



# Antenna Pattern of 2.4GHz and 5GHz U-NII 1 ~ U-NII 3

# Appendix C

|           |               |                   |                 |                 |                 |                 |                 |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
|-----------|---------------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Θ(15°)    | -5.01/-5.10   | -5.75/-6.49       | -7.06/-7.33     | -8.22/-7.00     | -6.54/-6.13     | -6.23/-5.66     | -4.70/-4.03     | -3.31/-3.33       | -3.48/-4.28       | -4.16/-3.67       | -3.33/-3.23       | -3.32/-3.47       | -3.41/-3.38       | -3.13/-2.78       | -2.41/-2.29       | -2.13/-1.96       | -1.92/-1.74       | -1.79/-1.89       | -2.15/-2.36       | -2.81/-3.43       | -3.50/-3.42       | -3.46/-3.52       | -4.26/-4.55       | -4.78/-5.35       |
| Θ(22.5°)  | -3.08/-2.72   | -2.93/-4.70       | -6.28/-6.52     | -6.11/-5.67     | -5.63/-6.06     | -7.54/-7.88     | -10.09/-9.42    | -7.33/-4.92       | -2.99/-1.88       | -1.41/-1.22       | -1.63/-2.07       | -2.21/-2.10       | -1.95/-1.94       | -1.92/-1.74       | -1.51/-0.99       | -0.63/-0.66       | -0.84/-0.86       | -0.74/-0.55       | -0.28/-0.50       | -1.58/-2.63       | -2.83/-2.57       | -1.82/-1.81       | -2.55/-2.68       | -3.38/-3.77       |
| Θ(35°)    | -2.24/-1.66   | -1.75/-2.63       | -4.14/-5.13     | -4.89/-5.16     | -5.64/-6.98     | -8.59/-11.05    | -11.94/-11.08   | -8.10/-5.50       | -2.63/-1.00       | -0.070/37         | 0.01/-0.69        | -1.41/-1.52       | -1.54/-1.96       | -2.85/-3.81       | -2.52/-1.80       | -0.94/-0.91       | -0.02/-0.09       | -0.05/-0.54       | -0.76/-1.31       | -1.67/-1.70       | -1.23/-1.69       | -1.00/-1.21       | -2.26/-2.61       | -3.23/-3.27       |
| Θ(37.5°)  | -4.34/-4.48   | -4.45/-4.71       | -6.20/-8.07     | -6.57/-7.35     | -8.73/-9.17     | -9.74/-7.67     | -5.61/-3.87     | -3.30/-3.20       | -3.11/-2.57       | -1.87/-1.31       | -0.74/-0.16       | -0.12/-0.46       | -0.48/-0.31       | -0.82/-2.11       | -2.85/-2.70       | -2.25/-1.99       | -1.58/-0.99       | -0.81/-0.16       | -0.33/-0.85       | -0.85/-0.48       | -0.87/-2.40       | -3.27/-2.87       | -1.50/-1.18       | -2.27/-3.74       |
| Θ(45°)    | -4.78/-4.22   | -4.69/-4.38       | -6.68/-5.61     | -4.66/-4.84     | -6.05/-6.73     | -8.35/-10.05    | -8.80/-6.47     | -4.17/-2.46       | -2.19/-2.99       | -3.96/-3.29       | -1.14/-0.19       | -0.30/-0.142      | -1.34/-0.63       | -4.37/-4.69       | -4.68/-6.00       | -6.61/-5.58       | -4.53/-4.44       | -3.76/-2.96       | -3.78/-4.66       | -4.72/-5.37       | -6.43/-5.52       | -3.89/-4.69       | -5.86/-6.22       |                   |
| Θ(52.5°)  | -6.28/-4.92   | -4.99/-6.40       | -7.98/-11.27    | -13.79/-14.09   | -8.62/-6.03     | -4.44/-4.91     | -9.93/-7.48     | -4.82/-3.56       | -3.59/-4.05       | -5.04/-4.98       | -2.37/-1.09       | -1.85/-2.23       | -2.07/-2.07       | -1.47/-2.30       | -1.07/-10.33      | -6.60/-3.94       | -4.01/-5.35       | -6.72/-6.73       | -6.11/-3.99       | -6.90/-6.62       | -8.75/-4.73       | -5.50/-6.13       | -7.20/-7.65       |                   |
