16.03/-18.34     | -10.48/-9.18      | -15.38/-18.93     | -19.14/-13.35     | -11.01/-12.78     | -19.52/-18.09     | -14.38/-11.21     | -13.5/-14.75      | -9.57/-10.42      | -16.04/-15.44     | -15.92/-19.08     | -18.4/-17.38      | -13.73/-14.37     |
| Θ(172.5°) | -11.31/-11.32 | -11.68/-11.7    | -11.46/-10.79   | -10.63/-10.05   | -10.58/-12.15   | -11.75/-15.42   | -16.53/-14.79   | -16/-13.5         | -12.52/-10.01     | -8.74/-9.72       | -12.6/-17.5       | -18.63/-15.53     | -12.53/-12.35     | -14.99/-18.74     | -17.5/-17.92      | -18.47/-18.25     | -18.81/-17.95     | -14.54/-15.01     | -18.56/-16.13     | -15.38/-19.17     | -18.61/-17.96     | -18.11/-17.86     | -17.34/-16.76     | -13.12/-11.85     |
| Θ(180°)   | -11.93/-11.69 | -13.05/-14.43   | -14.12/-16.4    | -18.05/-16.35   | -17.11/-17.33   | -18.24/-19.3    | -18.19/-18.36   | -15.69/-14.18     | -13.71/-14.34     | -15.71/-17.62     | -18.64/-18.56     | -19.06/-18.68     | -18.19/-19.27     | -13.77/-11.9      | -10.52/-8.83      | -8.33/-8.96       | -9.87/-12.66      | -14.75/-15.21     | -17.07/-15.8      | -18.5/-19         | -18.75/-18.13     | -18.27/-17.85     | -15.31/-13.28     | -13.4/-12.43      |
| Freq(Hz)  | 5.885GPol.    | ThetaAnt. 4     | -               | -               | -               | -               | -               | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 |
| Gain      | Φ(0°)/Φ(7.5°) | Φ(15°)/Φ(22.5°) | Φ(30°)/Φ(37.5°) | Φ(45°)/Φ(52.5°) | Φ(60°)/Φ(67.5°) | Φ(75°)/Φ(82.5°) | Φ(90°)/Φ(97.5°) | Φ(105°)/Φ(112.5°) | Φ(120°)/Φ(127.5°) | Φ(135°)/Φ(142.5°) | Φ(150°)/Φ(157.5°) | Φ(165°)/Φ(172.5°) | Φ(180°)/Φ(187.5°) | Φ(195°)/Φ(202.5°) | Φ(210°)/Φ(217.5°) | Φ(225°)/Φ(232.5°) | Φ(240°)/Φ(247.5°) | Φ(255°)/Φ(262.5°) | Φ(270°)/Φ(277.5°) | Φ(285°)/Φ(292.5°) | Φ(300°)/Φ(307.5°) | Φ(315°)/Φ(322.5°) | Φ(330°)/Φ(337.5°) | Φ(345°)/Φ(352.5°) |
| Θ(0°)     | -8.7/-7.16    | -6.59/-5.65     | -6.63/-6.79     | -6.27/-6.48     | -5.98/-6.04     | -7.67/-7.21     | -8.52/-11.94    | -11.68/-14.45     | -16.07/-15.6      | -12.36/-10.28     | -8.85/-6.99       | -5.67/-4.73       | -4.07/-3.78       | -4.35/-4.43       | -5.36/-7.03       | -8.27/-8.79       | -9.75/-11.26      | -11.93/-13.1      | -13.48/-12.71     | -10.79/-9.85      | -9.27/-9.28       | -9.17/-6.5        | -8.75/-6.19       | -6.37/-6.51       |
| Θ(7.5°)   | -1.03/-17.7   | -2.93/-4.52     | -6.73/-12.6     | -14.23/-17.5    | -18.37/-12.65   | -9.99/-7.97     | -8.09/-6.82     | -5.43/-5.48       | -4.58/-4.32       | -4.32/-4.21       | -4.56/-4.86       | -5.33/-5.7        | -5.7/-5.79        | -5.64/-8.45       | -4.41/-4.23       | -3.98/-4.1        | -3.95/-4.4        | -6.34/-6.65       | -9.14/-13.02      | -16.63/-17.96     | -18.67/-12.87     | -9.84/-17.2       | -4.95/-3.2        | -2.92/-2.66       |
| Θ(15°)    | -3.42/-2.98   | -2.29/-4.05     | -4.89/-6.97     | -10.56/-13.01   | -15.03/-13.72   | -10.2/-8.88     | -7.29/-5.49     | -4.43/-2.86       | -1.72/-0.75       | 0.040/0.59        | 0.6/0.22          | -0.5/-1.14        | -2.09/-3.48       | -4.29/-4.24       | -2.59/-3.76       | -2.6/-1.77        | -1.21/-0.89       | -1.15/-2.17       | -2.65/-3.32       | -3.15/-3.08       | -3.43/-5.3        | -2.28/-1.89       | -2.4/-2.02        |                   |
| Θ(22.5°)  | -10.54/-8.72  | -4.39/-2.57     | -2.13/-1.83     | -1.33/-1.68     | -2.5/-4.13      | -7.26/-7.72     | -5.77/-3.99     | -3.29/-2.44       | -1.35/-0.52       | -0.53/-1.53       | -3.71/-5.43       | -7.9/-15.07       | -15.18/-12.1      | -10.33/-9.1       | -7.1/-4.17        | -2/-0.68          | -0.160/0.26       | -0.1/-1.46        | -1.27/-1.06       | -2.18/-3.49       | -5.69/-9.61       | -13.71/-9.81      | -7.38/-9.07       | -10.62/-11.79     |
| Θ(30°)    | -18.84/-7.4   | -6.94/-6.97     | -6.1/-2.43      | 0.060/0.2       | -0.74/-4.03     | -16.24/-12.14   | -5.16/-2.49     | -1.6/-2.3         | -3.07/-3.09       | -2.67/-3.79       | -8.33/-17.4       | -4.67/-1.66       | -3.78/-2.29       | -3.47/-9.57       | -6.91/-4.25       | -1.41/-0.41       | -0.4/-0.82        | -1.21/-2.06       | -1.28/-0.95       | -1.67/-1.5        | -11/-5.2          | -1.690/-3.4       | 1.777/8.1         | -0.59/-3.73       |
| Θ(37.5°)  | -5.06/-4.87   | -5.81/-5.84     | 2.082/55        | 1.450/0.28      | -0.19/-2.5      | -0.64/-7.96     | -4.16/-5.92     | -1.64/-5.15       | -3.85/-4.12       | -5.15/-9.95       | -6.95/-4.48       | -4.74/-7.46       | -11.18/-7.76      | -6.19/-5.7        | -7.25/-5.58       | -4.87/-8.15       | -9.22/-7.31       | -4.56/-1.99       | -2.43/-7.14       | -6.82/-5.12       | -2.28/-3.42       | 1.120/0.98        | -4.33/-5.14       |                   |
| Θ(45°)    | -1.32/-6.67   | -2.77/2.4       | 3.640/6.4       | -6.32/-6.25     | -2.63/-2.83     | -3.87/-3.97     | -8.04/-18.36    | -15.16/-9.04      | -11.65/-17.25     | -8.54/-11.55      | -15.83/-8.63      | -5.97/-5.52       | -4.6/-2.63        | -5.31/-5.3        | -12.7/-8.5        | -4.84/-10.91      | -12.18/-4.72      | -2.62/-6.6        | -11.28/-8.75      | -4.92/-4.76       | -6.79/-2.04       | -2.99/-12.65      | -1.24/-1.47       | -3.32/-0.84       |
| Θ(52.5°)  | -2.15/-8.41   | -7.82/-0.11     | 0.91/-2.72      | -1.28/-0.9      | -2.31/-6.4      | -1.423/-3.4     | -2.87/-10.67    | -10.14/-18.72     | -17.01/-18.37     | -18.73/-18.64     | -18.43/-8.6       | 0/-3.92           | -6.36/-12.88      | -2.64/-21.3       | 0.65/-2.58        | -1.93/-1.94       | 2.93/-0.8         | -3.79/-5.07       | -2.680/0.8        | -0.91/-1.93       | -7.98/-5.31       | 0.460/0.2         | 1.48/-1.52        |                   |
| Θ(60°)    | -3.59/-10.52  | -6.3/-0.08      | -0.08/-3.24     | -1.14/-4.7      | -6.49/-0.21     | 2.490/4.3       | 1.113/-3.1      | 3.3/-2.23         | -1.17/-10.75      | -1.14/-17.52      | -9.51/-4.8        | -18.63/-9.3       | -1.12/-0.66       | -2.13/-3.38       | 1.723/0.62        | 2.660/0.6         | -2.34/-0.39       | 2.45/-0.88        | -7.19/-11.41      | -3.91/-25         | 1.19/-1.85        | -0.160/-2.6       | 0.716/6.36        | 1.690/3.38        |
| Θ(67.5°)  | -4.78/-12.9   | -3.18/-0.24     | -2.6/-7.58      | -5.75/-9.2      | -7.84/-0.32     | 2.450/2.22      | 0.834/7.7       | 4.51/-0.32        | -3.93/-5.27       | -9.93/-8.09       | -3.37/-6.06       | -11.96/-2.71      | 2.871/8.1         | 1.011/9.4         | 5.345/0.4         | 3.742/1.7         | 1.970/3.8         | 2.710/0.5         | -2.47/-9.69       | -2.570/8.8        | 1.44/-3.29        | -2.533/7.1        | 0.041/1.7         | 0.46/-1.72        |
| Θ(75°)    | -4.92/-17.91  | -3.32/-1.51     | -8.55/-16.72    | -8.07/-1.81     | -2.37/-1.4      | 2.08/-0.68      | 1.254/7.8       | 4.31/-1.51        | -0.68/-0.34       | -10.46/-5.38      | -2.95/-5.38       | -11.66/-0.61      | 0.863/3.9         | 1.011/3.4         | <b>4.84/-5.9</b>  | 3.522/8.9         | 4.652/2.9         | 3.991/8.9         | 1.94/-2.75        | -0.820/-1.4       | -0.14/-3.77       | 0.064/7.4         | -2.611/7.9        | -0.67/-3.01       |
| Θ(82.5°)  | -6.22/-18.32  | -4.97/-4.62     | -18.87/-11.54   | -5.58/-0.55     | -1.04/-2.77     | 0.173/-2.7      | 0.034/0.5       | 3.5/-5.09         | -0.62/-3.32       | -12.25/-5.45      | -2.92/-9.2        | -2.44/-0.66       | 3.140/9.1         | -0.721/7.7        | 4.033/6.6         | 2.89/0.5          | 5.083/5.7         | 3.641/4.4         | 3.14/-0.57        | 0.37/-0.01        | -2.92/-3.27       | 1.494/0.2         | -0.04/-2.22       | -2.91/-5.62       |
| Θ(90°)    | -6.13/-18.55  | -7.42/-6.72     | -18.84/-7.4     | -4.41/-1.58     | -0.73/-3.48     | -0.73/-5.27     | -2.82/2.44      | 1.89/-6.11        | -2.1/-4.54        | -18.57/-6.21      | -2.67/-6.75       | -7.850/0.6        | -1.08/1           | -2.270/9.8        | 1.790/6.4         | -0.360/-1.9       | 3.63/3.77         | 2.440/0.7         | 2.16/-1.32        | -0.06/-3.16       | -4.85/-3.23       | 1.022/0.6         | -4.33/-1.07       | -5.15/-4.74       |
| Θ(97.5°)  | -7.82/-18.99  | -7.71/-18.97    | -18.46/-8.49    | -5.39/-3.43     | -2.18/-4.1      | -2.53/-6.41     | -4.750/2.9      | -0.22/-6.77       | -4.72/-8.11       | -17.42/-10.66     | -5.76/-10.21      | -8.02/-11.48      | -3.35/-1.93       | -1.31/-0.14       | -1.16/-1.34       | -1.90/-1.89       | -19.19/-18.39     | -15.85/-15.72     | -19.47/-17.37     | -16.55/-16.88     | -13.74/-14.79     | -18.88/-17.38     | -18.16/-17.96     | -19.08/-18.64     |
| Θ(105°)   | -13.28/-15.68 | -6.93/-13.36    | -13.73/-6.94    | -5.4/-5.29      | -7.06/-3.8      | -3.44/-6.26     | -5.86/-8.0      | -1.18/-10.54      | -7.52/-13.31      | -19.03/-19.03     | -8.59/-10.96      | -17.26/-7.67      | -5.33/-0.9        | -2.1/-1.9         | -3.52/-4.31       | -6.26/-18.31      | -2.02/-4.47       | -8.09/-7.01       | -8.66/-13.24      | -9.94/-0.4        | -0.37/-3.15       | -5.58/-2.74       | -9.93/-7.98       |                   |
| Θ(112.5°) | -15.37/-12.75 | -8.91/-15.52    | -11.79/-7.79    | -9.12/-8.98     | -10.04/-5.51    | -5.72/-4.73     | -7.62/-1.55     | -2.01/-11.8       | -8.98/-13.47      | -19.11/-17.84     | -16.16/-15.99     | -10.44/-15.12     | -4.97/-4.95       | -7.76/-6.37       | -8.84/-1.92       | -13.6/-8.01       | -0.1/-11.48       | -12.09/-7.08      | -5.81/-6.21       | -11.25/-12.99     | -6.22/-6.79       | -2.94/-4.82       | -8.7/-6.02        | -12.55/-9.19      |
| Θ(120°)   | -15.38/-14.29 | -12.73/-18.75   | -11.42/-7.72    | -10.65/-13.58   | -9.75/-8.48     | -6.25/-12.94    | -9.52/-3.39     | -3.76/-8.68       | -6.92/-10.22      | -18.6/-18.42      | -15.63/-11.65     | -11.52/-9.66      | -11.89/-9.71      | -14.87/-8.08      | -9.4/-4.51        | -6.09/-6.58       | -6.68/-3.97       | -15.67/-2.6       | -2.35/-9.76       | -14.58/-17.99     | -5.37/-6.94       | -6.6/-5.79        | -12.45/-4.72      | -16.94/-10.12     |
| Θ(127.5°) | -15.11/-17.25 | -17.63/-18.68   | -12.65/-11.63   | -12.94/-11.39   | -5.38/-4.86     | -6.03/-4.22     | -3.81/-7.44     | -6.77/-11.97      | -13.56/-17.85     | -12.56/-10.42     | -10.38/-10.21     | -9.08/-9.57       | -11.64/-6.81      | -13.26/-8.07      | -11.63/-13.02     | -9.62/-8.82       | -17.51/-6.7       | -7.62/-14.4       | -19.22/-15.85     | -6.23/-11.03      | -13.18/-5.62      | -13.11/-11.4      | -16.96/-13.83     |                   |
| Θ(135°)   | -12.06/-15.07 | -12.79/-18.01   | -12.14/-10.59   | -10.44/-5.83    | -4.93/-5.24     | -6.86/-9.27     | -11.78/-8.08    | -6.9/-8.06        | -10.87/-9.36      | -10.08/-18.98     | -14.59/-8.99      | -5.87/-6.33       | -10.54/-8.37      | -14.02/-9.9       | -10.80/-6.67      | -13.94/-5.17      | -6.67/-12.82      | -8.39/-6.68       | -17.58/-18.99     | -12.56/-13.03     | -9.03/-17.92      | -9.36/-17.5       | -14.33/-12.37     | -16.1/-13.54      |
| Θ(142.5°) | -18.53/-18.84 | -17.02/-12.37   | -9.33/-11.5     | -10/-5.23       | -3.73/-4.71     | -7.27/-8.02     | -7/-6.8         | -8.21/-8.79       | -12.09/-11.3      | -11.03/-6.63      | -11.8/-18.6       | -19.08/-18.53     | -19.15/-16.71     | -19.25/-16.16     | -17.84/-11.18     | -12.25/-18.63     | -9.66/-13.11      | -11.97/-10.19     | -11.17/-11.44     | -19.03/-15.71     | -16.8/-17.22      | -18.07/-17.58     | -17.37/-18.52     | -18.06/-16.86     |
| Θ(150°)   | -14.84/-17.09 | -16.07/-12.59   | -15.55/-13.96   | -9.42/-7.22     | -6.5/-7.89      | -10/-8.56       | -6.86/-6.36     | -6.2/-8.1         | -15.1/-14.84      | -12.84/-14.06     | -18.25/-19.7      | -18.61/-14.83     | -13.98/-15.02     | -16.32/-12.13     | -9.56/-15.97      | -18.86/-14.25     | -12.03/-14.47     | -18.01/-13.5      | -9.92/-18.99      | -10.51/-14.61     | -18.73/-18.41     | -18.99/-18.98     | -18.01/-18.87     | -17.54/-18.24     |
| Θ(157.5°) | -13.19/-11.6  | -10.21/-10.38   | -12.54/-12.27   | -9.06/-7.79     | -8.76/-10.49    | -10.77/-10.01   | -8.78/-10.37    | -8.44/-6.64       | -5.83/-7.95       | -10.47/-10.82     | -13.43/-16.97     | -19.21/-19.31     | -15.59/-17.91     | -14.16/-10.98     | -11.18/-13.94     | -                 |                   |                   |                   |                   |                   |                   |                   |                   |



# Radiated Composite Gain Data\_Radio 4\_5GHz UNII 2C-4 and 6GHz

# Appendix C

|           |               |                |                |                |                |                |                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
|-----------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Θ(165°)   | -17.48/-14.36 | -14.13/-13.28  | -11.48/-10.73  | -11.66/-11.9   | -13.67/-16.7   | -17.81/-19.18  | -19.22/-18.07  | -17.52/-17.58    | -14.36/-11.65    | -10.31/-11.07    | -10.91/-10.46    | -11.07/-10.15    | -16.26/-16.25    | -11.23/-12.88    | -18.72/-17.62    | -14.88/-14.67    | -18.92/-16.5     | -12.44/-13.53    | -15.6/-15.16     | -16.9/-19.15     | -17.07/-18.66    | -18.2/-18.29     | -18.55/-14.01    | -14.17/-13.69    |
| Θ(172.5°) | -16.39/-15.81 | -15.41/-15.48  | -15.28/-16.08  | -15.32/-16.27  | -16.85/-14.83  | -14.96/-13.46  | -15.08/-15.92  | -18.53/-17.98    | -17.94/-18.44    | -18.38/-17.86    | -18.83/-19.21    | -18.81/-14.49    | -14.87/-18.97    | -19.09/-18.2     | -18.98/-18.97    | -14.84/-13.68    | -14.43/-17.4     | -18.85/-18.44    | -18.23/-17.4     | -18.52/-17.2     | -17.91/-17.96    | -18.44/-18.29    | -18.26/-14.14    | -15.51/-18.34    |
| Θ(180°)   | -19.04/-18.97 | -18.48/-19.26  | -18.86/-18.26  | -19.34/-17.85  | -16.77/-18.92  | -19.11/-16.01  | -17.32/-18.29  | -15.96/-16.04    | -16.09/-17.68    | -17.62/-18.84    | -18.57/-18.82    | -18.26/-18.22    | -18.63/-18.95    | -18.07/-17.71    | -17.82/-17.91    | -18.31/-18.65    | -18.36/-18.48    | -18.65/-17.65    | -18.63/-18.6     | -18.03/-18.72    | -19.27/-18.95    | -17.47/-18.46    | -18.21/-19.32    | -18.81/-18.49    |
| Freq(Hz)  | 6.475GPol.    | Theta/Ant. 4   | -              | -              | -              | -              | -              | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                |
| Gain      | Φ(0°)Φ(7.5°)  | Φ(15°)Φ(22.5°) | Φ(30°)Φ(37.5°) | Φ(45°)Φ(52.5°) | Φ(60°)Φ(67.5°) | Φ(75°)Φ(82.5°) | Φ(90°)Φ(97.5°) | Φ(105°)Φ(112.5°) | Φ(120°)Φ(127.5°) | Φ(135°)Φ(142.5°) | Φ(150°)Φ(157.5°) | Φ(165°)Φ(172.5°) | Φ(180°)Φ(187.5°) | Φ(195°)Φ(202.5°) | Φ(210°)Φ(217.5°) | Φ(225°)Φ(232.5°) | Φ(240°)Φ(247.5°) | Φ(255°)Φ(262.5°) | Φ(270°)Φ(277.5°) | Φ(285°)Φ(292.5°) | Φ(300°)Φ(307.5°) | Φ(315°)Φ(322.5°) | Φ(330°)Φ(337.5°) | Φ(345°)Φ(352.5°) |
| Θ(0°)     | -0.75/-1.32   | -1.42/-2.3     | -3.8/-3.96     | -5.4/-6.76     | -6.57/-6.43    | -6.31/-6.68    | -5.7/-5.4      | -5.34/-5.4       | -5.25/-2.28      | -4.79/-3.72      | -2.95/-2.28      | -1.27/-0.59      | -0.42/-0.25      | -0.28/-0.69      | -1.39/-2.6       | -0.91/-12.2      | -18.15/-18.19    | -11.82/-8.12     | -5.36/-3.3       | -2.03/-1.15      | -0.55/-1.2       | 0.24/-0.4        | 0.11/-1.02       |                  |
| Θ(7.5°)   | -3.36/-2.29   | -1.34/-0.99    | -1.29/-0.7     | -0.2/-1.11     | -1.76/-2.45    | -4.22/-5.34    | -6.28/-6.14    | -4.5/-3.48       | -2.62/-1.17      | -0.150/0.27      | 0.22/-0.02       | -0.27/-0.63      | -0.84/-0.63      | -0.31/-0.5       | -0.69/-0.66      | -0.6/-0.83       | -1.36/-1.32      | -1.23/-1.35      | -2.17/-3.99      | -4.78/-6.75      | -10.06/-11.84    | -9.38/-6.14      | -4.1/-2.56       | -1.58/-1.09      |
| Θ(15°)    | -5.97/-7.53   | -9.71/-11.24   | -14.08/-10.6   | -7.2/-5.27     | -4.62/-4.89    | -8.88/-11.85   | -18.6/-17.5    | -13.32/-12.69    | -12.65/-12.89    | -9.4/-4.86       | -2.04/-0.42      | 0.29/0.57        | 0.53/0.59        | 1.01/-1.24       | 1.28/-1.27       | 0.91/0.32        | -0.78/-3.31      | -5.8/-7.49       | -12.03/-14.27    | -17.74/-19.25    | -18.83/-18.74    | -17.5/-12.23     | -8.65/-7.67      | -7.57/-8.24      |
| Θ(22.5°)  | -7.64/-7.1    | -6.77/-8.7     | -9.01/-7.94    | -10.52/-9.79   | -10.59/-13.9   | -11.44/-11.46  | -9.72/-6.66    | -6.71/-6.47      | -7.69/-12.86     | -15.8/-14.75     | -13.28/-11.71    | -9.86/-8.43      | -4.07/-1.31      | -0.78/-1.04      | 0.071/1.47       | 2.42/-2.76       | 2.62/1.8         | -0.17/-1.3       | -1.68/-1.32      | -0.71/-0.82      | -1.26/-0.2       | 0.04/-1.94       | -4.68/-6         |                  |
| Θ(30°)    | -6.23/-6.2    | -4.31/-3.33    | -7.34/-12.13   | -5.21/-1.32    | -0.82/-2.22    | -2.87/-5.13    | -8.86/-7.5     | -9.9/-12.58      | -18.74/-15.48    | -18.79/-19.04    | -12.32/-10.23    | -16.34/-19.74    | -6.46/-1.09      | 0.150/1.71       | 2.28/3.83        | 2.83/-1.42       | -10.31/-17.11    | -19.2/-13.42     | -9.93/-9.46      | -10.98/-6.95     | -1.25/-2.06      | 2.45/-1.54       | -0.24/-5.6       | -7.45/-5.17      |
| Θ(37.5°)  | -12.47/-5.83  | -3.72/-5.18    | -9.99/-6.41    | -2.03/-1.08    | -1.55/-3.24    | -3.17/-18.46   | -7.15/-12.95   | -17.68/-12.52    | -8.68/-7.69      | -9.86/-5.44      | -3.09/-2.27      | -11.87/-9.71     | -13.58/-4.12     | -1.92/-3.55      | -0.91/-0.01      | -2.8/-1.89       | 0.99/-1.34       | -5.75/-4.25      | -3.6/-3.32       | -4.43/-6.42      | -0.61/-0.22      | -1.67/-2.78      | -0.37/-1.07      | -0.56/-1.63      |
| Θ(45°)    | -4.94/-2.59   | -1.74/-3.26    | -4.81/-5.45    | -2.86/-1.18    | 1.84/-0.73     | -3.54/-3.43    | -2.57/-2.22    | -5.68/-8.87      | -12.07/-1.67     | -6.31/-2.34      | -3.05/-0.89      | -2.79/-3.16      | -6.28/-7.49      | -1.86/-7.7       | -0.39/-1.21      | -3.14/-0.7       | 1.07/-3.55       | -18.08/-10.01    | -5.47/-4.17      | -3.37/-6.25      | 2.38/-1.71       | 0.26/-0.3        | -0.86/-0.4       | -2.13/-18.55     |
| Θ(52.5°)  | -2.93/-0.73   | 1.78/-1.97     | -0.96/-2.91    | -0.63/-38      | 3.41/-0.07     | -1.39/-0.46    | -0.51/-0.48    | -0.02/-1.54      | -0.15/-7.2       | -11.3/-5.34      | -2.24/-2.42      | 0.8/-1.03        | -5.93/-2.49      | -3.12/-11.18     | -1/-2.64         | -0.44/-1.56      | 0.94/-1.48       | -3.5/-5.65       | 0.21/-3.4        | -0.44/-4.17      | 2.25/0.74        | 2.44/3.57        | 0.45/-4.63       | -6.39/-6.89      |
| Θ(60°)    | -2.06/-2.65   | 0.87/-2.95     | 2.23/-1.3      | 0.54/-0.81     | 0.54/-3.92     | -1.54/-1.88    | -4.44/-4.46    | -2.57/-0.79      | -1.57/-4.18      | -6.17/-7.67      | -2.77/-2.53      | 3.08/-4.34       | -1.18/-1.75      | 0.3/-11.41       | -1.66/-12.29     | <b>0.594/0.1</b> | 1.32/-0.25       | -2.97/-8.3       | -1.05/-1.57      | 0.11/-2.44       | 2.48/0.58        | 2.16/3.32        | 1.26/-3.44       | -2.12/-3.98      |
| Θ(67.5°)  | -1.76/-6.92   | -1.41/-1.95    | 2.65/-1.76     | -0.69/-2.34    | -9.56/-4.37    | -8.81/-15.64   | -6.54/-1.75    | -5.59/-6.6       | -4.41/-7.58      | -3.08/2.06       | -5.41/-2.05      | -2.78/-5.1       | -0.1/-0.02       | -1.46/-5.03      | 2.63/-46         | 0.83/0.48        | -3.33/-10.62     | -9.63/-16.98     | -2.32/-3.65      | 2.31/-1.49       | 2.61/0.69        | 1.09/-0.53       | -1.96/-2.6       |                  |
| Θ(75°)    | -1.07/-9      | -2.97/-0.61    | 1.08/-0.4      | -0.17/-2.85    | -4.8/-6.11     | -9.25/-6.11    | -7.29/-12.14   | -4.14/-0.04      | -0.26/-10.81     | -2.99/-10.8      | -4.81/-4.67      | -4.66/-0.6       | 1.94/0.2         | 3.89/-2.5        | 1.09/-3.53       | 1.72/3.02        | 2.22/2.95        | -0.64/-2.42      | -7.64/-8.95      | -8.53/-6.07      | 1.57/-3.71       | 2.85/-2.44       | 0.84/-0.03       | -2.66/-1.99      |
| Θ(82.5°)  | -1.46/-11.23  | -4.3/-1.56     | -0.81/-1.54    | -0.88/-3.36    | -6.56/-7.91    | -9.5/-9.79     | -10.07/-11.91  | -0.89/-1.1       | 1.16/-1.03       | -5.62/-9.8       | -5.71/-1.99      | -0.06/-1.78      | 0.59/-1.1        | -0.86/-2.95      | 1.52/3.2         | 2.99/3.67        | 0.91/-0.01       | -1.53/-3.55      | -9.26/-7.4       | 0.34/-5.66       | 2.88/-5.02       | -1.11/-1.48      | -3.81/-6.2       |                  |
| Θ(90°)    | -3.11/-12.36  | -6.24/-2.4     | -2.37/-3.06    | -2.58/-3.02    | -7.55/-10.52   | -16.13/-16.37  | -7.17/-10.9    | -2.17/-1.73      | 0.62/-15.06      | -7.19/-8.95      | -6.18/-12.48     | -9/-8.1          | -0.79/-0.78      | 0.77/-3.84       | -1.23/-4.18      | 2.45/2.7         | 0.18/-1.02       | -0.27/-3.92      | -9.39/-5.05      | -4.22/-6.98      | 1.64/-1.71       | -4.64/-3.21      | -5.18/-2.9       |                  |
| Θ(97.5°)  | -4.93/-11.11  | -8.81/-3.12    | -2.41/-4.22    | -5.96/-6.94    | -9.94/-14.65   | -18.88/-18.42  | -6.36/-16.35   | -2.98/0.59       | -1.31/-16.86     | -7.17/-9.49      | -9.38/-9.75      | -7.62/-2.42      | -2.91/-3.86      | -4.83/-0.76      | -5.39/-7.13      | -7.54/-3.8       | -0.56/-1.16      | -4.53/-4.24      | -4.71/-5.62      | -9.8/-9.49       | -8.25/-8.37      | -0.68/-8.39      | -8.69/-5.54      | -5.22/-5         |
| Θ(105°)   | -5.22/-14.6   | -9.03/-4.56    | -4.55/-6.74    | -7.21/-8.83    | -12.56/-13.89  | -18.19/-18.92  | -8.73/-15.86   | -4.45/-1.53      | -3.31/-14.34     | -9.07/-10.51     | -8.74/-12.1      | -19.21/-6.18     | -3.77/-3.1       | -3.04/-5.82      | -6.72/-8.14      | -9.38/-10.06     | -3.48/-7.33      | -8.59/-8.35      | -6.5/-12.82      | -17.73/-14.15    | -9.34/-10.34     | -2.75/-10.15     | -13.55/-6.99     | -6.89/-6.78      |
| Θ(112.5°) | -7.04/-19.4   | -8.86/-6.32    | -5.85/-8.63    | -11.18/-12.28  | -10.05/-15.82  | -19.06/-19.08  | -12.62/-19.67  | -7.13/-7.9       | -5.3/-13.94      | -11.72/-14.69    | -13.68/-10.45    | -7.44/-8.99      | -9.17/-13.04     | -8.72/-10.25     | -13.31/-10.65    | -2.54/-17.79     | -18.39/-11.72    | -6.17/-9.81      | -15.39/-17.09    | -7.18/-18.3      | -4.41/-12.43     | -12.65/-9.89     | -8.81/-7.05      |                  |
| Θ(120°)   | -10.03/-14.1  | -7.59/-6.01    | -9.96/-12.04   | -14.73/-11.11  | -10.29/-14.45  | -18.87/-19.07  | -13.39/-14.43  | -11.51/-4.89     | -7.13/-10.47     | -18.58/-18.34    | -18.42/-18.15    | -16.77/-14.54    | -9.14/-8.03      | -6.55/-18.4      | -4.54/-11.53     | -12.28/-11.06    | -6.87/-5.4       | -11.39/-9.75     | -6.1/-13.24      | -18.36/-19.19    | -8.89/-11.44     | -5.79/-16.03     | -10.26/-13.4     | -10.5/-10.48     |
| Θ(127.5°) | -10.4/-13.1   | -7.9/-7.67     | -10.54/-13.29  | -18.49/-18.32  | -10.82/-11.87  | -12.12/-14.55  | -16.57/-13.61  | -18.6/-7.7       | -3.38/-11.2      | -17.44/-14.59    | -18.8/-14.98     | -12.38/-13.66    | -15.36/-13.44    | -9.71/-49.9      | -12.71/-18.78    | -14.74/-11.07    | -9.99/-12.42     | -12.12/-9.61     | -14.01/-13.01    | -18.32/-14.71    | -18.49/-9.1      | -8.66/-15.65     | -11.01/-13.63    | -17.02/-14.89    |
| Θ(135°)   | -10.97/-14.21 | -12.29/-11.57  | -14.74/-18.39  | -14.17/-17.29  | -17.05/-13.86  | -12.08/-15.33  | -16.76/-19.11  | -19.25/-7.37     | -5.27/-7.76      | -10.29/-13.62    | -15.87/-11.54    | -11.33/-18.24    | -11.45/-10.34    | 8.64/-16         | -10.86/-12.29    | -12.81/-9.26     | -10.34/-13.22    | -13.01/-7.09     | -15.37/-18.17    | -10.4/-18.58     | -15.53/-11.58    | -16.86/-13.46    | -17.92/-17.35    | -13.33/-12.24    |
| Θ(142.5°) | -15.04/-13.6  | -12.06/-12.98  | -16.11/-18.51  | -17.21/-14.25  | -17.5/-12.92   | -9.12/-10.52   | -16.71/-18.67  | -18.58/-18.04    | -10.24/-8.71     | -9.16/-13.3      | -18.71/-8.2      | -18.73/-11.97    | -11.43/-16.76    | -16.43/-11.34    | -8.99/-18.95     | -18.15/-16.77    | -10.41/-6.62     | -18.33/-18.83    | -12.26/-18.68    | -14.31/-17.63    | -17.9/-14.54     | -17.55/-18.48    | -13.53/-12.65    |                  |
| Θ(150°)   | -17.82/-18.76 | -14.89/-13.98  | -13.42/-15.68  | -19.51/-18.79  | -18.01/-14.91  | -13.39/-13.62  | -16.79/-15.19  | -11.1/-9.27      | -10.64/-13.81    | -17.91/-9.73     | -16.3/-18.56     | -18.55/-16.75    | -19.09/-18.31    | -13.25/-17.33    | -10.8/-9.64      | -18.64/-16.83    | -14.13/-17.27    | -15.24/-11.67    | -14.93/-18.01    | -14.07/-14.31    | -11.78/-12.43    | -17.22/-18.86    | -18.52/-17.99    | -15.32/-17.63    |
| Θ(157.5°) | -15/-16.33    | -13.69/-18.48  | -18.04/-18.61  | -17.71/-18.7   | -18.04/-18.23  | -14.61/-13.22  | -12.01/-12.63  | -11.73/-11.36    | -12.07/-8.44     | -8.27/-10.95     | -11.38/-13.98    | -14.11/-14.21    | -10.46/-17.81    | -13.31/-11.91    | -12.57/-18.02    | -16.66/-13.81    | -17.03/-14.16    | -14/-13.42       | -14.12/-18.07    | -15.71/-16.34    | -18.81/-17.4     | -18.23/-18.36    | -17.69/-18.23    | -18.72/-17.13    |
| Θ(165°)   | -18/-18.98    | -17.65/-18.88  | -19.06/-18.67  | -17.86/-18.32  | -18.19/-18.38  | -17.65/-16.09  | -15.83/-16.62  | -15.18/-14.62    | -13.53/-12.31    | -14.77/-15.64    | -11.79/-12.82    | -14.34/-15.64    | -14.21/-11.37    | -11.59/-17.72    | -18.49/-18.21    | -16.64/-13.74    | -18.34/-18.7     | -16.72/-18.42    | -18.55/-18.08    | -18.11/-18.71    | -18.24/-17.96    | -18.04/-19.05    | -18.86/-18.59    | -19.1/-18.07     |
| Θ(172.5°) | -17.51/-18.45 | -18.51/-18.18  | -17.17/-17.45  | -18.55/-15.89  | -17.64/-18     | -17.77/-18.95  | -19.47/-19.34  | -18.42/-17.3     | -18.86/-18.74    | -17.99/-18.76    | -19.14/-18.23    | -17.07/-19.21    | -17.65/-17.62    | -18.39/-18.01    | -18.84/-18.39    | -18.51/-18.4     | -17.54/-16.75    | -14.28/-13.92    | -12.41/-14.06    | -16.37/-17.26    | -18.45/-18.75    | -15.6/-13.91     | -17.35/-18.02    | -18.11/-18.57    |
| Θ(180°)   | -18.86/-18.36 | -18.3/-18.45   | -15.52/-17.31  | -17.88/-17     | -18.64/-17.91  | -18.25/-19.26  | -18.63/-18.34  | -18.44/-18.41    | -18.35/-18.29    | -17.87/-18.97    | -18.91/-18.78    | -18.96/-18.34    | -18.61/-19.18    | -18.85/-18.66    | -18.37/-17.27    | -17.68/-18.92    | -18.17/-18.5     | -18.94/-18.78    | -18.49/-17.99    | -19.88/-18.18    | -18.58/-17.68    | -18.07/-18.85    | -18.11/-19.07    | -17.55/-18.86    |
| Freq(Hz)  | 6.695GPol.    | Phi/Ant. 4     | -              | -              | -              | -              | -              | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                |
| Gain      | Φ(0°)Φ(7.5°)  | Φ(15°)Φ(22.5°) | Φ(30°)Φ(37.5°) | Φ(45°)Φ(52.5°) | Φ(60°)Φ(67.5°) | Φ(75°)Φ(82.5°) | Φ(90°)Φ(97.5°) | Φ(105°)Φ(112.5°) | Φ(120°)Φ(127.5°) | Φ(135°)Φ(142.5°) | Φ(150°)Φ(157.5°) | Φ(165°)Φ(172.5°) | Φ(180°)Φ(187.5°) | Φ(195°)Φ(202.5°) | Φ(210°)Φ(217.5°) | Φ(225°)Φ(232.5°) | Φ(240°)Φ(247.5°) | Φ(255°)Φ(262.5°) | Φ(270°)Φ(277.5°) | Φ(285°)Φ(292.5°) | Φ(300°)Φ(307.5°) | Φ(315°)Φ(322.5°) | Φ(330°)Φ(337.5°) | Φ(345°)Φ(352.5°) |
| Θ(0°)     | -9.67/-8.94   | -7.57/-6.96    | -6.19/-5.22    | -3.97/-4.36    | -2.86/2.41     | -3.1/-1.5      | -2.17/-2.7     | -2.54/-2.3       | 2.98/-3.73       | -4.97/-6.51      | -8.3/-11.23      | -14.02/-13.68    | -1.71/-11.81     | -6.23/-5.33      | -3.17/-2.57      | -2.41/-2.7       | -2.14/-2.23      | -2.77/-2.71      | -7.91/-7.83      | -4.42/-5.72      | -3.39/-4.03      | -8.77/-12.16     | -15.05/-14.72    | -14.47/-14.47    |
| Θ(7.5°)   | -5.72/-3.71   | -2.21/-0.93    | -0.19/-0.13    | 0.83/0.91      | 0.30/-36       | -0.87/-0.93    | -1.81/-4.39    | -5.52/-6.65      | -9.13/-11.27     | -13.73/-14.95    | -15.12/-16.07    | -16.62/-17.76    | -14.95/-12.44    | -11.68/-10.89    | -10.32/-10.02    | -9.74/-8.55      | -7.47/-6.02      | -5.14/-3.74      | -2.77/-2.71      | -2.24/-2.13      | -2.59/-3.27      | -4.18/-6.33      | -9.92/-12.06     | -11.28/-8.48     |



Radiated Composite Gain Data\_ Radio 4\_5GHz UNII 2C-4 and 6GHz

Appendix C

|           |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Θ(15°)    | -3.89/-1.34   | -0.27/-0.44   | -1.9/-3.75    | -5.59/-6.97   | -5.51/-4.64   | -3.21/-2.12   | -2.26/-1.42   | -1.91/-2.76   | -4.06/-6.3    | -9.79/-11.87  | -9.92/-9.2    | -10.23/-10.86 | -7.91/-5.74   | -4.18/-2.17   | -0.94/0.26    | 1.33/1.88     | 1.89/1.54     | 0.7/-0.58     | -1.55/-3.63   | -5.09/-6.79   | -9.72/-13.27  | -19.19/-18    | -14.89/-11.56 | -7.06/-3.97   |
| Θ(22.5°)  | -16.24/-15.84 | -8.29/-5.27   | -5.22/-6.95   | -8.89/-12.44  | -11.98/-8.87  | -6.39/-6.5    | -7.79/-8.43   | -9.06/-9.09   | -10.22/-16.82 | -18.26/-13.56 | -8.31/-4.82   | -3.6/-3.88    | -6.36/-7.51   | -3.78/-0.18   | 0.33/-0.34    | -1.18/-1.17   | -0.56/0.01    | 0.06/-1.37    | -4.89/-12     | -10.98/-7.84  | -5.5/-4.01    | -4.2/-7.45    | -13.72/-13.18 | -13.07/-18.86 |
| Θ(30°)    | -3.22/-8.63   | -17.23/-10.52 | -10.35/-11.03 | -9.35/-10.7   | -18.43/-17.44 | -8.78/-4      | -3.5/-5.95    | -6.36/-4.79   | -5.38/-10.69  | -13.12/-12.16 | -13.87/-6.65  | -4.34/-3.01   | -2.09/-4.46   | -3.56/-0.81   | -0.11/-0.52   | -0.23/-0.42   | -1.4/-1.29    | 0.53/-0.17    | -4.61/-10.9   | -4.76/-2.55   | -4.9/-11.22   | -10.77/-11.44 | -8.68/-4.24   | -1.23/-2.12   |
| Θ(37.5°)  | 0.87/0.12     | -3.18/-12.88  | -5.39/-3.94   | -6.39/-10.07  | -13.8/-17.27  | -8.37/-4.67   | -6.41/-10.38  | -6.66/-4.03   | -5.42/-11.63  | -18.84/-17.14 | -3.68/-2.77   | -4.38/-0.7    | -3.91/-6.32   | -1.46/-1.32   | -2.85/-2      | -1.02/-1.56   | -4.34/-8.53   | -4.43/-3.18   | -4.46/-7.47   | -3.5/-2.17    | -4.41/-8.43   | -7.44/-3.82   | -3.74/-6.22   | -2.27/-0.84   |
| Θ(45°)    | 2.33/3.72     | -0.04/-8.1    | -0.99/0.37    | -0.85/-3.13   | -5.97/-8.33   | -8.61/-5.53   | -7.06/-10.41  | -4.88/-2.76   | -12.42/-5.84  | -4.83/-10.97  | -7.76/-3.37   | -6.01/-4.4    | -2.65/-2.82   | -0.7/0.31     | 0.63/-0.68    | -8.42/-7.33   | -4.4/-10.81   | -12.52/-10.38 | -14.15/-4.49  | 0.55/0.69     | -4.06/-1.77   | -2.62/1       | 1.92/-1.62    | -1.34/0.59    |
| Θ(52.5°)  | 0.69/2.6      | -3.08/-6.03   | -4.06/-1.39   | -0.33/-1.14   | -2.72/-3.82   | -5.75/-1      | -5.92/-5.89   | -0.65/-2.61   | -5.33/0.04    | -3.63/-3.53   | -6.88/-4.83   | -4.73/-3.21   | -0.42/-2.95   | -1.9/-2.17    | -0.37/-3.91   | -1.84/-2.74   | -5.77/-6.26   | -14.66/-3.44  | -9.67/-5.09   | -2.03/-2.49   | -3.65/1.56    | 1.43/1.64     | 2.57/1.78     | 2/-0.83       |
| Θ(60°)    | -0.67/1.36    | -0.96/-3.73   | -2.24/-0.82   | -0.92/-2.95   | -2.07/0.51    | -6.07/-3.33   | -5.43/-9.52   | -2.57/-7.82   | 1.84/2.27     | -5.22/-2.2    | -3.47/-3.16   | -2.45/-6.47   | -5.64/-1.64   | -1.67/-0.87   | -3.94/-12.68  | -2.56/-1.02   | -3.82/-3.81   | -7.54/-4.23   | -5.97/-3.94   | -0.65/-2.85   | -1.29/2.8     | 2.57/1.59     | 1.6/3.41      | 2.66/-1.25    |
| Θ(67.5°)  | -2.69/1.17    | 0.78/-2.5     | 1.21/0.85     | -2.53/-8.09   | -4.83/0.75    | -2.55/-5.4    | -3.79/-8.25   | -3.58/-8.2    | 3.05/1.38     | -4.41/-3.62   | -2.9/-0.2     | -6.18/-12.29  | 1.19/0.3      | 1.22/0.63     | -4.15/-7.63   | -4.91/-3.01   | -6.41/-3.34   | -2.68/-4.28   | -9.77/-3.11   | -0.49/-0.97   | -0.06/4.55    | 2.14/1.22     | 0.22/2.88     | 1.84/-0.74    |
| Θ(75°)    | -4.65/-0.52   | -0.93/-2.6    | 0.93/0.82     | -4.94/-11.71  | -8.82/-2.26   | -2.13/-3.22   | -3.6/-3.82    | -1/-11.81     | 0.71/-0.48    | -2.83/-7.86   | -0.49/-1.3    | -5.38/-8.15   | -2.79/1.37    | -0.41/-0.1    | -1.29/-1.95   | -1.65/-2.19   | -4.39/1.06    | 0.94/0.07     | -18.84/-8.03  | -2.81/-0.94   | -1.09/4.98    | 0.7/1.2       | -1.62/1.36    | 0.53/-0.7     |
| Θ(82.5°)  | -5.71/-3.52   | -4.12/-4.07   | -1.07/-0.8    | -6.57/-9.96   | -12.94/-4.78  | -1.67/-3.68   | -4.37/-6.09   | -2.41/-8.12   | -0.82/-4.51   | -3.56/-9.18   | -1.48/-3.4    | -7.41/-10.48  | -1.07/-2.25   | -3.35/-2.46   | -0.53/-0.81   | -1.5/-2.82    | -1.87/2.9     | 0.49/0.81     | -18.03/-15.93 | -6.51/-1.68   | -3.88/3.69    | -2.02/0.39    | -3.27/-1.92   | -0.24/-1.93   |
| Θ(90°)    | -7.08/-5.23   | -8.12/-6.82   | -4.02/-1.89   | -5.49/-9.29   | -18.03/-7.31  | -2.93/-3.03   | -3.79/-6.31   | -6.44/-3.38   | -2.03/-8.52   | -5.85/-15.06  | -1.65/-4.66   | -6.2/-7.26    | -6.17/-2.07   | -3.61/-3.86   | -1.92/-1.6    | -6.25/-3.87   | -2.61/1.06    | -1.84/0.14    | -13.95/-7.91  | -10.58/-5.03  | -4.68/1.42    | -3.41/-2.37   | -4.61/-3.97   | -1.24/-2.46   |
| Θ(97.5°)  | -7.28/-5.42   | -9.76/-9.22   | -8.08/-3.35   | -4.19/-7.64   | -18.94/-7.66  | -4.83/-2.65   | -5.6/-4.7     | -10.82/-4.1   | -2.84/-12.07  | -7.3/-11.29   | -5.38/-3.35   | -6.32/-9.46   | -4.44/-6.06   | -6.02/-6.11   | -4.26/-3.52   | -10.71/-6.43  | -5.84/-1.86   | -6.55/-4.29   | -14.09/-7.23  | -16.33/-9.24  | -5.21/-2.11   | -4.11/-4.28   | -6.43/-4.85   | -2.86/-2.4    |
| Θ(105°)   | -7.4/-6.29    | -9.24/-8.65   | -9.44/-5.34   | -6.57/-8.26   | -16.1/-9.75   | -6.33/-4      | -5.66/-8.68   | -12.14/-6.85  | -4.95/-11.49  | -7.2/-17.54   | -5.92/-7.03   | -5.97/-7.33   | -8.38/-3.99   | -10.85/-18.57 | -10.19/-4.88  | -6.58/-5.82   | -11.91/-5.29  | -8.15/-5.58   | -16.11/-12.37 | -14.17/-12.94 | -7.84/-2.41   | -5.87/-5.14   | -10.21/-6.33  | -3.52/-4.84   |
| Θ(112.5°) | -10.93/-7.69  | -10.53/-12.09 | -10.82/-5.2   | -6.36/-13.82  | -19.18/-11.92 | -6.31/-3.03   | -5.37/-8.02   | -17.54/-10.37 | -6.23/-18.56  | -8.02/-17.93  | -8.85/-8.35   | -14.95/-16.72 | -9.49/-12.99  | -9.4/-9.69    | -7.35/-7.19   | -5.71/-14.06  | -4.93/-2.97   | -5.94/-9.99   | -12.69/-10.95 | -13.7/-8.4    | -9.08/-3.61   | -6.33/-7.66   | -7.96/-5.62   | -6.13/-8.49   |
| Θ(120°)   | -14.36/-10.15 | -11.36/-16.94 | -14.15/-6.2   | -8.67/-18.33  | -18.34/-14.23 | -7.72/-4.4    | -6.4/-9.67    | -10.64/-10.04 | -17.93/-15    | -9.74/-13.74  | -14.06/-14.63 | -17.74/-18.48 | -13.38/-8.18  | -15.01/-13.06 | -17.46/-17.89 | -9.86/-15.63  | -7.21/-14.92  | -17.15/-17.89 | -14.91/-10.64 | -14.66/-7.32  | -6.8/-6.26    | -9.19/-9.63   | -8.49/-6.65   | -8.24/-12.16  |
| Θ(127.5°) | -18.31/-9.87  | -13.39/-16.82 | -16.05/-10.53 | -10.41/-16.84 | -18.29/-19.1  | -8.43/-5.21   | -4.89/-4.98   | -15.27/-15.4  | -10.68/-17.74 | -14.06/-16.36 | -17.89/-18.89 | -19.08/-13.94 | -16.94/-18.33 | -17.59/-18.82 | -14.78/-13.97 | -9.34/-12.86  | -12.57/-8.55  | -11.04/-10.39 | -14.75/-11.49 | -11.35/-13.49 | -9.95/-10.48  | -12.22/-9.16  | -10.42/-8.61  | -10.55/-12.55 |
| Θ(135°)   | -15.31/-11.83 | -17.29/-13.16 | -9.11/-9.67   | -8.91/-13.57  | -10.87/-18.52 | -14.66/-7.24  | -4.68/-5.22   | -12.06/-9.92  | -9.86/-16.6   | -17.64/-17.81 | -17.91/-18.89 | -15.71/-18.6  | -18.15/-17.72 | -11.78/-9.26  | -8.28/-17.11  | -11.36/-16.74 | -7.14/-16.82  | -17.88/-13.58 | -17.4/-17.75  | -15.34/-16.22 | -12.3/-18.57  | -11/-8.52     | -12.6/-9.54   | -10.53/-16.47 |
| Θ(142.5°) | -14.55/-17.24 | -19.15/-16.6  | -10.38/-11.09 | -12.9/-11.56  | -9.47/-17.21  | -18.36/-10.24 | -7.44/-5.21   | -8.71/-10.44  | -8.8/-12.72   | -12.25/-18.73 | -14.27/-10.7  | -10.85/-10.38 | -16.42/-19.09 | -19.06/-18.58 | -18.24/-17.81 | -10.82/-12.87 | -12.49/-18.21 | -18.39/-18.6  | -18.86/-16.74 | -12.94/-18.97 | -18.93/-13.85 | -15.29/-11.02 | -11.59/-13.13 | -15.41/-16.11 |
| Θ(150°)   | -15.54/-16.5  | -15.83/-11.89 | -12.14/-12.12 | -13.67/-15.03 | -14.06/-18.09 | -18.5/-13.9   | -9.77/-8.12   | -10.36/-11.62 | -12.05/-10.38 | -9.43/-13.12  | -12.22/-13    | -18.59/-14.5  | -16.9/-18.84  | -19.07/-14.74 | -13.76/-19.01 | -19.07/-16.26 | -12.17/-18.78 | -13.75/-7.99  | -13.25/-14.84 | -13.34/-18.01 | -17.66/-19.05 | -17.66/-14.03 | -13.09/-14.19 | -18.79/-17.85 |
| Θ(157.5°) | -17.26/-14.61 | -16.43/-15.06 | -15.92/-18.57 | -13.53/-11.32 | -11.31/-11.99 | -11.82/-11.44 | -9.69/-9.93   | -12.16/-15.5  | -18.44/-13.92 | -16.83/-17.8  | -18.83/-17.92 | -18.73/-17.44 | -18.05/-18.39 | -18.65/-18.15 | -18.62/-19.48 | -18.26/-18.4  | -18.63/-18.04 | -18.02/-18.02 | -18.79/-18.91 | -15.14/-9.36  | -9.86/-14.11  | -18.54/-17.9  | -17.66/-19.01 | -17.66/-18.92 |
| Θ(165°)   | -12.08/-12.91 | -12.58/-12.57 | -13.51/-14.01 | -14.08/-13.45 | -13/-12.85    | -11/-9.44     | -8.11/-8.92   | -11.87/-14.52 | -18.38/-18.64 | -17.44/-17.96 | -18.17/-17.51 | -18.08/-18.33 | -18.49/-19.08 | -17.88/-17.83 | -15.35/-16.52 | -18.62/-18.52 | -17.59/-18.31 | -17.78/-18.48 | -18.27/-16.87 | -17.72/-18.98 | -18.1/-17.9   | -19.19/-17.85 | -18.6/-18     | -14.72/-14.63 |
| Θ(172.5°) | -17.51/-16.82 | -16.19/-17.46 | -13.65/-12.52 | -12.13/-12.83 | -14.88/-13.21 | -13.12/-13.76 | -14/-15.92    | -15.11/-16.66 | -15.37/-15.06 | -16.88/-18.99 | -18.66/-17.41 | -17.76/-13.86 | -12.02/-11.72 | -12.21/-17.49 | -18.73/-19.08 | -17.63/-17.81 | -14.88/-14.13 | -13.55/-15.89 | -17.83/-17.44 | -18.36/-18.1  | -18.1/-17.98  | -19.15/-18.41 | -19.06/-17.56 | -17.93/-19.29 |
| Θ(180°)   | -19.49/-19.39 | -18.78/-18.76 | -17.76/-16.43 | -16.59/-14.2  | -13.27/-12.72 | -13.56/-15.42 | -13.92/-14.56 | -14.97/-13.84 | -15.82/-18.86 | -18.37/-17.42 | -18.53/-19.03 | -18.16/-16.69 | -18.23/-18.79 | -19.22/-18.07 | -15.68/-13.79 | -12.86/-12.86 | -13.78/-13.95 | -14.69/-14.59 | -18.02/-17.95 | -17.32/-19.01 | -17.8/-19.01  | -16.75/-19.04 | -15.89/-12.5  | -12.95/-12.91 |