| Θ(60°)    | -8.38/-5.36   | -4.38/-5.75       | -4.79/-5.42     | -8.12/-8.51     | -5.56/-4.01     | -3.92/-6.89     | -10.26/-7.33    | -4.71/-4.59       | -4.26/-2.71       | -2.53/-3.39       | -1.82/-0.50       | -2.47/-3.02       | -2.74/-4.00       | -3.89/-3.80       | -6.34/-6.22       | -5.58/-7.79       | -10.08/-4.89      | -3.32/-3.11       | -4.64/-5.66       | -6.55/-9.92       | -13.08/-8.94      | -8.99/-10.26      | -5.47/-5.19       | -5.55/-6.29       |
| Θ(67.5°)  | -7.03/-5.17   | -3.46/-4.42       | -2.76/-3.19     | -3.45/-4.87     | -3.98/-3.66     | -3.82/-7.01     | -8.99/-7.91     | -5.98/-6.26       | -6.04/-4.21       | -3.02/-2.63       | -3.41/-2.48       | -2.23/-5.44       | -4.62/-4.26       | -6.18/-3.80       | -4.77/-5.62       | -5.13/-3.41       | -0.860/34         | -0.65/-2.63       | -4.72/-4.45       | -6.23/-5.25       | -3.40/-5.03       | -6.32/-6.06       | -3.91/-4.18       |                   |
| Θ(75°)    | -5.15/-3.36   | -1.33/-2.83       | -0.48/-1.05     | -1.43/-5.63     | -6.20/-6.24     | -8.76/-13.01    | -9.06/-10.76    | -11.31/-10.14     | -11.15/-10.66     | -12.16/-8.53      | -5.38/-3.23       | -4.06/-6.18       | -1.44/-2.06       | -4.05/-3.46       | -0.28/-0.21       | -0.22/-0.16       | -1.71/-1.42       | 0.41/-0.06        | -0.40/-1.21       | -2.41/-1.57       | -2.89/-4.58       | -3.07/-2.92       | -4.08/-3.24       | -1.83/-1.20       |
| Θ(82.5°)  | -4.76/-3.66   | 0.02/-4.83        | -1.91/-1.52     | -1.72/-6.15     | -7.14/-4.74     | -8.36/-10.51    | -15.00/-9.71    | -6.51/-6.55       | -8.24/-13.85      | -8.14/-6.59       | -3.81/-1.67       | -4.33/-11.39      | -2.19/-0.92       | -1.62/-1.30       | 0.78/-1.65        | 1.33/-2.23        | -0.74/-1.88       | 1.87/-0.27        | -0.92/-0.07       | -2.02/-1.60       | -0.98/-1.78       | -1.85/-1.03       | -0.230/66         | 0.80/-1.51        |
| Θ(90°)    | 0.02/-1.85    | <b>3.80/-1.20</b> | 1.67/-0.93      | 0.17/-3.80      | -5.09/-4.98     | -9.06/-8.37     | -8.01/-10.07    | -7.17/-7.01       | -8.49/-11.91      | -12.43/-4.38      | -5.13/-1.77       | -2.10/-9.14       | -2.57/-5.04       | 0.12/-0.23        | 0.57/-0.83        | 2.27/-2.16        | -1.24/-2.15       | 2.28/-0.77        | 1.11/-2.13        | -2.04/-1.38       | 1.13/-1.27        | 0.55/-1.29        | 1.67/-0.57        | 0.46/-2.15        |
| Θ(97.5°)  | -1.11/-1.89   | 2.19/-0.04        | 0.97/-0.79      | 0.61/-5.46      | -3.35/-2.28     | -3.50/-3.69     | -5.33/-5.29     | -6.71/-8.85       | -1.59/-7.62       | -6.56/-4.32       | -3.62/-1.77       | -2.27/-4.30       | -0.370/89         | -1.23/-2.00       | -2.14/-1.29       | 1.23/-1.69        | 2.43/-2.99        | -1.55/-0.80       | 2.33/-0.00        | 2.53/-0.64        | 1.51/-0.54        | 1.81/-1.11        |                   |                   |
| Θ(105°)   | -4.930/28     | 0.230/25          | 1.01/-0.76      | -1.54/-4.84     | -1.960/47       | -0.97/-5.08     | -8.59/-8.69     | -12.36/-13.59     | -9.42/-6.48       | -4.22/-4.68       | -8.25/-4.28       | -3.03/-4.14       | -1.28/-0.84       | -2.00/-6.55       | -8.58/-1.12       | 1.95/-2.52        | -0.94/-1.66       | 1.40/-1.98        | 2.62/-1.77        | 1.100/50          | 2.58/-2.12        | 1.24/-2.51        | -1.01/-1.73       | 1.26/-2.01        |
| Θ(112.5°) | -9.98/-4.80   | -0.700/33         | 0.21/-0.35      | -0.95/-3.67     | -9.03/-8.35     | -12.58/-13.72   | -8.88/-7.65     | -6.52/-7.66       | -12.92/-2.82      | -2.41/-3.26       | -3.00/-4.51       | -9.32/-6.88       | -4.39/-7.11       | -7.00/-4.00       | 2.30/-2.44        | 0.11/-2.37        | -0.40/-0.65       | 3.08/-0.03        | 0.780/19          | 2.85/-2.10        | -1.94/-6.04       | -7.00/-1.52       | -2.33/-2.87       |                   |
| Θ(120°)   | -10.25/-11.95 | -3.20/-3.22       | -2.68/-1.87     | -2.89/-8.38     | -5.72/-5.88     | -12.28/-11.29   | -5.48/-5.68     | -6.50/-8.18       | -6.88/-2.79       | -1.94/-1.80       | -2.53/-8.67       | -9.10/-5.76       | -11.99/-7.18      | -2.04/-7.59       | -8.67/-3.27       | 3.70/-1.89        | -0.73/-2.45       | -0.283/69         | 3.22/-3.95        | -1.82/-2.64       | 0.72/-0.83        | -6.20/-5.65       | -1.54/-0.69       | -2.45/-14.98      |
| Θ(127.5°) | -7.03/-8.78   | -13.73/-15.29     | -11.31/-13.26   | -10.16/-7.46    | -5.40/-5.41     | -8.72/-10.01    | -8.89/-8.36     | -6.49/-4.06       | -2.14/-1.74       | -2.25/-1.28       | -0.96/-2.42       | -3.27/-6.34       | -3.79/-2.29       | -1.13/-2.24       | -5.44/-1.92       | 0.66/-4.50        | -4.71/-1.78       | -1.67/-3.44       | 2.23/-5.46        | -5.16/-3.95       | -1.84/-0.14       | -4.74/-11.27      | -12.58/-4.22      | -5.11/-8.02       |
| Θ(135°)   | -14.98/-6.32  | -7.06/-11.33      | -15.44/-15.86   | -14.20/-10.94   | -8.23/-7.04     | -8.65/-11.51    | -11.61/-9.15    | -5.92/-3.81       | -4.09/-4.78       | -4.04/-2.13       | -0.360/23         | -0.83/-0.76       | -0.41/-1.20       | -0.56/-0.56       | -1.23/-2.66       | -6.32/-10.39      | -4.80/-2.34       | -1.45/-1.41       | -0.24/-6.91       | -8.30/-3.81       | -2.33/-4.68       | -8.53/-4.37       | -10.35/-8.46      | -9.68/-10.11      |
| Θ(142.5°) | -9.99/-8.35   | -8.17/-10.56      | -11.19/-8.53    | -7.60/-6.94     | -5.69/-5.36     | -5.42/-6.06     | -6.03/-5.57     | -9.09/-7.36       | -4.85/-3.95       | -4.46/-3.37       | -3.29/-4.14       | -2.56/-3.87       | -5.36/-6.78       | -8.96/-6.28       | -3.91/-4.00       | -4.59/-4.19       | -2.94/-4.11       | -8.87/-5.82       | -2.74/-2.44       | -4.54/-4.51       | -7.49/-8.38       | -7.36/-7.26       |                   |                   |
| Θ(150°)   | -7.70/-12.23  | -12.82/-12.93     | -11.54/-8.64    | -6.39/-5.43     | -5.53/-6.31     | -8.78/-7.63     | -8.43/-9.59     | -13.40/-15.25     | -12.74/-9.25      | -6.95/-6.89       | -8.08/-11.65      | -9.93/-9.13       | -11.34/-10.66     | -9.08/-6.57       | -5.09/-4.62       | -3.56/-3.63       | -4.99/-4.05       | -1.29/-2.27       | -5.96/-7.39       | -4.65/-3.88       | -4.38/-4.38       | -6.92/-6.04       | -3.83/-2.91       | -2.20/-3.52       |