## Total Gain Data

[illegible]

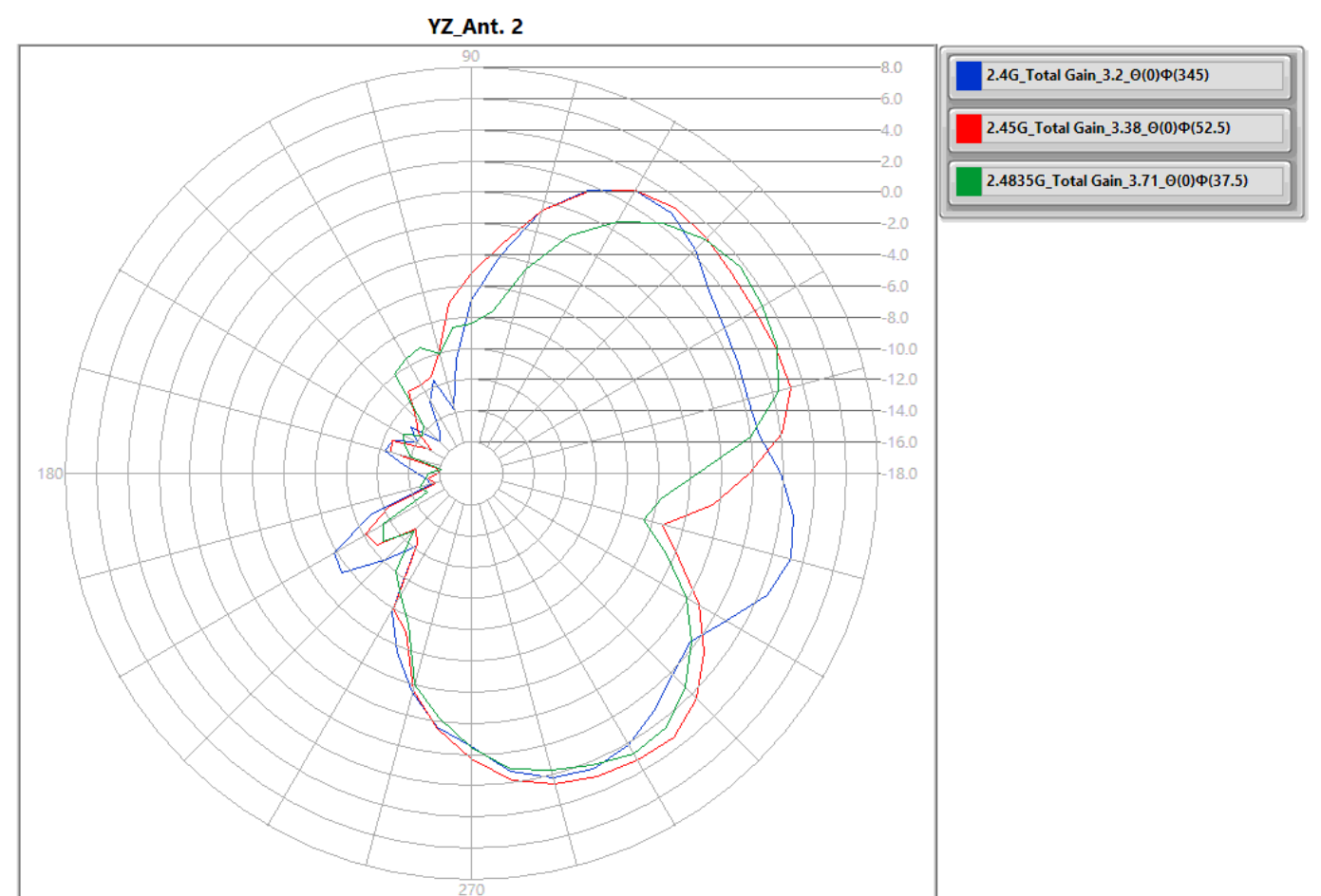
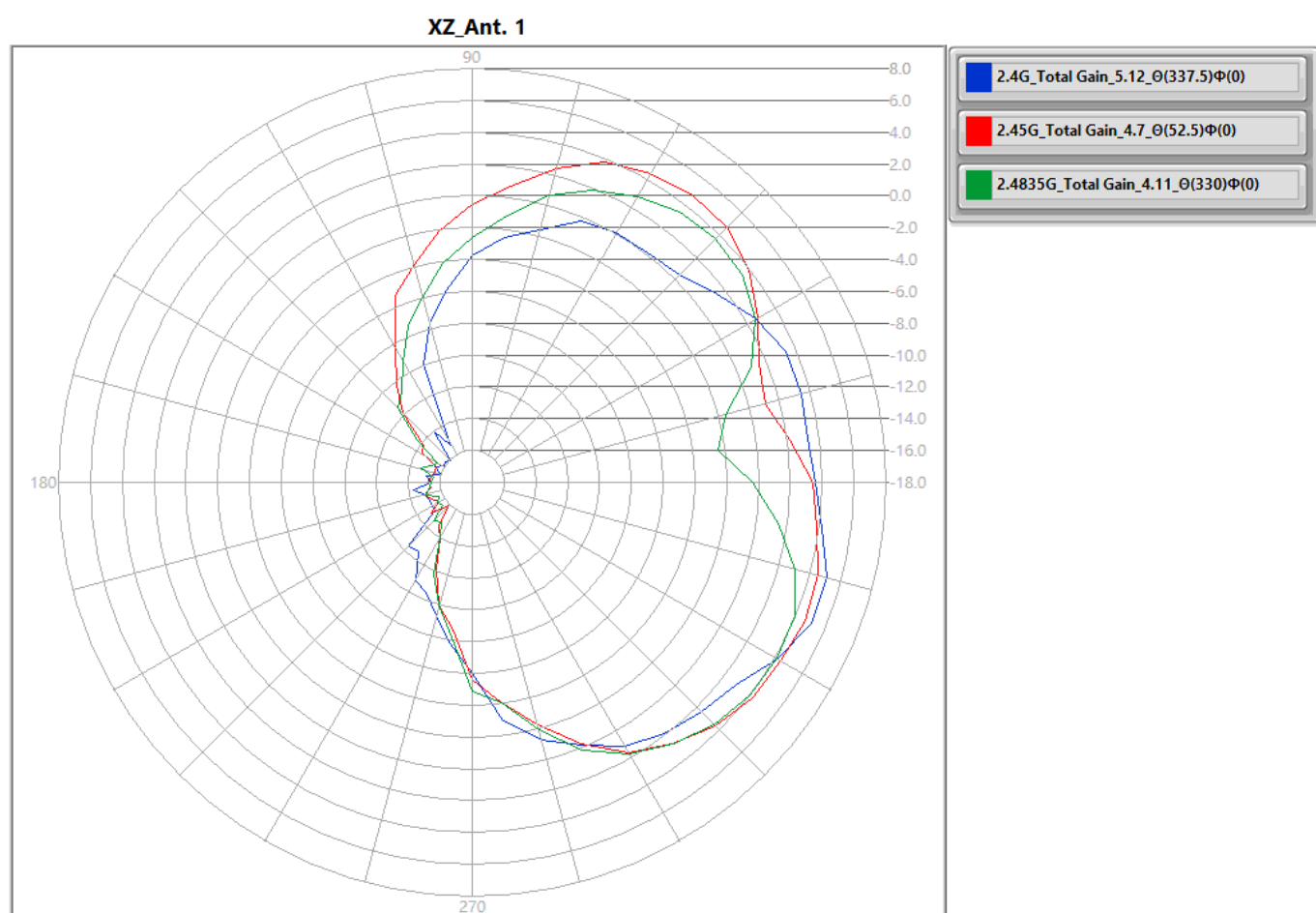
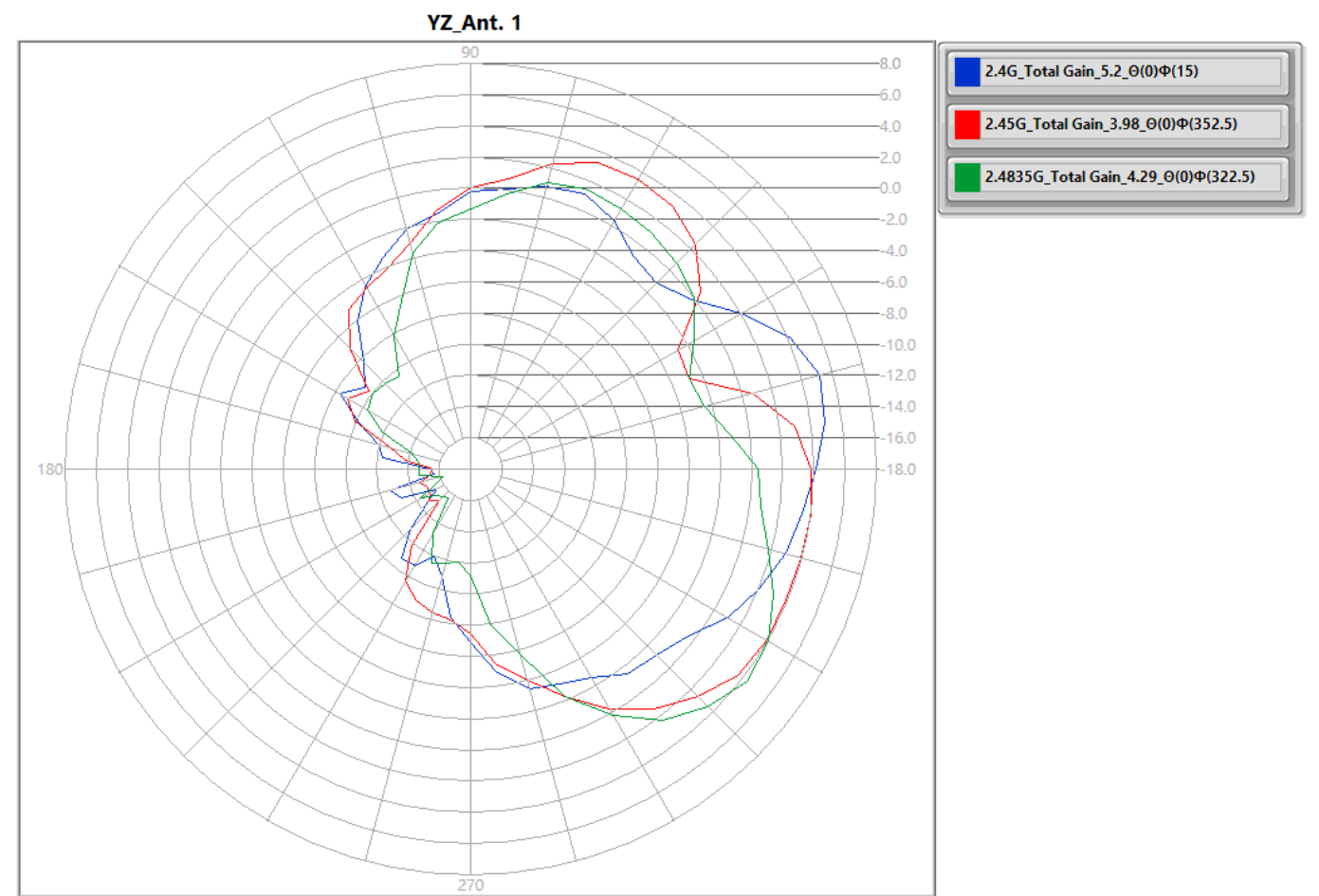
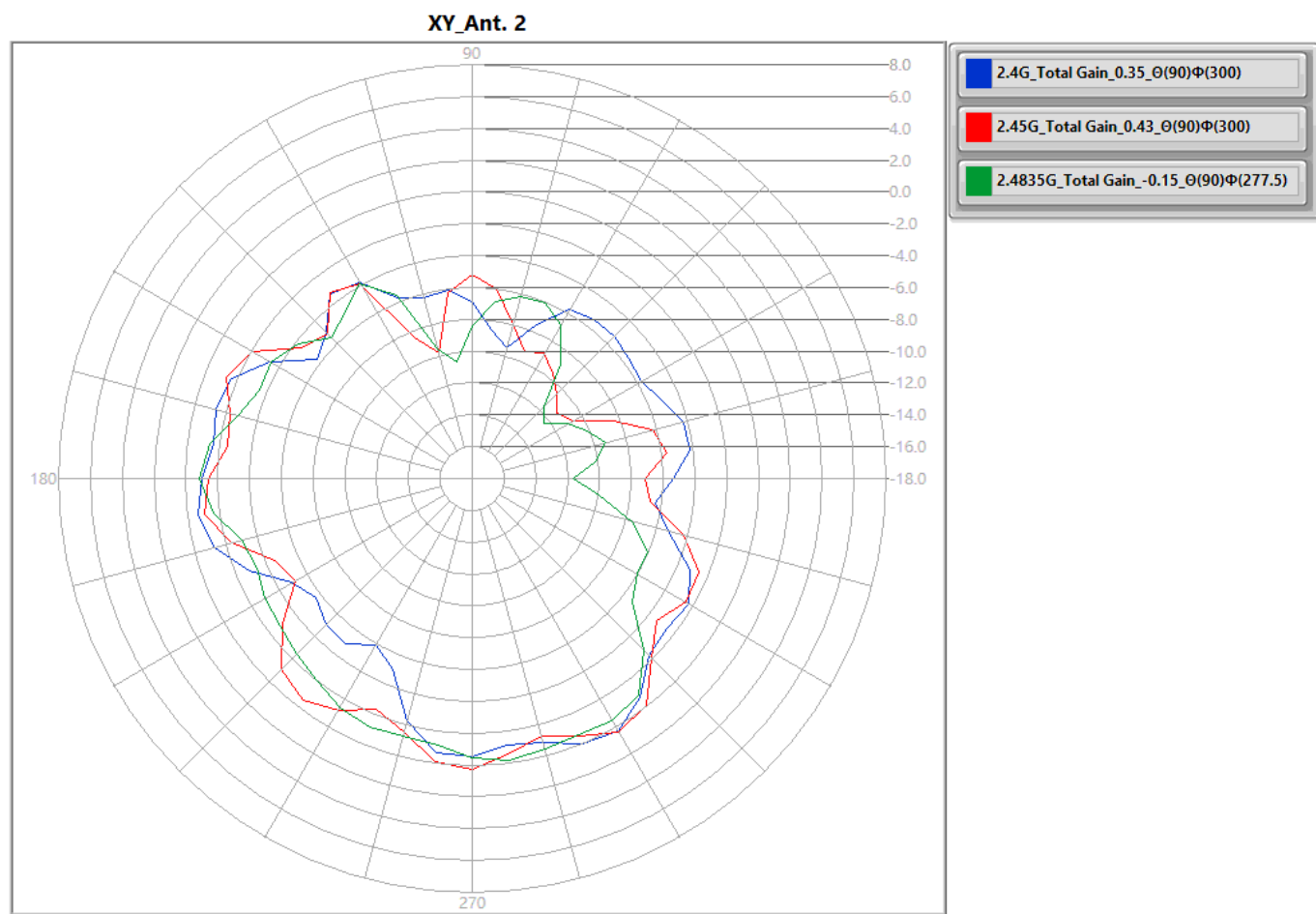
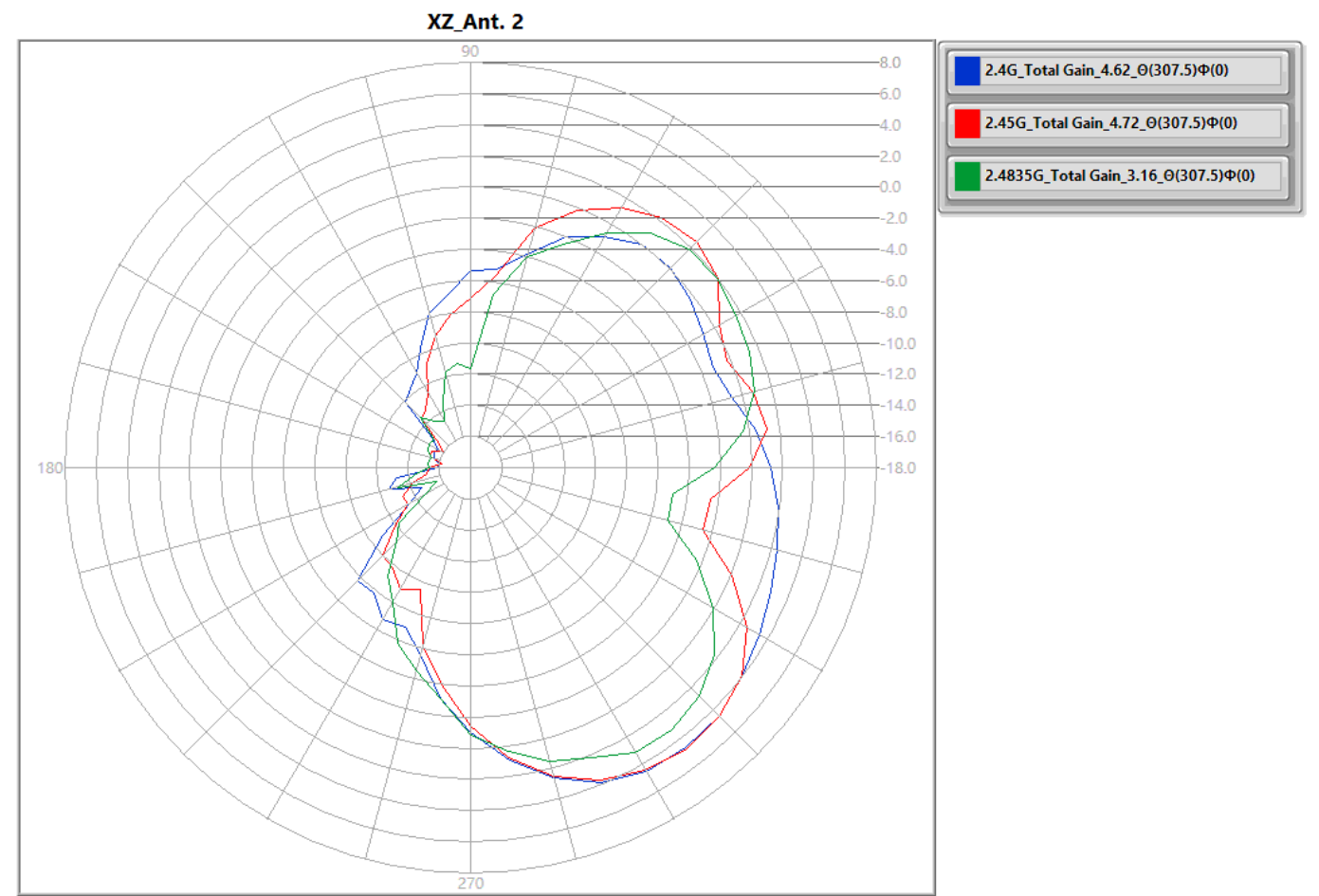
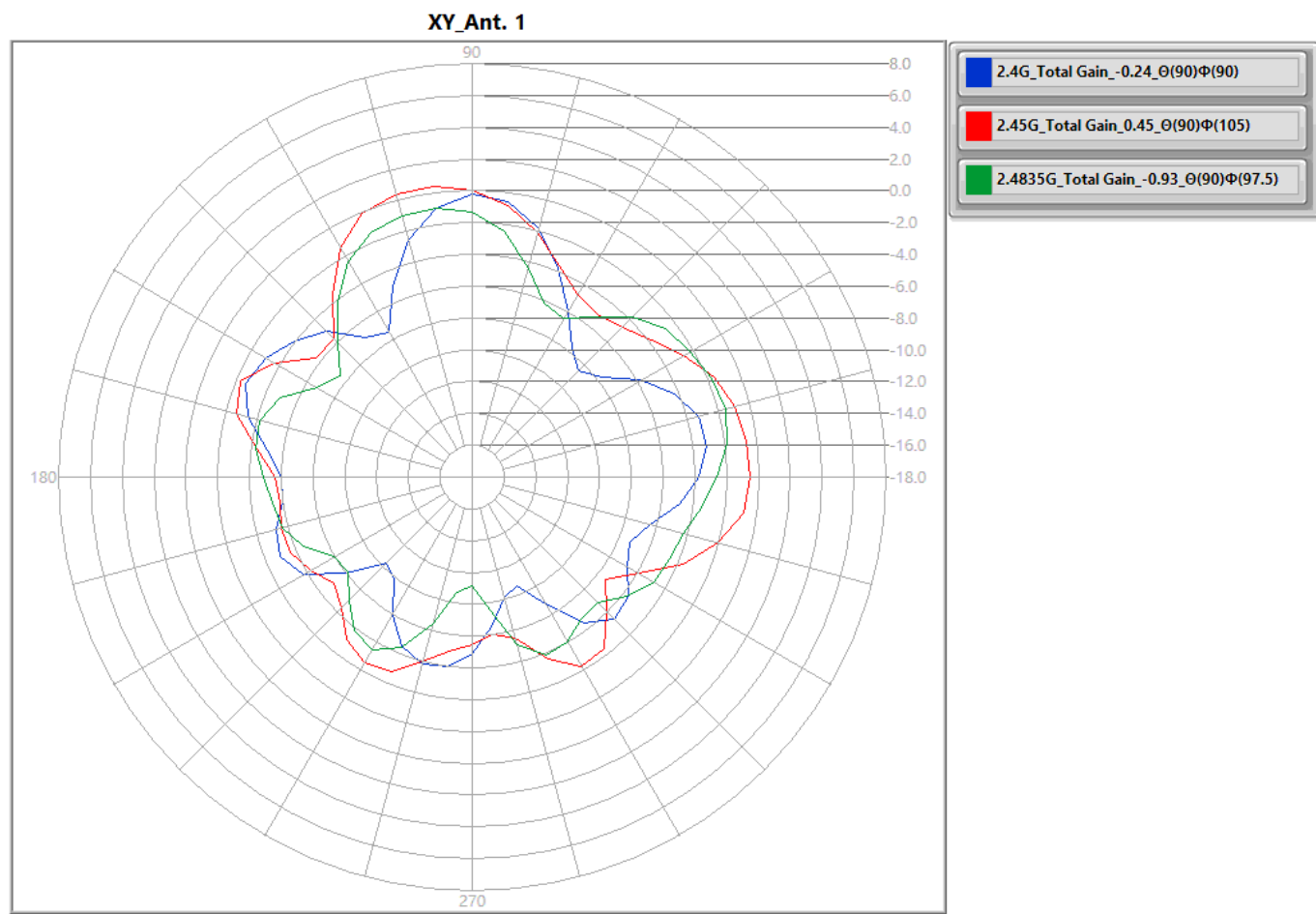


Antenna Pattern\_Radio 1\_2.4GHz

Appendix D

|           |               |                 |                 |                 |                 |                 |                 |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
|-----------|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Θ(22.5°)  | -0.20/0.77    | 1.85/2.85       | 3.76/4.43       | 4.88/5.07       | 5.02/4.79       | 4.37/3.78       | 3.10/2.42       | 1.78/1.29         | 0.97/0.90         | 0.99/1.16         | 1.37/1.47         | 1.36/0.92         | 0.15/-0.98        | -2.35/-3.88       | -5.34/6.85        | -7.94/-7.96       | -7.14/-6.14       | -5.19/-4.43       | -3.62/-2.98       | -2.34/-1.88       | -1.62/-1.53       | -1.52/-1.54       | -1.53/-1.50       | -1.31/-0.88       |
| Θ(30°)    | 0.39/0.78     | 1.53/2.46       | 3.42/4.22       | 4.78/5.01       | 4.96/4.69       | 4.23/3.60       | 2.89/2.12       | 1.36/0.77         | 0.46/0.57         | 1.07/1.71         | 2.33/2.78         | 2.97/2.87         | 2.45/1.72         | 0.68/-0.48        | -1.70/-2.54       | -2.93/-2.82       | -2.42/-1.97       | -1.63/-1.36       | -1.20/-1.02       | -0.82/-0.67       | -0.62/-0.66       | -0.67/-0.56       | -0.34/-0.09       | 0.07/0.19         |
| Θ(37.5°)  | 1.97/1.64     | 1.76/2.35       | 3.06/3.71       | 4.21/4.50       | 4.60/4.52       | 4.20/3.69       | 3.02/2.29       | 1.63/1.12         | 0.80/0.91         | 1.51/2.40         | 3.10/3.62         | 3.95/4.07         | 3.90/3.32         | 2.36/1.13         | -0.03/-0.75       | -0.98/-0.86       | -0.54/-0.13       | 0.25/0.57         | 0.77/0.81         | 0.75/0.65         | 0.49/0.36         | 0.31/0.69         | 1.42/2.09         | 2.42/2.31         |
| Θ(45°)    | 2.47/1.91     | 1.76/2.06       | 2.45/2.80       | 3.10/3.52       | 3.97/4.32       | 4.34/3.99       | 3.31/2.55       | 2.01/1.73         | 1.42/1.24         | 1.65/2.46         | 3.24/3.78         | 4.13/4.48         | 4.56/4.18         | 3.18/1.73         | 0.23/-0.49        | -0.55/-0.32       | 0.06/0.57         | 1.23/1.91         | 2.37/2.44         | 2.19/1.84         | 1.46/1.06         | 0.85/1.20         | 2.09/2.96         | 3.33/3.08         |
| Θ(52.5°)  | 2.16/1.64     | 1.56/1.77       | 1.86/1.75       | 1.82/2.44       | 3.37/4.18       | 4.55/4.26       | 3.38/2.38       | 1.95/2.01         | 1.84/1.42         | 1.53/2.37         | 3.25/3.67         | 4.02/4.54         | 4.72/4.22         | 2.98/1.22         | -0.19/-0.54       | -0.21/0.14        | 0.47/0.98         | 1.87/2.77         | 3.29/3.28         | 2.88/2.37         | 1.94/1.41         | 0.93/1.07         | 1.97/2.84         | 3.13/2.84         |
| Θ(60°)    | 1.26/0.89     | 1.01/1.14       | 0.87/0.20       | -0.11/0.73      | 2.22/3.54       | 4.22/4.02       | 2.89/1.32       | 0.83/1.42         | 1.70/1.20         | 0.88/1.73         | 2.74/3.12         | 3.36/3.97         | 4.42/4.05         | 2.69/0.71         | -0.77/-0.63       | 0.10/0.49         | 0.56/0.72         | 1.54/2.57         | 3.22/3.28         | 2.94/2.56         | 2.33/1.85         | 1.05/0.83         | 1.62/2.42         | 2.57/2.10         |
| Θ(67.5°)  | -0.11/-0.34   | -0.13/-0.17     | -0.94/-2.35     | -3.28/-2.30     | -0.28/1.53      | 2.60/2.62       | 1.48/-0.56      | -1.43/-0.09       | 0.70/0.14         | -0.32/0.76        | 2.04/2.33         | 2.53/3.27         | 3.72/3.16         | 1.55/-0.46        | -1.20/-0.36       | 0.59/0.85         | 0.45/0.13         | 0.83/2.14         | 3.01/3.13         | 2.87/2.68         | 2.62/2.09         | 0.94/0.31         | 0.99/1.78         | 1.78/0.96         |
| Θ(75°)    | -2.09/-2.04   | -1.64/-1.82     | -2.81/-4.56     | -5.90/-5.31     | -3.45/-1.73     | -0.42/0.15      | -0.55/-2.75     | -4.55/-2.42       | -0.81/-1.26       | -2.35/-1.13       | 0.58/1.08         | 1.02/1.73         | 2.53/2.31         | 0.82/-1.17        | -1.74/-0.58       | 0.54/0.74         | 0.01/-0.79        | -0.14/1.52        | 2.55/2.59         | 2.19/2.09         | 2.23/1.70         | 0.14/-1.06        | -0.44/0.35        | 0.19/-0.89        |
| Θ(82.5°)  | -5.57/-4.68   | -4.44/-5.12     | -6.69/-8.75     | -9.44/-7.75     | -5.82/-4.75     | -3.62/-2.69     | -3.19/-5.61     | -8.27/-4.81       | -1.95/-2.09       | -3.50/-2.21       | -0.50/-0.39       | -0.85/-0.15       | 0.77/0.51         | -1.13/-3.11       | -3.21/-1.55       | -0.18/0.04        | -0.74/-1.42       | -0.43/1.14        | 1.78/1.45         | 0.84/1.01         | 1.38/0.71         | -1.41/-2.92       | -2.14/-1.69       | -2.60/-4.38       |
| Θ(90°)    | -7.13/-5.69   | -6.23/-8.44     | -10.73/-11.30   | -10.44/-9.63    | -8.92/-9.38     | -8.03/-6.02     | -5.23/-6.26     | -9.87/-8.44       | -3.88/-3.27       | -5.11/-4.54       | -2.02/-1.30       | -2.22/-2.46       | -1.39/-1.04       | -2.34/-4.59       | -5.13/-3.03       | -1.06/-0.48       | -1.22/-2.28       | -1.52/-0.07       | 0.24/-0.55        | -1.25/-0.47       | 0.43/-0.04        | -2.11/-3.38       | -2.49/-2.58       | -4.26/-6.72       |
| Θ(97.5°)  | -8.06/-6.28   | -7.27/-10.24    | -11.56/-10.42   | -8.86/-8.40     | -9.39/-13.02    | -13.79/-9.42    | -7.07/-6.81     | -9.38/-9.72       | -4.94/-4.02       | -6.24/-6.41       | -3.48/-3.00       | -4.61/-5.31       | -3.98/-3.34       | -4.45/-6.24       | -6.18/-4.09       | -2.34/-2.03       | -3.39/-4.44       | -2.63/-1.19       | -1.49/-2.82       | -2.99/-1.43       | -0.30/-0.89       | -3.20/-4.39       | -3.45/-3.87       | -6.09/-8.24       |
| Θ(105°)   | -9.28/-7.40   | -9.07/-13.15    | -14.59/-12.25   | -10.19/-9.31    | -10.29/-13.93   | -16.27/-15.28   | -10.06/-7.41    | -8.35/-11.03      | -7.19/-5.38       | -7.29/-8.72       | -5.73/-4.55       | -6.70/-7.15       | -6.18/-4.75       | -5.08/-6.34       | -6.88/-5.66       | -4.13/-3.81       | -5.11/-5.30       | -3.13/-2.25       | -3.57/-6.15       | -5.98/-3.57       | -2.27/-3.05       | -5.56/-5.94       | -4.74/-5.57       | -8.69/-11.01      |
| Θ(112.5°) | -10.74/-8.90  | -11.27/-15.78   | -13.57/-11.43   | -10.92/-11.33   | -12.41/-13.70   | -13.83/-15.44   | -11.28/-7.44    | -7.66/-10.60      | -8.64/-6.89       | -8.50/-10.84      | -8.57/-7.19       | -7.68/-9.55       | -9.55/-8.26       | -7.78/-7.60       | -7.47/-6.66       | -5.60/-5.62       | -7.08/-6.36       | -4.38/-4.43       | -7.02/-9.41       | -6.79/-4.66       | -3.90/-4.90       | -6.84/-6.73       | -6.37/-7.83       | -11.32/-13.03     |
| Θ(120°)   | -12.59/-11.18 | -13.43/-15.74   | -14.03/-11.71   | -10.52/-10.99   | -11.77/-11.41   | -12.24/-15.34   | -11.51/-7.58    | -7.15/-10.33      | -12.16/-10.35     | -11.17/-12.06     | -9.42/-7.00       | -6.51/-7.49       | -9.03/-9.47       | -8.09/-7.25       | -7.53/-7.98       | -7.80/-8.40       | -9.51/-7.23       | -4.98/-5.29       | -8.00/-10.09      | -8.54/-7.27       | -7.10/-8.32       | -10.15/-9.71      | -9.51/-10.98      | -13.32/-14.20     |
| Θ(127.5°) | -13.30/-12.69 | -12.60/-12.50   | -12.29/-12.85   | -12.44/-12.59   | -12.85/-12.38   | -13.66/-13.79   | -11.41/-8.57    | -8.10/-10.34      | -12.48/-12.31     | -13.75/-15.27     | -12.39/-9.93      | -9.18/-9.36       | -9.85/-9.20       | -8.40/-8.73       | -9.81/-10.91      | -11.76/-11.81     | -10.19/-7.34      | -6.43/-7.90       | -12.28/-14.18     | -12.01/-11.35     | -11.55/-12.00     | -11.99/-10.71     | -10.72/-12.48     | -13.20/-12.88     |
| Θ(135°)   | -13.52/-12.93 | -12.21/-12.07   | -11.09/-12.26   | -15.28/-14.35   | -12.80/-11.65   | -11.57/-12.92   | -12.98/-13.23   | -12.45/-13.54     | -14.54/-13.91     | -14.25/-15.72     | -15.52/-13.21     | -11.66/-10.20     | -10.00/-10.49     | -10.47/-10.77     | -10.92/-12.03     | -12.82/-12.61     | -10.80/-9.15      | -8.80/-10.48      | -13.00/-12.05     | -10.47/-9.88      | -10.41/-10.63     | -10.58/-10.03     | -10.62/-12.47     | -13.41/-12.93     |
| Θ(142.5°) | -15.97/-14.80 | -15.55/-16.08   | -14.56/-14.51   | -15.77/-15.81   | -15.63/-15.09   | -14.50/-14.37   | -14.99/-15.55   | -15.11/-15.94     | -15.53/-14.27     | -15.68/-15.10     | -15.20/-14.42     | -13.71/-12.92     | -13.33/-13.82     | -13.57/-13.30     | -13.05/-12.19     | -11.41/-10.18     | -9.39/-8.73       | -8.79/-9.42       | -10.21/-10.96     | -11.61/-12.40     | -13.62/-15.39     | -15.98/-15.76     | -15.38/-15.01     | -15.51/-15.17     |
| Θ(157.5°) | -15.31/-15.90 | -15.89/-15.55   | -14.73/-14.71   | -13.69/-13.98   | -14.89/-15.18   | -13.92/-13.01   | -12.53/-12.22   | -12.31/-13.38     | -15.36/-15.50     | -15.71/-15.39     | -15.09/-15.44     | -14.67/-13.74     | -13.26/-13.19     | -12.93/-12.61     | -11.79/-10.85     | -10.29/-9.96      | -9.56/-9.74       | -10.22/-10.91     | -12.26/-13.31     | -14.47/-15.02     | -14.82/-14.36     | -13.60/-13.07     | -13.47/-14.60     | -15.75/-15.65     |
| Θ(165°)   | -15.33/-14.93 | -14.07/-14.74   | -14.69/-15.51   | -15.79/-15.07   | -14.24/-13.49   | -13.31/-13.21   | -12.69/-12.66   | -13.27/-14.68     | -16.17/-15.90     | -14.89/-15.00     | -14.76/-14.57     | -15.19/-15.00     | -14.14/-14.13     | -14.01/-13.52     | -13.43/-13.24     | -12.96/-12.62     | -12.11/-12.42     | -13.15/-13.71     | -15.59/-15.22     | -15.84/-15.23     | -16.24/-15.46     | -15.22/-15.49     | -15.26/-15.45     | -15.32/-15.83     |
| Θ(172.5°) | -16.17/-15.48 | -15.17/-15.41   | -15.91/-15.32   | -14.82/-15.25   | -14.67/-14.89   | -15.13/-15.73   | -15.79/-15.49   | -15.41/-15.17     | -14.84/-15.91     | -14.99/-14.56     | -15.92/-15.12     | -15.57/-15.03     | -15.14/-14.99     | -16.24/-15.79     | -15.63/-15.41     | -14.95/-15.57     | -15.86/-14.55     | -15.43/-14.83     | -15.23/-15.38     | -15.12/-15.43     | -15.03/-15.37     | -15.31/-15.60     | -14.68/-15.10     | -15.58/-14.76     |
| Θ(180°)   | -15.36/-15.01 | -14.66/-15.67   | -15.59/-15.48   | -15.10/-15.38   | -15.73/-15.25   | -15.53/-14.96   | -15.89/-15.96   | -15.02/-15.53     | -15.25/-15.28     | -15.40/-15.42     | -15.33/-15.39     | -15.83/-15.32     | -15.67/-15.04     | -15.87/-14.93     | -16.15/-14.80     | -15.88/-15.38     | -15.71/-15.28     | -15.64/-15.31     | -15.46/-15.00     | -15.74/-15.88     | -15.64/-15.47     | -14.96/-15.92     | -15.11/-15.05     | -15.25/-14.85     |
| Freq(Hz)  | 2.4835GPol.   | 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°)     | -2.42/-2.36   | -2.34/-2.44     | -2.58/-2.75     | -2.86/-3.03     | -3.17/-3.31     | -3.39/-3.51     | -3.52/-3.49     | -3.67/-3.80       | -3.83/-3.79       | -3.60/-3.60       | -3.51/-3.42       | -3.33/-3.18       | -3.08/-2.81       | -2.63/-2.45       | -2.36/-2.20       | -2.03/-1.89       | -1.82/-1.88       | -1.88/-1.88       | -1.87/-1.96       | -2.13/-2.33       | -2.55/-2.76       | -2.94/-2.96       | -2.94/-2.59       | -2.74/-2.59       |
| Θ(7.5°)   | -0.40/-0.01   | 0.24/0.41       | 0.50/0.54       | 0.56/0.53       | 0.49/0.41       | 0.24/0.09       | 0.01/-0.12      | -0.43/-0.83       | -1.30/-1.71       | -2.15/-2.55       | -3.02/-3.49       | -4.00/-4.51       | -4.94/-5.37       | -5.67/-5.83       | -5.74/-5.78       | -6.06/-6.13       | -6.18/-6.19       | -6.17/-5.94       | -5.74/-5.57       | -5.40/-5.05       | -4.59/-4.13       | -3.74/-3.27       | -2.71/-2.17       | -1.56/-1.00       |
| Θ(15°)    | 0.84/1.44     | 1.93/2.32       | 2.61/2.82       | 2.93/2.96       | 2.93/2.86       | 2.68/2.53       | 2.35/2.12       | 1.71/1.28         | 0.80/0.31         | -0.22/-0.76       | -1.35/-2.04       | -2.92/-3.84       | -4.91/-5.93       | -6.71/-7.24       | -7.46/-7.52       | -7.48/-7.39       | -7.33/-7.36       | -7.25/-6.94       | -6.55/-6.05       | -5.40/-4.60       | -3.79/-3.12       | -2.61/-2.16       | -1.65/-1.14       | -0.52/0.16        |
| Θ(22.5°)  | 1.34/1.92     | 2.47/2.97       | 3.37/3.68       | 3.89/3.95       | 3.92/3.81       | 3.62/3.39       | 3.19/2.93       | 2.60/2.20         | 1.76/1.35         | 0.99/0.68         | 0.33/-0.10        | -0.68/-1.45       | -2.34/-3.28       | -4.15/-4.77       | -4.80/-4.54       | -4.24/-4.10       | -4.14/-4.33       | -4.54/-4.68       | -4.52/-4.20       | -3.50/-2.62       | -1.87/-1.25       | -0.82/-0.49       | -0.19/0.05        | 0.36/0.79         |
| Θ(30°)    | 1.65/1.90     | 2.23/2.66       | 3.16/3.63       | 3.96/4.13       | 4.14/4.04       | 3.86/3.68       | 3.51/3.31       | 3.01/2.67         | 2.26/1.88         | 1.63/1.52         | 1.54/1.42         | 1.17/0.68         | -0.02/-0.87       | -1.74/-2.34       | -2.43/-2.14       | -1.74/-1.46       | -1.43/-1.58       | -1.84/-2.07       | -2.10/-1.87       | -1.39/-0.78       | -0.180/-27        | 0.65/0.92         | 1.15/1.28         | 1.37/1.46         |
| Θ(37.5°)  | 1.92/1.74     | 1.76/2.09       | 2.72/3.35       | 3.85/4.16       | 4.26/4.21       | 4.04/3.85       | 3.71/3.61       | 3.45/3.11         | 2.62/2.16         | 1.96/2.12         | 2.39/2.56         | 2.53/2.24         | 1.68/0.85         | -0.00/-0.65       | -0.88/-0.76       | -0.47/-0.29       | -0.24/-0.29       | -0.37/-0.42       | -0.27/0.03        | 0.37/0.72         | 1.03/1.27         | 1.42/1.59         | 1.81/1.99         | 2.09/2.09         |
| Θ(45°)    | 1.79/1.29     | 1.05/1.35       | 1.99/2.64       | 3.23/3.72       | 4.05/4.13       | 3.89/3.49       | 3.23/2.27       | 3.44/3.34         | 2.84/2.23         | 1.97/2.20         | 2.62/2.99         | 3.20/3.15         | 2.72/1.91         | 0.90/0.15         | -0.23/-0.29       | -0.19/-0.05       | 0.13/0.33         | 0.56/0.88         | 1.31/1.73         | 2.00/2.13         | 2.20/2.15         | 1.94/1.75         | 1.83/2.05         | 2.26/2.19         |
| Θ(52.5°)  | 0.95/0.46     | 0.25/0.51       | 1.06/1.56       | 2.17/2.95       | 3.63/3.90       | 3.55/2.77       | 2.15/2.26       | 2.85/3.04         | 2.54/1.77         | 1.51/1.90         | 2.49/3.03         | 3.49/3.62         | 3.16/2.19         | 1.21/0.62         | 0.30/0.15         | 0.07/0.21         | 0.56/0.98         | 1.44/1.98         | 2.51/2.86         | 2.98/2.96         | 2.88/2.60         | 2.06/1.44         | 1.18/1.35         | 1.53/1.42         |
| Θ(60°)    | -0.64/-0.97   | -0.82/-0.43     | -0.11/0.02      | 0.52/1.70       | 2.81/3.35       | 3.00/1.88       | 0.63/0.60       | 1.69/2.31         | 1.96/1.03         | 0.64/1.05         | 1.66/2.26         | 2.97/3.40         | 3.10/2.19         | 1.16/0.67         | 0.49/0.32         | 0.21/0.35         | 0.87/1.43         | 1.88/2.28         | 2.69/2.96         | 3.00/2.91         | 2.79/2.41         | 1.55/0.46         | -0.11/0.01        | 0.10/-0.11        |
| Θ(67.5°)  | -2.49/-2.80   | -2.38/-1.94     | -2.02/-2.36     | -2.03/-0.45     | 1.10/1.87       | 1.58/0.26       | -1.54/-1.74     | -0.13/0.93        | 0.70/-0.28        | -0.47/0.13        | 0.73/1.30         | 2.09/2.55         | 2.16/1.02         | 0.11/-0.04        | 0.04/-0.02        | 0.04/0.39         | 1.00/1.48         | 1.65/1.82         | 2.21/2.57         | 2.62/2.53         | 2.44/2.01         | 0.89/-0.58        | -1.27/-0.99       | -0.92/-1.51       |
| Θ(75°)    | -4.01/-4.36   | -3.83/-3.65     | -4.15/-5.01     | -4.98/-3.29     | -1.55/-0.77     | -1.10/-2.46     | -4.49/-5.02     | -2.91/-1.12       | -0.96/-2.06       | -2.27/-1.42       | -0.80/-0.29       | 0.65/1.53         | 1.50/0.55         | -0.51/-0.62       | -0.32/-0.28       | -0.43/-0.20       | 0.33/0.68         | 0.71/0.92         | 1.63/2.18         | 2.22/2.05         | 1.92/1.46         | 0.13/-1.80        | -2.72/-2.36       | -2.25/-2.9        |

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\_Radio 2\_5GHz

# Appendix E

## Total Gain Data

| Freq(Hz)  | 5.2G/Pol.     | TotalAnt. 1     | +               | +               | +               | +               | +               | +                 | +                 | +                 | +                 | +                 | +                 | +                 | +                 | +                 | +                 | +                 | +                 | +                 |                   |                   |                   |                   |
|-----------|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 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°)     | -6.43/-6.51   | -6.68/-6.69     | -6.48/-6.35     | -6.65/-6.45     | -6.42/-6.31     | -6.54/-6.40     | -6.30/-6.40     | -6.44/-6.28       | -6.24/-6.33       | -6.10/-6.09       | -6.19/-6.34       | -7.04/-6.98       | -6.45/-6.39       | -6.65/-6.85       | -6.54/-6.47       | -6.55/-6.40       | -6.69/-6.90       | -7.37/-6.81       | -6.83/-6.57       | -6.05/-5.42       | -5.16/-4.89       | -4.60/-4.52       | -4.54/-4.89       | -5.46/-5.79       |
| Θ(7.5°)   | -11.76/-11.43 | -11.43/-10.98   | -10.44/-10.16   | -9.53/-8.94     | -8.19/-7.18     | -6.72/-6.45     | -6.37/-6.13     | -5.64/-5.14       | -4.78/-4.72       | -4.59/-4.40       | -4.24/-3.87       | -3.72/-3.44       | -3.40/-3.29       | -3.13/-2.88       | -2.56/-2.53       | -2.61/-2.60       | -2.74/-3.13       | -3.83/-4.13       | -4.71/-5.09       | -5.91/-7.09       | -7.92/-8.74       | -9.67/-10.34      | -11.42/-12.02     | -12.23/-12.10     |
| Θ(15°)    | -4.73/-3.81   | -3.38/-3.30     | -3.15/-3.14     | -2.59/-2.05     | -1.42/-0.89     | -0.56/-0.46     | -0.59/-0.66     | -0.96/-1.34       | -1.91/-2.68       | -3.30/-3.86       | -4.27/-4.26       | -3.90/-3.77       | -4.15/-4.41       | -4.06/-3.30       | -2.19/-1.39       | -0.92/-0.67       | -0.41/-0.18       | -0.09/0.01        | 0.05/-0.11        | -0.40/-1.01       | -1.60/-2.25       | -3.17/-4.40       | -5.25/-5.99       | -6.30/-5.73       |
| Θ(22.5°)  | -2.14/-0.96   | 0.03/0.62       | 0.93/-0.03      | 1.54/-0.29      | 2.28/0.07       | 1.72/-1.52      | 1.02/-0.86      | 1.56/-1.27        | 0.81/0.19         | -0.39/-0.73       | -0.81/-1.03       | -1.39/-2.35       | -3.69/-4.92       | -4.55/-3.35       | -2.86/-2.93       | -3.64/-3.90       | -3.30/-2.48       | -1.53/-0.97       | -1.16/-1.79       | -2.44/-2.30       | -0.58/0.71        | 0.20/-0.93        | -2.49/-2.94       | -2.94/-2.30       |
| Θ(30°)    | -1.01/-0.55   | 0.58/-0.59      | 2.11/-1.12      | 2.21/2.22       | 1.75/0.99       | 0.30/0.52       | 1.17/-1.01      | -0.06/-0.78       | -0.55/-0.08       | 0.25/0.56         | 1.09/-1.72        | 2.09/-1.98        | 1.27/-0.11        | -0.99/-0.83       | -1.15/-2.48       | -4.08/-4.38       | -3.34/-1.75       | -0.63/-0.68       | -1.86/-3.66       | -5.36/-5.70       | -3.91/-1.54       | 0.06/0.96         | 1.03/0.65         | -0.27/-0.89       |
| Θ(37.5°)  | -0.21/-0.41   | 0.18/-1.39      | 2.13/-2.04      | 1.70/-1.17      | 0.96/-1.55      | 2.49/-3.41      | 3.84/-3.38      | 2.01/-0.84        | 0.77/0.78         | 0.85/0.71         | 0.65/-1.24        | 2.23/-1.77        | 3.12/-1.85        | 0.69/-1.29        | 1.78/-1.01        | -0.36/-0.87       | -0.28/0.35        | -0.00/-1.29       | -2.83/-4.78       | -5.93/-5.45       | -4.06/-1.79       | -0.22/0.32        | -0.02/-0.43       | -0.51/-0.27       |
| Θ(45°)    | 0.33/-0.00    | 0.42/-1.97      | 2.75/-2.36      | 1.57/0.69       | 0.25/1.02       | 1.91/-2.76      | 3.59/-3.86      | 2.68/-1.09        | 1.40/-2.45        | 3.09/-3.01        | 1.54/-0.01        | -0.09/0.95        | 2.10/-1.53        | -0.25/0.59        | 2.19/-1.66        | -0.15/-1.16       | -1.12/-0.74       | -0.92/-1.39       | -2.53/-4.23       | -4.15/-3.20       | -2.70/-1.16       | 0.55/-1.18        | 0.23/-0.49        | -0.12/-0.00       |
| Θ(52.5°)  | 2.08/-1.89    | 2.15/-3.70      | 4.10/-3.20      | 2.32/-1.88      | 1.50/-1.16      | 0.56/-1.10      | 2.26/-3.13      | 1.55/-1.80        | -1.81/0.64        | 2.02/-2.29        | 0.51/-2.23        | -2.32/-1.66       | -0.82/-0.09       | -1.01/0.12        | 1.84/-1.08        | -0.08/-0.35       | -0.39/-0.10       | 0.20/-0.17        | -1.45/-2.87       | -2.10/-1.56       | -1.19/0.15        | 1.91/-2.64        | 1.66/-1.30        | 1.53/-1.04        |
| Θ(60°)    | 2.88/-2.92    | 2.95/-3.76      | 3.96/-3.25      | 3.12/-3.54      | 3.59/-2.90      | 1.19/-0.36      | 0.35/-2.11      | 1.83/-0.22        | -0.49/0.03        | 0.64/-0.20        | 1.62/-1.18        | -1.76/-1.96       | -2.44/-0.65       | -0.79/-0.78       | 1.57/-1.01        | 0.68/0.89         | 1.16/-1.92        | 2.62/-2.83        | 1.75/-3.30        | 0.47/0.90         | 0.58/-1.40        | 2.81/-3.56        | 2.34/-1.86        | 2.01/-6.61        |
| Θ(67.5°)  | 3.15/-3.32    | 2.94/-3.06      | 3.17/-2.60      | 2.89/-3.71      | 4.38/-4.24      | 2.23/-0.17      | 0.79/-2.68      | 2.91/-2.62        | 2.94/-2.63        | 1.37/-2.48        | 1.51/-1.70        | -0.57/-1.57       | -1.82/-0.03       | -0.59/-0.55       | 1.10/0.05         | 0.64/-1.24        | 2.18/-3.45        | 3.99/-3.93        | 2.81/-1.51        | 1.74/-2.24        | 1.64/-2.32        | 3.26/-3.68        | 2.24/-1.69        | 2.19/-1.54        |
| Θ(75°)    | 2.21/-2.57    | 1.95/-1.68      | 1.77/-1.41      | 1.85/-2.86      | 3.66/-3.41      | 1.27/-0.47      | 0.73/-2.47      | 2.98/-3.07        | 3.84/-3.63        | 1.80/-1.90        | 1.58/-1.58        | -0.97/-0.95       | -1.89/-0.64       | 0.18/-1.60        | -0.48/-0.38       | 0.84/-1.85        | 2.89/-4.28        | 4.55/-4.07        | 3.03/-2.38        | 2.39/-2.47        | 1.83/-2.38        | 3.06/-2.80        | 0.55/-0.07        | 1.21/0.87         |
| Θ(82.5°)  | 1.37/-1.39    | 0.17/-0.33      | 0.23/-0.38      | 0.04/-0.96      | 1.92/-1.59      | 0.06/-0.84      | 0.24/-1.57      | 2.12/-2.05        | 2.90/-2.48        | 0.07/-0.58        | 0.11/-2.71        | -1.89/-2.51       | -3.10/-1.38       | -2.22/-3.66       | -2.26/-1.07       | 0.14/-1.24        | 2.28/-1.49        | 3.91/-2.83        | 1.96/-1.66        | 2.00/-1.65        | 0.86/-1.57        | 2.37/-1.41        | -1.27/-2.22       | -0.55/-0.57       |
| Θ(90°)    | -0.37/-0.16   | -1.87/-1.87     | -1.95/-2.70     | -2.75/-1.90     | -0.83/-1.53     | -2.91/-3.23     | -2.27/-1.15     | -0.16/-0.01       | 0.78/0.82         | -1.72/-2.62       | -1.17/-3.76       | -4.78/-4.32       | -4.64/-4.26       | -2.76/-6.17       | -4.98/-3.42       | -2.43/-0.69       | 0.47/-2.66        | 1.77/0.61         | -0.14/-0.71       | 0.15/0.00         | -1.54/-0.70       | 0.39/-0.57        | -3.61/-4.24       | -2.50/-1.77       |
| Θ(97.5°)  | -1.51/-1.55   | -2.91/-1.34     | -4.46/-5.20     | -5.74/-4.83     | -4.08/-6.50     | -6.33/-6.49     | -4.98/-4.23     | -3.24/-2.79       | -1.75/-2.03       | -5.00/-4.56       | -3.35/-6.11       | -4.48/-6.50       | -6.44/-6.63       | -5.87/-6.81       | -4.18/-4.63       | -3.42/-2.45       | -1.90/-0.33       | -2.45/-3.62       | -3.48/-4.27       | -4.28/-3.90       | -4.60/-3.27       | -2.91/-3.55       | -5.68/-6.13       | -3.64/-3.25       |
| Θ(105°)   | -3.46/-3.07   | -4.89/-6.37     | -6.76/-6.98     | -7.09/-6.26     | -5.57/-6.80     | -7.54/-6.73     | -5.21/-6.54     | -5.65/-4.47       | -2.63/-3.20       | -5.50/-6.83       | -6.86/-4.76       | -10.38/-8.03      | -6.53/-9.87       | -5.03/-10.86      | -9.54/-7.40       | -6.14/-5.06       | -4.59/-4.16       | -6.83/-7.59       | -6.84/-7.57       | -8.07/-7.77       | -7.95/-4.88       | -6.26/-7.04       | -6.75/-5.27       |                   |
| Θ(112.5°) | -5.39/-5.94   | -6.84/-8.34     | -8.58/-10.33    | -10.37/-8.78    | -7.35/-8.68     | -10.95/-9.10    | -5.80/-5.92     | -8.00/-6.10       | -4.06/-5.66       | -10.87/-12.40     | -7.84/-7.65       | -10.98/-11.67     | -12.78/-12.52     | -8.70/-12.49      | -10.99/-8.81      | -4.67/-5.09       | -6.64/-8.78       | -8.32/-6.35       | -7.78/-7.90       | -6.86/-4.48       | -4.66/-7.14       | -7.82/-8.25       | -8.83/-8.85       |                   |
| Θ(120°)   | -8.53/-7.20   | -9.85/-11.54    | -10.71/-10.38   | -11.87/-11.91   | -11.02/-13.94   | -14.13/-13.52   | -10.07/-9.78    | -11.36/-10.52     | -0.72/-6.75       | -8.80/-9.81       | -10.12/-9.88      | -15.63/-14.99     | -13.47/-11.39     | -7.79/-11.52      | -12.44/-9.45      | -8.68/-8.59       | -3.91/-5.80       | -7.79/-9.34       | -8.21/-7.09       | -8.60/-7.63       | -6.71/-6.94       | -7.44/-12.70      | -14.27/-10.91     | -7.87/-9.39       |
| Θ(127.5°) | -9.74/-10.35  | -10.15/-9.04    | -11.81/-14.71   | -15.57/-11.43   | -11.23/-14.10   | -14.11/-14.04   | -14.97/-14.45   | -13.77/-10.73     | -9.30/-8.91       | -10.53/-12.46     | -14.03/-15.79     | -15.28/-14.61     | -10.68/-8.32      | -9.43/-13.04      | -14.47/-12.59     | -11.56/-8.74      | -7.50/-11.67      | -13.28/-11.89     | -9.29/-10.79      | -15.60/-13.84     | -9.51/-12.57      | -12.03/-15.45     | -15.59/-14.01     | -8.49/-8.37       |
| Θ(135°)   | -10.45/-9.10  | -10.38/-12.30   | -11.06/-13.84   | -13.98/-11.14   | -12.91/-14.11   | -12.18/-10.94   | -12.10/-14.40   | -15.05/-12.11     | -8.26/-7.97       | -12.34/-15.80     | -13.90/-15.04     | -13.10/-14.15     | -15.21/-11.72     | -11.37/-13.96     | -15.35/-13.70     | -12.09/-8.35      | -7.49/-10.95      | -11.23/-9.70      | -9.13/-12.63      | -13.50/-12.60     | -7.93/-8.62       | -11.99/-14.59     | -15.59/-13.54     | -10.04/-8.00      |
| Θ(142.5°) | -10.34/-11.73 | -12.84/-13.36   | -13.32/-14.36   | -13.69/-15.23   | -15.06/-11.78   | -12.68/-15.09   | -15.37/-15.12   | -11.42/-10.32     | -13.07/-12.69     | -12.53/-16.08     | -14.50/-15.52     | -15.45/-13.05     | -12.66/-11.68     | -13.50/-15.96     | -16.21/-13.60     | -9.82/-9.66       | -10.81/-10.16     | -10.38/-11.90     | -12.56/-12.60     | -10.30/-10.59     | -9.57/-8.83       | -12.11/-15.29     | -15.25/-13.37     | -9.58/-7.73       |
| Θ(150°)   | -13.43/-15.80 | -14.27/-13.51   | -14.72/-15.84   | -15.83/-15.44   | -15.13/-12.92   | -13.62/-14.14   | -14.90/-14.34   | -13.18/-8.90      | -7.61/-11.34      | -14.97/-13.86     | -15.41/-15.50     | -15.82/-14.31     | -12.79/-12.88     | -14.68/-14.98     | -14.57/-14.90     | -15.67/-15.27     | -14.95/-15.25     | -15.38/-13.65     | -13.89/-15.62     | -14.59/-14.02     | -15.74/-15.37     | -15.06/-14.83     | -14.98/-12.23     | -12.00/-12.42     |
| Θ(157.5°) | -11.11/-13.41 | -15.47/-15.85   | -14.91/-15.62   | -13.71/-14.58   | -14.59/-12.16   | -9.55/-7.95     | -7.50/-9.01     | -11.39/-14.59     | -15.20/-14.85     | -15.28/-15.01     | -15.58/-15.05     | -13.86/-14.91     | -15.49/-15.15     | -15.62/-15.60     | -15.39/-15.24     | -15.09/-15.78     | -14.88/-15.43     | -15.77/-15.51     | -15.18/-15.50     | -15.66/-15.95     | -14.78/-15.96     | -14.42/-13.84     | -12.65/-11.55     |                   |
| Θ(165°)   | -12.37/-15.05 | -14.87/-13.72   | -14.76/-13.28   | -14.17/-14.32   | -15.58/-15.28   | -15.16/-15.53   | -14.59/-13.37   | -14.31/-13.43     | -13.66/-14.15     | -15.22/-15.22     | -15.36/-12.72     | -10.28/-10.29     | -12.37/-15.61     | -15.70/-15.30     | -15.04/-15.98     | -15.41/-10.16     | -10.38/-11.90     | -14.99/-16.15     | -15.11/-14.91     | -15.16/-13.48     | -14.45/-15.95     | -15.69/-13.75     | -15.95/-14.71     |                   |
| Θ(172.5°) | -12.83/-11.85 | -10.46/-10.04   | -9.66/-9.80     | -9.60/-8.98     | -9.38/-10.71    | -12.25/-15.05   | -14.76/-15.59   | -15.66/-15.56     | -15.04/-13.99     | -13.20/-13.23     | -13.41/-13.29     | -12.59/-11.56     | -11.55/-11.25     | -10.37/-10.48     | -10.68/-11.30     | -11.90/-12.88     | -13.68/-14.04     | -15.44/-15.42     | -16.21/-15.37     | -15.33/-14.56     | -14.37/-14.14     | -14.99/-15.69     | -16.21/-15.64     | -14.85/-12.88     |
| Θ(180°)   | -15.32/-15.63 | -15.23/-15.12   | -15.41/-15.15   | -15.28/-15.40   | -14.96/-15.25   | -15.74/-15.06   | -14.71/-15.96   | -15.81/-15.62     | -15.96/-14.92     | -14.47/-15.64     | -15.46/-16.00     | -15.11/-15.30     | -15.65/-15.28     | -15.01/-16.06     | -15.21/-14.89     | -15.99/-15.14     | -15.50/-15.69     | -15.40/-14.65     | -15.85/-16.03     | -15.41/-15.81     | -15.03/-15.31     | -15.12/-14.94     | -14.10/-14.67     | -14.08/-13.94     |
| Freq(Hz)  | 5.3G/Pol.     | TotalAnt. 1     | +               | +               | +               | +               | +               | +                 | +                 | +                 | +                 | +                 | +                 | +                 | +                 | +                 | +                 | +                 | +                 | +                 | +                 | +                 | +                 | +                 |
| 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°)     | -5.42/-5.40   | -5.04/-4.93     | -4.86/-4.95     | -4.74/-4.65     | -4.64/-4.87     | -5.16/-5.25     | -4.85/-4.46     | -4.50/-4.77       | -5.21/-5.49       | -5.67/-5.86       | -6.32/-6.75       | -7.00/-7.48       | -7.70/-8.14       | -8.18/-7.73       | -7.52/-7.79       | -7.04/-6.72       | -6.10/-5.78       | -5.18/-5.35       | -5.11/-5.27       | -5.20/-5.33       | -5.09/-5.45       | -5.55/-5.52       | -5.48/-5.83       | -5.71/-5.44       |
| Θ(7.5°)   | -6.66/-6.30   | -5.92/-5.69     | -5.69/-5.59     | -5.34/-5.32     | -5.20/-5.35     | -5.44/-5.21     | -4.86/-4.73     | -4.86/-5.22       | -5.53/-5.56       | -5.37/-5.15       | -4.92/-4.82       | -4.86/-4.66       | -4.49/-4.35       | -4.05/-3.72       | -3.40/-3.00       | -2.61/-2.37       | -2.26/-2.32       | -2.53/-3.12       | -3.90/-4.82       | -5.48/-6.70       | -7.98/-9.12       | -10.46/-11.48     | -12.38/-12.05     | -10.02/-7.66      |
| Θ(15°)    | -2.91/-2.60   | -2.46/-2.27     | -2.18/-1.80     | -1.29/-0.87     | -0.46/-0.11     | 0.11/0.06       | -0.03/-0.32     | -1.24/-2.39       | -3.71/-4.87       | -5.69/-5.93       | -5.66/-5.13       | -4.63/-4.50       | -4.49/-4.59       | -4.08/-3.00       | -1.34/-0.09       | 0.64/-0.03        | 0.95/0.82         | 0.50/0.02         | -0.70/-1.35       | -1.87/-2.39       | -2.93/-3.21       | -3.57/-4.06       | -4.41/-4.48       | -4.10/-3.41       |
| Θ(22.5°)  | 0.13/0.40     | 0.07/-1.19      | 1.43/-1.92      | 2.31/-2.69      | 2.77/2.64       | 2.29/-0.14      | 1.90/-1.70      | 1.46/0.99         | 0.48/-0.99        | -0.68/-1.04       | -1.38/-1.86       | -2.74/-4.21       | -5.66/-5.80       | -3.91/-2.16       | -1.38/-1.49       | -1.80/-2.08       | -1.83/-1.51       | -1.83/-2.82       | -4.52/-4.62       | -7.08/-4.58       | -3.30/-1.53       | -0.29/0.28        | 0.39/0.25         | -0.12/-0.08       |
| Θ(30°)    | 0.81/0.76     | 1.08/-1.66      | 1.97/-2.37      | 2.49/-2.43      | 1.83/0.77       | -0.33/-0.43     | 0.10/-0.12      | -0.19/-0.52       | -0.14/0.81        | 1.60/-1.99        | 2.28/-2.45        | 1.98/0.67         | -0.83/-1.46       | -0.20/0.95        | -0.72/-0.60       | -2.09/-2.73       | -2.15/-1.41       | -1.81/-3.33       | -5.80/-9.59       | -1.18/-9.77       | -5.12/-2.30       | -0.40/-0.19       | 0.15/0.53         | 0.86/0.88         |
| Θ(37.5°)  | -0.25/-0.57   | -0.43/0.75      | 1.73/-2.27      | 2.24/0.27       | 1.94/-1.57      | 1.18/-1.77      | 2.35/-2.2       |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |



# Antenna Pattern\_Radio\_2\_5GHz

# Appendix E

|           |               |                |                |                   |                |                |                |                   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
|-----------|---------------|----------------|----------------|-------------------|----------------|----------------|----------------|-------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Θ(22.5°)  | -0.56/-1.18   | -1.68/-1.05    | 0.18/-1.44     | 2.13/-2.26        | 1.59/-0.12     | -2.14/-3.33    | -2.60/-1.19    | 0.37/-1.41        | 2.13/-2.48       | 2.35/-1.53       | 0.64/-0.91       | 2.06/-2.85       | 3.13/-3.65       | 3.96/-3.56       | 2.70/-1.85       | 1.46/-1.27       | 0.61/-0.43       | -1.37/-2.03      | -2.30/-2.24      | -1.64/-1.30      | -0.96/-0.57      | -0.34/-0.44      | -0.42/-0.42      | -0.41/-0.56      |
| Θ(30°)    | -0.40/-0.16   | -0.04/-0.63    | 2.46/-3.88     | <b>4.43/-5.55</b> | 4.28/-3.06     | 0.30/-2.79     | -2.22/-3.1     | 2.43/-3.94        | 4.28/-3.61       | 2.84/-1.59       | -0.44/-1.64      | -1.55/-0.24      | 1.34/-3.15       | 4.19/-4.08       | 3.04/-1.74       | 0.80/-0.06       | -0.85/-0.87      | 0.02/-0.74       | 0.46/-0.52       | -1.51/-2.00      | -2.24/-1.90      | -0.74/-0.64      | 1.68/-1.71       | 0.59/-0.36       |
| Θ(142.5°) | -0.47/-0.41   | 0.61/-0.57     | 1.02/-1.78     | 2.14/-2.93        | 3.92/-3.98     | 1.81/-1.95     | -4.24/-1.98    | 0.50/-2.17        | 2.62/-0.35       | -3.38/-2.67      | -0.53/-0.01      | -0.48/-0.97      | 2.15/-2.02       | 1.76/-1.91       | 2.01/-2.27       | -0.22/-1.37      | -1.45/-0.51      | 1.11/-3.32       | -0.83/-2.80      | -0.96/-0.50      | -0.96/-0.50      | 1.35/-0.91       | -0.38/-1.05      |                  |
| Θ(45°)    | -1.52/-0.02   | 0.52/-0.14     | -0.55/-1.64    | -2.97/-1.82       | 1.32/-2.89     | 3.04/-1.98     | 0.68/-0.31     | 1.31/-2.41        | 2.78/-1.86       | -0.29/-2.41      | -0.27/-1.79      | 2.04/-2.14       | 2.70/-1.79       | -0.43/-0.52      | 1.12/-1.38       | 0.12/-0.90       | -0.93/-0.36      | 0.57/-0.46       | -0.06/-0.91      | -2.87/-3.77      | -2.14/-1.01      | -0.73/-0.67      | -0.64/-1.25      | -2.27/-1.29      |
| Θ(52.5°)  | 0.17/-0.39    | 1.14/-0.99     | 0.07/-2.22     | -5.58/-0.46       | -0.69/-1.53    | 2.37/-2.04     | 1.12/-1.10     | 2.24/-2.64        | 2.08/-1.84       | 0.64/-2.12       | 1.17/-3.52       | 2.63/-1.51       | 1.33/-1.97       | -2.97/-0.91      | 0.68/-0.45       | -1.88/-2.32      | -1.68/-1.47      | -1.76/-1.22      | -1.24/-3.48      | -5.75/-4.99      | -1.50/-0.25      | 0.09/-0.23       | -0.00/-0.90      | -0.97/-0.58      |
| Θ(60°)    | 1.11/-0.93    | 2.23/-2.15     | 1.64/-0.92     | -1.10/-1.62       | -0.87/-0.09    | 0.75/-0.03     | -0.09/-1.88    | 1.43/-1.16        | -0.43/-5.02      | -2.07/-2.74      | -1.37/-2.01      | 2.24/-2.42       | 0.39/-3.30       | -3.60/-2.01      | 0.82/-0.79       | -0.83/-1.55      | -1.47/-0.26      | 0.12/-0.10       | -0.35/-2.33      | -3.21/-2.42      | -0.30/-3.30      | 0.33/-0.60       | 0.23/-1.46       | -1.86/-0.41      |
| Θ(67.5°)  | 1.39/-1.38    | 2.40/-1.87     | 1.35/-1.60     | 0.37/-0.43        | 0.01/-0.81     | 0.43/-0.57     | -3.01/-2.02    | 2.11/-2.79        | -1.30/-8.31      | -1.89/-0.54      | -0.46/-1.11      | 0.40/-1.35       | 0.41/-4.63       | -1.79/-1.63      | 0.58/-1.27       | 0.70/-0.26       | 0.39/-1.23       | 1.57/-1.96       | 1.13/-1.81       | -1.89/-0.40      | 0.70/-0.48       | 0.21/-0.73       | 1.13/-0.34       | -2.42/-0.42      |
| Θ(75°)    | 0.65/-1.00    | 1.41/-0.34     | -0.10/-0.91    | 0.43/-0.39        | 0.10/-0.62     | 0.55/-0.94     | -0.77/-0.49    | 2.38/-3.61        | 2.50/-2.46       | -1.36/-0.66      | 0.11/-1.18       | 0.38/-0.22       | 2.28/-4.37       | -2.64/-2.87      | -1.49/-0.20      | 1.81/-1.49       | 1.67/-2.37       | 2.36/-2.70       | 1.72/-0.84       | -0.26/-1.56      | 1.47/-1.15       | -0.09/-0.15      | 0.86/-1.17       | -3.17/-1.70      |
| Θ(82.5°)  | -0.59/-0.70   | -0.57/-1.57    | -1.84/-0.16    | -0.54/-1.69       | -0.80/-1.08    | -0.54/-1.14    | 0.51/-1.61     | 2.97/-2.56        | 2.51/-2.03       | -1.29/-0.50      | -0.03/-0.12      | -0.80/-0.67      | -0.35/-1.13      | -4.42/-5.24      | -3.44/-0.36      | 1.46/-0.92       | 1.75/-2.19       | 0.95/-1.65       | 0.28/-1.66       | 1.01/-0.05       | -0.89/-1.94      | -1.21/-0.47      | -4.97/-3.10      |                  |
| Θ(90°)    | -1.86/-2.18   | -1.97/-3.45    | -3.92/-2.68    | -2.12/-3.21       | -2.64/-4.18    | -2.36/-0.28    | -0.73/-0.62    | 1.89/-0.26        | 1.21/-1.68       | -3.73/-3.01      | -1.57/-1.61      | -1.02/-3.72      | -0.75/-8.64      | -5.31/-4.98      | -6.73/-3.52      | -1.24/-0.54      | 0.38/-0.81       | 0.24/-0.42       | -0.50/-3.05      | -0.79/-0.25      | -0.42/-2.23      | -1.98/-4.68      | -2.76/-2.38      | -6.42/-5.31      |
| Θ(97.5°)  | -2.94/-3.49   | -3.38/-5.04    | -6.43/-4.89    | -4.31/-5.85       | -4.68/-7.47    | -4.08/-1.19    | -2.81/-1.56    | -0.07/-2.30       | -1.54/-1.71      | -5.90/-1.91      | -3.68/-4.26      | -4.08/-5.56      | -5.27/-15.27     | -9.46/-6.89      | -6.21/-5.13      | -3.58/-2.88      | -3.10/-2.72      | -4.54/-3.17      | -4.85/-8.82      | -4.51/-3.78      | -3.85/-6.54      | -5.12/-7.24      | -3.61/-4.02      | -7.71/-5.35      |
| Θ(105°)   | -4.79/-5.01   | -4.68/-6.14    | -7.12/-6.71    | -5.55/-7.72       | -7.77/-10.68   | -8.64/-2.48    | -5.74/-5.91    | -2.53/-3.42       | -1.32/-5.59      | -5.91/-4.69      | -5.88/-7.82      | -6.23/-7.66      | -6.50/-10.19     | -9.47/-5.75      | -8.23/-8.96      | -6.30/-4.26      | -5.66/-4.96      | -7.32/-4.26      | -5.98/-11.16     | -7.66/-7.21      | -6.43/-6.73      | -7.64/-10.11     | -5.59/-6.85      | -11.34/-6.71     |
| Θ(112.5°) | -5.70/-6.49   | -6.27/-8.93    | -10.35/-9.54   | -9.43/-7.62       | -7.99/-11.99   | -8.82/-5.57    | -4.71/-5.49    | -4.06/-3.42       | -5.91/-3.60      | -8.45/-7.37      | -9.41/-6.80      | -7.09/-9.80      | -11.95/-14.10    | -10.22/-8.15     | -11.88/-9.04     | -4.94/-5.24      | -5.88/-4.17      | -7.50/-4.39      | -6.07/-12.06     | -8.05/-6.65      | -6.92/-6.31      | -6.38/-11.49     | -7.05/-7.91      | -9.97/-7.64      |
| Θ(120°)   | -5.99/-7.34   | -6.15/-6.06    | -11.95/-12.87  | -11.26/-15.07     | -8.58/-8.40    | -13.95/-10.03  | -5.18/-5.67    | -10.61/-8.60      | -5.15/-7.02      | -12.50/-9.36     | -7.23/-9.47      | -8.29/-12.86     | -12.34/-15.10    | -10.40/-6.59     | -15.67/-11.35    | -6.40/-6.64      | -6.74/-5.62      | -7.88/-6.75      | -6.44/-9.67      | -9.63/-7.74      | -10.09/-7.13     | -9.39/-13.94     | -7.69/-7.91      | -10.55/-8.60     |
| Θ(127.5°) | -8.20/-9.09   | -10.40/-10.16  | -11.23/-11.31  | -11.39/-13.72     | -11.38/-7.83   | -10.42/-12.72  | -7.97/-6.09    | -8.46/-10.32      | -8.48/-8.24      | -14.03/-12.03    | -11.64/-10.40    | -14.83/-15.13    | -15.44/-11.76    | -6.86/-7.89      | -14.19/-13.51    | -9.07/-11.36     | -7.55/-10.19     | -13.70/-9.98     | -9.65/-11.99     | -14.74/-9.75     | -10.83/-13.76    | -8.77/-13.90     | -7.81/-8.13      | -10.62/-10.71    |
| Θ(135°)   | -9.55/-11.98  | -12.42/-11.88  | -11.61/-10.19  | -12.14/-13.17     | -14.64/-11.30  | -8.90/-7.88    | -13.74/-13.87  | -11.55/-8.87      | -9.55/-12.68     | -14.48/-13.13    | -12.50/-13.60    | -15.98/-13.76    | -11.32/-9.75     | -11.35/-13.67    | -15.61/-9.06     | -7.44/-7.09      | -6.57/-9.58      | -10.87/-8.64     | -7.62/-8.36      | -11.02/-8.25     | -7.23/-7.88      | -8.96/-15.67     | -14.50/-12.69    | -10.86/-9.81     |
| Θ(142.5°) | -11.78/-9.88  | -9.99/-10.35   | -11.10/-11.27  | -8.89/-10.16      | -15.64/-13.47  | -12.09/-10.68  | -13.20/-15.16  | -15.45/-13.27     | -8.29/-7.84      | -12.11/-12.44    | -11.55/-9.99     | -10.67/-12.60    | -12.64/-15.43    | -11.82/-13.34    | -16.07/-14.42    | -14.36/-10.90    | -11.77/-14.56    | -13.68/-10.24    | -8.60/-13.26     | -15.41/-14.48    | -11.32/-15.40    | -15.72/-10.57    | -15.11/-11.11    | -7.77/-17.40     |
| Θ(150°)   | -10.04/-9.42  | -9.80/-12.22   | -15.26/-11.23  | -11.57/-15.74     | -13.48/-12.74  | -15.43/-13.75  | -13.15/-14.67  | -9.28/-7.23       | -8.88/-13.36     | -15.61/-15.46    | -14.39/-14.40    | -13.79/-14.27    | -14.13/-14.52    | -14.10/-14.22    | -11.43/-12.92    | -15.67/-14.60    | -15.56/-15.51    | -14.99/-14.33    | -11.11/-14.14    | -14.65/-15.08    | -15.09/-14.74    | -14.61/-13.59    | -12.23/-9.42     | -7.93/-10.28     |
| Θ(157.5°) | -10.84/-11.13 | -12.57/-11.72  | -12.29/-15.01  | -15.99/-11.37     | -9.02/-9.58    | -9.49/-8.55    | -8.18/-9.55    | -13.22/-14.80     | -13.19/-13.41    | -15.19/-14.82    | -11.79/-14.10    | -13.32/-11.36    | -13.26/-13.37    | -13.22/-15.46    | -15.51/-15.06    | -14.69/-12.81    | -12.28/-13.61    | -15.18/-15.13    | -15.80/-15.14    | -14.89/-14.69    | -14.43/-14.45    | -15.00/-14.15    | -11.48/-11.10    | -11.43/-11.60    |
| Θ(165°)   | -10.60/-11.61 | -12.46/-12.88  | -13.12/-12.88  | -12.35/-12.42     | -13.35/-12.03  | -10.63/-9.42   | -9.07/-9.84    | -12.33/-13.71     | -13.27/-15.43    | -14.86/-15.06    | -15.42/-16.07    | -14.57/-13.70    | -14.23/-14.86    | -14.39/-15.87    | -16.12/-15.61    | -14.23/-13.21    | -13.31/-14.22    | -14.87/-15.20    | -15.15/-13.90    | -14.09/-12.99    | -12.42/-12.72    | -13.60/-14.17    | -15.09/-13.76    | -12.78/-10.99    |
| Θ(172.5°) | -14.04/-14.10 | -12.59/-11.81  | -12.33/-13.58  | -13.45/-13.42     | -13.87/-14.09  | -15.59/-15.52  | -15.41/-15.47  | -15.89/-15.88     | -13.65/-12.89    | -13.25/-13.87    | -13.13/-13.15    | -13.16/-13.45    | -14.61/-11.50    | -10.18/-9.84     | -10.27/-11.05    | -12.28/-13.62    | -13.48/-13.22    | -13.47/-13.13    | -12.78/-12.33    | -12.27/-12.35    | -13.02/-14.44    | -15.35/-15.49    | -15.44/-15.88    | -14.96/-12.93    |
| Θ(180°)   | -15.28/-14.37 | -14.94/-15.48  | -16.16/-13.63  | -12.37/-12.82     | -13.08/-13.41  | -13.79/-13.84  | -13.76/-12.28  | -12.25/-12.85     | -13.00/-13.19    | -13.22/-13.64    | -14.00/-14.46    | -13.22/-12.81    | -12.89/-12.91    | -11.46/-11.57    | -12.82/-12.81    | -12.69/-12.96    | -12.54/-12.05    | -11.46/-11.57    | -11.39/-11.29    | -11.47/-10.53    | -11.31/-12.34    | -12.40/-11.77    | -12.47/-11.59    | -12.50/-14.21    |
| Freq(Hz)  | 5.2GPol.      | 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°)     | -7.71/-6.93   | -6.71/-7.07    | -6.93/-6.76    | -6.78/-7.16       | -7.29/-7.41    | -7.07/-6.55    | -6.59/-6.82    | -7.23/-7.78       | -7.97/-7.73      | -7.43/-7.49      | -8.34/-9.13      | -10.72/-10.47    | -10.74/-10.35    | -9.29/-8.67      | -8.76/-8.18      | -7.69/-7.47      | -7.41/-7.24      | -7.20/-7.36      | -7.61/-7.81      | -8.04/-8.03      | -7.46/-6.81      | -6.61/-6.71      | -7.51/-8.87      | -9.45/-7.66      |
| Θ(7.5°)   | -7.81/-7.72   | -7.42/-7.09    | -6.67/-6.53    | -7.13/-7.84       | -7.94/-8.17    | -8.07/-3.99    | -6.79/-6.62    | -6.93/-7.04       | -6.90/-6.32      | -5.98/-5.77      | -5.68/-6.34      | -7.90/-8.79      | -9.02/-7.46      | -6.40/-5.91      | -5.79/-5.72      | -5.69/-6.59      | -5.82/-5.79      | -5.87/-6.16      | -6.68/-6.99      | -6.83/-7.00      | -7.12/-7.10      | -7.71/-8.65      | -10.04/-10.94    | -11.18/-14.04    |
| Θ(15°)    | -1.78/-1.22   | -0.59/-0.05    | 0.15/-0.33     | 0.26/-0.00        | -0.30/-0.73    | -1.12/-1.27    | -1.12/-1.05    | -1.42/-1.61       | -1.31/-1.90      | -4.80/-6.75      | -6.30/-6.34      | -6.14/-6.11      | -5.52/-5.12      | -1.92/-1.74      | -2.13/-3.04      | -2.59/-2.53      | -1.92/-1.74      | -2.30/-4.22      | -6.09/-6.37      | -5.57/-0.27      | -2.98/-2.54      | -2.16/-2.07      | -2.36/-2.73      |                  |
| Θ(22.5°)  | -0.96/-0.67   | -0.14/-0.13    | 0.35/-0.85     | 1.64/-1.93        | 2.27/-2.35     | 2.10/-2.09     | 2.20/-2.24     | 2.11/-1.56        | 0.49/-1.15       | -3.15/-5.73      | -7.89/-8.92      | -8.30/-6.31      | -4.52/-3.02      | -2.01/-1.50      | -1.56/-1.40      | -0.64/-0.29      | 1.20/-1.54       | 1.30/-0.60       | -0.33/-0.99      | -1.50/-1.58      | -1.00/-0.00      | 0.52/-0.54       | 0.33/-0.04       | -0.35/-0.53      |
| Θ(30°)    | -1.57/-1.18   | -0.09/-1.12    | 1.64/-1.36     | 0.86/-0.85        | 1.70/-2.32     | 2.77/-3.34     | 3.93/-3.78     | 2.72/-0.97        | -0.93/-2.29      | -3.37/-4.23      | -4.72/-5.18      | -6.30/-6.56      | -4.29/-1.77      | 0.19/-1.35       | 1.31/-1.14       | 1.30/-1.54       | 1.92/-2.35       | 2.39/-1.83       | 1.30/-1.24       | 1.20/-1.07       | 1.05/-1.15       | 0.94/-0.15       | -0.73/-1.37      | -1.90/-1.68      |
| Θ(37.5°)  | 0.07/-0.28    | 1.21/-2.93     | 4.13/-3.81     | 2.37/-1.62        | 2.04/-1.60     | 1.00/-2.03     | 3.24/-3.09     | 1.61/-0.39        | -1.53/-1.69      | -1.64/-1.55      | -1.08/-1.27      | -3.22/-3.35      | -1.26/-0.77      | 2.23/-4.87       | 1.72/-1.40       | 1.70/-1.50       | 1.51/-2.29       | 2.63/-2.63       | 2.71/-2.66       | 2.07/-1.07       | 0.70/-0.61       | 0.25/-0.13       | 0.84/-1.53       | 0.98/-0.08       |
| Θ(45°)    | 0.73/-1.07    | 1.04/-1.81     | 3.08/-1.39     | 1.83/-1.18        | 2.36/-2.12     | -0.04/-0.26    | 2.27/-2.29     | 0.48/-0.57        | -0.12/-0.06      | -0.54/-0.92      | -0.08/-0.52      | -0.30/-1.34      | -0.78/-0.08      | 2.04/-2.71       | 1.48/-1.73       | 2.68/-2.24       | 1.61/-2.32       | 2.66/-2.50       | 2.77/-2.28       | 2.76/-1.19       | 0.40/-0.65       | 0.22/-0.24       | 1.81/-1.22       | 1.93/-1.08       |
| Θ(52.5°)  | 0.01/-1.12    | 0.38/-0.25     | 1.02/-1.70     | 0.33/-1.10        | 1.93/-1.10     | 0.85/-0.00     | 1.61/-1.95     | 2.23/-2.96        | 2.34/-1.08       | 0.37/-0.60       | 2.02/-2.03       | 1.08/-1.06       | 1.49/-1.59       | 2.23/-2.74       | 1.11/-1.99       | 3.21/-2.78       | 1.79/-2.22       | 1.60/-0.86       | 1.15/-1.89       | 1.56/-0.31       | -1.29/-0.55      | -0.88/-1.58      | -2.65/-2.71      | -1.29/-0.34      |
| Θ(60°)    | 1.29/-0.88    | 0.37/-0.15     | 0.35/-1.86     | 1.56/-0.67        | 2.63/-3.97     | 1.88/-0.77     | 1.58/-1.83     | <b>3.66/-6.62</b> | 3.56/-1.84       | 1.42/-1.74       | 2.48/-2.25       | 2.37/-2.88       | 2.07/-2.03       | 1.15/-1.82       | 3.13/-3.43       | 1.70/-1.79       | 1.54/-0.47       | 0.07/-0.02       | -1.75/-5.62      | -4.00/-1.23      | -1.98/-2.45      | -1.64/-1.04      | -0.05/-1.03      |                  |
| Θ(67.5°)  | 1.94/-0.20    | -0.19/-0.22    | 0.38/-2.20     | 2.10/-0.76        | 2.73/-3.53     | 1.65/-2.10     | 1.51/-1.84     | 4.05/-4.46        | 3.20/-2.23       | 1.99/-1.99       | 2.15/-1.01       | 0.15/-0.63       | 2.62/-2.73       | 1.97/-1.44       | 0.82/-1.04       | 2.59/-3.35       | 1.02/-1.17       | 1.15/-0.90       | 1.12/-1.16       | -1.28/-3.94      | -1.46/-2.24      | -1.91/-2.20      | -0.03/-0.80      | 2.08/-2.03       |
| Θ(75°)    | 1.28/-1.10    | -1.17/-0.43    | -0.54/-1.27    | 1.76/-0.81        | 2.13/-         |                |                |                   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |



# Antenna Pattern\_Radio 2\_5GHz

# Appendix E

|           |               |                 |                 |                 |                 |                 |                 |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
|-----------|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| θ(60°)    | 0.03/13       | 2.46/2.04       | 0.87/0.18       | -0.31/-1.14     | 2.09/0.91       | -0.67/1.92      | 1.26/0.78       | 1.95/0.58         | -1.65/0.07        | 0.15/-0.02        | -1.56/-0.27       | 1.09/1.23         | 0.98/1.41         | 2.05/2.79         | 1.38/2.41         | 1.96/2.15         | 1.48/0.06         | -0.99/2.36        | -1.58/-1.91       | -2.14/-2.63       | -4.18/-7.22       | -6.76/-5.88       | -4.38/-2.21       | -1.89/-0.82       |
| θ(67.5°)  | 1.81/1.80     | 2.07/1.70       | 0.42/-0.31      | 0.23/-0.63      | 1.69/2.20       | 0.86/1.99       | 0.63/0.94       | 0.90/0.21         | 0.44/0.15         | -0.15/-0.56       | 0.71/1.50         | 1.67/0.61         | 1.26/2.01         | 0.83/0.58         | 0.39/-0.85        | 2.15/1.20         | 1.44/1.24         | 1.05/-0.17        | -0.69/-3.58       | -3.05/-8.35       | -4.38/-3.04       | -1.71/-2.29       | -5.45/-4.39       | -1.45/0.55        |
| θ(75°)    | 1.76/0.77     | 0.93/0.70       | -0.10/-0.95     | -0.32/-0.36     | 0.39/1.20       | -0.12/0.64      | 0.67/0.91       | -1.45/-0.79       | 0.73/-1.33        | -0.24/-0.07       | -0.06/0.02        | 0.72/0.76         | -0.88/1.45        | 1.54/-0.63        | 0.39/-0.82        | 1.28/0.71         | 0.75/0.94         | 2.17/0.81         | 0.06/2.10         | -1.63/-2.99       | -0.92/-0.91       | -3.24/-2.29       | -0.88/1.73        |                   |
| θ(82.5°)  | 0.23/-0.88    | -1.31/-1.41     | -2.01/-2.68     | -2.17/-1.51     | -0.79/-0.58     | -1.20/0.12      | 0.04/-0.22      | -3.72/-2.71       | -0.56/-2.82       | -0.95/-0.73       | -2.03/-2.66       | -1.81/-3.21       | -1.75/-1.35       | -0.90/-3.56       | -1.85/-1.09       | -0.25/-1.56       | -1.61/0.80        | 1.77/1.38         | 0.57/-1.08        | -1.56/-2.23       | 0.48/2.09         | 1.14/-2.05        | -4.80/-2.02       | -1.04/-1.46       |
| θ(90°)    | -1.68/-3.20   | -3.18/-3.40     | -4.17/-4.94     | -4.69/-3.60     | -3.08/-2.96     | -2.71/-1.38     | -1.85/-2.42     | -4.16/-4.65       | -2.41/-6.29       | -3.39/-1.73       | -2.17/-4.69       | -3.50/-3.25       | -8.04/-1.94       | -0.56/-1.37       | -2.59/-1.84       | -1.72/-2.54       | -3.84/-2.65       | -0.89/0.24        | -1.54/-1.58       | -3.54/-4.09       | -0.59/-0.14       | -0.99/-4.25       | -5.56/-3.28       | -3.38/0.03        |
| θ(97.5°)  | -4.32/-5.74   | -4.79/-4.53     | -6.24/-7.33     | -7.31/-6.42     | -4.33/-5.35     | -4.23/-5.29     | -5.42/-6.19     | -4.35/-8.47       | -6.11/-4.29       | -6.15/-7.15       | -3.99/-3.49       | -7.04/-3.93       | -4.58/-5.35       | -5.97/-3.69       | -4.29/-6.90       | -7.07/-3.54       | -5.79/-5.76       | -3.28/-2.94       | -3.92/-2.94       | -7.30/-5.54       | -6.63/-1.69       |                   |                   |                   |
| θ(105°)   | -5.54/-6.21   | -7.84/-6.63     | -8.56/-7.60     | -7.73/-8.12     | -7.16/-7.92     | -7.53/-7.77     | -6.17/-8.80     | -7.54/-7.90       | -6.46/-11.19      | -8.38/-6.79       | -6.91/-7.62       | -6.41/-6.21       | -10.31/-5.02      | -4.58/-6.21       | -8.47/-7.57       | -4.90/-5.26       | -11.48/-8.20      | -10.20/-5.55      | -12.50/-6.30      | -8.67/-8.29       | -6.37/-5.75       | -6.66/-11.57      | -8.44/-6.42       | -8.27/-4.15       |
| θ(112.5°) | -9.35/-10.31  | -9.65/-9.68     | -9.37/-10.31    | -9.53/-12.32    | -9.06/-9.85     | -7.91/-8.89     | -8.17/-10.67    | -9.08/-7.71       | -7.21/-7.42       | -7.07/-8.76       | -10.94/-10.88     | -12.17/-11.56     | -7.01/-6.91       | -7.74/-7.17       | -9.14/-7.96       | -8.95/-7.99       | -9.46/-7.64       | -9.82/-5.57       | -11.20/-7.28      | -9.47/-9.95       | -9.58/-6.80       | -7.14/-10.49      | -10.83/-9.03      | -9.19/-6.70       |
| θ(120°)   | -12.51/-11.11 | -10.98/-10.01   | -9.82/-12.27    | -10.30/-13.33   | -10.15/-10.29   | -11.47/-9.67    | -10.51/-11.47   | -10.35/-9.65      | -9.75/-8.45       | -8.77/-9.90       | -11.74/-8.30      | -9.07/-13.71      | -9.52/-9.03       | -11.29/-9.91      | -10.06/-10.10     | -9.33/-8.04       | -15.26/-9.07      | -10.43/-7.95      | -9.27/-9.10       | -13.91/-9.13      | -9.57/-7.81       | -10.22/-11.82     | -12.75/-12.19     | -12.18/-7.54      |
| θ(127.5°) | -11.62/-13.06 | -11.76/-10.02   | -8.96/-12.12    | -12.60/-13.92   | -11.30/-9.62    | -16.11/-14.39   | -13.54/-13.35   | -11.51/-9.36      | -11.89/-13.15     | -10.42/-11.83     | -15.30/-12.19     | -11.93/-12.75     | -8.71/-8.99       | -8.50/-9.37       | -9.16/-15.93      | -8.28/-8.30       | -13.09/-13.36     | -11.90/-13.77     | -13.75/-15.60     | -15.14/-13.61     | -12.22/-13.16     | -10.31/-12.09     | -12.08/-12.54     | -13.07/-9.88      |
| θ(135°)   | -15.36/-12.89 | -9.21/-10.65    | -14.11/-15.04   | -11.89/-10.70   | -15.08/-15.12   | -14.14/-14.68   | -11.83/-8.90    | -10.14/-11.68     | -11.39/-14.85     | -15.24/-15.75     | -11.02/-9.81      | -10.87/-10.64     | -14.36/-10.92     | -11.64/-10.24     | -15.00/-9.84      | -9.58/-14.00      | -14.71/-13.71     | -11.86/-10.26     | -12.99/-13.62     | -15.61/-15.58     | -13.70/-13.09     | -9.66/-9.78       | -14.99/-12.71     | -10.66/-13.03     |
| θ(142.5°) | -14.31/-12.37 | -9.24/-8.83     | -10.55/-14.39   | -15.28/-13.35   | -12.74/-13.85   | -12.54/-12.49   | -15.49/-9.90    | -9.06/-11.34      | -15.36/-10.61     | -9.28/-13.33      | -14.71/-10.94     | -11.69/-14.19     | -15.23/-12.67     | -9.77/-11.39      | -14.32/-14.00     | -15.65/-15.04     | -10.21/-9.78      | -14.34/-9.53      | -10.72/-13.72     | -14.69/-14.11     | -15.99/-13.01     | -13.65/-12.48     | -15.63/-13.74     |                   |
| θ(150°)   | -11.24/-12.10 | -11.94/-12.17   | -13.48/-11.87   | -12.78/-10.52   | -10.42/-12.55   | -14.21/-9.96    | -11.34/-15.65   | -10.19/-7.40      | -8.99/-13.11      | -11.85/-10.65     | -12.80/-14.53     | -11.51/-10.41     | -9.10/-10.99      | -14.46/-15.65     | -13.63/-11.47     | -11.69/-14.77     | -15.42/-14.48     | -11.17/-11.79     | -13.44/-13.55     | -12.81/-15.05     | -14.97/-10.26     | -12.63/-13.18     | -12.57/-13.89     | -14.01/-15.48     |
| θ(157.5°) | -14.03/-13.42 | -13.60/-15.21   | -14.97/-15.63   | -13.47/-12.18   | -11.33/-11.80   | -14.00/-10.30   | -9.13/-10.63    | -13.60/-14.24     | -15.37/-14.81     | -15.35/-10.52     | -14.74/-15.60     | -15.42/-15.11     | -13.35/-14.37     | -15.08/-15.33     | -13.94/-15.33     | -15.33/-14.44     | -11.52/-14.50     | -14.81/-12.49     | -9.35/-10.78      | -14.64/-14.68     | -14.19/-15.11     | -15.81/-15.78     | -15.39/-15.32     |                   |
| θ(165°)   | -13.98/-15.46 | -14.31/-12.04   | -11.10/-10.82   | -11.33/-12.14   | -13.06/-13.13   | -14.67/-14.90   | -15.58/-15.59   | -16.19/-15.71     | -14.92/-14.29     | -12.77/-12.06     | -12.43/-14.40     | -14.78/-15.27     | -15.40/-15.08     | -12.99/-12.11     | -13.26/-14.72     | -15.73/-15.20     | -15.10/-15.27     | -13.97/-12.38     | -11.21/-11.44     | -12.03/-12.48     | -12.24/-13.90     | -14.01/-11.27     | -9.73/-10.36      |                   |
| θ(172.5°) | -12.74/-13.30 | -12.98/-12.01   | -11.58/-10.80   | -10.43/-10.17   | -11.51/-12.01   | -12.52/-12.10   | -13.13/-14.76   | -15.32/-15.79     | -16.02/-15.18     | -16.03/-14.70     | -15.17/-14.65     | -14.92/-14.64     | -13.83/-13.21     | -13.58/-14.97     | -14.86/-15.71     | -16.00/-15.49     | -13.17/-11.67     | -10.84/-11.12     | -11.50/-11.50     | -11.47/-11.23     | -12.75/-14.89     | -13.85/-11.93     | -12.45/-12.62     | -9.98/-9.09       |
| θ(180°)   | -15.86/-15.74 | -14.93/-14.26   | -15.44/-15.26   | -14.68/-15.46   | -15.13/-15.44   | -14.89/-15.05   | -15.40/-14.97   | -15.37/-15.01     | -15.66/-14.88     | -15.37/-15.14     | -15.47/-15.37     | -15.74/-15.09     | -14.44/-14.45     | -15.03/-14.95     | -14.48/-15.10     | -15.67/-15.69     | -14.95/-14.13     | -14.46/-15.29     | -15.69/-15.77     | -15.25/-14.79     | -15.18/-15.24     | -14.61/-13.19     | -13.14/-13.69     | -13.98/-14.52     |
| Freq(Hz)  | 5.885GPol.    | 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°)     | -1.61/-1.44   | -1.65/-1.93     | -2.07/-2.12     | -1.96/-1.81     | -1.80/-1.54     | -1.44/-1.54     | -1.68/-1.78     | -1.94/-2.13       | -2.03/-1.68       | -1.39/-1.25       | -1.28/-1.41       | -1.54/-1.67       | -1.65/-1.50       | -1.38/-1.37       | -1.59/-1.73       | -1.55/-1.55       | -1.47/-1.50       | -1.67/-1.64       | -1.71/-1.39       | -1.12/-0.90       | -0.89/-1.48       | -2.09/-2.02       | -1.65/-1.85       | -2.19/-1.97       |
| θ(7.5°)   | -1.69/-1.97   | -2.24/-2.27     | -2.17/-1.93     | -1.84/-1.65     | -1.45/-0.96     | -0.55/-0.42     | -0.44/-0.74     | -1.14/-1.61       | -1.81/-1.63       | -1.44/-1.23       | -1.12/-2.95       | -3.60/-3.65       | -3.85/-4.15       | -9.77/-11.39      | -14.32/-14.00     | -15.75/-15.20     | -8.71/-3.97       | -9.25/-2.20       | -1.64/-1.11       | -0.60/-0.24       | -0.06/-0.28       | -0.27/-1.04       | -0.97/-1.15       | -1.52/-1.74       |
| θ(15°)    | 0.37/1.11     | 1.43/1.22       | 0.57/-0.50      | -1.96/-3.40     | -3.51/-2.29     | -1.11/-0.15     | 0.03/-0.38      | -1.08/-1.66       | -2.01/-2.07       | -1.84/-1.30       | -0.75/-0.48       | -0.56/-1.18       | -1.87/-2.00       | -1.40/-1.00       | -0.94/-1.02       | -1.74/-3.16       | -4.18/-3.74       | -1.85/-0.22       | 0.92/1.41         | 1.49/1.18         | 0.66/-0.08        | -0.76/-1.15       | -1.27/-1.17       | -0.94/-0.45       |
| θ(22.5°)  | 0.44/1.05     | 1.78/2.75       | 3.30/3.18       | 2.47/0.81       | -1.10/-1.36     | 0.65/2.13       | 2.32/1.17       | -0.45/-1.04       | -0.25/0.38        | 1.01/1.67         | 2.04/2.01         | 1.69/0.84         | 0.23/0.23         | 0.64/1.10         | 1.21/1.28         | 1.27/0.60         | -0.07/0.48        | 1.70/2.33         | 2.08/0.97         | -0.83/-2.91       | -4.02/-3.54       | -2.40/-1.26       | -0.76/-1.07       | -1.21/-0.45       |
| θ(30°)    | 1.08/0.29     | -0.96/1.85      | -1.07/1.31      | 3.25/3.48       | 1.95/0.85       | 2.59/3.68       | 3.24/1.81       | 1.26/1.77         | 2.14/2.14         | 2.26/3.13         | 3.65/3.57         | 2.71/1.41         | 0.99/1.42         | 1.72/1.63         | 3.47/3.03         | 1.59/1.56         | 2.67/2.71         | 1.50/0.29         | -1.41/-1.23       | -0.34/0.20        | 0.25/0.19         | 0.30/1.42         | 2.09/1.85         |                   |
| θ(37.5°)  | -1.86/-1.67   | -0.05/0.98      | 0.52/0.52       | 3.22/4.30       | 2.88/2.29       | 3.70/4.57       | 2.42/1.07       | 2.28/1.83         | -0.09/-0.48       | 0.11/1.59         | 3.01/2.68         | 1.12/1.24         | 2.41/3.49         | 3.97/3.17         | 1.49/0.93         | 2.43/2.64         | 1.40/1.31         | 2.18/2.03         | 1.09/1.03         | 1.86/1.67         | 0.05/-1.44        | -2.28/-3.18       | -2.68/-1.64       | -0.45/-0.11       |
| θ(45°)    | -2.30/-2.10   | 0.53/2.62       | 3.19/1.90       | 2.01/2.96       | 1.41/-2.25      | 2.26/3.49       | 0.46/0.52       | 1.88/0.31         | -4.95/-2.22       | -1.41/-1.81       | -0.84/-0.07       | -0.60/-0.11       | 1.09/2.83         | 3.80/4.02         | 2.36/-2.01        | 1.20/3.24         | 1.98/0.74         | 1.84/0.97         | 1.51/3.44         | 3.41/1.70         | -0.85/-1.61       | -0.64/0.20        | 1.32/1.82         | 0.68/-1.36        |
| θ(52.5°)  | -2.11/-0.93   | 0.37/0.40       | 1.51/0.66       | -1.35/0.28      | 0.87/-3.94      | 0.79/1.98       | -1.44/0.12      | 0.75/-3.34        | -3.59/0.61        | -0.75/-3.57       | -2.96/-0.99       | -0.50/-0.00       | 1.03/2.08         | 2.76/3.69         | 1.97/-3.49        | 1.14/2.93         | 1.29/-0.04        | -0.33/-1.19       | -0.66/-1.75       | 1.60/-0.28        | -1.17/-0.13       | -0.14/-0.24       | 1.08/1.88         | 0.67/-1.76        |
| θ(60°)    | -0.29/0.96    | 1.32/0.40       | -0.98/-0.28     | -2.29/-1.67     | 1.85/0.07       | 1.15/1.98       | -0.39/-2.93     | -0.41/-1.72       | 0.19/-1.85        | -0.26/-1.39       | 1.49/0.88         | 0.26/0.68         | 1.62/2.44         | 2.31/-2.19        | -1.16/-1.51       | 1.16/-0.74        | -0.77/-2.07       | -1.33/-1.07       | -1.43/-2.67       | -3.53/-0.42       | -6.47/-6.87       | -3.14/-0.88       | -1.07/-1.09       |                   |
| θ(67.5°)  | 1.43/0.84     | 1.03/0.11       | -0.69/-1.02     | -0.06/-1.13     | 2.07/1.73       | 1.21/0.57       | -0.26/0.09      | -2.46/-0.60       | 0.81/0.77         | 0.62/0.22         | 1.05/2.13         | 0.87/0.52         | 0.16/1.15         | 0.92/0.35         | 0.47/-1.52        | -0.41/0.44        | 0.79/-0.24        | 0.56/-0.64        | -0.10/-1.51       | -1.50/-1.92       | -4.23/-5.85       | -6.96/-4.77       | -4.31/-2.63       | 0.43/1.85         |
| θ(75°)    | 1.40/0.29     | 0.17/-1.06      | -1.22/0.38      | 0.13/-1.58      | 1.23/1.54       | 0.70/-0.30      | -0.56/-0.06     | -3.37/-1.19       | -0.47/-1.22       | 0.40/0.19         | -0.53/0.55        | 0.42/-0.36        | 0.10/0.23         | 1.36/0.13         | -1.21/-0.72       | -1.17/-0.47       | 0.38/-0.84        | 1.47/0.01         | 0.83/0.10         | -0.39/-0.57       | -1.58/-1.40       | -1.78/-2.16       | -3.11/-2.06       | 1.00/2.77         |
| θ(82.5°)  | 0.10/-1.22    | -1.39/-2.74     | -2.92/-1.04     | -1.19/-2.48     | 0.22/0.07       | -0.26/-1.56     | -2.13/-1.17     | -2.95/-1.64       | -2.49/-2.94       | -0.36/-0.75       | -1.92/-1.31       | -1.35/-1.89       | -2.45/-0.19       | -0.17/-3.26       | -2.92/-2.28       | -3.07/-2.85       | -1.02/-1.69       | -1.06/-0.06       | 1.14/-0.41        | -1.10/-1.47       | -1.10/-0.38       | -1.29/-2.47       | -4.38/-2.05       | 0.13/0.21         |
| θ(90°)    | -1.82/-3.82   | -3.17/-4.02     | -4.83/-3.33     | -3.67/-4.92     | -1.26/-1.46     | -1.97/-4.05     | -5.00/-2.89     | -3.02/-2.44       | -3.86/-4.43       | -2.18/-1.69       | -2.94/-3.66       | -3.00/-2.81       | -3.21/-2.90       | -1.20/-2.39       | -4.58/-1.24       | -4.02/-0.46       | -2.14/-4.62       | -1.19/-2.27       | -0.49/-0.99       | -1.39/-2.35       | -1.46/-1.20       | -2.62/-4.27       | -6.99/-3.89       | -2.35/0.03        |
| θ(97.5°)  | -3.24/-5.63   | -5.38/-5.95     | -7.12/-4.57     | -5.89/-6.25     | -2.99/-3.87     | -4.87/-7.33     | -7.08/-6.06     | -5.00/-4.80       | -6.12/-7.08       | -4.95/-4.84       | -5.03/-5.83       | -4.31/-6.04       | -9.51/-3.77       | -3.80/-8.17       | -6.71/-3.99       | -6.51/-4.48       | -5.75/-6.96       | -4.46/-5.33       | -3.15/-4.70       | -3.12/-2.72       | -5.31/-8.14       | -8.19/-5.71       | -4.86/-2.08       |                   |
| θ(105°)   | -8.61/-9.76   | -8.27/-7.39     | -8.15/-7.01     | -8.64/-9.05     | -5.78/-5.18     | -7.20/-7.61     | -7.82/-6.93     | -6.82/-7.70       | -6.66/-7.68       | -6.14/-6.28       | -7.41/-9.16       | -8.19/-8.63       | -5.12/-8.40       | -8.46/-6.01       | -6.00/-7.83       | -7.17/-9.03       | -7.90/-8.85       | -10.16/-9.39      | -7.33/-10.77      | -7.59/-6.62       | -6.23/-9.07       | -10.32/-8.96      | -7.93/-3.30       |                   |
| θ(112.5°) | -8.99/-12.68  | -10.07/-9.88    | -11.01/-9.89    | -9.56/-10.66    | -8.94/-7.30     | -9.31/-10.32    | -10.93/-10.99   | -10.72/-9.74      | -8.62/-9.53       | -8.               |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |



# Antenna Pattern\_Radio 2\_5GHz

# Appendix E

|            |               |                |                |                |                |                |                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
|------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Θ (112.5°) | -6.63/-7.94   | -12.76/-12.47  | -8.61/-5.96    | -7.09/-9.61    | -13.98/-15.62  | -15.40/-8.67   | -6.37/-5.56    | -9.16/-10.39     | -7.15/-6.80      | -7.85/-6.74      | -5.63/-6.53      | -6.24/-5.36      | -4.83/-7.21      | -10.22/-7.51     | -6.60/-9.04      | -7.11/-4.96      | -3.70/-8.58      | -9.53/-7.13      | -6.58/-4.08      | -2.56/-4.93      | -9.90/-15.51     | -6.77/-5.03      | -5.82/-6.79      | -7.44/-6.49      |
| Θ (120°)   | -7.90/-9.82   | -14.94/-12.48  | -10.39/-7.09   | -7.87/-9.51    | -12.64/-14.47  | -15.28/-12.14  | -8.70/-7.74    | -10.61/-13.64    | -10.58/-8.50     | -8.08/-8.56      | -5.59/-4.69      | -6.04/-6.89      | -7.36/-7.49      | -10.55/-8.70     | -7.95/-10.99     | -11.11/-3.64     | -7.49/-6.72      | -8.81/-10.03     | -3.59/-3.15      | -3.28/-0.85      | -10.21/-15.18    | -9.17/-6.59      | -7.45/-8.57      | -10.50/-8.36     |
| Θ (127.5°) | -7.73/-9.05   | -11.76/-12.80  | -11.89/-10.65  | -9.91/-12.96   | -13.31/-13.86  | -15.51/-15.08  | -13.22/-11.25  | -9.18/-14.19     | -14.68/-13.29    | -11.85/-12.49    | -8.25/-7.33      | -6.42/-7.01      | -11.29/-9.43     | -10.17/-8.09     | -13.01/-14.91    | -11.11/-9.43     | -10.57/-7.83     | -11.50/-9.27     | -5.53/-8.22      | -9.82/-12.88     | -12.86/-15.37    | -7.67/-6.67      | -10.61/-10.54    | -11.82/-9.72     |
| Θ (135°)   | -12.09/-8.30  | -9.66/-10.51   | -11.89/-10.43  | -9.13/-8.50    | -10.17/-12.65  | -15.36/-15.29  | -12.90/-11.13  | -14.06/-11.02    | -12.13/-12.02    | -13.52/-9.09     | -8.94/-8.10      | -8.73/-8.31      | -12.85/-11.23    | -11.12/-13.25    | -13.95/-12.84    | -9.26/-9.41      | -10.43/-8.72     | -11.19/-9.82     | -11.00/-14.27    | -9.57/-7.62      | -10.18/-13.09    | -9.53/-9.96      | -10.22/-10.63    | -9.39/-7.20      |
| Θ (142.5°) | -10.79/-13.40 | -10.40/-13.55  | -15.36/-14.82  | -12.81/-10.63  | -8.33/-7.10    | -7.89/-11.13   | -15.37/-14.87  | -14.88/-10.67    | -11.28/-14.53    | -14.22/-14.42    | -10.09/-8.85     | -10.55/-14.78    | -13.81/-13.73    | -8.61/-9.59      | -13.86/-10.98    | -11.63/-12.06    | -9.86/-10.59     | -11.86/-10.44    | -10.94/-10.08    | -9.67/-8.56      | -14.84/-14.82    | -11.81/-11.32    | -12.60/-11.93    | -12.01/-9.55     |
| Θ (150°)   | -9.83/-11.77  | -13.61/-14.42  | -12.94/-14.80  | -13.58/-12.21  | -14.74/-13.41  | -14.74/-13.41  | -9.33/-7.77    | -9.92/-13.85     | -13.59/-13.85    | -15.22/-15.16    | -10.56/-15.20    | -10.34/-7.23     | -7.68/-10.80     | -12.43/-15.27    | -14.25/-12.97    | -12.43/-14.16    | -14.96/-15.65    | -15.63/-14.53    | -15.54/-15.36    | -15.56/-15.41    | -12.86/-15.00    | -15.27/-15.90    | -12.57/-10.28    | -12.19/-13.59    |
| Θ (157.5°) | -13.31/-11.35 | -10.39/-9.74   | -11.26/-12.02  | -10.55/-10.37  | -10.90/-10.99  | -10.12/-11.07  | -12.98/-15.02  | -13.17/-12.10    | -14.14/-14.64    | -15.13/-14.59    | -11.66/-10.16    | -9.48/-10.03     | -12.34/-13.76    | -13.12/-12.37    | -12.08/-13.46    | -14.63/-15.18    | -15.96/-13.26    | -12.98/-14.11    | -12.97/-11.76    | -10.78/-11.34    | -14.84/-15.40    | -14.74/-15.07    | -13.16/-14.15    | -15.80/-14.74    |
| Θ (165°)   | -15.30/-14.98 | -15.07/-15.52  | -15.30/-15.64  | -15.34/-15.65  | -14.76/-15.39  | -13.68/-11.80  | -11.67/-12.03  | -12.48/-13.09    | -14.05/-14.82    | -15.02/-15.91    | -15.71/-13.66    | -11.29/-11.30    | -13.41/-12.70    | -10.91/-9.70     | -10.60/-12.73    | -13.50/-13.49    | -15.71/-15.27    | -15.01/-15.55    | -13.62/-12.03    | -13.10/-13.74    | -12.43/-13.16    | -12.92/-12.03    | -10.45/-9.47     | -9.89/-11.01     |
| Θ (172.5°) | -8.83/-9.09   | -11.14/-13.30  | -12.71/-12.53  | -12.07/-11.17  | -10.27/-9.85   | -9.72/-10.05   | -11.45/-13.78  | -15.78/-15.78    | -15.24/-15.27    | -14.73/-13.69    | -13.86/-13.10    | -13.29/-11.96    | -12.06/-12.77    | -14.03/-15.27    | -15.71/-15.41    | -15.55/-14.53    | -13.97/-13.81    | -13.68/-13.73    | -13.55/-12.85    | -12.26/-10.42    | -9.38/-8.68      | -8.49/-8.67      | -8.76/-8.46      | -8.25/-8.57      |
| Θ (180°)   | -11.13/-11.49 | -10.82/-10.91  | -11.93/-11.63  | -10.45/-10.65  | -11.15/-11.65  | -11.43/-11.12  | -10.82/-9.82   | -10.00/-10.48    | -10.94/-10.91    | -10.62/-10.14    | -9.36/-8.98      | -8.81/-8.71      | -8.52/-8.14      | -7.73/-7.97      | -8.36/-9.29      | -9.61/-9.63      | -9.30/-8.94      | -8.97/-9.03      | -9.05/-9.21      | -9.50/-9.49      | -9.68/-9.55      | -9.20/-9.41      | -10.32/-11.02    | -11.71/-11.38    |
| Freq(Hz)   | 5.785GPol.    | TotalAnt.      | ∠              | ∠              | ∠              | ∠              | ∠              | ∠                | ∠                | ∠                | ∠                | ∠                | ∠                | ∠                | ∠                | ∠                | ∠                | ∠                | ∠                | ∠                | ∠                | ∠                | ∠                | ∠                |
| 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°)     | -0.83/-1.20   | -1.00/-0.61    | -0.93/-1.16    | -1.26/-1.04    | -1.32/-1.81    | -2.22/-2.35    | -2.29/-2.34    | -2.43/-2.40      | -2.66/-2.80      | -2.73/-2.63      | -2.60/-2.57      | -2.50/-2.43      | -2.39/-2.35      | -2.20/-1.52      | -1.05/-0.50      | -0.44/-0.47      | -0.50/-0.53      | -0.53/-0.44      | -0.33/-0.37      | -0.25/-0.28      | -0.26/-0.29      | -0.13/-0.04      | 0.11/0.07        | 0.03/-0.23       |
| Θ (7.5°)   | -0.56/-0.40   | -0.57/-0.60    | -0.37/-1.04    | 0.16/0.20      | 0.45/0.70      | 1.06/1.40      | 1.48/1.65      | 1.60/1.57        | 1.35/1.24        | 1.14/0.96        | 0.74/0.32        | -0.11/-0.71      | -1.14/-1.66      | -2.15/-2.70      | -3.02/-3.16      | -3.58/-1.47      | -4.82/-4.54      | -6.11/-6.05      | -5.68/-5.07      | -4.60/-3.87      | -3.10/-2.64      | -2.22/-1.71      | -1.21/-0.81      | -0.89/-0.94      |
| Θ (15°)    | 0.09/0.45     | 1.01/1.46      | 1.62/1.60      | 1.55/1.51      | 1.60/1.68      | 1.67/1.75      | 1.75/1.52      | 1.13/0.49        | 0.01/-0.48       | -1.18/-2.11      | -3.02/-3.53      | -4.01/-5.07      | -6.22/-7.62      | -8.74/-8.96      | -8.04/-7.40      | -8.33/-9.46      | -10.07/-11.19    | -11.74/-11.07    | -8.34/-5.90      | -4.38/-4.37      | -2.57/-1.89      | -1.35/-0.95      | -0.36/0.09       |                  |
| Θ (22.5°)  | -0.56/-0.59   | -0.42/-0.19    | 0.13/0.48      | 0.73/1.17      | 1.50/1.89      | 2.13/2.13      | 1.85/1.76      | 1.98/2.13        | 2.18/1.89        | 1.34/0.51        | -0.55/-1.44      | -2.60/-2.74      | -2.36/-2.32      | -2.88/-3.50      | -3.65/-3.38      | -2.86/-2.64      | -3.29/-4.45      | -6.05/-7.41      | -7.10/-6.21      | -5.05/-4.08      | -3.65/-3.32      | -2.67/-1.71      | -0.78/-0.33      | -0.16/-0.46      |
| Θ (30°)    | -2.11/-1.90   | -1.26/-0.50    | 0.34/0.75      | 1.14/1.64      | 1.46/0.80      | 0.17/-0.11     | -0.24/0.20     | 1.52/2.96        | 4.03/4.10        | 3.42/2.32        | 0.88/0.04        | -0.54/-0.54      | -0.34/-0.77      | -1.89/-2.90      | -3.45/-3.51      | -2.53/-1.34      | -1.47/-2.75      | -0.73/-3.31      | -1.93/-1.08      | -0.64/-0.61      | -0.32/0.12       | -0.19/-0.76      | -0.93/-0.86      | -1.06/-1.92      |
| Θ (37.5°)  | -0.20/0.11    | -0.43/0.91     | 1.23/1.09      | 1.32/1.87      | 1.74/0.97      | -0.72/-2.78    | -0.23/-1.13    | 1.61/3.35        | 1.43/1.54        | 2.46/0.86        | -0.29/0.16       | 0.25/0.41        | -0.75/-1.97      | -2.02/-1.36      | -1.43/-2.99      | -2.81/-1.49      | -1.51/-1.07      | 0.15/1.14        | 1.33/1.00        | 0.40/0.44        | 1.20/2.01        | 1.98/1.07        | 0.21/-0.58       | -0.59/-0.90      |
| Θ (45°)    | 2.20/2.38     | 2.07/1.48      | 1.09/0.57      | 0.87/2.06      | 2.53/1.47      | -1.07/-3.35    | -3.86/-2.27    | 0.39/2.00        | 2.36/2.03        | 1.06/0.33        | 1.04/2.31        | 3.08/2.79        | 1.81/0.50        | 0.17/1.94        | 2.93/1.48        | -0.01/-0.47      | -1.37/-0.40      | 1.67/2.88        | 2.74/2.44        | 1.94/1.42        | 1.38/1.75        | 1.57/0.73        | 0.19/-0.53       | 0.63/1.59        |
| Θ (52.5°)  | 3.46/3.42     | 2.16/0.84      | -0.31/-1.25    | 0.12/1.96      | 2.26/0.71      | -2.85/-5.01    | -3.20/-1.37    | 0.12/1.18        | 1.44/1.19        | 0.29/0.04        | 1.22/2.35        | 2.59/2.15        | 1.17/0.61        | 1.99/3.83        | 4.29/2.76        | 1.51/0.73        | -2.19/-3.01      | 0.86/2.59        | 2.31/1.90        | 1.17/0.92        | 0.92/1.08        | 1.22/0.55        | -0.62/-0.23      | 1.58/2.81        |
| Θ (60°)    | 2.95/2.67     | 1.60/-0.12     | -0.73/-0.54    | 0.60/1.89      | 2.14/0.54      | -3.23/-5.44    | -3.29/-1.49    | -0.17/1.28       | 1.72/2.03        | 1.26/0.18        | 0.60/0.05        | -0.01/0.34       | 0.66/0.58        | 0.77/2.55        | 2.90/1.71        | -1.93/-2.74      | -6.78/-5.02      | -2.75/-2.44      | -1.86/-1.29      | -0.65/0.92       | 1.98/2.98        | 2.53/1.86        | -0.50/0.58       | 1.90/2.84        |
| Θ (67.5°)  | 2.84/2.66     | 1.42/-0.51     | -1.14/-0.78    | 0.74/1.84      | 2.25/-0.08     | -3.75/-4.57    | -2.80/-1.39    | -0.74/0.19       | -0.22/0.62       | 1.24/1.84        | 2.01/0.10        | 0.12/2.94        | 2.28/1.93        | 0.80/1.84        | 2.69/0.02        | -0.08/-0.39      | -5.85/-1.99      | -1.15/-2.49      | -4.21/-0.39      | 1.62/2.66        | 2.70/3.73        | 3.52/2.86        | 0.32/1.77        | 2.47/2.40        |
| Θ (75°)    | 1.53/1.79     | 0.44/-1.26     | -2.07/-1.53    | 0.18/0.83      | 0.64/-2.34     | -4.44/-3.38    | -2.09/-0.89    | -1.41/-1.94      | -1.92/-0.90      | 1.28/2.32        | 2.32/0.38        | -0.12/3.14       | 3.89/2.75        | 1.27/0.04        | 0.98/0.01        | -2.54/-4.91      | -1.71/0.69       | 1.48/0.35        | -1.21/-1.40      | 3.09/3.30        | 2.84/2.78        | 2.51/2.37        | -0.36/1.33       | 2.00/1.86        |
| Θ (82.5°)  | 0.03/0.36     | -0.88/-2.50    | -3.23/-2.90    | -1.63/-0.85    | -1.31/-4.49    | -5.24/-4.01    | -3.36/-2.09    | -2.61/-3.30      | -3.80/-2.05      | 0.46/1.38        | 0.85/-1.23       | 0.65/3.52        | 2.25/1.15        | -1.80/-2.03      | -1.25/-0.45      | -1.02/-2.24      | -0.10/1.23       | 1.78/1.59        | 1.07/2.97        | 3.38/2.95        | 1.99/0.61        | 0.89/1.07        | -1.76/-0.28      | 0.96/0.44        |
| Θ (90°)    | -1.01/-0.92   | -2.26/-4.49    | -5.46/-4.67    | -2.99/-2.18    | -3.23/-7.15    | -7.41/-4.98    | -5.12/-4.31    | -4.37/-4.77      | -5.79/-3.69      | -0.73/0.11       | -0.68/-2.19      | -1.97/0.86       | 2.41/-0.99       | -1.58/-4.03      | -4.46/-3.15      | -2.26/-2.38      | 0.68/0.59        | 1.14/0.86        | 0.63/1.41        | 0.97/0.02        | -0.76/-2.00      | -1.31/-1.55      | -3.30/-2.78      | -0.76/-1.30      |
| Θ (97.5°)  | -2.97/-3.03   | -4.40/-6.69    | -8.11/-6.90    | -4.55/-4.89    | -6.21/-10.58   | -8.32/-6.16    | -6.83/-7.11    | -6.80/-8.63      | -9.11/-5.67      | -2.61/-1.74      | -3.15/-6.10      | -4.03/-1.01      | -1.62/-6.52      | -7.00/-0.89      | -7.57/-3.69      | -4.49/-3.76      | -1.43/-2.90      | -2.00/-1.96      | -1.68/-2.46      | -2.18/-2.56      | -3.07/-5.28      | -3.71/-4.73      | -5.43/-4.25      | -2.83/-3.07      |
| Θ (105°)   | -4.05/-4.58   | -6.84/-9.53    | -10.85/-8.12   | -5.29/-7.15    | -8.40/-13.73   | -10.43/-9.98   | -7.93/-6.82    | -5.72/-4.10      | -9.34/-8.93      | -8.41/-9.56      | -8.72/-6.18      | -4.52/-6.73      | -11.24/-10.28    | -10.15/-10.73    | -9.45/-7.73      | -5.68/-7.21      | -6.20/-4.59      | -7.10/-7.92      | -5.51/-5.02      | -6.03/-9.52      | -8.30/-9.58      | -10.02/-8.25     | -7.14/-6.73      |                  |
| Θ (112.5°) | -6.14/-5.91   | -8.01/-10.27   | -13.74/-9.22   | -7.45/-10.08   | -10.87/-12.58  | -12.75/-12.29  | -10.34/-11.49  | -9.53/-10.01     | -10.64/-8.90     | -7.08/-5.02      | -5.94/-9.66      | -9.92/-6.18      | -4.52/-6.73      | -11.24/-10.28    | -10.15/-10.73    | -9.45/-7.73      | -5.68/-7.21      | -6.20/-4.59      | -7.10/-7.92      | -5.51/-5.02      | -6.03/-9.52      | -8.30/-9.58      | -10.02/-8.25     | -7.14/-6.73      |
| Θ (120°)   | -8.70/-8.55   | -8.93/-13.84   | -14.28/-11.03  | -11.14/-12.78  | -14.06/-12.49  | -10.68/-10.77  | -11.24/-11.56  | -11.96/-13.29    | -12.66/-10.11    | -9.44/-6.11      | -6.06/-7.39      | -8.20/-5.66      | -8.34/-7.48      | -10.85/-13.70    | -8.45/-15.42     | -6.51/-9.31      | -8.58/-7.46      | -8.01/-7.08      | -4.73/-7.46      | -10.24/-11.39    | -9.10/-9.39      | -11.34/-8.83     | -8.79/-7.29      |                  |
| Θ (127.5°) | -8.75/-8.06   | -11.02/-13.84  | -13.53/-11.90  | -11.58/-14.36  | -15.96/-15.22  | -14.31/-9.37   | -9.22/-11.99   | -15.63/-15.49    | -15.20/-12.48    | -10.71/-10.02    | -8.90/-10.69     | -11.07/-9.94     | -10.44/-8.79     | -9.92/-9.02      | -15.09/-15.04    | -11.37/-7.21     | -15.82/-10.87    | -15.51/-15.76    | -8.82/-8.61      | -5.83/-9.51      | -15.07/-12.46    | -11.71/-10.69    | -12.15/-11.85    | -10.49/-8.62     |
| Θ (135°)   | -11.60/-9.10  | -12.79/-11.77  | -12.58/-11.97  | -12.56/-14.54  | -15.78/-15.61  | -14.55/-11.87  | -10.15/-10.23  | -11.42/-15.45    | -14.49/-12.39    | -10.93/-11.55    | -13.48/-10.10    | -10.38/-12.19    | -14.53/-13.74    | -13.19/-15.29    | -15.44/-13.57    | -9.50/-10.58     | -10.99/-10.51    | -12.31/-12.22    | -9.14/-9.83      | -6.73/-9.67      | -14.35/-11.66    | -15.17/-12.55    | -13.14/-12.61    | -13.91/-9.51     |
| Θ (142.5°) | -10.04/-11.79 | -12.63/-15.53  | -15.26/-15.32  | -13.84/-13.18  | -12.95/-11.08  | -11.04/-14.63  | -15.47/-13.35  | -11.37/-12.46    | -15.38/-15.77    | -15.67/-13.74    | -15.67/-10.98    | -8.73/-10.73     | -13.27/-12.62    | -9.99/-8.93      | -12.91/-11.96    | -11.21/-13.05    | -12.02/-11.25    | -11.94/-10.41    | -10.16/-12.64    | -12.28/-12.26    | -14.79/-16.25    | -13.26/-13.77    | -15.43/-13.96    | -13.82/-12.57    |
| Θ (150°)   | -9.65/-11.53  | -13.24/-14.18  | -13.26/-14.18  | -14.30/-14.92  | -14.73/-13.18  | -11.80/-10.71  | -10.33/-11.90  | -15.07/-15.16    | -15.80/-15.70    | -15.71/-15.10    | -12.37/-10.76    | -10.69/-12.58    | -14.24/-14.57    | -15.02/-12.12    | -12.92/-15.09    | -15.85/-15.05    | -15.66/-15.31    | -15.61/-14.70    | -14.91/-12.51    | -12.68/-14.92    | -14.86/-15.20    | -15.56/-15.22    | -14.82/-12.81    | -13.48/-14.51    |
| Θ (157.5°) | -11.98/-9.58  | -8.82/-8.91    | -9.40/-11.07   | -13.44/-15.32  | -15.12/-15.27  | -13.77/-12.34  | -11.70/-12.93  | -14.53/-15.50    | -15.75/-15.32    | -11.86/-11.71    | -12.09/-10.55    | -1               |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |

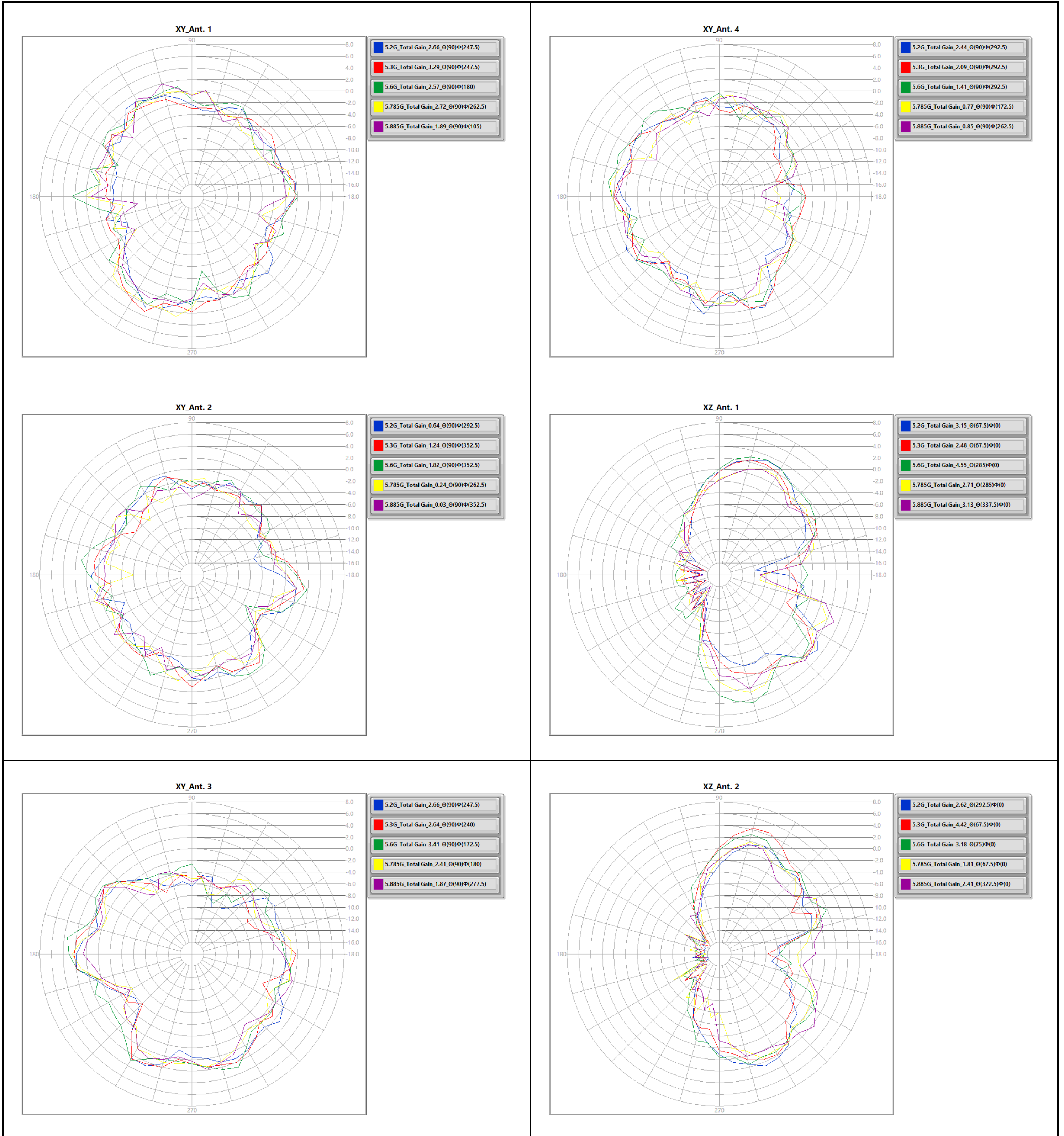


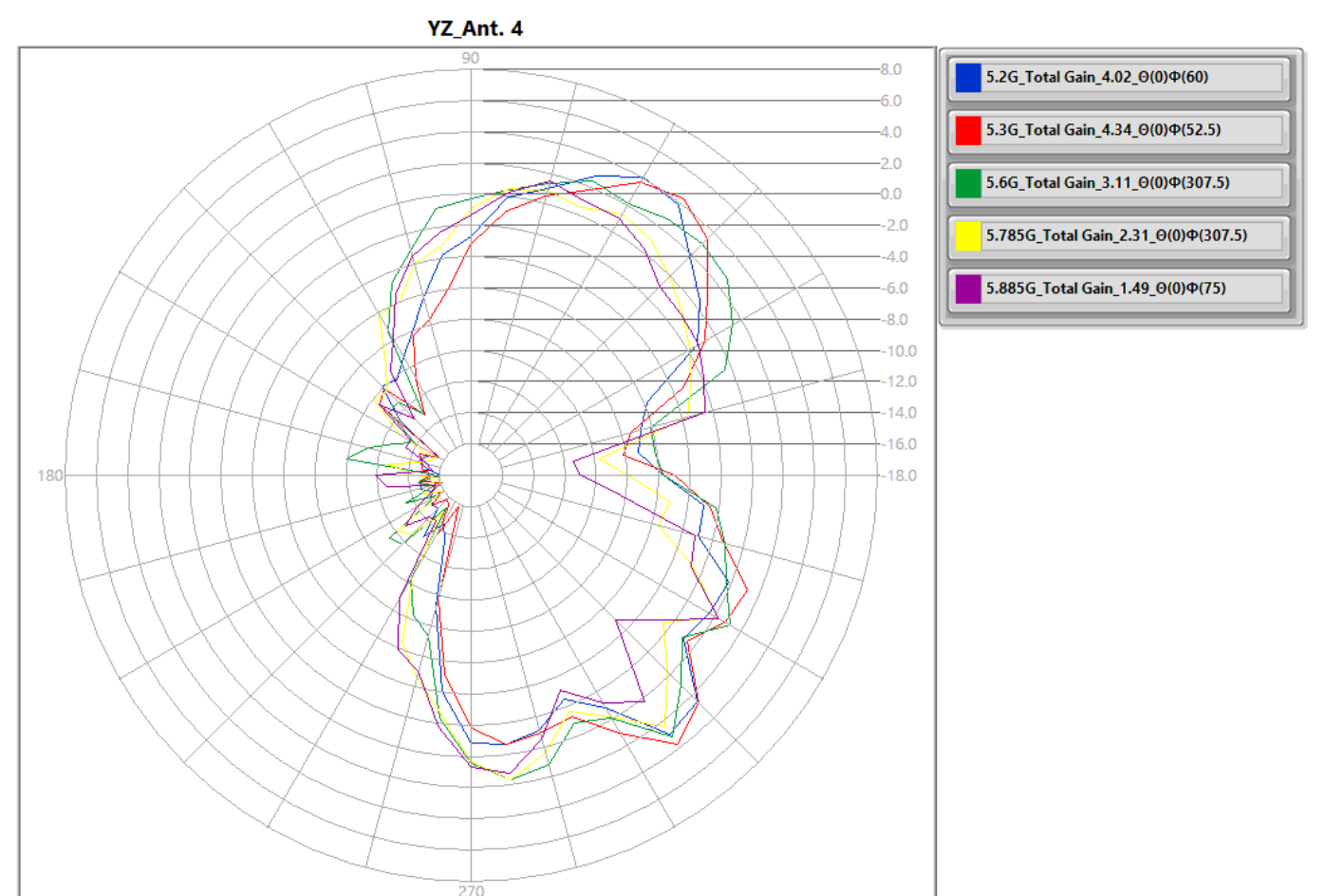
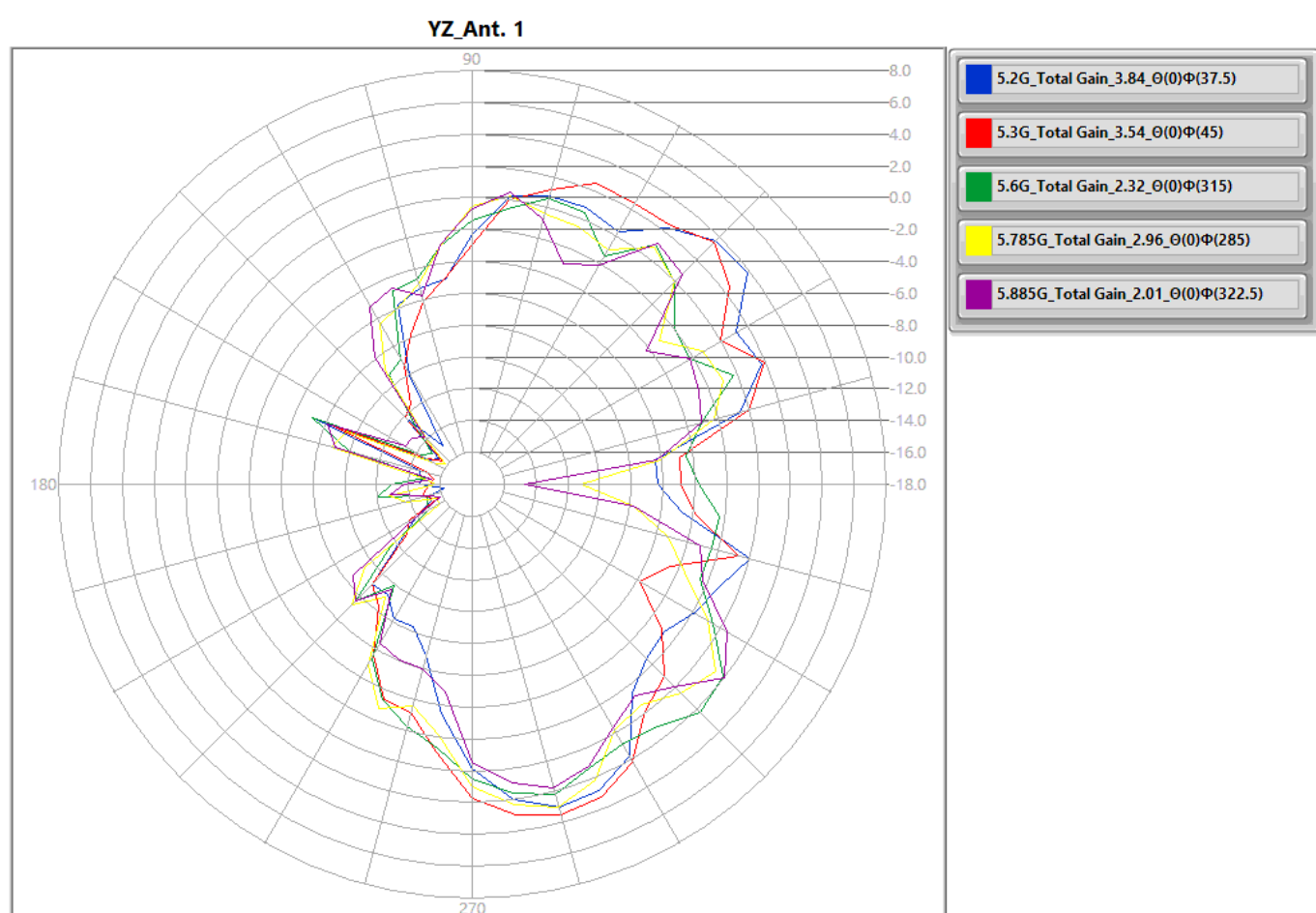
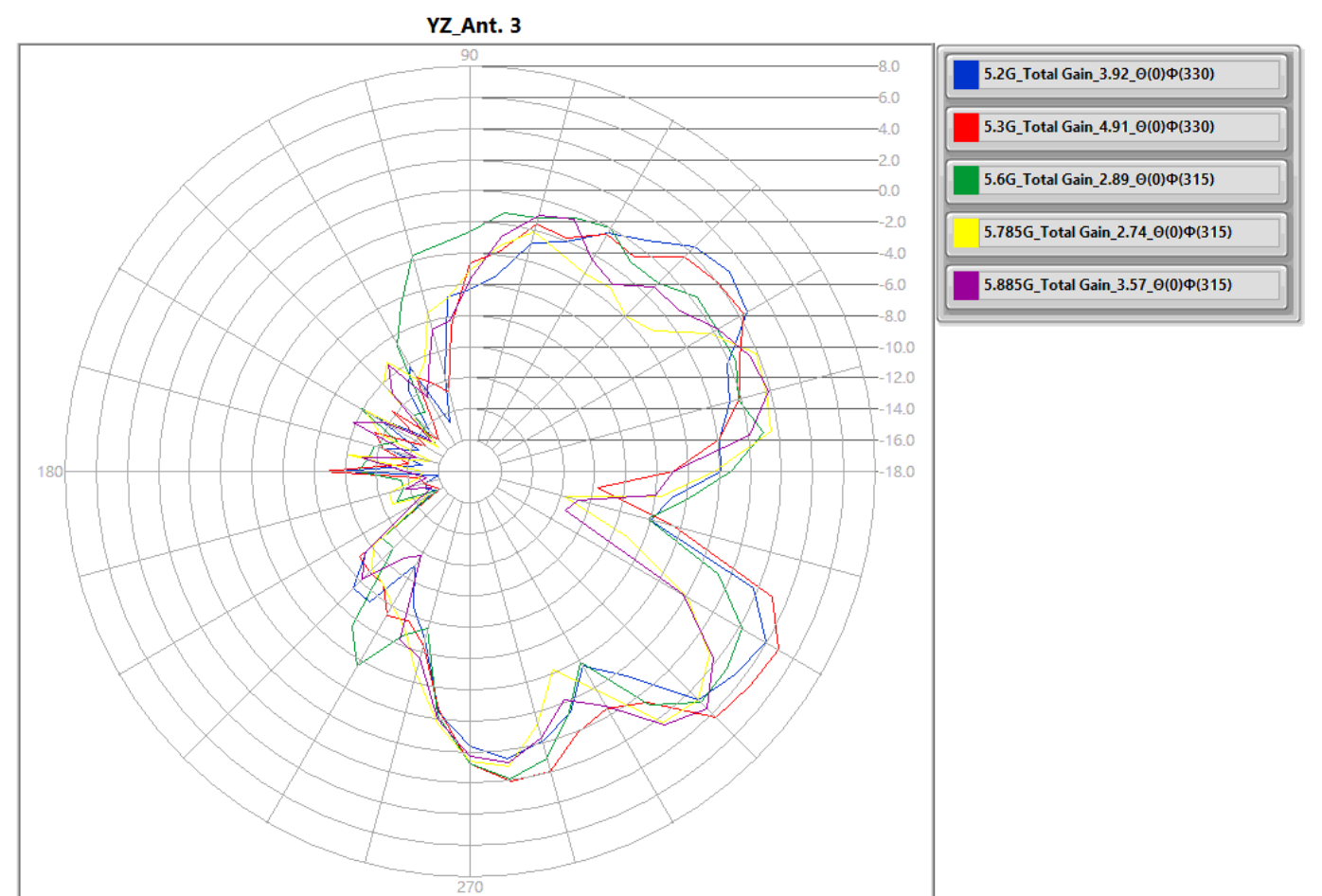
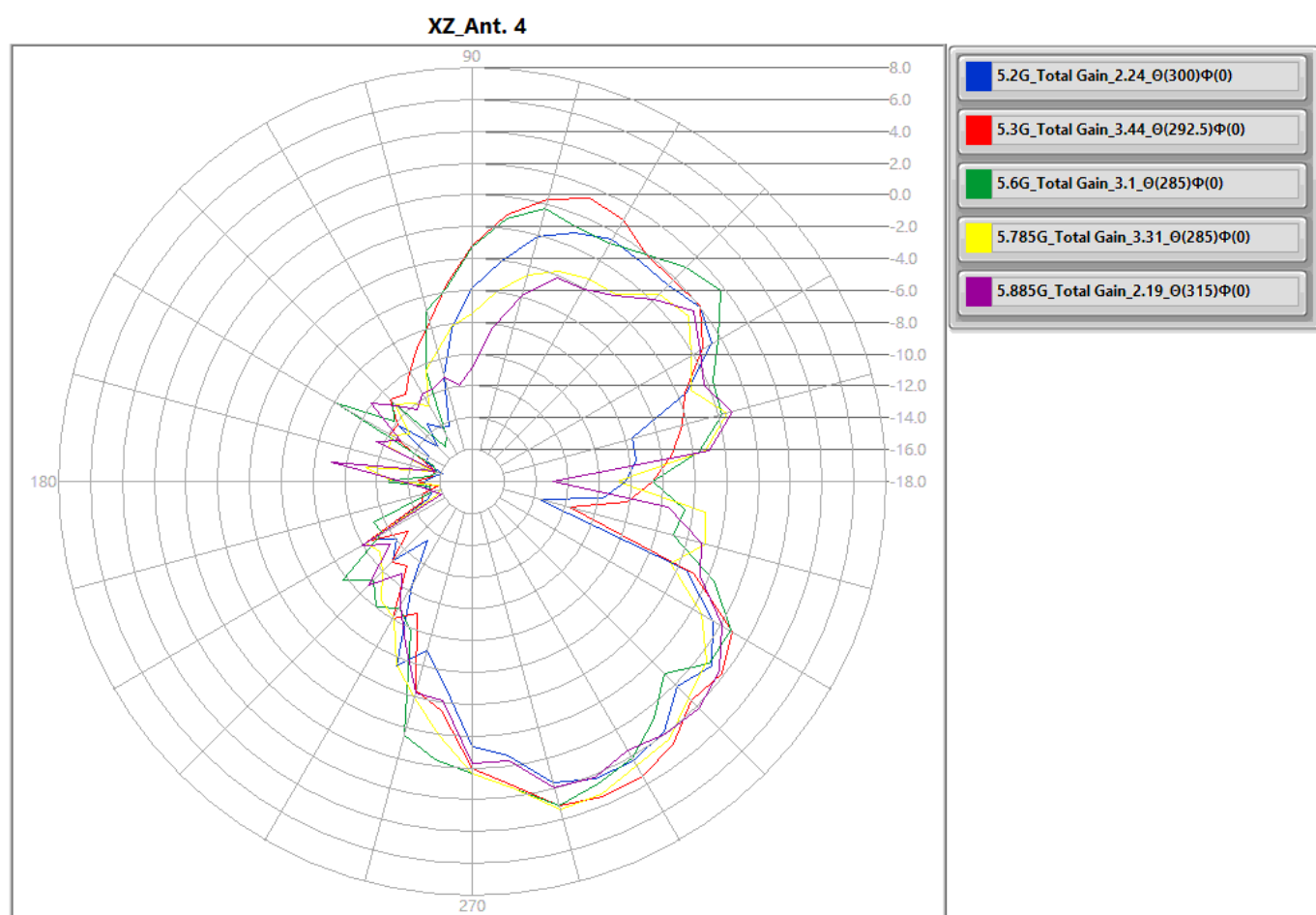
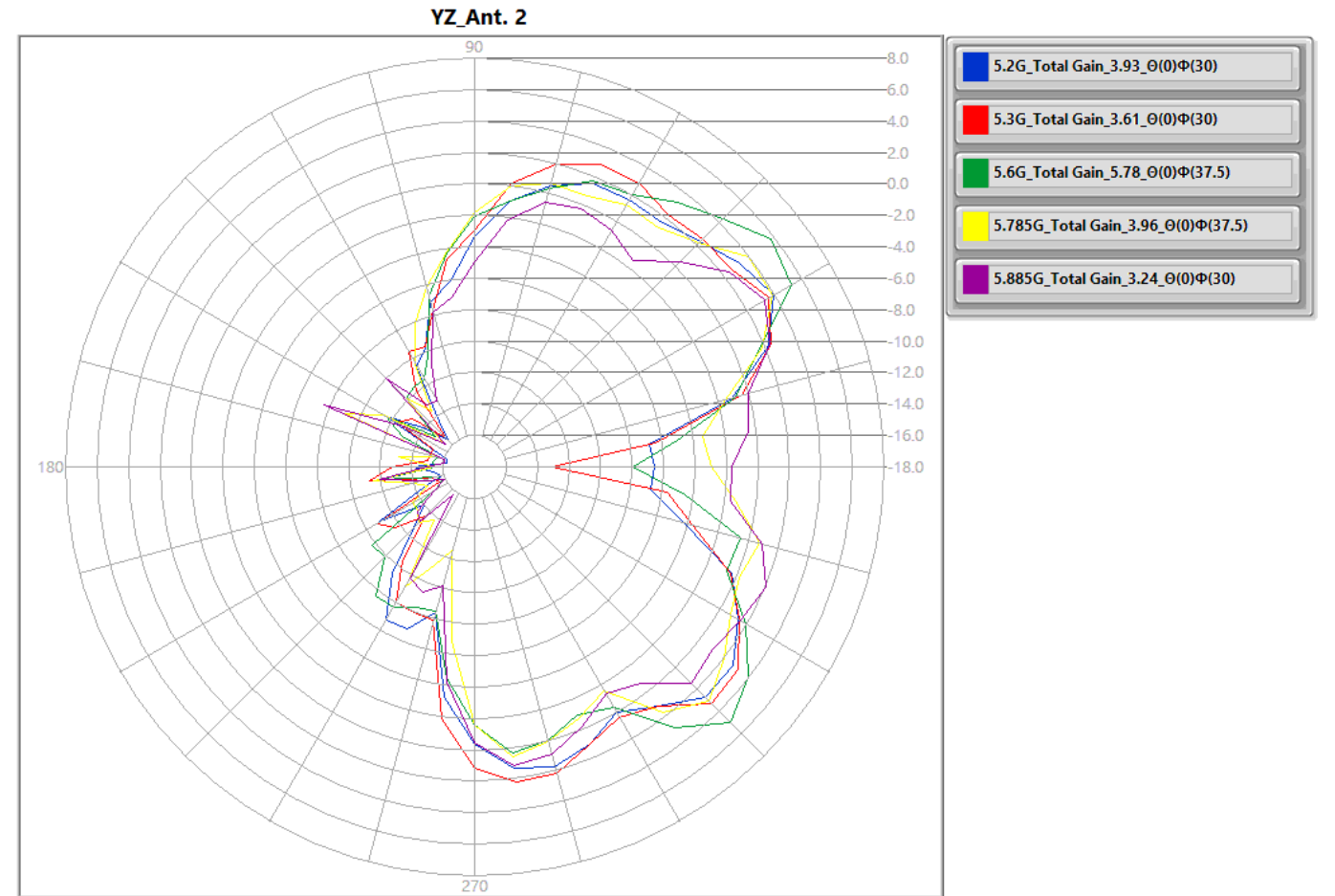
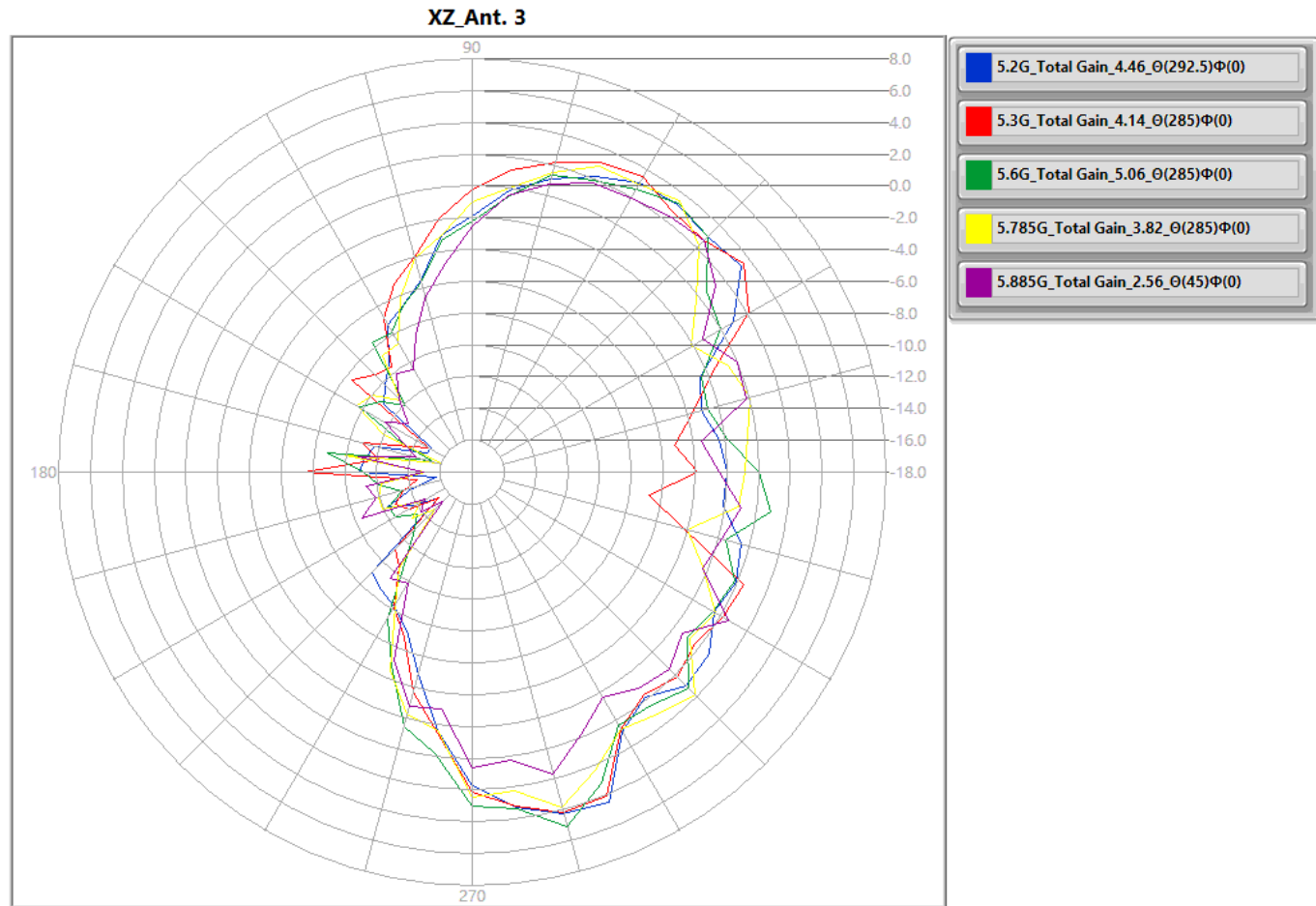
# Antenna Pattern\_Radio 2\_5GHz

# Appendix E

|           |               |                 |                 |                 |                 |                 |                 |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
|-----------|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Θ(157.5°) | -14.69/-15.19 | -15.12/-13.41   | -14.22/-15.21   | -15.16/-14.72   | -14.94/-15.35   | -14.03/-14.22   | -14.43/-15.21   | -14.69/-13.46     | -12.51/-13.23     | -14.57/-15.42     | -15.75/-15.55     | -15.42/-15.27     | -14.62/-12.50     | -13.12/-15.46     | -15.25/-15.31     | -15.41/-14.91     | -15.14/-15.72     | -15.44/-15.09     | -15.10/-14.92     | -11.90/-12.40     | -14.94/-15.06     | -14.81/-14.38     | -13.87/-14.82     | -15.29/-15.55     |
| Θ(165°)   | -15.55/-15.53 | -14.50/-15.53   | -15.49/-15.50   | -15.22/-14.12   | -13.06/-13.44   | -13.99/-14.68   | -14.76/-15.27   | -15.04/-15.27     | -16.18/-15.05     | -14.77/-14.95     | -14.68/-15.12     | -14.46/-15.46     | -14.78/-14.73     | -15.30/-14.68     | -15.75/-15.39     | -15.49/-15.80     | -16.06/-15.17     | -14.72/-15.18     | -16.06/-15.21     | -14.46/-13.84     | -15.28/-14.82     | -14.97/-15.62     | -15.82/-15.70     | -14.73/-14.76     |
| Θ(172.5°) | -15.51/-14.99 | -14.61/-14.82   | -15.44/-16.00   | -14.59/-15.29   | -14.95/-15.31   | -16.36/-14.92   | -14.82/-15.78   | -15.81/-15.52     | -14.70/-15.28     | -15.46/-13.89     | -13.89/-14.70     | -14.98/-14.92     | -15.82/-14.57     | -13.66/-14.33     | -15.41/-15.64     | -15.40/-16.08     | -16.02/-15.15     | -15.20/-15.25     | -14.67/-14.91     | -14.07/-13.19     | -13.72/-14.71     | -15.31/-14.27     | -13.27/-13.62     | -15.82/-15.33     |
| Θ(180°)   | -14.48/-15.87 | -15.20/-15.17   | -15.77/-15.58   | -14.84/-14.94   | -16.08/-15.00   | -15.47/-14.41   | -15.47/-16.03   | -15.45/-15.49     | -15.21/-14.93     | -15.37/-16.04     | -15.53/-15.39     | -15.53/-15.48     | -15.96/-15.48     | -14.72/-15.17     | -15.48/-15.72     | -14.50/-14.80     | -15.45/-14.77     | -14.94/-15.85     | -15.38/-14.59     | -15.81/-15.17     | -14.67/-14.85     | -15.47/-14.79     | -14.49/-15.60     | -15.48/-15.67     |
| Freq(Hz)  | 5.6GPol.      | TotalAnt.4      | -               | -               | -               | -               | -               | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 |
| Gain      | Φ(0°)/Φ(7.5°) | Φ(15°)/Φ(22.5°) | Φ(30°)/Φ(37.5°) | Φ(45°)/Φ(52.5°) | Φ(60°)/Φ(67.5°) | Φ(75°)/Φ(82.5°) | Φ(90°)/Φ(97.5°) | Φ(105°)/Φ(112.5°) | Φ(120°)/Φ(127.5°) | Φ(135°)/Φ(142.5°) | Φ(150°)/Φ(157.5°) | Φ(165°)/Φ(172.5°) | Φ(180°)/Φ(187.5°) | Φ(195°)/Φ(202.5°) | Φ(210°)/Φ(217.5°) | Φ(225°)/Φ(232.5°) | Φ(240°)/Φ(247.5°) | Φ(255°)/Φ(262.5°) | Φ(270°)/Φ(277.5°) | Φ(285°)/Φ(292.5°) | Φ(300°)/Φ(307.5°) | Φ(315°)/Φ(322.5°) | Φ(330°)/Φ(337.5°) | Φ(345°)/Φ(352.5°) |
| Θ(0°)     | -6.62/-6.35   | -5.79/-6.02     | -6.36/-6.56     | -6.22/-5.88     | -5.83/-5.94     | -5.95/-5.85     | -5.65/-5.80     | -5.40/-5.37       | -5.64/-5.74       | -5.61/-5.45       | -5.66/-5.76       | -5.43/-5.31       | -5.14/-4.95       | -5.14/-4.75       | -4.74/-4.75       | -4.62/-5.00       | -5.52/-5.61       | -4.97/-4.08       | -4.42/-5.84       | -6.47/-5.49       | -4.42/-4.54       | -5.52/-6.25       | -5.35/-4.75       | -5.03/-5.38       |
| Θ(7.5°)   | -3.62/-3.59   | -3.25/-3.93     | -4.36/-4.37     | -4.45/-4.93     | -5.53/-5.87     | -5.89/-5.82     | -6.12/-6.61     | -6.34/-5.79       | -5.89/-6.57       | -6.74/-5.98       | -5.46/-4.84       | -4.45/-4.30       | -4.52/-4.21       | -3.84/-3.22       | -2.54/-1.94       | -1.59/-1.76       | -2.38/-3.21       | -3.37/-2.50       | -2.20/-3.06       | -4.24/-4.23       | -3.58/-3.41       | -4.33/-4.79       | -3.98/-3.20       | -3.33/-3.58       |
| Θ(15°)    | -1.74/-1.09   | -1.46/-2.35     | -3.12/-3.77     | -4.88/-5.85     | -5.97/-5.91     | -5.70/-5.73     | -6.09/-6.62     | -6.69/-6.26       | -5.95/-6.05       | -5.84/-5.01       | -3.93/-3.26       | -3.46/-4.21       | -4.91/-5.12       | -2.10/-2.51       | -1.85/-1.80       | -2.10/-2.51       | -2.38/-1.59       | -1.15/-1.30       | -1.64/-1.77       | -1.74/-1.75       | -2.22/-2.83       | -3.12/-3.30       | -3.00/-2.52       |                   |
| Θ(22.5°)  | -1.58/-0.47   | -0.24/-0.22     | -0.60/-1.36     | -2.64/-2.63     | -1.57/-0.73     | -0.39/-0.25     | -0.37/-1.21     | -2.93/-5.61       | -9.17/-9.04       | -6.67/-4.63       | -2.81/-1.78       | -1.42/-1.52       | -1.57/-1.76       | -2.04/-2.77       | -3.72/-4.34       | -3.44/-1.68       | -0.260/0.30       | 0.35/-0.01        | -0.35/-0.86       | -1.11/-0.86       | -0.79/-1.58       | -3.41/-5.49       | -6.16/-6.00       | -4.87/-3.02       |
| Θ(30°)    | -0.180/-0.34  | 0.81/-1.19      | 1.35/-1.17      | 0.62/-0.10      | -0.31/-0.00     | 0.68/-1.33      | 1.32/-0.03      | -2.79/-5.80       | -7.18/-7.15       | -6.25/-3.12       | -0.12/-1.13       | 0.770/-3.1        | 0.751/-4.8        | 2.19/-2.59        | 2.050/-96         | -0.42/-0.71       | 0.10/-1.22        | 1.83/-1.87        | 1.170/-8.4        | 1.141/-0.1        | 0.21/-0.37        | -0.27/-0.81       | -1.74/-2.32       | -2.22/-1.67       |
| Θ(37.5°)  | -0.167/-0.96  | 0.38/-1.05      | 2.45/-3.16      | 3.07/-1.67      | -0.32/-0.38     | 1.55/-2.80      | 2.69/-1.28      | -0.98/-2.73       | -3.33/-3.78       | -3.82/-2.29       | 0.45/-1.58        | 1.260/-05         | 0.751/-16         | 2.17/-2.87        | 3.32/-0.00        | 1.20/-1.21        | -1.460/-05        | -0.12/-1.26       | -0.960/-80        | 1.84/-1.37        | -0.04/-1.22       | -1.21/-0.40       | -0.370/-0.02      | 0.880/-83         |
| Θ(45°)    | 0.97/-0.33    | -1.81/-0.20     | 2.69/-4.35      | 4.77/-4.42      | 0.08/-0.41      | 2.44/-3.51      | 2.96/-1.34      | -0.05/-0.62       | -1.33/-2.40       | -3.75/-4.17       | -1.540/-28        | 0.62/-0.83        | -0.96/-0.20       | 1.122/-0.4        | 3.45/-3.54        | 2.07/-0.99        | -0.780/-77        | 0.140/-61         | 0.990/-88         | 0.68/-0.08        | -1.07/-2.37       | -2.95/-3.43       | -3.18/-1.93       | 0.59/-1.36        |
| Θ(52.5°)  | -0.03/-0.80   | -1.15/-0.75     | 1.21/-3.52      | 4.46/-3.09      | 0.150/-59       | 2.92/-3.52      | 2.66/-1.23      | 0.70/-1.19        | 0.780/-20         | -1.07/-2.57       | -1.04/-0.65       | -0.50/-0.05       | 0.75/-0.10        | -0.020/-48        | 1.25/-1.08        | 0.27/-2.12        | -0.84/-0.57       | 0.652/-16         | 3.11/-2.04        | 0.80/-0.54        | -2.12/-2.84       | -4.63/-5.43       | -5.27/-6.14       | -3.98/-0.32       |
| Θ(60°)    | -0.71/-0.26   | 0.500/-20       | 0.892/-69       | 4.023/-44       | 1.740/-95       | 1.562/-15       | 2.08/-1.17      | 0.77/-1.14        | 1.290/-85         | 1.351/-06         | 1.33/-1.72        | 1.712/-36         | 2.09/-1.25        | 0.200/-90         | 1.64/-3.31        | 0.70/-1.08        | -0.33/-1.90       | -4.16/-2.56       | -0.08/-0.40       | -3.61/-9.42       | -8.24/-3.32       | -5.66/-3.81       | -1.81/-1.03       | -4.30/-2.94       |
| Θ(67.5°)  | -0.74/-1.57   | 0.250/-34       | 0.30/-1.46      | 3.05/-2.93      | 1.550/-59       | 0.82/-1.97      | 2.36/-1.32      | 1.13/-1.60        | 2.28/-2.69        | 3.04/-2.66        | 3.133/-58         | 3.343/-27         | 2.57/-1.33        | 1.14/-1.91        | 1.413/-37         | 2.36/-1.48        | 0.42/-2.36        | -6.17/-4.41       | -0.80/-3.80       | -11.89/-7.08      | -4.17/-0.78       | 0.37/-1.43        | 0.10/-0.06        | -1.73/-1.39       |
| Θ(75°)    | -0.29/-2.42   | -1.34/-1.06     | -1.24/-0.08     | 1.38/-2.11      | 0.850/-49       | -0.70/-0.41     | 1.36/-3.05      | -0.71/-0.52       | 1.392/-67         | 2.79/-2.29        | 2.72/-356         | 2.84/-0.5         | 3.102/-09         | 0.37/-1.25        | 0.023/-41         | 2.65/-1.25        | 1.37/-0.42        | -2.990/-17        | 1.13/-2.21        | -2.06/-0.07       | -0.300/-06        | 0.840/-18         | 0.09/-0.09        | -0.62/-1.48       |
| Θ(82.5°)  | -1.37/-3.97   | -3.47/-2.40     | -2.18/-1.54     | -0.510/-69      | -0.320/-16      | -2.40/-0.92     | 0.47/-1.22      | -2.08/-0.43       | -0.15/-1.48       | 1.550/-08         | 1.392/-07         | 2.54/-1.96        | 1.41/-0.22        | -0.950/-66        | -0.162/-62        | 1.310/-62         | 0.66/-0.45        | -1.56/-1.41       | 1.65/-0.57        | 0.57/-1.20        | 0.42/-0.28        | -0.21/-0.63       | -1.06/-2.55       | -3.43/-2.36       |
| Θ(90°)    | -3.28/-5.68   | -6.66/-4.82     | -3.39/-3.30     | -2.16/-0.86     | -2.36/-1.24     | -4.41/-2.42     | -0.27/-1.52     | -3.26/-1.51       | -0.860/-35        | 0.31/-1.03        | -0.170/-66        | 0.131/-18         | 0.36/-0.59        | -3.60/-1.35       | -3.18/-0.15       | -1.31/-1.99       | -1.40/-1.62       | -1.50/-1.25       | 0.43/-1.13        | 0.69/-1.41        | -0.81/-1.72       | -2.04/-3.01       | -3.37/-4.67       | -5.95/-4.42       |
| Θ(97.5°)  | -5.71/-7.19   | -9.40/-7.61     | -6.59/-5.72     | -3.93/-2.36     | -3.94/-2.58     | -5.55/-3.15     | -0.81/-2.16     | -4.33/-2.68       | -2.43/-1.72       | -1.74/-2.69       | -1.42/-3.04       | -1.79/-1.90       | -0.38/-2.91       | -3.53/-3.32       | -3.04/-1.96       | -3.43/-3.97       | -4.25/-6.11       | -3.47/-0.93       | -2.31/-3.64       | -0.59/-0.69       | -3.70/-5.23       | -5.21/-5.29       | -5.66/-7.07       | -8.45/-7.22       |
| Θ(105°)   | -6.89/-7.72   | -11.76/-10.48   | -9.34/-7.67     | -5.64/-4.51     | -6.70/-6.54     | -5.64/-4.51     | -7.36/-3.89     | -3.68/-3.83       | -4.51/-4.53       | -2.89/-4.65       | -3.77/-2.14       | -1.48/-3.93       | -4.26/-5.87       | -6.19/-5.97       | -7.50/-7.95       | -6.93/-10.54      | -7.21/-5.54       | -3.77/-6.65       | -4.23/-3.52       | -0.77/-6.92       | -10.22/-8.29      | -11.63/-9.38      |                   |                   |
| Θ(112.5°) | -10.53/-9.69  | -9.59/-11.88    | -11.70/-7.00    | -6.41/-6.40     | -7.01/-5.89     | -5.92/-8.19     | -4.65/-6.10     | -9.40/-6.86       | -5.53/-5.14       | -6.23/-5.01       | -3.78/-6.47       | -8.78/-8.90       | -7.89/-11.63      | -8.51/-7.55       | -6.80/-9.08       | -6.42/-13.54      | -9.00/-12.27      | -8.74/-7.17       | -8.37/-10.81      | -5.94/-6.71       | -9.20/-10.08      | -10.30/-9.00      | -12.53/-14.03     | -13.66/-11.24     |
| Θ(120°)   | -14.77/-9.88  | -9.42/-10.34    | -13.57/-7.25    | -6.27/-7.57     | -8.39/-8.84     | -7.66/-9.94     | -7.39/-6.66     | -9.83/-11.75      | -8.45/-7.24       | -6.82/-6.57       | -4.19/-3.67       | -4.68/-8.25       | -8.77/-4.98       | -5.12/-6.33       | -5.19/-7.97       | -6.44/-12.62      | -13.50/-11.67     | -8.80/-8.13       | -10.30/-8.70      | -4.63/-5.62       | -6.04/-11.41      | -12.08/-11.67     | -15.75/-13.99     | -13.40/-12.05     |
| Θ(127.5°) | -15.22/-10.55 | -9.56/-13.65    | -11.86/-7.08    | -7.98/-8.87     | -9.66/-10.40    | -8.97/-12.00    | -13.91/-9.66    | -8.17/-9.84       | -12.59/-13.27     | -11.06/-10.51     | -8.18/-5.25       | -4.87/-5.74       | -8.03/-8.98       | -12.13/-11.28     | -13.65/-15.66     | -10.44/-10.74     | -15.67/-10.22     | -12.83/-12.29     | -15.34/-12.32     | -7.02/-10.35      | -9.97/-15.47      | -15.92/-15.02     | -15.22/-14.94     | -11.39/-13.86     |
| Θ(135°)   | -10.90/-10.99 | -13.08/-15.45   | -11.92/-8.34    | -10.72/-10.22   | -10.07/-12.35   | -10.77/-9.36    | -11.43/-13.25   | -11.40/-9.60      | -10.92/-12.83     | -11.91/-9.99      | -11.63/-12.29     | -10.80/-10.81     | -9.28/-9.83       | -10.59/-11.09     | -11.77/-12.71     | -12.27/-10.81     | -13.97/-12.49     | -12.16/-12.40     | -11.73/-14.96     | -11.90/-10.81     | -12.28/-14.94     | -15.90/-13.83     | -12.47/-13.40     | -15.20/-15.75     |
| Θ(142.5°) | -11.85/-11.86 | -12.03/-15.64   | -13.16/-9.56    | -9.95/-11.96    | -10.76/-11.63   | -14.35/-12.85   | -11.43/-10.93   | -11.55/-12.21     | -11.09/-11.24     | -9.77/-10.17      | -9.92/-8.89       | -6.59/-6.10       | -7.79/-1.79       | -12.17/-15.22     | -14.71/-13.20     | -10.49/-11.47     | -13.36/-11.60     | -9.91/-7.77       | -11.37/-12.75     | -13.88/-11.24     | -10.80/-11.87     | -14.26/-12.55     | -14.45/-15.56     | -15.82/-14.46     |
| Θ(150°)   | -8.16/-8.05   | -10.07/-11.92   | -12.04/-9.63    | -9.82/-12.82    | -13.45/-14.90   | -15.06/-15.07   | -13.81/-10.62   | -9.97/-11.51      | -13.39/-14.75     | -12.75/-11.16     | -11.68/-12.94     | -14.84/-13.83     | -11.51/-9.43      | -8.45/-9.60       | -12.00/-14.34     | -15.48/-12.30     | -14.07/-12.83     | -12.60/-12.87     | -15.46/-15.74     | -12.33/-13.00     | -15.76/-13.31     | -13.57/-14.55     | -14.84/-16.09     | -15.85/-12.37     |
| Θ(157.5°) | -15.89/-15.62 | -15.56/-15.68   | -13.79/-11.07   | -10.75/-12.62   | -15.61/-13.44   | -12.71/-12.32   | -11.20/-10.43   | -9.66/-8.43       | -7.48/-8.40       | -9.90/-11.30      | -12.01/-11.50     | -11.33/-12.89     | -13.65/-11.15     | -12.04/-12.91     | -15.81/-15.73     | -14.23/-12.08     | -11.59/-15.14     | -13.46/-13.07     | -11.24/-12.15     | -11.24/-12.15     | -13.71/-12.34     | -14.05/-15.19     | -16.02/-14.96     | -12.01/-11.78     |
| Θ(165°)   | -15.68/-15.35 | -13.38/-11.62   | -10.26/-9.80    | -10.77/-12.01   | -12.55/-12.57   | -11.55/-11.02   | -11.28/-13.02   | -13.21/-12.36     | -13.70/-15.71     | -15.82/-14.77     | -13.56/-12.66     | -14.25/-15.25     | -15.27/-15.40     | -14.58/-13.08     | -13.85/-15.42     | -14.78/-16.14     | -14.47/-13.43     | -14.16/-15.48     | -15.55/-15.25     | -15.91/-15.22     | -15.08/-15.64     | -15.02/-15.79     | -13.51/-13.31     | -15.44/-14.98     |
| Θ(172.5°) | -15.32/-14.47 | -15.35/-15.50   | -15.48/-15.19   | -15.13/-15.34   | -12.93/-11.40   | -9.89/-9.32     | -9.97/-11.60    | -13.03/-13.53     | -13.94/-13.36     | -13.10/-12.87     | -12.81/-14.37     | -15.29/-15.08     | -15.29/-15.45     | -14.11/-13.09     | -13.36/-14.52     | -13.81/-12.98     | -13.91/-14.90     | -15.73/-15.41     | -14.58/-13.89     | -13.75/-13.15     | -13.16/-13.57     | -12.87/-11.95     | -12.00/-12.63     | -15.47/-15.80     |
| Θ(180°)   | -12.35/-12.51 | -13.03/-14.85   | -15.17/-15.13   | -14.97/-14.46   | -14.03/-14.76   | -15.06/-15.36   | -15.67/-15.07   | -14.83/-15.38     | -15.03/-14.32     | -12.96/-13.02     | -13.09/-14.48     | -15.36/-14.82     | -15.04/-13.24     | -12.84/-12.04     | -12.02/-11.71     | -11.43/-11.37     | -10.11/-9.41      | -10.26/-11.45     | -11.53/-11.87     | -13.67/-13.23     | -11.83/-10.86     | -10.95/-11.03     | -11.33/-10.40     | -9.93/-11.28      |
| Freq(Hz)  | 5.785GPol.    | TotalAnt.4      | -               | -               | -               | -               | -               | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 |
| Gain      | Φ(0°)/Φ(7.5°) | Φ(15°)/Φ(22.5°) | Φ(30°)/Φ(37.5°) | Φ(45°)/Φ(52.5°) | Φ(60°)/Φ(67.5°) | Φ(75°)/Φ(82.5°) | Φ(90°)/Φ(97.5°) | Φ(105°)/Φ(112.5°) | Φ(120°)/Φ(127.5°) | Φ(135°)/Φ(142.5°) | Φ(150°)/Φ(157.5°) | Φ(165°)/Φ(172.5°) | Φ(180°)/Φ(187.5°) | Φ(195°)/Φ(202.5°) | Φ(210°)/Φ(217.5°) | Φ(225°)/Φ(232.5°) | Φ(240°)/Φ(247.5°) | Φ(255°)/Φ(262.5°) | Φ(270°)/Φ(277.5°) | Φ(285°)/Φ(292.5°) | Φ(300°)/Φ(307.5°) | Φ(315°)/Φ(322.5°) | Φ(330°)/Φ(337.5°) | Φ(345°)/Φ(352.5°) |
| Θ(0°)     | -8.94/-9.05   | -9.96/-9.78     | -10.06/-10.26   | -10.27/-9.65    | -8.59/-8.20     | -8.18/-8.16     | -7.93/-7.99     | -7.99/-9.31       | -9.99/-9.57       | -8.91/-8.27       | -7.91/-7.58       | -7.10/-6.98       | -7.32/-7.43       | -7.94/-8.97       | -9.99/-9.87       | -9.47/-9.17       | -9.54/-10.64      | -11.07/-9.23      | -7.78/-7.26       | -8.79/-9.22       | -8.80/-8.70       | -9.24/-8.93       | -8.14/-7.47       |                   |

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  $\Theta(0-180)\Phi(270)$







## Sporton International Inc. Hsinchu Laboratory



# Antenna Pattern\_Radio 4\_5GHz UNII 2C-4 and 6GHz

# Appendix F

|           |               |                |                |                |                |                |                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
|-----------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Θ(22.5°)  | -8.53/-3.96   | -3.02/-3.97    | -6.70/-8.42    | -6.66/-4.94    | -4.51/-5.13    | -5.53/-6.97    | -9.56/-8.75    | -4.79/-1.92      | -0.77/-0.69      | -0.97/-1.98      | -2.39/-0.57      | 0.39/-0.15       | -1.55/-2.79      | -2.55/-1.96      | -3.23/-6.83      | -5.68/-1.59      | 0.23/-0.06       | -1.63/-2.64      | -2.11/-2.29      | -2.96/-4.02      | -5.53/-6.74      | -5.91/-3.01      | -1.42/-2.26      | -6.63/-7.60      |
| Θ(30°)    | -7.42/-6.47   | -5.86/-6.85    | -3.64/-1.73    | -1.86/-2.70    | -4.16/-8.30    | -2.65/-1.85    | -3.86/-2.50    | 0.11/0.48        | -0.88/-0.42      | 0.78/0.28        | -1.05/-2.81      | -2.03/-0.14      | -0.08/-2.82      | -4.45/-4.90      | -5.51/-2.69      | -2.16/-1.37      | -1.37/-1.92      | -2.48/-2.42      | -2.74/-2.29      | -4.94/-9.41      | -8.42/-4.89      | -3.91/-4.31      | -4.18/-4.06      | -6.66/-8.69      |
| Θ(35°)    | -1.07/-2.20   | -6.09/-3.87    | -4.41/-6.19    | -6.11/-1.65    | -0.12/-2.13    | -2.71/-5.39    | -5.14/-2.40    | -0.53/-0.79      | 0.93/-0.07       | 0.31/-1.39       | 2.82/-0.1        | 1.35/-4.23       | 2.20/-2.39       | 0.45/-2.35       | -0.02/-2.16      | -7.32/-3.77      | -1.29/-0.31      | -0.16/-0.03      | -0.38/-1.78      | -3.77/-3.56      | -3.40/-5.81      | -6.06/-5.41      | -6.78/-12.83     | -8.22/-3.19      |
| Θ(45°)    | -2.36/-0.92   | -1.82/0.46     | -1.27/-6.62    | 1.05/2.98      | 1.44/-2.58     | -4.57/-1.90    | -3.27/-1.49    | 1.25/-1.64       | 0.65/0.15        | -1.84/-1.82      | 1.65/-0.91       | 1.57/3.04        | 3.51/0.72        | 1.46/-4.37       | 1.70/-2.58       | -3.45/-5.91      | -4.33/-3.71      | -5.74/-4.38      | -4.41/-8.37      | -9.32/-3.78      | -1.64/-1.42      | -1.96/-4.21      | -2.86/-4.17      | -9.42/-4.87      |
| Θ(52.5°)  | -0.26/-1.88   | -3.01/-0.25    | 1.85/-2.00     | 1.20/3.00      | 0.57/1.56      | 0.47/0.31      | -2.43/-1.81    | 2.30/-0.50       | 0.63/-2.33       | 3.39/-4.45       | 4.17/-3.50       | 3.86/-3.92       | 1.99/-4.74       | 3.54/-1.20       | -0.19/-0.19      | -2.55/-9.53      | -3.44/-1.64      | -0.87/-0.04      | -3.74/-3.73      | -1.62/-3.18      | -5.93/-9.24      | -8.25/-7.81      | -5.84/-4.69      | -0.91/-1.19      |
| Θ(60°)    | -0.06/-0.40   | -4.94/-3.85    | 0.89/0.50      | -1.44/-2.04    | 1.92/3.10      | -0.88/-0.38    | -1.33/0.47     | 0.35/0.57        | 3.32/-2.33       | 2.17/3.43        | 2.49/-1.94       | 1.43/-4.15       | 1.41/-1.69       | 4.40/-2.17       | 0.41/-1.52       | 2.44/-0.88       | -3.45/-2.28      | -0.66/-1.54      | -0.88/-8.12      | -14.71/-3.55     | -5.94/-5.68      | -0.68/-4.98      | -1.96/-0.36      | -1.96/-0.36      |
| Θ(67.5°)  | -2.75/-1.34   | -7.14/-3.74    | -3.88/-0.36    | -4.98/-1.02    | 2.49/-1.05     | -0.43/-1.15    | -1.08/-2.16    | 1.10/-1.33       | 1.87/-1.98       | 0.13/-3.58       | 1.23/-4.41       | 1.70/-2.16       | -4.72/-1.89      | 1.05/-1.86       | -3.73/0.95       | -1.35/0.23       | 0.82/0.21        | 1.57/-3.26       | -4.60/-5.18      | -0.48/-0.88      | -5.09/-7.03      | -13.70/-3.40     | -1.64/-3.86      | -3.57/-2.96      |
| Θ(75°)    | -3.96/-2.74   | -6.70/-2.59    | -15.68/-3.99   | -7.32/-0.58    | 1.35/-6.69     | 0.01/-2.00     | -3.97/-6.56    | -0.65/-0.72      | 0.49/-1.59       | 2.84/-1.54       | 4.93/-1.17       | -2.31/-0.91      | 0.67/-2.30       | -0.33/0.64       | -0.77/-1.13      | -0.18/-0.82      | 2.28/-1.29       | -1.55/-4.25      | 0.38/-2.42       | -9.67/-6.82      | -12.28/-7.62     | -4.52/-4.10      | -2.32/-3.43      |                  |
| Θ(82.5°)  | -4.22/-3.44   | -5.77/-2.27    | -12.97/-7.10   | -10.35/-1.91   | -0.19/-5.94    | -1.32/-4.37    | -4.90/-6.06    | -3.02/-0.94      | 0.13/0.43        | 2.88/3.15        | 5.08/-6.62       | 2.67/-0.47       | -2.77/-1.93      | -3.26/-0.02      | -0.71/-1.60      | -1.82/0.84       | -3.05/-1.39      | 1.69/-0.50       | -1.01/-1.73      | -0.44/-7.87      | -13.97/-7.71     | -11.17/-10.59    | -7.67/-6.76      | -2.79/-2.53      |
| Θ(90°)    | -5.71/-6.46   | -7.10/-2.66    | -9.32/-9.41    | -12.24/-3.78   | -4.09/-6.38    | -2.73/-5.81    | -4.69/-8.99    | -5.71/-0.14      | -1.22/-2.40      | 1.58/-1.37       | 2.48/-5.67       | 2.60/-0.55       | -1.85/-2.29      | 0.93/-3.81       | -1.19/-0.42      | -1.99/-2.38      | -6.13/0.43       | -0.46/-0.66      | -1.92/-2.54      | -3.65/-10.28     | -9.21/-8.61      | -11.00/-14.39    | -9.20/-7.01      | -3.34/-2.51      |
| Θ(97.5°)  | -7.82/-7.66   | -8.27/-2.91    | -7.74/-11.24   | -15.27/-6.07   | -7.26/-7.27    | -4.24/-8.03    | -7.08/-8.11    | -8.47/-1.01      | -3.62/-4.22      | -1.55/-0.77      | 0.15/-2.92       | -0.04/-2.11      | -1.91/0.73       | -3.19/-3.26      | -6.51/-4.55      | -7.05/-5.22      | -5.87/-1.32      | -2.10/-2.41      | -6.08/-5.44      | -6.06/-8.06      | -6.23/-9.26      | -11.30/-14.41    | -8.83/-9.41      | -4.30/-2.94      |
| Θ(105°)   | -6.17/-7.46   | -9.44/-4.33    | -7.17/-14.48   | -13.92/-9.06   | -10.93/-7.52   | -5.26/-9.85    | -12.68/-1.16   | -0.56/-7.19      | -1.51/-5.33      | -5.53/-3.92      | -1.01/-0.72      | -0.84/-2.26      | -3.16/-0.30      | -1.38/-1.68      | -5.91/-5.67      | -5.38/-2.89      | -1.33/-3.01      | -4.89/-6.26      | -2.76/-9.94      | -6.49/-6.70      | -10.59/-14.19    | -7.56/-11.02     | -7.89/-3.20      |                  |
| Θ(112.5°) | -6.91/-6.73   | -8.52/-6.74    | -11.91/-14.28  | -14.43/-13.84  | -12.77/-10.48  | -8.57/-7.24    | -14.17/-14.20  | -10.46/-10.33    | -5.97/-7.36      | -4.95/-1.89      | -0.77/-0.84      | -2.57/-6.42      | -2.43/-1.25      | -8.79/-3.62      | -10.39/-9.23     | -8.30/-5.57      | -7.94/-3.90      | -4.12/-6.12      | -10.52/-6.18     | -2.02/-12.70     | -7.02/-9.39      | -15.15/-14.64    | -6.82/-10.43     | -11.55/-3.27     |
| Θ(120°)   | -8.83/-11.13  | -9.23/-12.19   | -9.32/-12.23   | -11.13/-12.47  | -10.29/-12.14  | -9.10/-7.50    | -15.04/-14.65  | -10.40/-7.53     | -9.51/-11.97     | -11.48/-4.29     | -6.28/-3.36      | -4.22/-5.53      | -5.54/-3.24      | -8.05/-1.95      | -8.87/-8.26      | -12.38/-2.26     | -3.17/-6.69      | -10.62/-6.19     | -5.34/-12.26     | -7.14/-5.62      | -16.14/-16.00    | -5.50/-11.57     | -10.02/-6.85     |                  |
| Θ(127.5°) | -10.08/-11.85 | -10.09/-13.19  | -5.51/-11.46   | -13.32/-11.57  | -13.04/-10.35  | -15.26/-8.59   | -14.73/-14.34  | -11.44/-12.92    | -9.11/-8.66      | -7.77/-6.25      | -9.32/-7.50      | -6.86/-9.48      | -6.38/-11.53     | -12.82/-5.83     | -12.58/-10.54    | -4.50/-1.70      | -6.67/-1.75      | -2.87/-7.66      | -6.06/-7.70      | -6.75/-6.89      | -9.03/-10.61     | -13.68/-15.17    | -5.80/-11.65     | -11.54/-8.97     |
| Θ(135°)   | -8.50/-10.07  | -10.26/-13.08  | -10.35/-8.37   | -10.77/-8.59   | -11.25/-14.65  | -8.68/-8.01    | -14.88/-14.98  | -12.52/-9.15     | -7.06/-6.07      | -7.63/-6.38      | -5.14/-7.21      | -9.14/-7.53      | -9.86/-11.13     | -8.58/-13.32     | -12.67/-9.87     | -6.23/-11.67     | -12.72/-3.88     | -4.46/-8.65      | -10.07/-13.49    | -8.82/-10.42     | -15.71/-15.23    | -11.29/-10.03    | -8.35/-11.31     | -13.33/-8.37     |
| Θ(142.5°) | -5.02/-6.08   | -10.47/-13.03  | -12.49/-9.46   | -12.41/-9.58   | -9.73/-14.99   | -13.09/-8.87   | -8.20/-14.66   | -10.43/-9.83     | -8.04/-4.88      | -8.17/-14.55     | -6.88/-11.12     | -9.94/-6.95      | -15.08/-9.07     | -8.86/-13.31     | -13.00/-9.49     | -9.32/-13.58     | -11.23/-2.47     | -8.88/-11.13     | -10.63/-14.44    | -10.80/-14.22    | -11.22/-9.88     | -9.80/-14.73     | -12.69/-8.88     |                  |
| Θ(150°)   | -7.03/-8.78   | -8.14/-7.63    | -12.23/-13.33  | -10.40/-9.12   | -10.93/-7.58   | -7.59/-11.87   | -11.32/-15.24  | -10.38/-9.44     | -13.25/-8.86     | -8.38/-12.09     | -14.90/-9.28     | -5.88/-11.14     | -10.54/-11.93    | -13.82/-9.47     | -8.18/-10.21     | -11.41/-9.77     | -9.57/-14.00     | -12.13/-7.25     | -8.24/-11.90     | -11.47/-9.93     | -13.63/-12.53    | -15.68/-15.08    | -14.92/-9.77     |                  |
| Θ(157.5°) | -8.30/-10.27  | -9.08/-7.62    | -8.91/-13.52   | -13.87/-12.44  | -14.48/-12.08  | -7.93/-9.42    | -13.95/-14.93  | -8.83/-6.83      | -7.50/-10.95     | -8.18/-7.24      | -13.77/-15.43    | -11.89/-11.59    | -15.71/-9.52     | -8.39/-12.31     | -8.92/-5.93      | -6.47/-7.34      | -6.99/-8.22      | -11.51/-11.08    | -9.14/-9.88      | -13.40/-11.62    | -11.87/-12.16    | -11.89/-14.30    | -15.31/-11.63    | -8.40/-8.50      |
| Θ(165°)   | -13.15/-12.03 | -9.85/-8.90    | -9.87/-10.19   | -11.02/-12.28  | -13.02/-10.76  | -7.48/-6.79    | -7.92/-10.61   | -12.70/-12.28    | -14.28/-14.90    | -15.40/-12.16    | -9.58/-7.81      | -8.93/-10.38     | -11.88/-9.51     | -6.37/-6.91      | -7.01/-6.19      | -6.38/-6.36      | -11.39/-13.04    | -13.33/-10.60    | -9.86/-11.20     | -13.70/-11.91    | -9.84/-9.28      | -10.07/-10.56    | -10.80/-11.73    | -12.42/-12.53    |
| Θ(172.5°) | -12.26/-10.47 | -9.52/-9.39    | -8.52/-9.25    | -9.58/-9.81    | -7.85/-8.30    | -9.48/-11.87   | -15.00/-15.55  | -14.41/-15.79    | -14.54/-12.16    | -11.81/-11.88    | -12.35/-14.96    | -15.60/-12.92    | -11.91/-10.89    | -9.98/-9.34      | -9.25/-9.36      | -9.41/-9.63      | -10.00/-11.29    | -11.78/-12.36    | -11.51/-9.98     | -9.39/-9.60      | -10.24/-11.58    | -12.07/-13.92    | -14.15/-14.78    | -12.34/-11.10    |
| Θ(180°)   | -12.49/-12.41 | -11.98/-11.69  | -11.41/-11.71  | -12.49/-13.40  | -13.09/-13.68  | -14.08/-15.01  | -15.89/-14.42  | -14.71/-15.50    | -15.85/-14.41    | -15.31/-14.26    | -13.91/-14.10    | -16.11/-14.86    | -16.22/-15.01    | -13.36/-13.10    | -12.95/-11.13    | -10.88/-11.68    | -10.87/-11.27    | -11.29/-11.13    | -11.26/-11.96    | -11.46/-11.58    | -11.65/-11.49    | -11.65/-11.49    | -11.26/-10.62    |                  |
| Freq(Hz)  | 6.995GPol.    | TotalAnt.1     | +              | -              | +              | -              | +              | -                | +                | -                | +                | -                | +                | -                | +                | -                | +                | -                | +                | -                | +                | -                | +                | -                |
| 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°)     | -5.11/-6.14   | -6.62/-7.68    | -8.80/-9.51    | -9.51/-9.77    | -9.57/-8.94    | -8.96/-9.18    | -8.97/-8.47    | -8.49/-8.42      | -8.00/-7.79      | -8.07/-8.15      | -7.16/-7.28      | -7.73/-8.12      | -8.03/-8.25      | -7.60/-7.92      | -8.02/-7.87      | -6.51/-6.53      | -5.90/-4.94      | -4.87/-4.18      | -3.81/-3.68      | -3.94/-4.36      | -3.84/-3.57      | -3.46/-3.39      | -2.72/-2.63      | -2.78/-3.59      |
| Θ(7.5°)   | -6.60/-5.65   | -3.65/-3.61    | -3.41/-2.65    | -2.45/-1.27    | -2.18/-1.94    | -1.57/-1.29    | -0.89/-0.65    | -0.39/-0.32      | -0.22/-0.24      | -0.56/-0.88      | -1.21/-1.52      | -2.72/-4.15      | -5.68/-6.88      | -7.93/-9.54      | -9.08/-7.56      | -6.15/-4.82      | -4.77/-4.69      | -4.51/-4.06      | -3.99/-4.52      | -5.15/-5.94      | -6.25/-6.50      | -6.99/-7.88      | -9.02/-6.85      | -7.40/-6.43      |
| Θ(15°)    | -5.68/-6.39   | -3.43/-2.50    | -1.91/-2.22    | -6.66/-5.59    | -7.01/-7.46    | -6.52/-4.49    | -2.58/-1.48    | -0.89/-0.89      | -3.69/-3.21      | -3.01/-2.95      | -3.09/-3.75      | -4.42/-4.10      | -3.68/-3.12      | -3.55/-3.60      | -2.48/-1.25      | -2.04/-3.88      | -7.71/-8.81      | -7.36/-5.41      | -5.24/-5.35      | -6.76/-6.93      | -5.83/-4.04      | -2.72/-2.65      | -3.93/-5.76      |                  |
| Θ(22.5°)  | -8.44/-7.34   | -3.46/-2.31    | -3.90/-6.96    | -7.42/-3.71    | -1.36/-0.85    | -1.47/-2.91    | -4.42/-4.56    | -4.10/-3.48      | -2.87/-1.67      | -0.80/-0.23      | -0.12/-0.50      | -1.55/-3.46      | -6.56/-7.92      | -4.41/-2.43      | -3.22/-4.57      | -1.71/-0.41      | -1.31/-2.78      | -1.93/0.01       | 0.44/-0.76       | -2.86/-4.04      | -4.81/-6.30      | -9.95/-8.68      | -4.11/-1.66      | -1.59/-3.60      |
| Θ(30°)    | -6.09/-3.10   | -1.59/-3.15    | -5.63/-4.28    | -2.72/-2.95    | -3.31/-2.72    | -2.80/-4.49    | -5.26/-3.24    | -2.09/-0.62      | 0.35/-0.51       | -1.85/-1.80      | -0.86/-0.29      | -0.91/-3.79      | -2.63/-4.40      | -0.99/-1.74      | -1.93/-4.53      | -1.86/0.18       | 0.32/0.16        | -0.29/-1.34      | -1.58/-2.42      | -5.10/-6.45      | -7.62/-11.92     | -7.74/-5.16      | -6.16/-6.29      | -7.71/-9.01      |
| Θ(37.5°)  | -1.03/1.53    | 1.22/-1.13     | -4.97/-4.69    | -2.84/-4.16    | -2.67/-0.08    | 0.56/-0.79     | -3.02/-2.93    | -1.89/0.28       | 1.22/2.05        | 3.00/2.11        | 1.22/1.84        | 2.17/-0.22       | -6.60/-0.49      | 1.33/0.12        | -0.18/-1.86      | -2.55/0.63       | 1.91/0.47        | -0.48/0.02       | -1.81/-6.65      | -9.60/-2.12      | 1.26/1.36        | -1.66/-6.21      | -6.02/-4.90      | -4.47/-4.53      |
| Θ(45°)    | 1.85/2.66     | 0.88/-0.96     | -2.35/-3.48    | -6.45/-3.59    | -1.27/-0.67    | -1.43/-1.28    | -0.29/1.04     | 0.48/0.26        | -0.03/-0.02      | 1.37/0.67        | -0.23/-1.22      | 0.97/-0.38       | -0.04/0.80       | 0.90/-0.16       | -3.26/-1.51      | -0.39/-1.79      | -0.18/-2.23      | -5.36/-4.64      | -2.95/-3.06      | -4.22/-5.06      | -7.94/-4.17      | -1.46/-2.04      | -1.11/-11.10     |                  |
| Θ(52.5°)  | 0.01/1.33     | -3.66/-3.83    | -1.71/-0.33    | -9.15/-1.33    | -2.22/-0.77    | 0.94/-1.52     | 0.41/0.74      | 1.14/-0.10       | 0.42/-1.26       | 3.43/3.74        | 3.39/-2.22       | 2.93/2.71        | 1.43/3.66        | 1.73/-2.19       | -0.58/-2.05      | -5.84/-2.21      | -1.91/-0.76      | 0.03/-2.42       | -1.39/-3.98      | -1.72/-1.99      | -3.39/-3.97      | -3.16/-0.34      | 1.73/-0.54       | -0.80/-0.17      |
| Θ(60°)    | -2.64/-1.33   | -3.59/-8.07    | -6.57/-1.03    | -10.31/-1.51   | -1.45/0.37     | 1.37/0.72      | 0.78/-1.58     | 2.37/0.43        | -2.41/-0.13      | 4.48/4.51        | 0.79/0.47        | 0.37/2.94        | -0.12/-1.35      | 1.85/-1.42       | -0.71/-1.57      | -5.62/-1.25      | 0.47/1.07        | 1.52/0.28        | -1.00/-3.15      | -0.82/-4.25      | -9.68/-8.12      | -5.06/-4.67      | -1.56/-2.66      | -3.86/-0.88      |
| Θ(67.5°)  | -0.97/-4.64   | -3.79/-7.05    | -9.59/-4.98    | -8.62/-2.04    | 0.18/-0.29     | -0.30/-1.96    | -0.46/-1.92    | 2.25/3.57        | 0.42/-2.43       | 1.85/0.11        | -0.69/-2.55      | -0.78/-2.13      | -3.67/-1.19      | 0.06/-1.36       | -1.62/-2.81      | -5.27/-1.07      | -0.62/0.97       | 2.68/-1.86       | -0.13/-0.48      | 1.03/-3.03       | -14.24/-9.37     | -5.79/-6.75      | -4.36/-2.98      | -3.91/0.45       |
| Θ(75°)    | -0.58/-6.83   | -3.62/-4.86    | -5.10/-6.63    | -7.29/-1.85    | 0.78/-2.87     | -4.52/-2.23    | -0.07/-8.41    | -0.31/-3.20      | 2.80/-1.19       | 0.54/0.56        | 3.96/5.01        |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |



# Antenna Pattern\_Radio 4\_5GHz UNII 2C-4 and 6GHz

# Appendix F

|           |               |                 |                 |                 |                 |                 |                 |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
|-----------|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| θ(75°)    | -3.68/2.52    | 1.24/4.05       | 3.99/1.67       | -0.27/3.15      | 3.29/2.84       | 3.68/2.27       | 1.93/2.49       | -1.45/0.83        | -3.08/-5.15       | -1.80/-1.33       | -2.62/-1.71       | -4.26/-6.46       | -2.54/-3.23       | -5.59/-3.02       | 0.10/-0.45        | -0.18/1.72        | 0.61/1.02         | 0.78/0.57         | 1.75/0.03         | -0.31/-2.02       | -5.63/0.27        | -5.07/1.18        | -4.88/-3.45       | 0.14/-1.67        |
| θ(82.5°)  | -7.73/0.40    | -1.94/2.22      | 1.92/-0.08      | -2.63/-0.21     | 2.38/1.87       | 1.63/0.52       | 0.66/0.74       | -3.53/0.01        | -3.79/-4.24       | -1.25/-2.03       | -3.88/-2.71       | -7.46/-2.36       | -7.23/-10.57      | -9.36/-6.77       | -1.46/-3.47       | -3.25/0.43        | -0.86/-0.97       | -0.35/-0.69       | 1.46/0.01         | -0.06/-1.86       | -5.20/0.74        | -4.55/0.81        | -4.82/-6.91       | -1.31/-3.15       |
| θ(90°)    | -9.10/-1.83   | -4.52/-0.37     | -0.70/-1.82     | -0.60/-0.22     | -0.48/-0.84     | -1.18/-2.58     | -1.26/-1.27     | -4.13/-1.81       | -4.50/-4.22       | -1.77/-3.15       | -5.25/-3.17       | -4.87/-7.13       | -9.20/-9.79       | -3.86/-3.89       | -6.80/-1.58       | -1.17/4.21        | -2.62/-2.53       | -1.55/-2.11       | -2.26/-2.03       | -10.11/-1.01      | -6.94/-0.41       | -5.68/-10.89      | -3.24/-6.01       |                   |
| θ(97.5°)  | -8.98/-2.62   | -5.60/-2.26     | -2.53/-4.10     | -6.14/-2.09     | -2.62/-2.55     | -3.42/-4.96     | -3.21/3.86      | -5.34/-3.00       | -5.82/-4.60       | -3.26/-5.63       | -9.24/-5.29       | -11.10/-7.83      | -11.68/-12.09     | -10.08/-10.36     | -6.48/-3.80       | -7.56/-3.50       | -3.02/-6.54       | -5.56/-4.84       | -5.51/-6.15       | -6.51/-3.32       | -14.10/-4.90      | -9.64/-2.81       | -9.37/-12.40      | -4.57/-8.71       |
| θ(105°)   | -7.81/-6.53   | -7.62/-6.16     | -5.25/-6.97     | -8.60/-2.04     | -3.15/-3.54     | -5.13/-8.24     | -4.43/-4.62     | -5.16/-3.79       | -7.33/-4.17       | -5.22/-8.50       | -10.73/-9.20      | -8.51/-12.61      | -9.73/-12.22      | -8.16/-8.07       | -9.33/-6.86       | -7.83/-6.51       | -3.15/-6.16       | -8.19/-8.11       | -10.59/-5.03      | -15.54/-5.49      | -10.54/-5.40      | -10.08/-12.61     | -5.72/-11.39      |                   |
| θ(112.5°) | -8.50/-9.95   | -7.74/-10.19    | -7.08/-12.83    | -8.34/-2.73     | -4.02/-4.09     | -5.61/-8.17     | -5.58/-5.25     | -4.67/-3.68       | -10.09/-4.53      | -6.53/-7.85       | -10.87/-13.00     | -11.48/-10.77     | -15.00/-8.76      | -8.53/-9.13       | -7.34/-9.05       | -9.34/-6.12       | -7.29/-6.92       | -5.56/-6.64       | -6.27/-8.30       | -8.73/-4.35       | -12.45/-6.95      | -15.14/-6.86      | -9.03/-11.03      | -7.71/-10.28      |
| θ(120°)   | -10.72/-8.95  | -9.61/-9.20     | -7.87/-12.60    | -7.40/-5.34     | -9.01/-9.75     | -8.94/-8.78     | -6.94/-7.22     | -6.57/-5.34       | -12.50/-5.67      | -8.68/-7.75       | -13.96/-9.89      | -11.04/-10.28     | -8.64/-14.10      | -9.26/-15.47      | -12.78/-8.37      | -8.97/-7.21       | -12.51/-6.83      | -10.54/-7.99      | -7.01/-8.96       | -9.85/-6.45       | -11.02/-10.14     | -14.62/-13.00     | -14.20/-14.67     | -11.03/-12.95     |
| θ(127.5°) | -13.63/-9.73  | -11.99/-14.03   | -11.28/-15.71   | -8.09/-8.62     | -14.20/-12.06   | -10.76/-11.15   | -10.93/-6.63    | -7.49/-9.01       | -12.16/-4.44      | -9.94/-8.64       | -14.38/-9.18      | -12.55/-11.57     | -14.59/-14.65     | -11.64/-12.71     | -14.65/-8.17      | -7.33/-8.74       | -12.31/-10.49     | -10.81/-9.55      | -8.14/-8.35       | -14.07/-8.80      | -13.02/-11.91     | -11.76/-15.34     | -15.29/-14.22     | -12.88/-11.24     |
| θ(135°)   | -11.27/-11.88 | -9.41/-15.86    | -14.58/-13.49   | -11.24/-12.87   | -15.05/-12.45   | -14.05/-15.41   | -9.63/-8.89     | -11.81/-11.87     | -8.59/-7.59       | -14.12/-9.84      | -10.91/-10.59     | -12.57/-9.27      | -10.86/-12.22     | -10.98/-10.22     | -10.40/-9.35      | -8.40/-7.81       | -15.45/-12.03     | -11.72/-9.09      | -7.11/-8.33       | -13.23/-10.85     | -7.67/-11.33      | -12.82/-13.74     | -15.86/-15.21     | -12.57/-10.13     |
| θ(142.5°) | -12.61/-12.86 | -9.89/-12.65    | -14.11/-14.43   | -11.08/-11.36   | -14.85/-13.42   | -14.50/-14.37   | -12.52/-14.85   | -11.27/-10.68     | -12.88/-12.84     | -13.44/-11.96     | -11.94/-13.86     | -16.34/-15.24     | -15.26/-15.38     | -15.67/-12.52     | -7.77/-8.49       | -10.63/-13.50     | -12.27/-14.43     | -12.72/-11.70     | -8.96/-14.00      | -12.00/-14.59     | -12.50/-14.04     | -13.58/-15.56     | -16.00/-13.36     | -15.54/-12.30     |
| θ(150°)   | -12.50/-11.18 | -13.72/-15.58   | -13.38/-13.36   | -14.29/-14.89   | -15.46/-14.87   | -14.90/-13.62   | -11.99/-12.64   | -13.63/-12.42     | -15.18/-13.98     | -10.38/-12.68     | -15.57/-14.81     | -15.60/-15.20     | -13.79/-15.60     | -15.51/-13.51     | -13.13/-11.13     | -9.44/-10.09      | -12.21/-15.67     | -14.65/-11.60     | -7.96/-11.66      | -13.45/-9.45      | -9.74/-10.11      | -11.06/-11.06     | -14.26/-14.94     |                   |
| θ(157.5°) | -15.95/-13.34 | -14.72/-15.53   | -15.15/-13.35   | -13.36/-15.58   | -16.23/-15.27   | -14.44/-13.58   | -15.11/-14.47   | -13.42/-12.55     | -14.15/-14.78     | -14.78/-14.57     | -15.88/-15.64     | -13.74/-14.65     | -15.50/-15.09     | -14.97/-11.56     | -9.87/-10.41      | -10.35/-11.28     | -12.19/-10.69     | -9.32/-11.31      | -14.46/-10.95     | -6.90/-7.81       | -11.14/-11.96     | -15.17/-14.07     | -9.92/-9.55       | -14.53/-15.61     |
| θ(165°)   | -14.93/-13.76 | -15.64/-14.37   | -15.07/-14.78   | -15.51/-15.30   | -12.93/-11.80   | -12.50/-13.59   | -15.02/-15.86   | -15.13/-15.10     | -15.08/-15.24     | -15.43/-15.89     | -15.42/-13.27     | -11.73/-12.16     | -11.92/-11.70     | -11.04/-10.85     | -11.76/-13.21     | -13.00/-12.89     | -10.40/-8.29      | -9.34/-12.14      | -14.12/-12.83     | -9.39/-9.06       | -10.41/-12.37     | -14.24/-11.87     | -10.35/-11.66     | -13.15/-15.78     |
| θ(172.5°) | -13.46/-12.67 | -11.95/-11.54   | -10.83/-10.22   | -9.77/-9.79     | -10.31/-12.78   | -13.92/-15.42   | -15.02/-14.95   | -14.88/-14.31     | -13.47/-13.25     | -13.47/-14.60     | -14.44/-13.88     | -12.83/-11.89     | -12.22/-11.22     | -10.37/-10.68     | -10.84/-10.08     | -9.95/-9.84       | -9.09/-10.59      | -13.35/-13.25     | -13.41/-13.70     | -12.47/-12.24     | -12.03/-12.45     | -14.61/-15.20     | -15.39/-14.26     | -14.75/-14.50     |
| θ(180°)   | -15.28/-12.16 | -15.35/-15.24   | -16.24/-15.19   | -16.08/-16.01   | -15.64/-15.85   | -15.03/-14.33   | -14.77/-15.03   | -14.78/-15.24     | -15.39/-15.63     | -14.82/-13.60     | -14.34/-14.61     | -13.62/-15.26     | -15.36/-14.29     | -15.21/-15.45     | -15.96/-14.09     | -14.87/-14.85     | -15.38/-15.91     | -15.20/-15.16     | -15.88/-15.58     | -15.95/-15.32     | -15.17/-15.77     | -15.06/-15.20     | -15.32/-13.88     |                   |
| Freq(Hz)  | 5.885GPol.    | Total/Ant.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°)     | -1.71/-1.54   | -1.51/-1.88     | -2.22/-1.91     | -1.86/-2.27     | -2.93/-3.00     | -2.46/-1.78     | -1.90/-1.94     | -1.67/-1.38       | -1.38/-1.26       | -1.30/-1.22       | -1.09/-0.78       | -0.49/-0.39       | 0.03/-0.33        | 0.42/-0.69        | -1.10/-1.21       | -1.41/-1.98       | -2.00/-1.70       | -1.73/-1.57       | -1.98/-2.51       | -2.70/-2.74       | -2.84/-3.72       | -3.70/-3.72       | -4.34/-3.35       |                   |
| θ(7.5°)   | 0.77/0.99     | 1.36/1.59       | 1.72/1.76       | 1.79/1.58       | 1.35/1.16       | 1.17/1.11       | 0.84/0.26       | -0.63/-1.61       | -2.80/-3.98       | -5.31/-6.06       | -6.10/-5.53       | -4.20/-2.39       | -1.56/-1.52       | -1.73/-1.24       | -0.67/-0.89       | -1.20/-1.12       | -1.20/-0.93       | -1.15/-1.26       | -1.18/-1.17       | -1.37/-1.41       | -1.54/-1.36       | -0.84/-0.67       | -0.39/0.37        | 0.64/0.69         |
| θ(15°)    | 1.46/1.75     | 2.04/2.16       | 1.89/1.67       | 1.06/0.29       | -0.64/-0.23     | -2.80/-3.31     | -3.09/-3.23     | -4.05/-5.74       | -9.34/-11.78      | -9.24/-5.85       | -4.10/-3.39       | -3.35/-3.35       | -3.07/-2.90       | -2.62/-2.06       | -2.02/-2.15       | -2.26/-2.95       | -3.97/-4.95       | -5.55/-4.94       | -3.65/-4.21       | -1.96/-1.76       | -2.16/-2.39       | -2.06/-1.17       | -0.47/0.42        | 1.15/1.10         |
| θ(22.5°)  | 1.26/2.07     | 2.55/2.54       | 2.10/2.27       | 0.65/0.41       | 0.61/0.68       | -0.32/-0.55     | -1.36/-2.25     | -3.35/-5.37       | -9.47/-10.83      | -6.55/-6.51       | -10.67/-7.61      | -1.99/0.30        | -0.18/-1.86       | -3.34/-4.54       | -5.47/-4.30       | -2.89/-2.04       | -2.22/-2.95       | -2.75/-2.60       | -2.21/-2.33       | -0.34/-0.40       | 0.28/0.62         | 0.77/1.02         |                   |                   |
| θ(30°)    | -0.84/1.38    | 1.71/1.36       | 1.45/1.94       | 2.70/3.18       | 3.08/2.88       | 1.82/-0.05      | -1.46/-2.60     | -6.91/-9.82       | -6.60/-6.14       | -3.48/-3.28       | -6.45/-4.07       | -0.35/-0.00       | -1.66/-0.73       | 0.82/0.87         | 0.92/-3.38        | -4.08/-3.79       | -3.24/-3.08       | -2.80/-3.10       | -3.82/-3.15       | -1.56/-0.28       | 0.61/-0.02        | -1.56/-0.82       | 0.13/0.33         | -0.37/-1.17       |
| θ(37.5°)  | -2.50/0.41    | -1.05/-1.09     | 0.44/1.30       | 0.22/-0.56      | -0.62/0.07      | 2.50/0.85       | -2.68/-1.85     | -2.50/-3.31       | -1.90/-2.67       | -1.07/-1.32       | -9.21/-8.37       | -7.14/0.39        | 3.37/3.54         | 1.35/-2.24        | -2.58/-0.42       | 1.18/1.28         | -0.45/-1.41       | -1.27/-2.50       | -7.07/-6.44       | -2.98/-1.16       | 1.48/2.42         | 0.54/-0.44        | 0.26/0.53         | -1.66/-6.15       |
| θ(45°)    | -3.04/-0.98   | -4.67/-2.10     | -0.89/-1.06     | -0.23/0.74      | -0.05/-2.84     | -1.49/1.64      | 1.65/1.15       | 0.27/-2.08        | -1.81/-2.67       | -2.00/-3.27       | -8.80/-4.70       | -3.26/-7.16       | 1.76/1.45         | 0.86/0.48         | 0.11/0.78         | 2.72/2.82         | 0.26/-1.66        | -2.63/-4.47       | -8.29/-8.23       | -3.08/-1.65       | -1.66/0.06        | 0.93/1.44         | -2.96/-7.46       | -2.36/-8.20       |
| θ(52.5°)  | -4.05/-0.90   | -1.90/-4.15     | -12.00/-7.79    | -2.72/-1.43     | 0.50/1.57       | 0.80/1.64       | 2.89/2.40       | -1.48/-4.31       | -5.09/-7.67       | -5.02/-3.17       | -3.24/-2.77       | -4.46/-4.91       | -0.46/-1.89       | 0.77/-2.43        | -1.87/1.70        | 2.70/3.65         | 3.15/2.13         | 0.97/0.82         | -3.22/-6.50       | -4.40/-1.00       | -2.05/-3.56       | -0.86/-1.27       | -5.29/-0.79       | -2.37/-8.50       |
| θ(60°)    | -3.81/1.81    | 1.36/-2.82      | -0.35/-0.65     | -1.60/-8.29     | -7.88/-3.27     | 4.07/3.32       | 2.95/4.32       | 0.10/-3.13        | -0.68/-5.03       | -1.99/-2.04       | -2.66/-3.33       | -3.25/-4.64       | 0.55/-0.64        | -1.56/-4.34       | -0.25/-2.68       | 2.89/3.63         | 3.36/3.30         | 2.17/2.89         | 1.24/0.09         | -1.67/-0.60       | -1.02/-2.76       | -3.30/0.68        | -5.44/-3.10       | -13.45/-5.35      |
| θ(67.5°)  | -4.69/5.58    | 3.71/2.20       | 3.27/2.15       | -0.69/-0.90     | -2.41/2.24      | 5.13/4.21       | 3.37/3.34       | 0.46/-1.10        | -1.98/-1.75       | -0.88/-0.94       | -4.73/-3.31       | -8.12/0.98        | -1.33/-6.60       | -12.83/-5.29      | 0.52/0.28         | 0.24/2.36         | 2.42/2.36         | 1.92/3.93         | 2.45/2.66         | 1.12/-0.27        | -5.00/-0.80       | -7.33/0.20        | -2.60/-6.42       | -0.86/-2.46       |
| θ(75°)    | -6.70/2.61    | 2.94/2.92       | 2.97/1.90       | -1.05/0.69      | 1.21/2.95       | 3.65/3.15       | 3.20/3.18       | -0.59/-1.49       | -9.19/-1.55       | -0.96/-2.60       | -2.74/0.56        | -1.71/-1.21       | 0.35/-4.99        | -10.53/-10.84     | -1.73/-2.04       | -5.29/0.49        | 2.83/0.51         | 0.62/1.23         | 1.65/3.23         | 2.38/-0.18        | -3.45/-1.17       | -7.07/1.45        | -0.42/-9.27       | -0.24/-1.43       |
| θ(82.5°)  | -10.77/0.66   | -0.37/-1.17     | 0.46/-2.02      | -4.35/0.06      | 1.25/1.55       | 1.93/1.51       | 2.33/1.94       | -1.18/-1.85       | -8.43/-0.27       | -2.02/-2.11       | -5.42/-2.07       | -9.71/-1.14       | -5.27/-3.39       | -7.60/-5.84       | -4.62/-2.84       | -8.73/-1.03       | 2.37/-1.36        | -1.48/-2.07       | -0.19/-2.35       | 1.85/-0.54        | -5.99/1.76        | -6.61/-5.12       | -0.79/-1.97       | -0.88/-2.65       |
| θ(90°)    | -12.42/-2.69  | -2.86/-0.83     | -1.69/-1.96     | -5.21/-1.25     | -0.33/-1.67     | -0.61/-1.14     | 0.30/-0.63      | -3.30/-2.91       | -6.79/-2.90       | -3.53/-3.55       | -3.43/-1.19       | -4.88/-4.23       | -4.16/-3.77       | -5.67/-9.72       | -6.14/-3.60       | -6.15/-4.09       | 0.39/-3.02        | -3.58/-4.75       | -4.57/-1.53       | -1.13/-1.80       | -7.98/0.46        | -12.02/-0.01      | -2.30/-12.11      | -2.61/-4.38       |
| θ(97.5°)  | -11.33/-4.59  | -4.76/-2.41     | -3.30/-3.35     | -0.73/-2.75     | -1.86/-3.81     | -3.61/-4.22     | -1.67/-2.07     | -5.03/-3.92       | -9.37/-4.23       | -5.84/-4.37       | -6.01/-2.87       | -11.01/-6.65      | -6.73/-3.39       | -10.94/-8.24      | -7.19/-3.48       | -6.40/-5.23       | -1.56/-6.01       | -6.39/-7.99       | -8.41/-7.74       | -5.82/-4.35       | -10.49/-2.66      | -12.60/-3.17      | -4.87/-9.54       | -0.58/-7.30       |
| θ(105°)   | -10.96/-9.87  | -6.43/-6.87     | -7.72/-9.59     | -10.66/-2.80    | -2.29/-4.17     | -6.21/-6.13     | -5.04/-4.24     | -6.95/-4.54       | -10.54/-4.38      | -7.11/-5.10       | -6.62/-3.46       | -6.47/-8.61       | -11.07/-8.67      | -7.14/-9.78       | -8.51/-4.36       | -6.21/-6.04       | -2.44/-8.04       | -6.20/-7.68       | -9.40/-10.92      | -9.43/-6.74       | -15.29/-4.88      | -11.07/-5.54      | -6.89/-7.17       | -6.01/-8.38       |
| θ(112.5°) | -10.10/-10.61 | -9.42/-13.35    | -10.56/-14.04   | -10.06/-5.31    | -3.75/-4.74     | -7.04/-6.47     | -5.82/-4.20     | -7.23/-4.93       | -12.16/-6.15      | -10.07/-6.65      | -8.44/-8.12       | -9.70/-7.22       | -10.82/-11.71     | -11.60/-7.39      | -6.96/-5.09       | -8.14/-9.71       | -6.10/-6.44       | -7.00/-7.75       | -9.10/-7.51       | -9.81/-6.00       | -12.14/-5.36      | -13.82/-10.23     | -7.18/-8.78       | -7.76/-7.47       |
| θ(120°)   | -7.97/-8.73   | -12.24/-16.17   | -11.55/-15.04   | -8.87/-10.52    | -8.35/-10.47    | -10.53/-8.75    | -7.05/-7.62     | -8.66/-7.02       | -12.16/-7.01      | -9.21/-6.46       | -9.46/-7.93       | -9.24/-10.58      | -7.03/-9.62       | -11.26/-11.25     | -13.51/-10.27     | -8.35/-8.61       | -10.00/-7.50      | -8.87/-7.83       | -9.39/-7.88       | -11.73/-8.88      | -14.94/-6.29      | -15.36/-14.34     | -11.70/-13.37     | -11.01/-10.10     |
| θ(        |               |                 |                 |                 |                 |                 |                 |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |



# Antenna Pattern\_Radio 4\_5GHz UNII 2C-4 and 6GHz

# Appendix F

|           |               |                 |                 |                 |                 |                 |                 |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
|-----------|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Θ(127.5°) | -6.72/-13.03  | -9.53/-12.09    | -12.47/-15.20   | -11.52/-12.45   | -10.54/-13.69   | -12.95/-9.04    | -14.82/-8.64    | -12.91/-9.63      | -8.54/-12.38      | -11.98/-11.96     | -6.73/-9.30       | -8.64/-11.18      | -14.53/-9.57      | -14.45/-7.87      | -12.11/-8.49      | -5.80/-6.52       | -12.35/-8.95      | -5.59/-7.16       | -10.89/-13.35     | -12.78/-6.91      | -3.24/-10.06      | -15.57/-8.35      | -8.07/-11.81      | -9.20/-10.31      |
| Θ(135°)   | -14.34/-11.96 | -13.87/-15.69   | -14.82/-14.91   | -14.63/-14.34   | -8.50/-13.73    | -12.04/-8.37    | -10.37/-10.64   | -11.13/-10.13     | -10.09/-11.37     | -12.42/-10.68     | -6.65/-9.62       | -7.49/-10.62      | -13.78/-12.51     | -15.88/-10.13     | -15.31/-7.89      | -5.75/-9.18       | -14.88/-12.67     | -10.51/-13.86     | -7.75/-8.95       | -9.83/-9.47       | -4.90/-7.17       | -10.78/-7.76      | -8.86/-12.25      | -15.37/-12.01     |
| Θ(142.5°) | -14.63/-14.74 | -14.80/-15.83   | -14.14/-10.20   | -9.89/-12.46    | -14.27/-8.21    | -8.66/-14.96    | -8.23/-13.08    | -11.44/-12.16     | -15.39/-10.16     | -8.16/-9.72       | -6.53/-9.07       | -12.34/-13.88     | -14.11/-13.00     | -12.16/-9.59      | -9.43/-9.99       | -11.72/-13.41     | -9.02/-15.35      | -11.77/-10.62     | -14.97/-11.18     | -12.49/-11.10     | -3.36/-11.50      | -10.42/-14.41     | -11.70/-10.86     | -13.56/-14.16     |
| Θ(150°)   | -9.60/-11.91  | -12.46/-14.95   | -15.27/-14.23   | -13.29/-16.40   | -10.64/-9.22    | -13.18/-11.75   | -10.88/-14.23   | -12.58/-10.24     | -12.58/-11.94     | -10.57/-10.17     | -10.30/-11.73     | -12.04/-13.47     | -12.04/-13.14     | -14.06/-15.36     | -15.10/-15.26     | -14.17/-16.11     | -14.69/-14.58     | -12.01/-10.97     | -13.56/-13.12     | -13.83/-11.58     | -14.15/-14.91     | -15.22/-10.72     | -9.26/-14.40      | -10.32/-12.12     |
| Θ(157.5°) | -13.21/-11.64 | -9.71/-10.66    | -10.92/-14.19   | -13.03/-11.65   | -11.78/-12.91   | -11.45/-8.60    | -8.72/-11.44    | -11.89/-10.15     | -12.29/-13.37     | -11.77/-9.61      | -13.61/-16.04     | -14.78/-14.52     | -14.98/-13.75     | -13.51/-13.63     | -15.48/-13.48     | -12.25/-12.24     | -9.88/-8.19       | -10.40/-15.91     | -9.25/-9.72       | -12.54/-14.95     | -10.90/-11.94     | -14.65/-13.84     | -14.49/-13.58     | -14.12/-14.67     |
| Θ(165°)   | -15.91/-14.73 | -14.02/-12.05   | -13.81/-13.66   | -14.24/-15.14   | -15.78/-15.93   | -14.24/-12.99   | -11.90/-10.96   | -11.66/-12.30     | -11.46/-11.27     | -11.78/-14.54     | -15.46/-15.71     | -15.17/-15.41     | -14.09/-11.77     | -9.72/-8.84       | -8.28/-8.27       | -8.37/-8.84       | -10.34/-9.00      | -7.60/-7.81       | -10.80/-12.29     | -10.63/-11.46     | -13.33/-14.81     | -14.10/-15.31     | -15.85/-15.25     |                   |
| Θ(172.5°) | -15.39/-16.06 | -15.14/-15.43   | -14.60/-15.10   | -15.40/-14.61   | -12.40/-10.53   | -9.59/-10.75    | -11.45/-12.19   | -12.29/-12.07     | -11.76/-11.52     | -10.33/-9.61      | -9.88/-10.83      | -11.69/-11.37     | -11.72/-10.85     | -10.24/-10.57     | -11.03/-10.45     | -10.74/-10.37     | -9.96/-9.59       | -10.10/-10.87     | -11.92/-13.21     | -14.07/-13.18     | -13.67/-15.00     | -15.64/-15.12     | -15.74/-14.29     | -11.84/-12.02     |
| Θ(180°)   | -10.12/-10.63 | -9.94/-9.65     | -9.28/-10.35    | -11.29/-12.12   | -13.14/-13.74   | -13.77/-14.45   | -14.80/-14.62   | -14.96/-15.42     | -14.21/-12.97     | -13.25/-13.59     | -13.61/-12.77     | -11.73/-12.75     | -14.56/-14.59     | -14.49/-9.94      | -9.90/-9.52       | -9.12/-8.77       | -8.40/-8.75       | -8.98/-9.16       | -9.52/-10.06      | -9.22/-9.60       | -9.99/-9.32       | -10.04/-10.27     | -9.61/-10.20      | -9.06/-8.06       |
| Freq(Hz)  | 6.995GPol.    | 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°)     | -5.84/-6.00   | -6.63/-6.95     | -6.08/-5.80     | -5.17/-5.80     | -6.86/-6.99     | -6.75/-6.80     | -6.98/-7.16     | -7.43/-7.74       | -8.45/-8.69       | -9.53/-9.72       | -10.01/-10.03     | -10.71/-10.52     | -10.33/-11.09     | -10.06/-8.63      | -8.56/-6.91       | -6.89/-7.00       | -5.90/-5.16       | -4.68/-4.28       | -4.72/-5.09       | -4.74/-4.59       | -4.16/-3.61       | -3.57/-3.40       | -2.66/-2.86       | -3.45/-3.41       |
| Θ(7.5°)   | -10.49/-11.60 | -11.97/-13.55   | -14.17/-13.01   | -9.96/-9.84     | -8.59/-7.88     | -7.47/-6.93     | -6.86/-6.60     | -6.47/-6.54       | -6.20/-6.40       | -4.32/-3.81       | -3.78/-2.95       | -2.32/-2.27       | -2.40/-1.92       | -1.64/-1.99       | -1.99/-1.91       | -1.97/-2.26       | -2.54/-2.23       | -2.22/-2.94       | -3.86/-4.07       | -5.88/-6.90       | -7.32/-7.75       | -8.93/-9.96       | -9.26/-10.11      | -12.61/-11.52     |
| Θ(15°)    | -6.68/-6.31   | -5.75/-5.15     | -4.16/-3.68     | -3.47/-3.22     | -3.49/-4.54     | -6.31/-6.88     | -5.80/-3.94     | -2.83/-2.78       | -2.99/-2.20       | -0.95/-0.13       | 0.27/-0.04        | -0.42/-0.95       | -0.98/-0.74       | -0.71/-0.08       | 0.26/-0.01        | -0.73/-1.63       | -3.22/-4.50       | -3.87/-4.68       | -4.44/-4.54       | -3.92/-5.28       | -4.68/-3.36       | -2.52/-2.75       | -4.24/-7.08       | -9.66/-9.08       |
| Θ(22.5°)  | -3.75/-4.56   | -5.29/-5.15     | -4.75/-4.44     | -4.45/-6.19     | -9.32/-10.12    | -9.60/-9.08     | -5.86/-3.48     | -2.51/-3.32       | -3.13/-0.88       | 0.25/-0.11        | -1.23/-2.32       | -3.03/-3.35       | -2.88/-2.79       | -2.74/-2.61       | -2.34/-3.17       | -3.74/-2.88       | -2.80/-2.55       | -3.16/-4.01       | -3.15/-1.88       | -2.19/-4.43       | -3.28/-1.13       | -1.00/-3.63       | -7.42/-7.60       | -5.36/-3.67       |
| Θ(30°)    | -4.94/-3.99   | -2.85/-3.41     | -2.92/-1.58     | -1.60/-3.53     | -5.59/-3.09     | -1.19/-1.40     | -2.51/-2.02     | -0.64/-0.90       | -1.72/-0.32       | -0.45/-5.17       | -3.58/-1.89       | -3.01/-4.66       | -4.90/-4.34       | -2.18/-1.50       | -1.70/-1.51       | -1.25/-1.50       | -2.34/-2.32       | -1.13/-0.72       | 0.87/-0.67        | 0.12/-1.73        | -0.61/-1.74       | -4.54/-8.53       | -7.71/-6.06       | -6.36/-6.29       |
| Θ(37.5°)  | -2.90/-5.21   | -6.48/-13.86    | -11.94/-7.63    | -7.16/-5.49     | -3.68/-0.92     | 1.580/98        | -1.34/-1.00     | 0.11/0.70         | -1.08/-0.03       | -1.37/-3.20       | -1.96/-4.74       | -4.04/-2.49       | -2.14/-1.76       | -1.47/-1.97       | -0.77/0.64        | 1.68/2.09         | 2.47/1.77         | 1.83/3.25         | 3.10/2.99         | 2.25/0.37         | -2.41/-3.40       | -1.53/-1.09       | -3.69/-6.28       | -3.33/-1.94       |
| Θ(45°)    | -4.12/-3.47   | -7.72/-8.85     | -9.64/-7.28     | -10.60/-9.45    | -1.17/-2.59     | -0.86/-1.60     | 1.15/2.08       | 1.63/0.92         | -0.98/-0.19       | -0.24/0.60        | -1.34/-2.64       | 1.20/-1.15        | -0.09/-2.31       | -2.27/-2.60       | 0.00/-0.93        | 3.06/3.39         | 4.23/3.37         | 1.50/2.69         | 2.53/2.53         | 1.70/0.77         | -3.22/-2.78       | 2.28/2.51         | -0.94/-1.09       | -1.73/-4.25       |
| Θ(52.5°)  | -0.12/-1.02   | -6.11/-5.76     | -8.89/-8.29     | -8.82/-3.65     | -1.02/-2.40     | -1.83/-1.96     | 2.14/2.43       | 0.69/-1.11        | -0.22/0.40        | -0.17/-1.19       | -2.12/-1.97       | -2.53/-1.92       | -4.83/-1.91       | 0.74/0.71         | 3.97/3.37         | 4.08/4.01         | 3.13/2.34         | 2.27/2.02         | 1.15/0.11         | -3.62/-1.74       | 0.32/2.26         | 0.81/0.70         | -5.86/-5.63       |                   |
| Θ(60°)    | -1.92/-2.40   | -1.01/-1.85     | -5.62/-5.56     | -9.57/-7.05     | -9.80/-6.04     | -0.44/4.48      | 4.26/4.50       | 1.42/0.54         | -2.48/0.71        | 0.59/0.64         | 0.35/0.32         | 0.76/0.97         | -3.53/-1.82       | -4.79/-1.93       | 0.20/-0.86        | 1.41/2.91         | 3.87/3.89         | <b>4.96/3.20</b>  | 3.19/2.15         | 0.99/-0.07        | -1.53/-2.38       | -3.59/-1.91       | 1.14/-0.55        | -4.21/-2.78       |
| Θ(67.5°)  | -1.29/0.02    | 2.25/-0.05      | -8.61/-7.09     | -10.13/-8.38    | -8.13/-1.14     | 1.55/3.51       | 0.96/2.04       | -0.63/0.40        | -4.25/0.01        | 0.13/-1.22        | -1.35/-0.69       | 2.80/-0.45        | -7.88/-0.73       | -1.86/-6.67       | -7.45/0.05        | 1.47/-0.35        | 2.38/2.79         | 4.52/3.45         | 2.03/-0.40        | -1.27/-1.36       | -0.08/-2.10       | -2.21/0.81        | -0.02/-3.44       | -1.55/-6.66       |
| Θ(75°)    | -1.59/-0.61   | 3.70/-0.67      | -4.25/-5.61     | -7.55/-10.03    | -4.97/-0.14     | -0.24/0.92      | -1.19/0.25      | -4.84/-2.19       | -3.62/-1.29       | -0.58/-3.61       | -1.09/-1.77       | -1.50/-1.47       | -1.17/-13.14      | -5.86/-7.65       | -1.49/-17.20      | 1.62/-6.00        | -0.01/-9.6        | 4.10/-3.57        | 2.44/-4.06        | -7.24/-2.51       | -0.71/-1.87       | -0.10/-2.05       | -2.81/-4.06       | -0.81/-5.86       |
| Θ(82.5°)  | -4.60/-1.63   | 3.14/-1.64      | -3.13/-4.63     | -7.58/-12.04    | -4.06/-2.80     | -3.40/-0.64     | -2.16/-0.15     | -2.84/-4.77       | -5.58/-4.01       | -3.49/-4.77       | -1.37/-4.06       | -2.08/-14.73      | -12.69/-12.25     | -6.78/-6.27       | -9.12/-1.52       | 0.19/-5.65        | -1.96/-1.54       | 2.81/2.61         | 0.82/-6.54        | -11.31/0.82       | -1.45/-1.03       | 0.97/-1.83        | -2.72/-6.55       | -2.11/-7.02       |
| Θ(90°)    | -9.68/-15.02  | 0.90/-9.59      | -7.23/-5.10     | -9.64/-13.04    | -5.60/-4.55     | -3.96/-1.70     | -2.99/-1.46     | -2.46/-5.83       | -7.80/-5.31       | -5.68/-5.67       | -2.43/-2.17       | -3.09/-12.66      | -12.28/-9.63      | -12.69/-5.67      | -10.14/-3.78      | -1.88/-4.67       | -3.09/-6.02       | 0.79/0.00         | -2.09/-10.02      | -11.46/-1.53      | -5.26/-2.13       | 0.25/-4.32        | -4.40/-7.49       | -1.94/-8.71       |
| Θ(97.5°)  | -10.75/-3.29  | -2.33/-3.97     | -10.91/-8.72    | -11.69/-15.77   | -10.92/-8.07    | -4.60/-4.57     | -6.11/-0.38     | -4.60/-8.29       | -8.02/-8.56       | -9.00/-5.18       | -2.86/-12.71      | -8.96/-10.28      | -10.26/-13.74     | -6.86/-7.64       | -7.93/-5.28       | -2.74/-5.20       | -3.04/-1.83       | -6.68/-1.83       | -4.46/-10.06      | -6.73/-7.14       | -12.15/-6.23      | -3.86/-10.07      | -7.51/-5.99       | -3.11/-8.81       |
| Θ(105°)   | -7.65/-6.78   | -4.93/-4.13     | -9.95/-13.43    | -12.31/-13.64   | -10.19/-9.52    | -6.98/-8.23     | -15.08/-8.23    | -8.92/-9.32       | -7.71/-10.23      | -9.73/-6.70       | -5.45/-4.95       | -11.50/-12.87     | -10.06/-13.97     | -10.38/-7.62      | -11.63/-6.56      | -5.78/-5.70       | -5.24/-2.96       | -0.60/-1.85       | -3.39/-11.14      | -7.51/-9.27       | -9.29/-11.63      | -6.36/-11.07      | -9.15/-13.51      | -5.36/-8.20       |
| Θ(112.5°) | -11.73/-9.67  | -10.07/-5.82    | -15.26/-14.12   | -13.60/-10.20   | -8.17/-10.09    | -8.35/-7.84     | -9.63/-8.82     | -5.79/-6.82       | -6.82/-16.01      | -9.56/-5.73       | -9.26/-10.36      | -8.97/-10.18      | -11.61/-9.63      | -6.29/-8.77       | -11.39/-9.51      | -4.42/-4.61       | -8.19/-5.30       | -3.25/-6.41       | -9.62/-12.30      | -7.00/-10.66      | -9.62/-9.02       | -14.87/-12.25     | -12.71/-16.01     | -3.97/-11.45      |
| Θ(120°)   | -12.04/-9.80  | -11.87/-10.76   | -14.81/-13.30   | -12.76/-12.01   | -8.92/-12.19    | -31.09/-0.77    | -12.76/-13.92   | -7.20/-9.49       | -8.44/-14.13      | -13.19/-11.92     | -9.81/-11.92      | -10.98/-10.77     | -10.98/-14.85     | -11.81/-12.31     | -5.87/-7.24       | -7.87/-9.74       | -4.25/-5.93       | -10.30/-12.72     | -7.04/-12.59      | -8.92/-7.79       | -11.74/-13.97     | -11.39/-11.25     | -8.25/-11.13      |                   |
| Θ(127.5°) | -11.24/-12.63 | -9.02/-14.16    | -15.98/-12.62   | -14.80/-11.15   | -9.51/-15.15    | -11.50/-13.11   | -12.79/-13.30   | -12.14/-12.20     | -11.28/-14.06     | -9.96/-7.59       | -11.42/-12.72     | -10.59/-15.13     | -10.91/-13.23     | -8.01/-15.53      | -10.09/-11.36     | -5.72/-4.35       | -13.75/-6.57      | -5.52/-4.52       | -8.16/-12.39      | -8.78/-12.13      | -7.54/-10.60      | -10.42/-8.62      | -6.90/-12.58      | -7.59/-12.39      |
| Θ(135°)   | -11.93/-14.00 | -10.62/-11.99   | -13.60/-13.67   | -16.26/-11.99   | -14.63/-13.99   | -9.25/-11.74    | -11.64/-11.32   | -8.92/-10.88      | -10.71/-8.82      | -10.56/-8.16      | -13.84/-11.85     | -15.85/-11.26     | -13.14/-8.65      | -12.54/-11.86     | -14.84/-11.32     | -5.76/-5.34       | -10.12/-14.13     | -8.82/-7.56       | -11.22/-9.71      | -7.38/-1.55       | -9.56/-6.28       | -10.91/-6.78      | -10.05/-11.16     | -15.92/-8.99      |
| Θ(142.5°) | -13.20/-15.02 | -13.19/-13.93   | -9.50/-11.97    | -14.14/-12.65   | -8.89/-8.74     | -15.70/-7.02    | -13.25/-13.23   | -15.48/-11.93     | -8.69/-7.57       | -14.99/-9.19      | -14.14/-10.15     | -11.73/-14.36     | -15.82/-11.52     | -13.98/-14.01     | -14.75/-13.28     | -12.25/-9.52      | -15.02/-11.23     | -9.71/-11.22      | -10.11/-12.84     | -9.56/-6.22       | -6.40/-10.42      | -12.28/-11.81     | -10.53/-13.54     | -12.50/-14.79     |
| Θ(150°)   | -16.11/-14.20 | -9.59/-9.81     | -14.28/-15.63   | -14.91/-15.86   | -15.19/-15.63   | -13.86/-13.93   | -15.81/-11.39   | -10.91/-11.72     | -11.43/-10.83     | -11.75/-14.99     | -15.33/-13.13     | -14.27/-14.09     | -13.91/-15.30     | -15.44/-14.41     | -11.63/-14.54     | -14.85/-14.51     | -13.38/-13.07     | -10.89/-13.98     | -9.69/-15.44      | -13.63/-12.37     | -11.52/-11.56     | -10.93/-10.42     | -8.01/-10.36      | -15.55/-14.92     |
| Θ(157.5°) | -14.47/-12.65 | -10.59/-11.41   | -15.59/-15.47   | -11.98/-10.04   | -10.48/-12.60   | -15.01/-15.17   | -15.00/-14.71   | -14.67/-14.15     | -11.48/-14.19     | -12.50/-16.04     | -14.91/-14.69     | -13.47/-13.54     | -14.48/-14.44     | -13.57/-15.87     | -15.02/-13.30     | -15.51/-14.37     | -14.65/-12.40     | -8.19/-7.82       | -11.79/-13.19     | -9.17/-8.68       | -9.36/-8.81       | -7.52/-9.31       | -13.34/-15.26     | -15.07/-15.26     |
| Θ(165°)   | -12.75/-10.68 | -9.70/-9.61     | -11.32/-13.50   | -14.88/-13.70   | -12.97/-12.03   | -10.80/-10.92   | -12.93/-15.47   | -15.09/-11.29     | -10.91/-11.04     | -11.50/-9.97      | -12.82/-14.93     | -14.77/-15.08     | -15.66/-15.35     | -14.34/-14.86     | -15.37/-15.83     | -14.44/-11.78     | -10.17/-7.75      | -7.44/-10.45      | -12.48/-7.50      | -4.59/-4.60       | -6.17/-7.55       | -7.32/-8.93       | -12.41/-15.64     | -15.21/-14.39     |
| Θ(172.5°) | -12.97/-13.06 | -12.58/-11.24   | -9.17/-8.08     | -7.55/-7.86     | -9.09/-11.32    | -14.19/-15.32   | -15.65/-15.85   | -14.26            |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |



# Antenna Pattern\_Radio 4\_5GHz UNII 2C-4 and 6GHz

# Appendix F

| θ (180°)   | -10.56/-11.93 | -13.78/-13.75  | -12.06/-12.38  | -13.29/-12.98  | -13.00/-12.59  | -12.40/-12.39  | -12.10/-12.81  | -12.65/-12.23    | -10.95/-11.36    | -12.19/-12.08    | -11.93/-12.05    | -13.18/-14.37    | -13.88/-14.58    | -13.38/-13.74    | -13.52/-13.00    | -13.97/-13.34    | -12.41/-13.40    | -12.47/-10.25    | -9.85/-11.19     | -11.64/-10.94    | -11.57/-11.75    | -12.08/-13.19    | -13.29/-10.94    | -9.53/-9.97      |
|------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Freq(Hz)   | 6.175GPol.    | Total/Ant.3    | -              | -              | -              | -              | -              | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                |
| Gain       | Φ(0°)Φ(7.5°)  | Φ(15°)Φ(22.5°) | Φ(30°)Φ(37.5°) | Φ(45°)Φ(52.5°) | Φ(60°)Φ(67.5°) | Φ(75°)Φ(82.5°) | Φ(90°)Φ(97.5°) | Φ(105°)Φ(112.5°) | Φ(120°)Φ(127.5°) | Φ(135°)Φ(142.5°) | Φ(150°)Φ(157.5°) | Φ(165°)Φ(172.5°) | Φ(180°)Φ(187.5°) | Φ(195°)Φ(202.5°) | Φ(210°)Φ(217.5°) | Φ(225°)Φ(232.5°) | Φ(240°)Φ(247.5°) | Φ(255°)Φ(262.5°) | Φ(270°)Φ(277.5°) | Φ(285°)Φ(292.5°) | Φ(300°)Φ(307.5°) | Φ(315°)Φ(322.5°) | Φ(330°)Φ(337.5°) | Φ(345°)Φ(352.5°) |
| θ (0°)     | -0.350-19     | 0.1770.00      | 0.134/-0.07    | -0.31/-0.75    | -1.39/-2.25    | -2.13/-1.74    | -2.22/-2.61    | -2.60/-2.53      | -3.24/-3.72      | -3.89/-3.86      | -3.70/-3.95      | -4.45/-4.55      | -4.74/-4.14      | -3.42/-2.20      | -1.43/-1.03      | -0.89/-0.81      | -0.59/-0.55      | -0.85/-0.64      | -0.45/-0.25      | -0.47/-0.22      | 0.09/-0.24       | 0.01/-0.13       | 0.28/-0.48       | 0.47/-0.40       |
| θ (7.5°)   | -9.88/-9.21   | -8.53/-8.03    | -8.14/-7.67    | -7.84/-8.10    | -9.06/-9.50    | -7.69/-5.51    | -3.83/-3.71    | -3.07/-2.20      | -1.68/-1.08      | -0.42/-0.47      | -0.72/-0.70      | -1.12/-1.20      | -1.39/-1.67      | -1.54/-1.24      | -0.86/-0.59      | -0.37/-0.28      | -0.28/-0.19      | -0.48/-0.66      | -1.06/-1.59      | -2.42/-3.42      | -4.47/-5.20      | -6.20/-7.22      | -7.63/-8.35      | -8.16/-8.16      |
| θ (15°)    | -9.92/-8.16   | -10.06/-9.48   | -8.60/-9.72    | -12.36/-12.41  | -9.49/-6.94    | -3.78/-2.50    | -1.55/-1.35    | -2.08/-1.47      | -1.43/-1.99      | -2.42/-3.90      | -5.62/-7.75      | -11.89/-13.01    | -11.16/-11.00    | -11.84/-9.37     | -6.66/-4.63      | -2.87/-1.72      | -0.57/-0.06      | -0.59/-0.75      | -0.71/-0.20      | -2.01/-0.02      | 0.30/-0.12       | -0.50/-0.67      | -2.05/-3.87      |                  |
| θ (22.5°)  | -5.14/-10.31  | -15.07/-8.05   | -3.93/-3.72    | -4.29/-3.66    | -2.17/-1.27    | -1.10/-1.67    | -2.26/-2.28    | -2.83/-3.58      | -4.23/-4.20      | -3.57/-3.93      | -4.61/-4.10      | -3.83/-3.27      | -2.19/-1.76      | -2.01/-3.41      | -6.32/-7.32      | -5.50/-3.79      | -2.19/-0.79      | 0.48/-0.52       | -0.46/-1.54      | -2.26/-3.38      | -4.89/-5.78      | -7.54/-7.01      | -5.32/-4.19      | -4.12/-4.68      |
| θ (30°)    | 0.06/-0.05    | -2.80/-4.18    | -0.70/-0.16    | -0.55/-0.06    | -0.06/-1.36    | -2.00/-0.35    | 0.40/-0.20     | 0.05/-0.90       | 1.71/-1.73       | 1.57/-1.36       | 1.09/-0.30       | -2.80/-8.53      | -4.21/-1.03      | -0.70/-2.78      | -7.38/-7.13      | -1.94/-0.68      | -2.86/-5.26      | -2.12/-1.26      | -2.18/-1.03      | 0.98/-0.99       | -0.13/-0.53      | -0.26/-0.10      | 0.53/-0.54       | 1.21/-1.29       |
| θ (37.5°)  | -0.47/-1.27   | 2.07/-1.50     | 2.46/-1.22     | -1.26/-0.15    | 0.21/-0.66     | 1.53/-0.77     | 1.42/-0.05     | -1.02/-0.17      | 1.19/-1.96       | 1.87/-2.04       | 2.76/-2.48       | 1.00/-3.84       | -4.86/-3.48      | -4.40/-3.29      | -2.98/-1.33      | -0.34/-0.82      | -4.36/-10.32     | -0.33/-0.54      | -2.97/-0.16      | 1.01/-2.96       | -6.54/-5.92      | -6.23/-3.47      | -1.27/-1.34      | 1.03/-0.66       |
| θ (45°)    | 2.38/-2.92    | 3.11/-1.42     | 2.89/-1.01     | -0.85/-2.01    | 0.95/-1.81     | 1.59/-0.85     | 2.13/-0.40     | -0.61/-0.56      | 0.03/-1.00       | 1.12/-1.78       | 1.95/-0.34       | -0.39/-0.64      | -0.60/-0.48      | -3.32/-3.88      | -1.61/-0.04      | 0.36/-5.07       | -2.23/-3.52      | -2.43/-0.60      | -2.71/-2.27      | 2.84/-0.17       | 0.07/-0.81       | -1.38/-1.07      | 1.19/-2.90       | 4.42/-2.91       |
| θ (52.5°)  | 2.64/-3.50    | 3.25/-0.75     | 2.53/-0.28     | 2.30/-3.37     | 1.29/-1.71     | -3.44/-0.86    | 0.28/-1.96     | 0.17/-0.95       | -0.97/-0.60      | 1.97/-0.85       | -3.17/-1.47      | -1.47/-1.41      | -1.18/-0.76      | -1.08/-0.26      | 2.04/-3.14       | 1.80/-1.86       | -3.72/-1.18      | -1.94/-3.76      | 3.15/-2.07       | -2.19/-2.40      | 2.96/-2.90       | 2.96/-2.90       | 3.89/-3.46       |                  |
| θ (60°)    | 1.23/-2.59    | 1.82/-0.36     | 1.69/-0.08     | 0.46/-2.74     | 1.73/-1.19     | -7.46/-2.36    | -5.69/-1.90    | -0.06/-2.24      | 3.66/-1.05       | 0.59/-1.13       | 0.45/-1.31       | -1.67/-3.88      | -2.32/-4.47      | -3.08/-0.59      | 1.67/-0.49       | 2.62/-0.13       | 0.52/-2.91       | -3.78/-5.15      | -3.70/-1.23      | 0.02/-0.44       | 1.11/-1.36       | -4.12/-2.50      | 1.60/-3.69       | 3.68/-2.46       |
| θ (67.5°)  | 1.77/-2.58    | 0.51/-0.76     | 0.63/-0.59     | 3.43/-1.37     | 1.80/-0.64     | -10.05/-6.65   | -4.36/-0.54    | 0.08/-1.87       | 1.25/-0.84       | 2.21/-0.72       | -1.86/-2.64      | -4.09/-1.11      | -0.28/-8.33      | -7.26/-0.53      | 2.27/-0.24       | 2.67/-0.12       | -1.15/-2.74      | -4.43/-2.14      | -3.03/-1.16      | 2.24/-1.88       | -0.25/-2.22      | -5.19/-4.60      | 2.59/-0.07       | 6.65/-4.13       |
| θ (75°)    | 1.70/-2.48    | 0.53/-1.63     | -0.82/-1.28    | 1.93/-0.54     | 1.61/-4.40     | -8.08/-10.60   | -2.16/-0.07    | -0.61/-0.18      | -4.21/-3.83      | 0.96/-0.36       | -3.48/-1.63      | -5.68/-5.19      | -1.89/-2.23      | -7.42/-4.38      | 1.01/-0.25       | 1.14/-1.06       | -4.80/-1.00      | -2.34/-0.82      | -1.91/-2.76      | 5.37/-3.93       | 1.18/-1.93       | -5.83/-5.49      | 3.99/-6.61       | 7.50/-5.05       |
| θ (82.5°)  | 0.47/-1.36    | -0.74/-2.73    | -1.62/-2.66    | -0.12/-2.19    | 1.18/-12.73    | -7.82/-6.96    | -1.59/-1.52    | -2.10/-2.50      | -0.91/-2.62      | -0.62/-3.53      | -6.13/-10.30     | -11.20/-4.17     | -4.27/-8.93      | -3.03/-5.14      | 0.46/-1.79       | -0.58/-0.56      | -6.89/-0.23      | -0.67/-1.81      | -0.79/-2.97      | 5.66/-3.45       | -2.59/-1.61      | -6.64/-7.43      | 3.53/-5.55       | 6.33/-9.99       |
| θ (90°)    | -0.94/-0.77   | -2.01/-4.50    | -3.21/-4.90    | -2.02/-3.90    | -0.58/-10.85   | -8.62/-5.71    | -1.27/-2.03    | -3.12/-3.86      | -9.41/-3.65      | -1.73/-4.34      | -5.87/-8.47      | -12.15/-12.47    | -6.05/-8.93      | -6.07/-3.18      | -3.86/-1.19      | -2.24/-1.11      | -6.10/-2.61      | -1.52/-0.19      | -1.41/-2.58      | 3.48/-2.84       | 2.05/-1.46       | -8.86/-11.18     | 0.86/-3.26       | 3.53/-2.36       |
| θ (97.5°)  | -2.88/-2.60   | -4.56/-3.73    | -6.24/-6.48    | -4.90/-1.51    | -4.09/-7.80    | -10.48/-4.72   | -1.87/-3.28    | -4.35/-4.69      | -7.09/-3.62      | -3.97/-7.51      | -9.06/-10.53     | -15.40/-7.89     | -11.44/-11.78    | -6.03/-4.71      | -5.12/-0.54      | -3.96/-3.50      | -5.47/-6.17      | -4.67/-3.29      | -5.02/-0.60      | -1.49/-1.44      | -2.46/-3.20      | -12.51/-12.15    | -2.48/-2.70      | 0.09/-0.52       |
| θ (105°)   | -4.26/-4.75   | -8.89/-9.25    | -10.40/-8.26   | -7.21/-6.87    | -6.84/-8.13    | -9.81/-6.82    | -4.93/-6.59    | -4.51/-4.24      | -8.00/-4.87      | -4.55/-6.40      | -8.38/-11.40     | -14.94/-13.07    | -7.84/-13.03     | -12.63/-3.57     | -7.10/-3.24      | -2.85/-5.04      | -5.33/-8.43      | -6.60/-5.16      | -7.86/-6.12      | -6.19/-6.46      | -8.16/-7.03      | -12.26/-12.27    | -4.14/-1.91      | -2.64/-2.02      |
| θ (112.5°) | -3.81/-7.11   | -8.98/-13.91   | -11.83/-11.33  | -10.43/-7.24   | -12.52/-11.70  | -9.81/-7.51    | -5.73/-8.30    | -7.16/-7.28      | -9.79/-6.38      | -6.68/-8.13      | -9.46/-12.16     | -15.16/-10.05    | -14.96/-14.99    | -12.09/-6.26     | -9.02/-3.46      | -3.71/-5.53      | -7.51/-9.91      | -8.42/-4.77      | -7.82/-4.20      | -3.64/-3.00      | -5.54/-7.23      | -12.25/-11.13    | -4.12/-3.51      | -5.12/-3.46      |
| θ (120°)   | -5.65/-10.77  | -11.27/-14.32  | -10.97/-13.72  | -12.29/-11.31  | -14.07/-10.78  | -12.97/-9.63   | -8.28/-11.35   | -11.28/-7.82     | -12.42/-7.38     | -7.86/-10.04     | -10.68/-12.33    | -15.06/-14.64    | -14.34/-15.67    | -13.97/-7.81     | -8.57/-9.89      | -3.66/-11.24     | -5.48/-8.70      | -13.18/-8.48     | -8.89/-3.99      | -7.76/-8.62      | -5.09/-0.97      | -6.53/-13.92     | -9.13/-7.63      | -6.66/-6.58      |
| θ (127.5°) | -1.07/-10.55  | -1.82/-9.89    | -12.83/-13.12  | -10.22/-11.24  | -15.11/-9.66   | -10.97/-8.88   | -4.87/-4.47    | -9.83/-9.96      | -12.42/-10.50    | -7.81/-10.48     | -13.92/-14.86    | -16.18/-14.28    | -15.56/-15.17    | -12.95/-8.51     | -9.41/-12.85     | -4.75/-10.10     | -9.80/-10.93     | -15.03/-8.89     | -12.70/-8.33     | -13.54/-13.60    | -10.62/-13.29    | -9.17/-11.75     | -13.17/-11.30    | -7.22/-6.63      |
| θ (135°)   | -11.80/-15.10 | -10.83/-10.47  | -13.96/-12.41  | -15.39/-15.03  | -15.00/-10.57  | -10.38/-10.97  | -12.40/-10.85  | -9.41/-12.25     | -11.92/-11.76    | -10.17/-11.56    | -12.40/-14.12    | -14.82/-12.34    | -13.79/-13.46    | -14.77/-12.79    | -13.41/-14.87    | -8.14/-8.96      | -12.71/-9.02     | -12.79/-8.88     | -12.64/-7.84     | -7.34/-9.35      | -8.12/-10.14     | -11.46/-8.75     | -12.72/-11.89    | -6.74/-7.57      |
| θ (142.5°) | -11.33/-14.99 | -10.38/-12.09  | -13.35/-11.95  | -12.37/-11.28  | -10.28/-13.35  | -11.59/-12.40  | -11.67/-13.90  | -12.20/-10.77    | -13.26/-13.47    | -9.78/-9.19      | -12.28/-14.31    | -14.52/-15.35    | -15.61/-16.03    | -14.82/-11.65    | -8.55/-12.20     | -11.58/-9.28     | -15.40/-10.61    | -12.20/-14.21    | -9.35/-13.86     | -11.18/-11.82    | -14.13/-9.93     | -13.01/-12.21    | -14.69/-13.29    | -7.06/-9.84      |
| θ (150°)   | -7.76/-13.88  | -13.87/-13.83  | -15.90/-13.86  | -9.53/-11.72   | -12.20/-15.36  | -15.11/-13.82  | -12.22/-11.38  | -12.37/-11.67    | -12.58/-11.83    | -13.29/-15.00    | -14.13/-12.91    | -12.91/-12.86    | -14.06/-15.60    | -15.49/-13.16    | -13.71/-12.76    | -12.92/-15.55    | -15.17/-11.12    | -13.48/-11.81    | -7.85/-12.03     | -15.76/-13.59    | -15.20/-15.42    | -13.44/-14.88    | -13.27/-13.12    | -10.87/-9.04     |
| θ (157.5°) | -13.42/-14.75 | -11.46/-12.29  | -12.49/-15.22  | -15.67/-15.66  | -12.88/-11.17  | -12.55/-15.49  | -13.49/-10.18  | -11.58/-13.96    | -13.60/-11.04    | -11.33/-12.78    | -13.21/-12.79    | -10.90/-11.79    | -14.46/-14.58    | -16.07/-14.69    | -15.61/-14.53    | -15.96/-14.59    | -16.06/-14.42    | -12.81/-13.86    | -14.21/-15.44    | -14.58/-15.09    | -15.55/-14.97    | -15.50/-14.35    | -15.17/-15.50    | -12.57/-9.83     |
| θ (165°)   | -11.64/-9.63  | -11.35/-15.18  | -14.55/-13.69  | -13.00/-12.57  | -11.39/-11.77  | -15.19/-14.58  | -13.46/-11.82  | -11.83/-12.78    | -14.76/-15.02    | -16.14/-15.20    | -14.08/-12.61    | -10.69/-9.74     | -9.91/-10.69     | -13.22/-15.11    | -15.26/-15.25    | -15.10/-15.57    | -14.95/-14.27    | -11.90/-14.83    | -15.04/-15.67    | -15.14/-13.95    | -13.93/-15.97    | -14.75/-14.80    | -12.20/-11.68    | -10.79/-15.16    |
| θ (172.5°) | -15.87/-14.53 | -15.13/-13.13  | -11.16/-14.16  | -11.32/-11.52  | -12.20/-13.76  | -15.38/-15.26  | -15.46/-15.47  | -15.35/-13.40    | -11.35/-11.31    | -10.80/-13.44    | -10.93/-11.19    | -12.39/-14.02    | -13.05/-14.19    | -15.09/-13.93    | -13.86/-13.10    | -12.91/-15.13    | -15.44/-15.01    | -14.79/-15.27    | -15.35/-14.87    | -15.44/-15.25    | -15.89/-13.73    | -14.97/-13.66    | -13.19/-13.68    | -15.10/-15.68    |
| θ (180°)   | -16.17/-14.70 | -13.80/-13.06  | -14.50/-14.91  | -14.56/-15.56  | -15.86/-15.57  | -15.86/-16.04  | -15.13/-14.69  | -14.68/-15.01    | -13.43/-15.16    | -15.92/-15.42    | -15.38/-16.15    | -14.84/-14.80    | -15.11/-16.18    | -15.35/-14.98    | -14.51/-13.76    | -13.36/-13.93    | -14.65/-14.70    | -14.57/-14.54    | -13.50/-12.48    | -11.32/-11.06    | -10.79/-11.34    | -11.49/-11.02    | -10.59/-10.39    | -10.27/-10.66    |
| Freq(Hz)   | 6.475GPol.    | Total/Ant.3    | -              | -              | -              | -              | -              | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                |
| Gain       | Φ(0°)Φ(7.5°)  | Φ(15°)Φ(22.5°) | Φ(30°)Φ(37.5°) | Φ(45°)Φ(52.5°) | Φ(60°)Φ(67.5°) | Φ(75°)Φ(82.5°) | Φ(90°)Φ(97.5°) | Φ(105°)Φ(112.5°) | Φ(120°)Φ(127.5°) | Φ(135°)Φ(142.5°) | Φ(150°)Φ(157.5°) | Φ(165°)Φ(172.5°) | Φ(180°)Φ(187.5°) | Φ(195°)Φ(202.5°) | Φ(210°)Φ(217.5°) | Φ(225°)Φ(232.5°) | Φ(240°)Φ(247.5°) | Φ(255°)Φ(262.5°) | Φ(270°)Φ(277.5°) | Φ(285°)Φ(292.5°) | Φ(300°)Φ(307.5°) | Φ(315°)Φ(322.5°) | Φ(330°)Φ(337.5°) | Φ(345°)Φ(352.5°) |
| θ (0°)     | -4.19/-4.41   | -4.17/-4.03    | -3.63/-3.12    | -2.41/-1.74    | -1.17/-0.87    | -1.43/-1.16    | -0.78/-0.96    | -0.52/-0.45      | -0.86/-1.00      | -0.91/-1.00      | -1.26/-1.18      | -0.99/-1.29      | -1.65/-1.79      | -1.40/-1.82      | -2.63/-3.25      | -3.48/-3.96      | -4.34/-4.20      | -4.39/-4.09      | -4.76/-5.11      | -4.63/-5.34      | -5.25/-4.98      | -4.78/-4.64      | -5.67/-5.82      | -5.72/-6.00      |
| θ (7.5°)   | -2.01/-2.38   | -1.94/-1.80    | -2.08/-2.44    | -3.09/-3.80    | -4.11/-5.00    | -6.09/-5.97    | -6.30/-6.45    | -6.04/-5.29      | -5.67/-6.16      | -5.74/-5.30      | -6.28/-7.07      | -6.43/-7.27      | -7.90/-7.26      | -6.63/-6.46      | -6.97/-8.48      | -8.17/-7.79      | -6.33/-4.44      | -3.15/-1.87      | -0.69/-0.34      | -0.04/-0.30      | -0.50/-0.80      | -0.62/-1.12      | -1.35/-1.79      | -1.68/-1.55      |
| θ (15°)    | -4.63/-3.99   | -2.76/-1.73    | -1.43/-1.51    | -2.08/-3.28    | -4.46/-4.73    | -5.69/-6.13    | -5.69/-4.49    | -4.90/-5.90      | -6.79/-11.03     | -8.72/-7.45      | -5.49/-4.53      | -6.80/-7.41      | -7.92/-5.27      | -3.58/-1.97      | -1.31/-1.37      | -1.74/-4.27      | -9.57/-12.69     | -4.91/-1.14      | 0.45/-0.68       | 0.01/-1.61       | -3.11/-2.73      | -3.59/-4.95      | -5.57/-6.15      |                  |
| θ (22.5°)  | -1.89/-1.95   | -1.92/-0.93    | -0.86/-0.54    | -0.21/-0.46    | -1.77/-3.64    | -4.67/-4.97    | -3.76/-1.92    | -1.40/-1.51      | -2.03/-5.20      | -10.69/-8.26     | -3.63/-2.28      | -8.55/-8.80      | -8.74/-5.02      | -3.37/-3.95      | -6.58/-6.19      | -3.44/-3.20      | -5.22/-5.81      | -2.23/-0.02      | 0.16/-1.93       | -3.96/-2.45      | -0.24/-0.75      | 1.33/-1.27       | 0.94/-0.23       | -1.58/-2.33      |
| θ (30°)    | -0.33/-0.55   | -0.41/-        |                |                |                |                |                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |



# Antenna Pattern\_Radio 4\_5GHz UNII 2C-4 and 6GHz

# Appendix F

|           |               |                |                |                |                |                |                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
|-----------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Θ(30°)    | -6.18/-9.81   | -10.03/-6.43   | -6.85/-8.95    | -8.60/-3.87    | -1.67/-0.49    | 0.40/-0.44     | -2.98/-5.43    | -4.62/-3.82      | -3.77/-3.04      | -3.22/-3.09      | -2.00/-2.22      | -1.96/-2.12      | -2.69/-1.54      | 0.72/-0.57       | -4.50/-5.08      | -2.33/-0.97      | -2.17/-4.64      | -4.19/-3.03      | -4.32/-7.10      | -4.97/-1.43      | -0.69/-1.60      | -5.18/-13.53     | -6.67/-3.32      | -2.42/-4.27      |
| Θ(37.5°)  | -3.93/-8.50   | -7.04/-4.46    | -2.59/-3.76    | -6.19/-3.19    | -2.15/-3.05    | -3.70/-4.78    | -5.07/-2.70    | -1.54/-4.82      | -4.58/-4.03      | -0.03/-0.71      | -0.46/-2.15      | -2.00/-2.44      | -2.23/-2.55      | -3.45/-5.64      | -4.98/-2.90      | -3.66/-5.66      | -6.93/-6.57      | -7.72/-5.05      | -1.56/-2.27      | -1.29/0.85       | 0.82/-1.36       | -5.22/-5.22      | -0.17/-1.54      | 1.33/-1.59       |
| Θ(45°)    | 0.33/-3.40    | -9.22/-4.47    | -0.46/-0.97    | -4.64/-2.01    | -0.03/-1.02    | -4.52/-8.61    | -9.33/-3.03    | 0.79/0.01        | -3.69/-1.03      | 2.20/-0.34       | -1.36/-2.52      | -1.54/0.13       | -0.96/-0.76      | -1.08/-3.00      | -0.31/-0.71      | -2.33/-4.59      | -4.30/-0.48      | -3.86/-3.85      | -4.72/-0.41      | -0.37/-1.31      | 0.20/-0.12       | 0.29/0.35        | 1.08/0.17        | 2.21/-0.29       |
| Θ(52.5°)  | 2.07/-0.52    | -8.86/-2.97    | 0.42/-1.09     | -8.52/-3.63    | -1.73/-4.55    | -6.10/-6.81    | -12.47/-5.27   | -0.98/-1.02      | -3.94/2.66       | 3.25/-1.38       | -3.00/-2.15      | -1.14/-1.62      | -3.39/-2.33      | -0.75/-0.59      | 1.51/1.13        | 0.93/2.16        | 2.59/2.94        | 3.81/1.57        | -1.75/-1.29      | 1.64/3.05        | 2.72/2.31        | 4.04/2.68        | 2.16/4.15        | 3.04/1.61        |
| Θ(60°)    | 3.43/-9.11    | -2.24/-4.11    | 0.80/0.02      | -3.11/-2.60    | -3.02/-8.82    | -5.36/-0.95    | -2.21/-5.78    | -1.41/-0.18      | 0.87/-1.60       | -1.54/-2.06      | -2.30/-3.37      | -2.73/-2.41      | 0.63/-3.2        | 3.87/3.74        | 1.64/2.32        | 2.16/0.91        | 2.57/1.12        | -2.19/0.17       | 0.75/-1.83       | 2.57/8.02        | 4.77/2.03        | 2.37/3.56        | 3.69/2.87        |                  |
| Θ(67.5°)  | 4.23/3.59     | -0.72/-4.25    | 2.09/1.53      | -1.15/-2.98    | -4.41/-5.37    | -1.25/0.84     | 2.10/-2.07     | -5.04/-3.26      | -1.68/-4.75      | -2.67/-0.62      | -1.49/-3.35      | -5.10/-1.57      | -0.58/1.26       | 2.87/3.79        | 5.42/5.04        | 3.23/1.67        | 2.64/0.74        | -2.98/1.48       | -1.06/0.55       | 2.10/2.57        | 3.34/0.76        | 2.08/2.54        | 4.12/3.36        |                  |
| Θ(75°)    | 3.81/4.16     | -0.16/-4.45    | 1.18/0.47      | -3.69/-5.01    | -5.52/-3.70    | -1.08/2.16     | 2.56/-1.31     | -4.83/-1.20      | -4.02/-8.25      | -4.41/-3.21      | -1.43/-2.58      | -3.85/-4.83      | 0.40/-0.75       | 2.30/2.72        | 3.75/4.85        | 2.35/2.66        | 5.69/5.06        | 4.28/2.30        | -3.35/3.49       | -1.03/-0.41      | 0.40/2.28        | 0.71/-0.36       | 1.72/0.41        | 3.32/3.16        |
| Θ(82.5°)  | 2.66/3.75     | -0.99/-5.31    | -0.70/-1.50    | -5.42/-6.68    | -5.62/-3.27    | -1.18/1.07     | 1.53/-2.91     | -4.82/-0.56      | -3.74/-8.14      | -7.03/-2.82      | -4.29/-4.29      | -6.83/-1.82      | 0.70/0.41        | 1.76/1.78        | 3.03/2.93        | 1.20/3.41        | 4.56/2.82        | -2.30/4.05       | -1.43/-1.10      | -0.93/0.97       | -2.40/-0.50      | 0.20/-0.81       | 1.97/1.87        |                  |
| Θ(90°)    | 1.16/1.97     | -3.02/-5.97    | -3.46/-3.67    | -1.07/-2.86    | -6.33/-4.78    | -2.44/-0.50    | -0.15/-2.84    | -7.44/-1.22      | -3.72/-8.43      | -9.31/-7.03      | -6.69/-5.90      | -4.19/-9.60      | -1.74/-1.78      | 0.84/0.40        | -0.09/0.28       | -1.68/0.41       | 5.03/6.24        | 3.95/2.38        | -2.86/2.23       | -3.33/-3.01      | -3.07/-1.37      | -5.33/-1.40      | -0.40/-3.13      | 0.14/0.54        |
| Θ(97.5°)  | -0.66/-0.11   | -5.09/-7.21    | -6.12/-5.81    | -13.49/-8.39   | -7.65/-5.94    | -5.14/-2.10    | -1.74/-4.55    | -7.45/-3.55      | -5.92/-10.18     | -10.03/-9.24     | -12.15/-9.75     | -10.15/-4.91     | -4.41/-3.09      | -1.34/-1.61      | 0.08/-1.70       | -6.37/-5.96      | 2.34/2.84        | 0.09/-1.55       | -6.02/-0.71      | -6.19/-5.98      | -4.12/-4.20      | -6.84/-2.44      | -3.18/-3.43      | -1.64/-0.83      |
| Θ(105°)   | -1.49/-1.66   | -8.23/-9.31    | -10.42/-7.70   | -10.66/-8.17   | -7.49/-8.69    | -7.39/-3.61    | -2.92/-3.89    | -8.40/-4.52      | -7.52/-11.40     | -10.78/-8.11     | -11.92/-13.23    | -6.57/-7.16      | -3.80/-5.78      | -0.30/-1.21      | -5.89/-7.03      | -0.39/-1.72      | -7.70/-9.95      | -7.51/-4.04      | -9.31/-8.69      | -7.44/-6.42      | -8.69/-3.18      | -8.49/-3.63      | -2.98/-1.73      |                  |
| Θ(112.5°) | -2.62/-4.11   | -10.34/-10.13  | -12.75/-9.60   | -8.64/-7.94    | -6.72/-8.85    | -7.66/-6.91    | -3.54/-4.15    | -10.19/-5.59     | -6.88/-10.67     | -13.26/-7.22     | -10.79/-6.34     | -5.65/-5.09      | -15.15/-5.11     | -6.62/-8.46      | -6.07/-3.89      | -6.92/-3.20      | -0.47/-1.57      | -10.48/-11.61    | -8.53/-4.16      | -8.74/-7.71      | -6.71/-7.79      | -10.41/-3.83     | -6.38/-6.19      | -5.17/-2.86      |
| Θ(120°)   | -5.45/-5.67   | -7.30/-11.40   | -10.11/-8.32   | -8.97/-8.95    | -5.43/-5.48    | -7.69/-6.33    | -4.79/-6.79    | -6.28/-5.05      | -6.28/-9.51      | -14.11/-8.42     | -9.64/-9.99      | -5.79/-7.46      | -9.50/-6.89      | -6.63/-6.51      | -15.18/-7.05     | -6.96/-3.03      | -3.88/-1.99      | -8.44/-11.42     | -4.03/-6.45      | -7.80/-10.41     | -7.37/-5.10      | -9.38/-8.95      | -8.89/-7.56      | -5.91/-5.42      |
| Θ(127.5°) | -7.53/-0.77   | -7.18/-9.81    | -12.44/-8.98   | -6.14/-8.42    | -7.47/-6.49    | -8.95/-10.38   | -9.10/-7.38    | -9.18/-7.42      | -8.60/-8.21      | -8.90/-11.80     | -11.19/-14.75    | -15.98/-10.69    | -7.25/-5.23      | -8.90/-6.18      | -8.94/-7.50      | -8.75/-6.24      | -5.37/-8.21      | -9.84/-8.00      | -7.46/-7.75      | -13.37/-9.01     | -9.77/-8.88      | -8.01/-9.09      | -9.30/-9.53      | -8.32/-7.42      |
| Θ(135°)   | -6.78/-10.65  | -7.46/-9.50    | -15.41/-8.88   | -5.49/-5.82    | -7.93/-7.49    | -8.46/-8.60    | -10.22/-9.05   | -12.20/-8.87     | -10.99/-10.61    | -13.26/-14.22    | -11.72/-10.93    | -10.39/-15.18    | -11.08/-10.22    | -8.64/-6.11      | -8.33/-6.57      | -12.48/-2.55     | -3.66/-7.65      | -12.07/9.81      | -11.01/-8.81     | -7.52/-7.28      | -10.07/-12.66    | -11.03/-9.26     | -11.37/-13.25    | -9.95/-8.74      |
| Θ(142.5°) | -10.06/-9.17  | -10.73/-14.34  | -15.24/-8.56   | -4.61/-5.22    | -6.92/-7.91    | -7.00/-6.53    | -8.81/-11.10   | -11.64/-11.15    | -6.58/-9.31      | -10.33/-11.27    | -12.16/-10.66    | -15.34/-15.96    | -11.75/-11.71    | -9.20/-8.79      | -5.75/-5.61      | -9.50/-14.46     | -8.38/-8.91      | -15.38/-9.90     | -7.40/-12.63     | -11.67/-10.34    | -11.09/-9.33     | -14.63/-12.93    | -12.69/-9.60     | -9.24/-9.84      |
| Θ(150°)   | -3.63/-7.08   | -10.25/-12.26  | -9.56/-6.31    | -6.44/-8.99    | -6.70/-7.80    | -7.51/-7.57    | -1.73/-6.73    | -7.55/-10.53     | -8.74/-7.49      | -9.72/-11.97     | -8.91/-7.56      | -7.58/-8.84      | -5.96/-8.28      | -5.53/-5.74      | -10.56/-15.50    | -13.92/-13.50    | -10.93/-13.67    | -15.35/-6.15     | -5.08/-8.13      | -8.47/-9.58      | -15.48/-13.34    | -13.30/-13.91    | -14.29/-13.69    | -10.74/-7.34     |
| Θ(157.5°) | -15.18/-15.10 | -15.34/-15.90  | -11.21/-8.32   | -7.71/-7.50    | -7.93/-10.04   | -10.89/-9.89   | -8.99/-7.75    | -6.70/-6.62      | -7.43/-8.73      | -7.41/-5.85      | -5.55/-7.37      | -7.18/-4.86      | -5.26/-9.89      | -12.05/-8.38     | -7.92/-11.32     | -13.23/-13.51    | -14.86/-15.82    | -9.48/-14.38     | -10.72/-10.29    | -14.16/-15.29    | -14.16/-11.56    | -10.54/-11.35    | -10.68/-12.15    |                  |
| Θ(165°)   | -12.77/-13.57 | -15.78/-15.40  | -10.54/-8.31   | -7.08/-5.44    | -5.62/-7.74    | -9.14/-9.88    | -12.99/-9.91   | -11.90/-10.49    | -9.71/-7.11      | -5.30/-4.67      | -5.88/-9.72      | -14.57/-12.55    | -10.11/-11.03    | -15.28/-15.63    | -13.92/-12.34    | -13.55/-14.17    | -14.88/-14.00    | -10.65/-10.77    | -13.38/-12.24    | -12.75/-11.47    | -11.20/-12.77    | -12.84/-12.26    | -13.16/-15.86    | -14.90/-13.63    |
| Θ(172.5°) | -12.43/-11.04 | -10.23/-9.08   | -9.96/-11.53   | -9.10/-8.50    | -9.93/-7.93    | -6.42/-7.64    | -6.63/-5.98    | -6.52/-6.60      | -6.89/-7.63      | -9.38/-11.06     | -12.56/-12.43    | -10.22/-8.96     | -9.78/-11.18     | -12.40/-11.97    | -12.39/-14.75    | -15.48/-14.69    | -15.22/-14.85    | -12.28/-13.78    | -14.08/-13.28    | -14.03/-15.54    | -14.18/-14.77    | -14.44/-13.89    | -15.47/-15.26    | -14.96/-15.92    |
| Θ(180°)   | -10.08/-9.93  | -10.34/-10.86  | -11.28/-10.60  | -11.24/-11.68  | -11.09/-10.74  | -11.48/-10.72  | -9.19/-9.58    | -9.59/-9.21      | -8.95/-9.93      | -9.39/-9.12      | -8.83/-8.32      | -8.18/-9.40      | -11.20/-12.29    | -11.26/-10.50    | -8.65/-8.52      | -7.89/-8.12      | -8.40/-8.95      | -9.52/-10.92     | -11.32/-10.30    | -10.43/-11.16    | -12.08/-12.59    | -12.26/-10.94    | -11.04/-11.25    | -10.44/-10.38    |
| Freq(Hz)  | 5.7850Pol.    | TotalAnt.4     | -              | -              | -              | -              | -              | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                |
| Gain      | Φ(0°)Φ(7.5°)  | Φ(15°)Φ(22.5°) | Φ(30°)Φ(37.5°) | Φ(45°)Φ(52.5°) | Φ(60°)Φ(67.5°) | Φ(75°)Φ(82.5°) | Φ(90°)Φ(97.5°) | Φ(105°)Φ(112.5°) | Φ(120°)Φ(127.5°) | Φ(135°)Φ(142.5°) | Φ(150°)Φ(157.5°) | Φ(165°)Φ(172.5°) | Φ(180°)Φ(187.5°) | Φ(195°)Φ(202.5°) | Φ(210°)Φ(217.5°) | Φ(225°)Φ(232.5°) | Φ(240°)Φ(247.5°) | Φ(255°)Φ(262.5°) | Φ(270°)Φ(277.5°) | Φ(285°)Φ(292.5°) | Φ(300°)Φ(307.5°) | Φ(315°)Φ(322.5°) | Φ(330°)Φ(337.5°) | Φ(345°)Φ(352.5°) |
| Θ(0°)     | -11.19/-11.13 | -10.83/-10.96  | -11.95/-12.46  | -10.62/-11.75  | -11.87/-10.59  | -11.23/-11.39  | -11.07/-10.38  | -9.91/-9.44      | -11.11/-10.88    | -9.36/-8.81      | -7.65/-9.69      | -7.28/-7.49      | -7.68/-7.41      | -7.61/-8.53      | -8.89/-8.38      | -8.17/-8.36      | -8.58/-9.64      | -8.88/-9.04      | -9.74/-9.59      | -9.15/-9.13      | -8.33/-8.34      | -8.75/-9.27      | -9.53/-10.77     | -11.84/-11.93    |
| Θ(7.5°)   | -0.51/-0.36   | -0.30/-0.19    | -0.12/-0.14    | -0.08/-0.41    | -0.81/-0.81    | -0.83/-1.66    | -2.08/-1.79    | -2.70/-3.46      | -4.01/-4.87      | -5.52/-6.16      | -7.07/-7.58      | -8.19/-7.66      | -7.66/-7.05      | -5.98/-5.41      | -5.51/-5.03      | -4.12/-4.06      | -4.40/-4.51      | -4.64/-5.48      | -5.80/-7.55      | -8.64/-7.88      | -7.17/-7.40      | -6.53/-5.21      | -3.91/-3.77      | -3.25/-2.88      |
| Θ(15°)    | -2.19/-2.16   | -1.20/-2.15    | 1.23/-1.90     | 2.91/-1.64     | 1.42/0.73      | -0.24/-0.47    | -0.54/-0.27    | -0.25/-0.16      | -0.55/-1.01      | 1.34/-1.49       | 1.32/0.95        | -0.03/-0.92      | -2.24/-3.86      | -4.80/-3.76      | -2.38/-1.52      | -1.15/-1.07      | -0.99/-0.89      | -0.39/0.05       | 0.41/0.48        | 0.85/-1.17       | 1.12/0.20        | 1.30/-0.37       | 1.11/0.32        | -0.52/-1.24      |
| Θ(22.5°)  | -6.42/-7.22   | -6.26/-3.21    | -0.41/-1.22    | 2.15/2.14      | 1.16/0.21      | -1.72/-3.95    | -4.48/-3.50    | -4.37/-2.79      | -1.31/-0.70      | -0.95/-1.62      | -2.21/-1.52      | -0.67/-0.56      | -1.30/-2.93      | -1.92/0.59       | 1.86/-1.68       | 0.27/-1.52       | -3.26/-4.58      | -4.14/-2.78      | -1.73/-1.40      | -0.39/0.18       | -0.40/-0.81      | -1.45/-2.47      | -4.66/-7.48      | -11.23/-11.16    |
| Θ(30°)    | -1.75/-5.38   | -6.71/-3.17    | -1.90/-0.99    | 0.82/-0.70     | 1.66/-1.48     | -4.24/-6.00    | -4.63/-1.73    | 0.14/-0.58       | -2.53/-3.31      | -3.86/-6.67      | -11.27/-11.65    | -5.18/-1.48      | -1.82/-4.76      | -2.52/-0.13      | -0.67/-2.96      | -4.57/-4.91      | -4.53/-3.78      | -2.12/-1.71      | -1.93/-0.75      | 0.76/-0.40       | -5.43/-8.96      | -5.36/-4.02      | -2.78/-1.18      | -0.36/-1.32      |
| Θ(37.5°)  | -6.05/-10.42  | -6.77/-5.13    | -2.80/-0.42    | 1.95/2.90      | 1.32/-2.13     | -6.57/-9.26    | -8.07/-4.04    | -1.61/-1.69      | -3.31/-1.59      | -3.11/-10.86     | -3.22/-1.45      | -6.32/-4.59      | -7.48/-4.12      | -0.99/-2.13      | -3.38/-3.80      | -3.68/-6.81      | -11.47/-10.03    | -0.72/-6.65      | -10.74/-8.33     | -3.65/-2.02      | -3.76/-7.16      | -5.09/-1.90      | -2.21/-1.63      | -1.64/-4.25      |
| Θ(45°)    | -2.44/-3.98   | -3.52/-1.36    | -0.36/0.33     | -0.06/-1.32    | -1.87/-1.16    | -1.15/-4.18    | -7.85/-9.46    | -9.61/-5.27      | -4.40/-2.06      | 0.65/-2.10       | -5.86/-3.48      | -5.18/-4.44      | -4.55/-4.03      | -1.45/-5.45      | -6.34/-0.47      | 0.84/-3.75       | -4.20/-0.15      | -0.61/-4.34      | -3.71/-4.41      | -5.29/-0.93      | -1.68/-4.26      | -2.51/-5.34      | -5.18/-4.32      | -3.93/-4.30      |
| Θ(52.5°)  | 0.59/-2.43    | -3.30/0.28     | 1.82/-1.39     | -4.69/-3.61    | -1.01/-0.28    | -1.70/-2.21    | -5.54/-13.51   | -15.41/-5.89     | -2.36/-4.63      | -0.25/-0.64      | -2.30/-9.25      | -2.69/0.80       | -1.17/-5.25      | -6.81/-9.45      | 0.27/1.73        | 0.37/0.51        | 2.47/4.00        | 3.29/-0.64       | -1.54/-2.94      | -2.86/-1.77      | 1.66/1.88        | -0.56/-4.53      | -3.46/-3.75      | -0.21/0.78       |
| Θ(60°)    | 1.75/-1.26    | -6.66/-1.78    | 2.09/0.59      | -1.54/-1.36    | 0.18/0.87      | -0.83/-0.87    | 0.64/1.25      | -2.83/-7.44      | -1.60/-8.11      | -3.64/-2.94      | -0.30/-4.30      | -5.17/0.76       | 0.68/-0.91       | -1.44/0.81       | 3.41/-2.43       | 0.30/2.05        | 1.31/0.82        | 1.88/0.75        | -3.54/-6.69      | -4.84/-2.48      | 1.66/1.55        | -1.39/-2.81      | 0.37/-1.73       | 1.69/-1.77       |
| Θ(67.5°)  | -0.87/-3.46   | -8.16/-5.42    | 0.10/-0.71     | -1.84/-4.18    | -3.61/0.46     | -0.87/-1.86    | 2.71/4.51      | 1.29/-3.81       | -2.47/-10.32     | -4.01/-8.06      | -1.40/-6.85      | -0.83/0.65       | 2.89/-1.22       | 1.11/4.50        | 5.62/3.96        | 3.30/3.22        | 3.98/2.80        | 2.79/1.80        | 1.49/-2.40       | -5.24/-1.77      | 1.80/1.57        | -4.28/0.74       | 1.24/-1.79       | 0.21/0.52        |
| Θ(75°)    | -1.45/-4.27   | -7.72/-5.65    | -2.41/-4.41    | -5.79/-6.04    | -6.53/0.41     | -1.13/-3.29    | 2.30/5.17      | 1.99/-1.06       | -1.67/-9.58      | -3.31/-1.79      | -5.79/-5.96      | -3.43/0.08       | 2.58/4.07        | -0.02/0.05       | 5.37/4.80        | 2.95/2.78        | 6.14/5.58        | 4.64/2.26        | 3.78/-1.11       | -4.59/2.54       | -1.15/-0.37      | -4.23/2.80       | 0.35/-2.19       | -1.11/-1.51      |
| Θ(82.5°)  | -1.65/-4.80   | -6.90/-6.98    | -5.72/-9.61    | -11.61/-13.66  | -6.60/-0.32    | -1.81/-3.01    | -0.86/-9.22    | -4.00/-8.72      | -7.66/-6.86      | -5.99/-1.10      | 3.17/-0.42       | -0.97            |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |

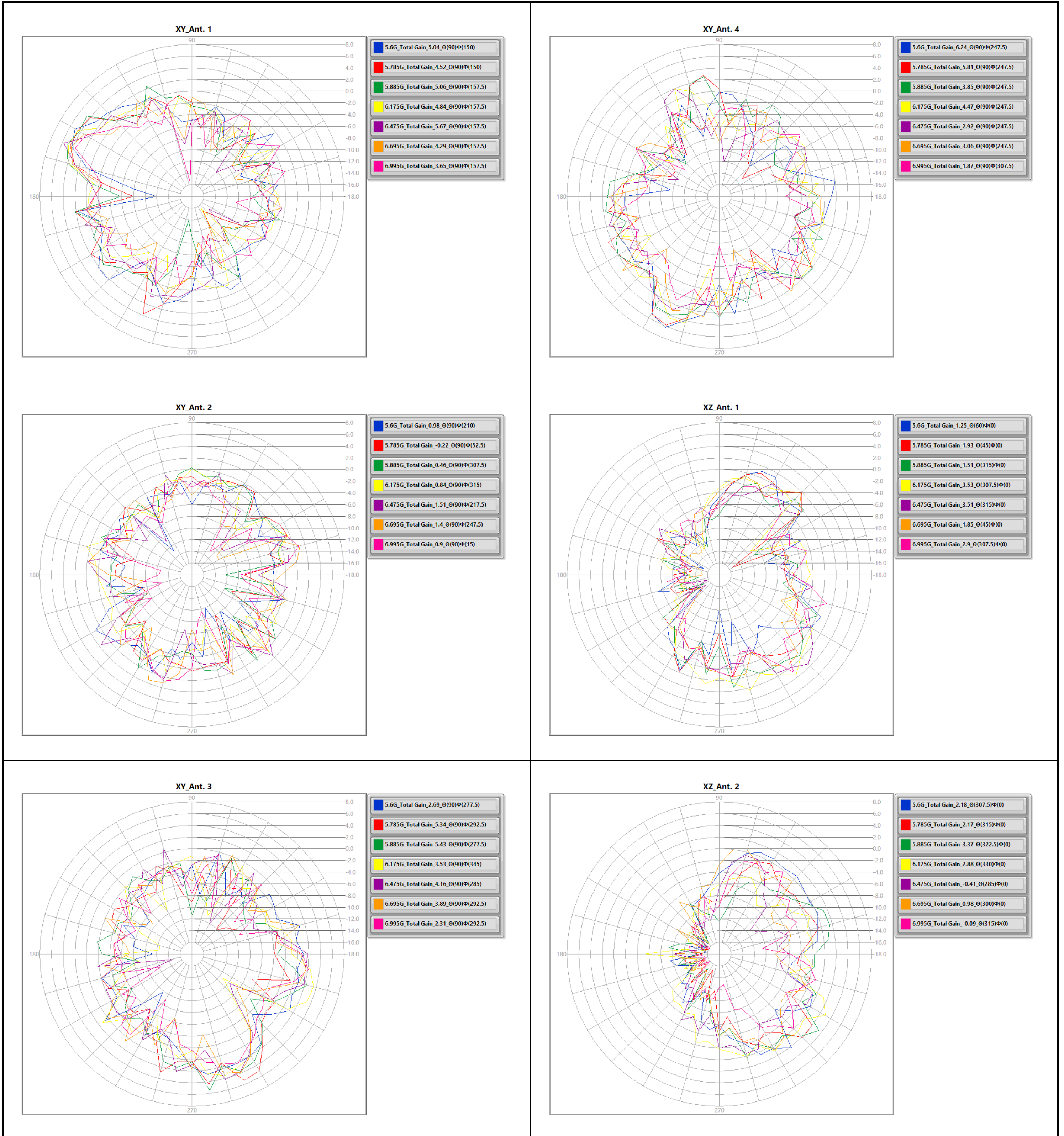


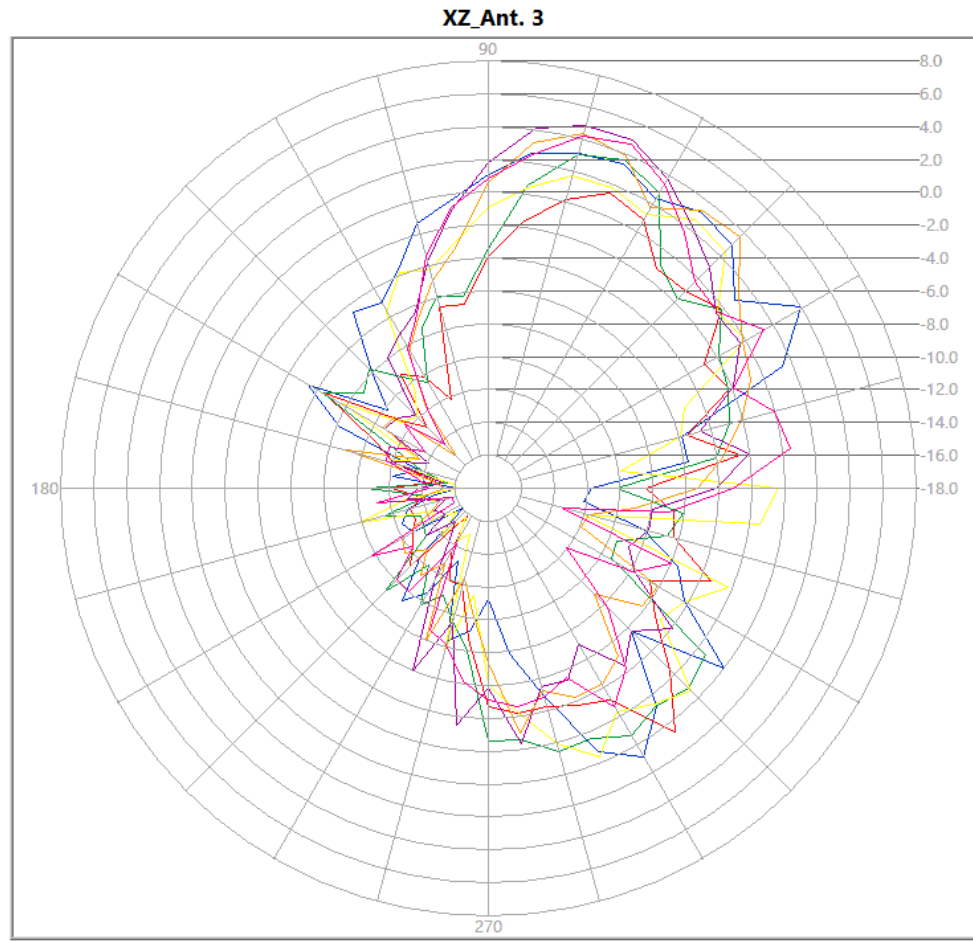
Antenna Pattern\_Radio 4\_5GHz UNII 2C-4 and 6GHz

Appendix F

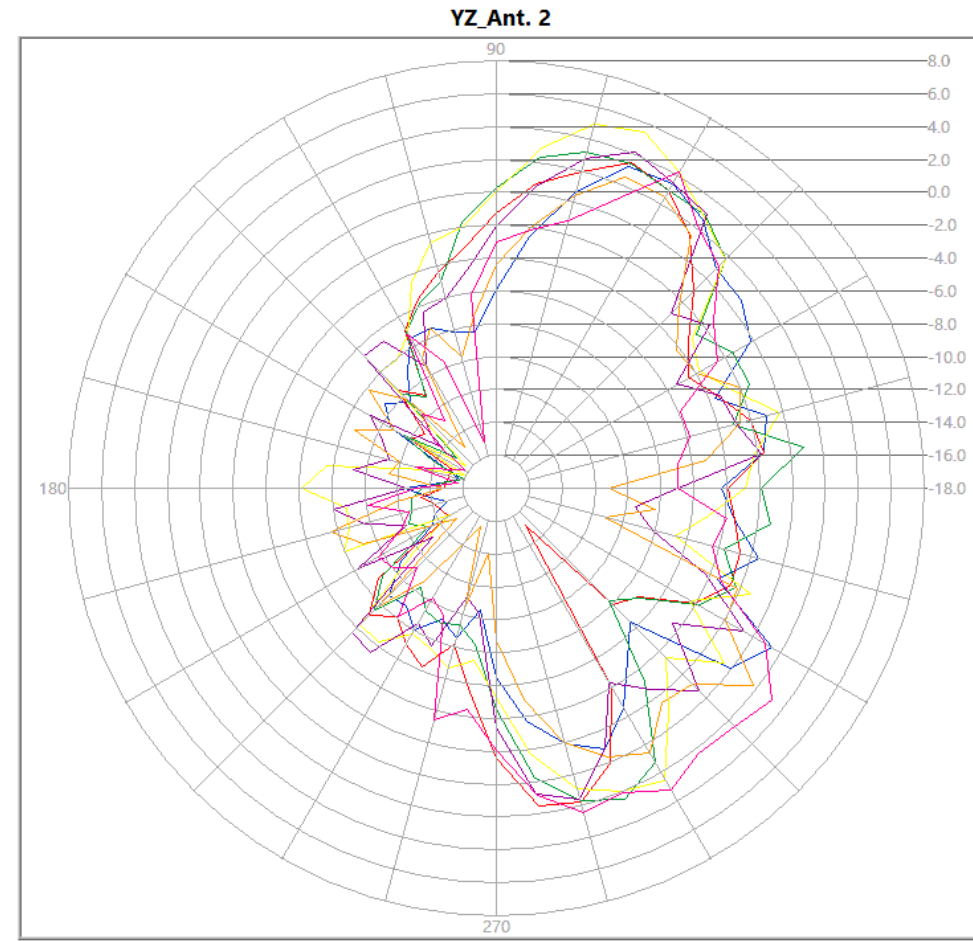
|           |               |                |                |                |                |                |                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
|-----------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Θ(75°)    | -0.89/-5.05   | -1.61/-0.05    | 1.94/0.29      | -0.11/-1.54    | -3.96/-5.09    | -3.67/-4.88    | -6.90/-9.47    | -2.94/0.74       | -0.02/-3.25      | -2.75/-5.57      | -3.87/-4.34      | -3.79/0.67       | 2.53/1.06        | 4.22/-1.76       | 1.84/-2.42       | 1.87/3.13        | 2.30/3.16        | 0.30/0.00        | -6.26/-3.48      | -1.47/-4.99      | 2.97/1.07        | 3.51/-0.44       | 1.35/0.37        | -2.12/-1.42      |
| Θ(82.5°)  | -1.30/-5.57   | -3.07/-0.98    | 0.11/-1.26     | -0.82/-1.83    | -5.02/-6.01    | -5.24/-8.41    | -7.89/-7.17    | -0.21/-1.48      | 1.35/-4.26       | -5.17/-5.16      | -6.18/-4.68      | -4.37/2.76       | 1.40/2.54        | 1.12/-0.72       | 0.47/-0.65       | 2.05/3.36        | 3.07/3.81        | 0.35/2.39        | -0.28/-0.15      | -3.01/-3.67      | 2.22/0.69        | 3.07/-2.16       | -0.38/-1.27      | -3.57/-1.37      |
| Θ(90°)    | -2.99/-6.01   | -4.87/-1.80    | -1.30/-2.86    | -2.42/-1.69    | -4.99/-6.63    | -7.95/-11.98   | -5.18/-7.59    | -1.21/-1.98      | 0.87/-5.89       | -6.36/-5.90      | -3.99/-10.45     | -7.24/-1.32      | 0.46/-0.02       | 1.52/-3.10       | -0.36/-2.50      | -1.07/-1.35      | 2.49/2.92        | 0.97/0.60        | 0.87/-1.28       | -6.24/-4.80      | -1.65/-0.74      | 1.91/-3.30       | -3.95/-3.05      | -4.87/-2.78      |
| Θ(97.5°)  | -4.74/-5.66   | -6.63/-2.46    | -1.34/-4.08    | -5.49/-4.74    | -6.30/-7.81    | -7.07/-12.15   | -5.30/-7.94    | -2.45/-1.10      | -1.04/-8.89      | -6.22/-7.11      | -7.80/-7.33      | -6.59/-1.15      | -1.91/-2.16      | -2.33/-0.26      | -3.88/-4.30      | -3.49/-3.67      | -0.47/-0.68      | -3.82/-2.57      | -3.27/-4.10      | -8.51/-8.11      | -3.17/-4.28      | -0.60/-4.51      | -7.29/-5.31      | -4.83/-4.84      |
| Θ(105°)   | -4.94/-6.11   | -6.52/-3.73    | -3.33/-6.31    | -6.90/-6.38    | -7.82/-7.19    | -6.82/-14.20   | -7.22/-8.61    | -3.49/-0.98      | -2.91/-10.52     | -7.67/-8.67      | -5.99/-10.15     | -8.73/-5.54      | -3.12/-2.29      | -1.37/-4.89      | -3.40/-6.93      | -8.17/-9.41      | -3.31/-6.88      | -7.08/-6.80      | -5.16/-11.26     | -14.37/-12.62    | -6.86/-5.51      | -2.25/-5.84      | -11.49/-6.68     | -6.63/-6.51      |
| Θ(112.5°) | -4.77/-6.07   | -6.42/-4.95    | -4.07/-7.47    | -10.48/-9.26   | -7.62/-10.47   | -7.65/-15.43   | -11.41/-8.75   | -4.81/-3.31      | -4.92/-8.84      | -10.55/-10.32    | -7.85/-11.54     | -8.85/-6.50      | -6.42/-9.35      | -6.50/-10.01     | -5.17/-8.72      | -9.66/-5.79      | -2.35/-12.31     | -12.92/-8.52     | -4.58/-9.00      | -13.81/-12.59    | -4.94/-14.84     | -4.23/-7.80      | -8.21/-9.29      | -8.27/-6.75      |
| Θ(120°)   | -6.70/-6.54   | -6.08/-4.36    | -7.64/-10.43   | -12.14/-9.59   | -9.63/-11.45   | -10.00/-15.80  | -12.16/-9.51   | -8.03/-3.92      | -6.67/-8.95      | -16.00/-14.74    | -12.45/-14.98    | -7.52/-9.93      | -7.33/-7.35      | -6.05/-9.04      | -4.12/-9.50      | -11.22/-7.10     | -5.94/-5.04      | -9.90/-8.93      | -5.38/-12.04     | -15.39/-15.36    | -4.36/-6.68      | -4.92/-7.79      | -8.55/-12.20     | -9.18/-8.36      |
| Θ(127.5°) | -7.22/-6.88   | -7.40/-6.16    | -7.33/-10.49   | -15.46/-13.32  | -8.83/-9.17    | -9.15/-11.62   | -13.90/-11.73  | -9.75/-5.23      | -3.01/-10.56     | -14.71/-12.90    | -15.69/-11.33    | -11.41/-12.09    | -11.93/-10.29    | -9.23/-15.19     | -11.60/-7.02     | -12.75/-10.32    | -9.30/-11.23     | -11.36/-9.12     | -12.51/-9.51     | -13.98/-13.29    | -12.39/-6.73     | -6.93/-9.69      | -10.38/-12.20    | -10.68/-7.91     |
| Θ(135°)   | -7.84/-9.79   | -11.49/-10.13  | -9.52/-11.03   | -12.54/-15.09  | -10.04/-8.45   | -10.02/-13.54  | -14.43/-13.00  | -10.91/-5.53     | -4.83/-7.31      | -9.02/-12.40     | -13.35/-10.57    | -10.66/-13.63    | -10.78/-8.65     | -8.25/-13.23     | -8.87/-11.27     | -11.27/-5.04     | -7.23/-9.29      | -12.03/-4.76     | -10.44/-7.36     | -8.11/-10.21     | -12.57/-9.20     | -10.95/-11.76    | -14.15/-9.22     | -10.99/-6.68     |
| Θ(142.5°) | -10.44/-12.19 | -9.56/-11.71   | -12.98/-11.78  | -11.72/-12.91  | -11.13/-7.48   | -6.03/-8.41    | -13.67/-15.88  | -9.22/-7.20      | -7.28/-5.30      | -7.05/-11.14     | -8.54/-10.01     | -15.37/-9.50     | -10.25/-9.39     | -11.44/-7.91     | -8.51/-12.50     | -8.45/-9.51      | -13.27/-12.53    | -9.83/-6.95      | -13.71/-12.07    | -9.48/-10.42     | -11.56/-14.42    | -15.62/-10.59    | -11.57/-12.38    | -7.54/-8.99      |
| Θ(150°)   | -12.70/-11.97 | -13.40/-10.40  | -7.80/-8.59    | -13.92/-15.36  | -14.18/-8.20   | -6.49/-7.97    | -10.82/-12.17  | -10.50/-7.16     | -5.60/-6.73      | -9.52/-9.76      | -9.26/-8.50      | -7.75/-9.27      | -11.12/-6.20     | -9.31/-14.27     | -9.99/-8.98      | -15.46/-14.65    | -12.93/-13.08    | -13.65/-9.24     | -12.66/-13.47    | -8.42/-9.44      | -9.50/-10.29     | -10.08/-10.30    | -9.45/-9.55      | -8.07/-11.26     |
| Θ(157.5°) | -11.27/-11.78 | -11.27/-15.30  | -15.16/-13.06  | -11.99/-14.64  | -15.05/-14.50  | -11.45/-9.77   | -9.04/-9.80    | -10.71/-10.63    | -11.23/-8.06     | -4.92/-4.89      | -7.68/-8.13      | -10.12/-9.82     | -9.50/-7.25      | -7.53/-10.29     | -11.34/-15.50    | -12.34/-9.78     | -12.48/-12.92    | -9.40/-7.77      | -8.40/-7.73      | -6.30/-6.85      | -9.86/-12.22     | -12.97/-11.20    | -11.42/-10.55    | -11.15/-11.61    |
| Θ(165°)   | -14.72/-13.07 | -12.53/-12.22  | -10.78/-10.08  | -10.73/-11.01  | -12.36/-14.45  | -14.72/-14.36  | -13.84/-12.30  | -13.18/-12.84    | -10.91/-8.96     | -8.98/-9.77      | -8.32/-8.47      | -9.39/-9.07      | -12.10/-10.15    | -8.40/-11.65     | -15.59/-14.89    | -13.29/-13.23    | -15.61/-14.45    | -11.06/-12.31    | -13.82/-13.37    | -14.45/-15.91    | -15.01/-15.29    | -15.11/-15.64    | -15.69/-12.71    | -12.96/-12.34    |
| Θ(172.5°) | -13.90/-13.92 | -13.68/-13.61  | -13.11/-13.70  | -13.63/-13.07  | -14.22/-13.12  | -13.13/-12.38  | -13.73/-14.29  | -15.46/-14.62    | -15.37/-15.58    | -15.17/-15.28    | -15.97/-15.68    | -14.84/-13.23    | -13.03/-15.23    | -15.72/-15.09    | -15.90/-15.66    | -13.29/-12.17    | -12.70/-14.05    | -12.98/-12.61    | -11.40/-12.56    | -14.30/-14.22    | -15.16/-15.33    | -13.78/-12.56    | -14.77/-12.65    | -13.61/-15.44    |
| Θ(180°)   | -15.94/-15.64 | -15.38/-15.83  | -13.87/-14.98  | -15.54/-14.39  | -14.59/-15.38  | -15.65/-14.33  | -14.92/-15.30  | -14.02/-14.05    | -14.06/-14.96    | -14.73/-15.89    | -15.73/-15.79    | -15.99/-15.27    | -15.30/-16.05    | -15.43/-15.15    | -15.08/-14.57    | -14.91/-15.79    | -15.25/-15.48    | -15.78/-15.17    | -15.55/-15.27    | -15.85/-15.43    | -15.90/-15.26    | -14.89/-15.64    | -15.63/-16.18    | -15.15/-15.66    |
| Freq(Hz)  | 6.895GPol.    | TotalAnt.4     | -/-            | -/-            | -/-            | -/-            | -/-            | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              |
| Gain      | Φ(0°)Φ(7.5°)  | Φ(15°)Φ(22.5°) | Φ(30°)Φ(37.5°) | Φ(45°)Φ(52.5°) | Φ(60°)Φ(67.5°) | Φ(75°)Φ(82.5°) | Φ(90°)Φ(97.5°) | Φ(105°)Φ(112.5°) | Φ(120°)Φ(127.5°) | Φ(135°)Φ(142.5°) | Φ(150°)Φ(157.5°) | Φ(165°)Φ(172.5°) | Φ(180°)Φ(187.5°) | Φ(195°)Φ(202.5°) | Φ(210°)Φ(217.5°) | Φ(225°)Φ(232.5°) | Φ(240°)Φ(247.5°) | Φ(255°)Φ(262.5°) | Φ(270°)Φ(277.5°) | Φ(285°)Φ(292.5°) | Φ(300°)Φ(307.5°) | Φ(315°)Φ(322.5°) | Φ(330°)Φ(337.5°) | Φ(345°)Φ(352.5°) |
| Θ(0°)     | -1.59/-1.77   | -1.79/-2.04    | -2.29/-2.17    | -1.71/-2.58    | -2.00/-1.89    | -2.81/-1.41    | -2.07/-2.54    | -2.12/-1.67      | -1.73/-1.99      | -1.98/-1.60      | -1.36/-1.37      | -1.07/-0.76      | -0.43/-0.44      | -0.48/-0.83      | -0.89/-1.13      | -0.25/-0.75      | -1.48/-1.67      | -1.69/-1.95      | -2.32/-2.27      | -2.36/-2.71      | -3.34/-2.67      | -2.78/-3.37      | -2.93/-2.79      | -2.71/-3.27      |
| Θ(7.5°)   | 1.54/2.01     | 2.26/2.37      | 2.18/1.79      | 2.09/1.65      | 0.97/0.94      | -0.27/-0.16    | -0.59/-2.19    | -2.56/-3.30      | -4.61/-5.10      | -5.38/-5.33      | -5.43/-5.01      | -4.50/-4.22      | -4.27/-4.14      | -3.94/-4.05      | -4.15/-3.91      | -3.66/-3.02      | -2.75/-2.39      | -2.28/-1.92      | -1.77/-2.33      | -2.06/-1.89      | -1.95/-1.69      | -1.25/-0.61      | 0.08/0.63        | 1.02/1.28        |
| Θ(15°)    | -5.77/-5.15   | -5.31/-6.49    | -7.95/-7.06    | -6.91/-8.41    | -5.12/-6.16    | -5.81/-5.90    | -5.38/-5.49    | -5.18/-5.74      | -6.75/-7.74      | -8.65/-8.12      | -7.06/-7.03      | -7.00/-7.02      | -5.04/-2.64      | -1.00/0.15       | 0.18/0.46        | 0.71/0.75        | 1.10/1.41        | 1.43/1.66        | 1.73/0.96        | 0.24/-0.95       | -2.09/-2.94      | -3.80/-3.77      | -3.27/-3.03      |                  |
| Θ(22.5°)  | -5.26/-4.03   | -4.90/-4.55    | -4.51/-1.85    | -0.33/-0.39    | -0.80/-1.37    | -1.58/-3.57    | -4.78/-5.36    | -2.84/-3.35      | -1.49/-3.51      | -0.99/-1.03      | -2.54/-2.55      | -0.93/0.73       | 2.03/2.46        | 1.95/-2.25       | 1.03/1.79        | 1.98/1.76        | 1.47/1.54        | 1.89/2.20        | -2.37/-2.04      | -2.30/-3.11      | -4.24/-6.80      | -8.77/-6.19      |                  |                  |
| Θ(30°)    | -0.31/0.52    | -1.20/-5.86    | -4.00/-0.42    | -0.92/-3.96    | -4.05/-0.69    | -0.20/-1.56    | -4.93/-6.82    | -5.73/-4.89      | -2.64/-0.66      | -1.80/-5.42      | -3.11/-1.49      | -1.35/-0.26      | -1.02/-1.53      | -2.22/-0.52      | 1.05/1.12        | 1.32/1.79        | 0.97/0.63        | 0.92/-0.14       | -1.82/-1.71      | -1.66/-3.26      | -0.04/1.97       | 0.70/-2.11       | -3.57/-5.67      | -10.95/-4.65     |
| Θ(37.5°)  | 1.81/2.23     | 0.88/0.86      | 0.40/1.44      | 0.67/1.05      | 0.50/-1.06     | -1.97/-2.98    | -5.63/-3.16    | -1.47/-0.90      | 0.07/0.49        | 0.94/0.41        | -3.64/-0.65      | 0.02/-0.45       | -1.17/-0.41      | 0.84/-0.78       | -2.39/-1.43      | -0.04/-0.90      | -8.50/-7.64      | -7.37/-5.51      | -2.37/-0.47      | -1.10/-0.92      | -0.55/-0.20      | -1.46/-0.04      | -0.87/-4.21      | -5.42/-0.29      |
| Θ(45°)    | 2.30/2.48     | 3.15/2.92      | -1.32/-3.83    | -1.55/0.68     | 0.17/-2.01     | -2.52/-2.19    | -5.30/-6.44    | -7.71/-4.03      | -0.86/-0.43      | 0.46/1.81        | -1.44/-3.28      | -0.17/0.07       | 0.42/0.11        | 1.04/-0.45       | -5.58/-7.45      | -8.48/-9.70      | -7.49/-3.92      | -6.50/-8.90      | -9.45/-3.02      | -8.07/-0.56      | 1.09/-1.41       | -1.99/0.92       | -1.36/-1.87      | -0.13/1.03       |
| Θ(52.5°)  | 3.31/3.31     | 5.24/5.10      | 2.20/1.66      | 1.23/-1.12     | -2.78/-3.17    | -6.36/-8.86    | -11.15/-7.43   | -4.74/-4.93      | -0.71/-0.32      | -1.93/-1.72      | -2.47/-1.73      | 2.02/0.81        | -3.72/0.84       | 1.32/-1.90       | -7.94/-1.35      | -3.07/-2.34      | 0.67/1.85        | -1.96/-3.00      | -3.27/-0.28      | 0.09/0.15        | 3.59/-0.40       | 1.72/1.79        | -1.33/-1.46      | 0.46/1.31        |
| Θ(60°)    | 3.39/2.86     | 4.55/5.37      | 2.77/2.77      | 1.41/-6.91     | -1.49/-5.15    | -3.98/-3.54    | -0.39/-1.07    | 0.95/0.48        | -3.21/-8.47      | -4.00/-3.53      | -0.31/0.57       | -3.48/-0.65      | 1.66/-3.53       | -1.458/-2.33     | -1.65/-1.00      | -1.26/-0.60      | -0.44/-2.47      | -0.73/-0.19      | 2.32/1.89        | 3.73/2.14        | 4.80/3.05        | 1.14/0.84        | 0.47/2.65        |                  |
| Θ(67.5°)  | 2.75/1.34     | 2.15/5.01      | 0.96/2.02      | 0.98/-4.38     | -3.03/-3.93    | -4.53/-4.29    | -5.52/-4.66    | -2.20/-1.99      | 3.38/0.69        | -8.15/-4.52      | -10.04/-7.60     | -4.24/-0.91      | -0.23/1.74       | 0.31/-4.00       | -1.21/1.88       | 0.15/-0.08       | -0.93/-1.35      | 0.75/-1.42       | -3.50/-1.95      | 0.87/0.99        | 1.85/3.82        | 5.68/-0.09       | 3.74/-0.86       | 1.15/3.29        |
| Θ(75°)    | 1.93/-1.10    | -0.40/0.53     | -1.88/0.24     | -0.30/-1.06    | 0.23/-1.44     | -3.90/-4.66    | -5.25/-8.67    | -5.72/0.54       | 2.78/0.63        | -10.01/-2.23     | -3.48/-8.72      | -6.27/-4.88      | 2.46/0.54        | 2.22/0.08        | -0.84/3.59       | -0.09/-1.35      | 0.87/3.16        | 3.26/1.96        | -10.82/-3.35     | -2.62/-2.03      | -0.02/4.47       | 4.73/3.03        | 3.56/-3.13       | 0.96/2.98        |
| Θ(82.5°)  | 0.94/-3.58    | -2.06/-1.13    | -3.08/-0.82    | -1.77/-3.21    | -0.95/-0.85    | -3.06/-4.33    | -6.49/-5.82    | -14.46/-1.22     | -0.25/-2.17      | -9.20/-0.04      | -4.32/-3.67      | -8.36/0.22       | 0.08/0.69        | 1.33/-0.34       | -1.38/3.41       | -5.68/-1.32      | 1.65/4.67        | 3.99/3.44        | -4.84/-1.24      | -4.98/-1.47      | -2.51/-4.23      | 2.94/2.04        | 1.21/-3.45       | 1.00/1.63        |
| Θ(90°)    | -0.62/-3.84   | -2.68/-2.43    | -2.64/-1.21    | -3.77/-6.30    | -1.59/-2.11    | -2.96/-5.04    | -8.69/-4.45    | -6.35/-3.49      | -4.44/-4.18      | -6.65/-3.03      | -1.42/-8.29      | -6.17/-5.49      | 0.93/-1.50       | 0.71/0.49        | -2.45/2.85       | -5.28/-2.83      | 0.24/0.06        | 2.28/2.68        | -1.93/-0.88      | -8.61/-6.02      | -4.89/2.42       | 0.41/-0.30       | -1.23/-4.06      | 0.14/-0.60       |
| Θ(97.5°)  | -3.06/-4.08   | -3.33/-3.58    | -2.65/-1.44    | -4.55/-8.39    | -3.77/-4.10    | -3.87/-5.75    | -6.73/-5.65    | -4.36/-4.50      | -6.69/-7.49      | -7.79/-3.55      | -5.55/-8.17      | -10.79/-3.15     | -3.58/-3.12      | -1.00/-3.46      | -2.57/-1.07      | -6.26/-6.62      | -3.23/-0.20      | -2.69/-1.82      | -4.80/-3.18      | -10.89/-6.02     | -4.58/0.01       | -1.88/-2.77      | -4.81/-5.02      | -1.02/-3.54      |
| Θ(105°)   | -7.68/-4.31   | -5.41/-4.15    | -4.32/-2.44    | -5.26/-9.74    | -5.29/-2.93    | -4.51/-5.30    | -4.86/-7.23    | -7.04/-10.26     | -11.13/-8.81     | -9.89/-7.22      | -4.10/-10.71     | -5.99/-10.12     | -3.50/-5.71      | -3.95/-3.23      | -6.26/-3.76      | -6.36/-6.37      | -6.64/-5.77      | -4.50/-7.95      | -8.39/-8.37      | -12.92/-10.64    | -4.43/-1.73      | -3.61/-6.72      | -6.97/-5.72      | -2.93/-6.43      |
| Θ(112.5°) | -9.35/-5.02   | -7.15/-6.02    | -5.65/-5.53    | -7.77/-15.54   | -8.48/-2.75    | -4.38/-5.74    | -5.68/-9.05    | -6.10/-15.28     | -9.56/-12.94     | -12.10/-8.43     | -7.53/-10.32     | -6.18/-11.81     | -10.01/-9.42     | -4.70/-9.65      | -7.99/-6.35      | -6.03/-9.72      | -4.05/-4.69      | -7.14/-6.29      | -5.43/-6.10      | -12.13/-8.45     | -3.46/-5.32      | -7.16/-9.66      | -10.20/-9.60     | -5.01/-8.73      |
| Θ(120°)   | -8.40/-5.48   | -7.38/-6.21    | -5.18/-7.14    | -13.60/-12.69  | -11.46/-6.41   | -7.70/-6.65    | -7.97/-8.12    | -9.06/-11.40     | -9.50/-13.29     | -15.06/-13.69    | -10.30/-12.15    | -7.52/-11.26     | -10.27/-8.88     | -7.04/-7.48      | -6.83/-8.02      | -8.84/-11.18     | -7.10/-6.10      | -8.29/-7.32      | -5.35/-8.29      | -10.75/-8.16     | -2.82/-4.82      | -10.00/-12.47    | -10.50/-8.16     | -9.58/-10.19     |
| Θ(127.5°) | -7.11/-7.16   | -7.54/-7.49    | -6.67/-9.17    | -13.           |                |                |                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |

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  $\Theta(0-180)\Phi(270)$

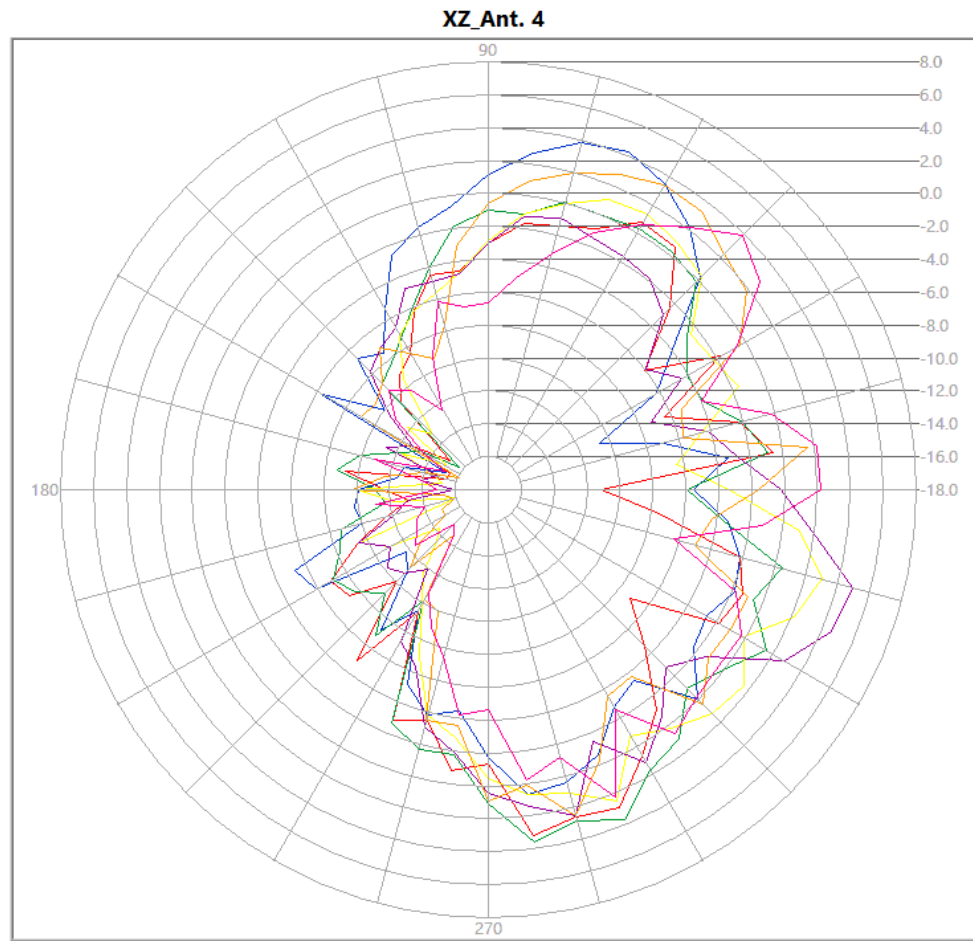




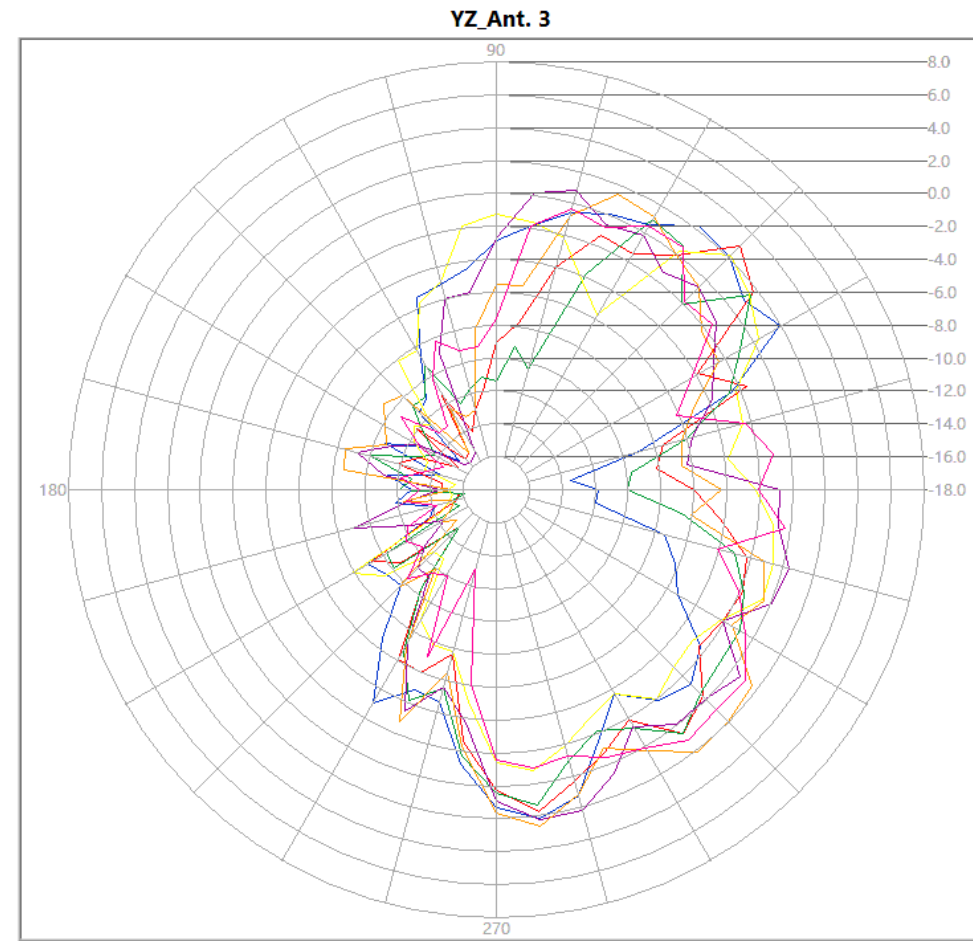
|                                    |
|------------------------------------|
| 5.6G_Total Gain_3.98_0(30)Φ(0)     |
| 5.785G_Total Gain_1.41_0(67.5)Φ(0) |
| 5.885G_Total Gain_3.6_0(67.5)Φ(0)  |
| 6.175G_Total Gain_2.64_0(52.5)Φ(0) |
| 6.475G_Total Gain_4.91_0(67.5)Φ(0) |
| 6.695G_Total Gain_4.36_0(75)Φ(0)   |
| 6.995G_Total Gain_4.66_0(67.5)Φ(0) |



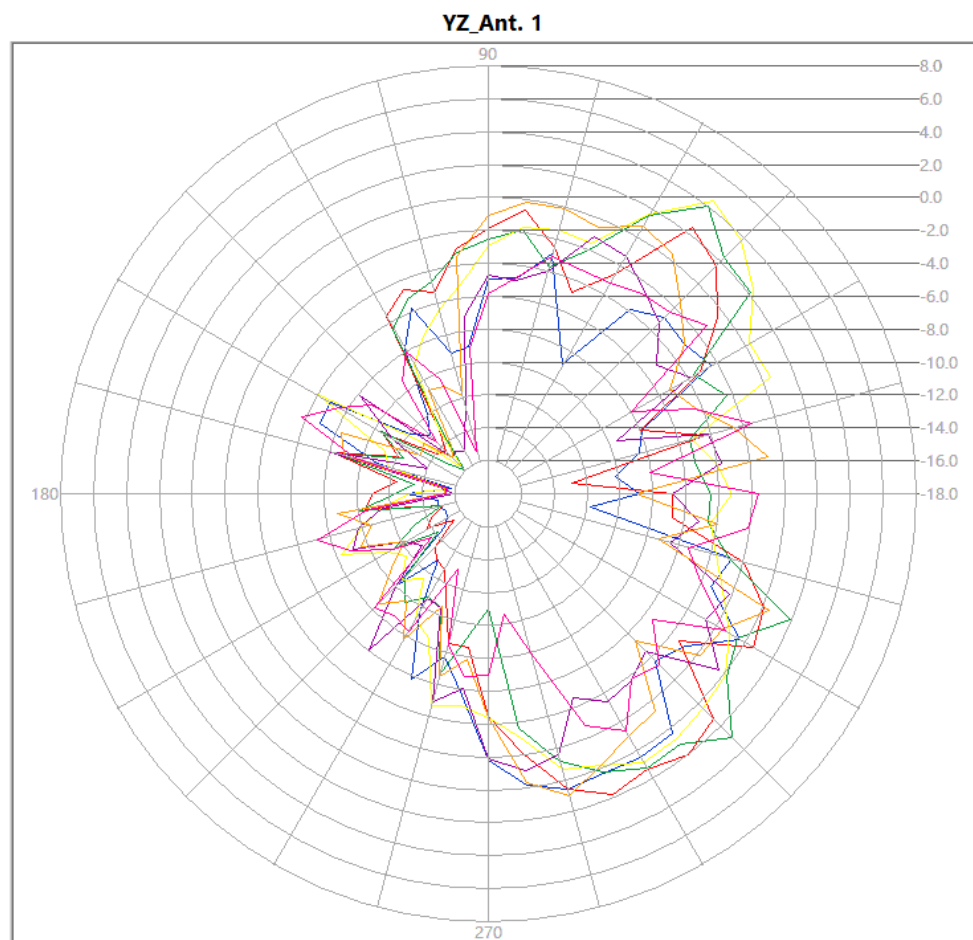
|                                    |
|------------------------------------|
| 5.6G_Total Gain_3.42_0(0)Φ(60)     |
| 5.785G_Total Gain_3.41_0(0)Φ(67.5) |
| 5.885G_Total Gain_3.37_0(0)Φ(67.5) |
| 6.175G_Total Gain_5.48_0(0)Φ(67.5) |
| 6.475G_Total Gain_4.09_0(0)Φ(67.5) |
| 6.695G_Total Gain_2.48_0(0)Φ(60)   |
| 6.995G_Total Gain_4.26_0(0)Φ(60)   |



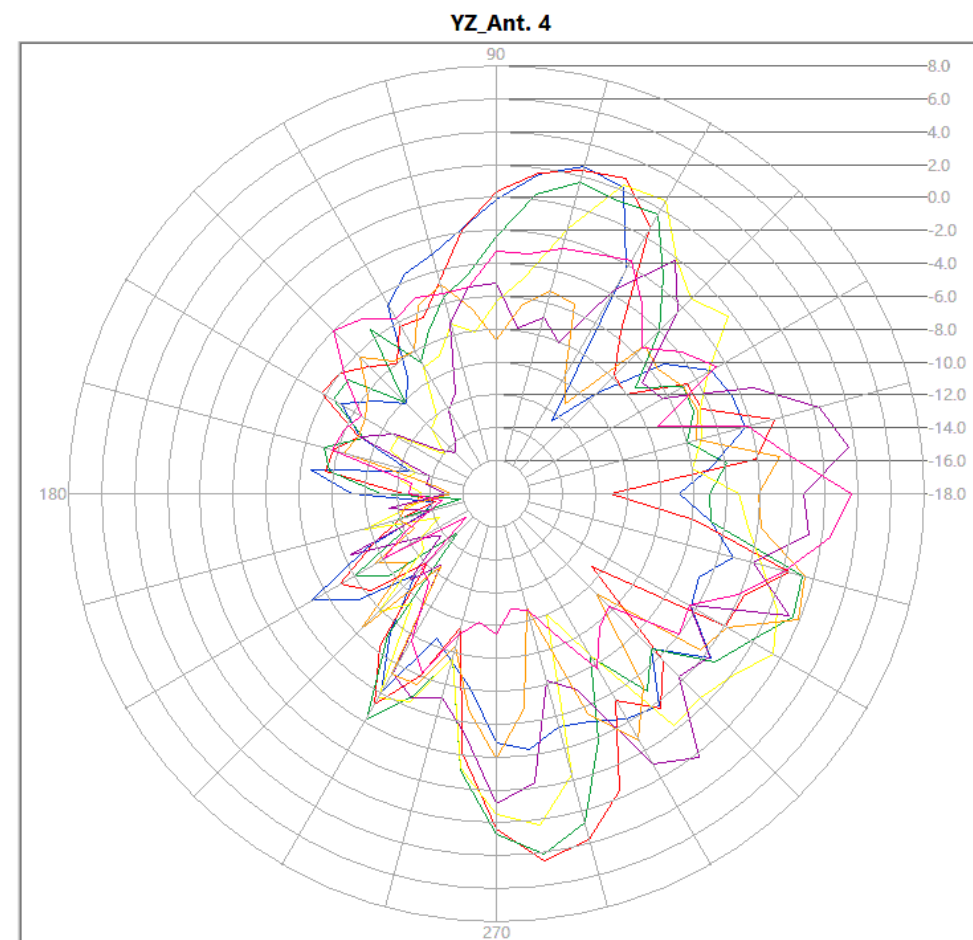
|                                     |
|-------------------------------------|
| 5.6G_Total Gain_4.23_0(67.5)Φ(0)    |
| 5.785G_Total Gain_3.17_0(277.5)Φ(0) |
| 5.885G_Total Gain_3.7_0(292.5)Φ(0)  |
| 6.175G_Total Gain_2.99_0(345)Φ(0)   |
| 6.475G_Total Gain_4.9_0(345)Φ(0)    |
| 6.695G_Total Gain_3.39_0(60)Φ(0)    |
| 6.995G_Total Gain_3.86_0(45)Φ(0)    |



|                                     |
|-------------------------------------|
| 5.6G_Total Gain_2.17_0(0)Φ(52.5)    |
| 5.785G_Total Gain_2.9_0(0)Φ(45)     |
| 5.885G_Total Gain_1.44_0(0)Φ(37.5)  |
| 6.175G_Total Gain_2.13_0(0)Φ(45)    |
| 6.475G_Total Gain_2.24_0(0)Φ(277.5) |
| 6.695G_Total Gain_2.59_0(0)Φ(277.5) |
| 6.995G_Total Gain_1.18_0(0)Φ(307.5) |



|                                      |
|--------------------------------------|
| 5.6G_Total Gain_0.6_0(0)Φ(285)       |
| 5.785G_Total Gain_2.36_0(0)Φ(52.5)   |
| 5.885G_Total Gain_3.99_0(0)Φ(52.5)   |
| 6.175G_Total Gain_4.42_0(0)Φ(52.5)   |
| 6.475G_Total Gain_-0.38_0(0)Φ(322.5) |
| 6.695G_Total Gain_0.98_0(0)Φ(285)    |
| 6.995G_Total Gain_-1.25_0(0)Φ(37.5)  |



|                                     |
|-------------------------------------|
| 5.6G_Total Gain_2.56_0(0)Φ(75)      |
| 5.785G_Total Gain_4.5_0(0)Φ(277.5)  |
| 5.885G_Total Gain_4.09_0(0)Φ(277.5) |
| 6.175G_Total Gain_2.56_0(0)Φ(60)    |
| 6.475G_Total Gain_3.56_0(0)Φ(7.5)   |
| 6.695G_Total Gain_1.89_0(0)Φ(337.5) |
| 6.995G_Total Gain_3.58_0(0)Φ(0)     |