| Θ(157.5°) | -7.68/-6.69   | -10.85/-14.29     | -14.50/-13.20   | -14.09/-14.11   | -13.10/-12.82   | -11.64/-12.77   | -13.33/-12.67   | -10.90/-10.12     | -8.77/-6.35       | -4.73/-4.11       | -4.08/-4.84       | -5.97/-6.30       | -4.92/-4.33       | -3.46/-4.85       | -6.32/-6.04       | -5.82/-7.35       | -8.54/-7.85       | -6.60/-6.87       | -5.83/-4.16       | -3.22/-2.14       | -1.74/-1.82       | -1.18/-0.16       | 0.910/98          | -0.56/-3.69       |
| Θ(165°)   | -13.93/-12.85 | -9.77/-7.77       | -6.77/-7.18     | -8.57/-10.88    | -12.09/-14.38   | -14.34/-15.06   | -15.58/-14.50   | -11.20/-9.84      | -10.57/-12.77     | -15.48/-14.01     | -9.82/-7.35       | -6.00/-5.10       | -4.26/-3.65       | -3.58/-3.88       | -4.10/-4.34       | -4.22/-4.41       | -4.54/-4.83       | -6.74/-6.78       | -6.76/-5.70       | -4.49/-4.10       | -4.09/-3.86       | -3.46/-3.27       | -3.51/-4.09       | -6.28/-10.30      |
| Θ(172.5°) | -9.88/-11.00  | -11.58/-12.55     | -16.14/-15.62   | -16.14/-15.62   | -14.89/-13.43   | -12.81/-12.51   | -13.54/-12.86   | -12.31/-10.94     | -10.28/-10.35     | -10.15/-10.01     | -9.61/-8.98       | -8.87/-9.11       | -9.16/-9.25       | -9.66/-9.82       | -9.49/-9.74       | -9.54/-8.22       | -7.07/-6.27       | -5.75/-5.70       | -5.96/-5.02       | -6.41/-4.85       | -4.42/-3.92       | -3.95/-4.53       | -5.58/-6.39       | -7.28/-8.86       |
| Θ(180°)   | -8.84/-10.00  | -9.77/-9.84       | -10.17/-10.13   | -9.37/-9.63     | -9.23/-8.75     | -8.91/-9.63     | -10.38/-10.74   | -10.44/-10.57     | -10.53/-10.44     | -10.07/-9.33      | -9.45/-9.70       | -9.83/-10.14      | -9.85/-9.83       | -9.89/-9.40       | -8.94/-9.13       | -9.88/-10.80      | -11.61/-11.56     | -11.29/-10.08     | -9.14/-7.91       | -7.15/-6.17       | -5.69/-6.25       | -7.31/-8.99       | -10.26/-10.68     | -10.47/-9.57      |
| Freq(Hz)  | 2.450Pol      | 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°)     | -             | -                 | -               | -               | -               | -               | -               | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 |
| Θ(7.5°)   | -11.59/-11.07 | -10.51/-9.64      | -8.99/-6.80     | -8.50/-8.59     | -8.76/-8.94     | -9.17/-9.51     | -9.44/-9.29     | -9.38/-9.56       | -9.68/-9.86       | -10.01/-9.78      | -9.35/-9.02       | -8.94/-9.07       | -9.42/-9.95       | -10.42/-10.40     | -10.51/-10.42     | -10.82/-10.78     | -10.91/-11.45     | -12.34/-13.31     | -12.60/-11.87     | -11.49/-11.32     | -11.42/-11.75     | -9.63/-9.98       | -12.23/-13.03     | -13.16/-12.08     |
| Θ(15°)    | -8.97/-8.74   | -8.45/-6.21       | -8.13/-8.13     | -8.26/-8.55     | -8.73/-8.67     | -8.20/-8.03     | -8.23/-8.23     | -8.17/-8.04       | -7.92/-7.61       | -7.23/-6.73       | -6.18/-5.71       | -5.45/-5.46       | -5.68/-6.08       | -6.60/-7.09       | -7.37/-7.60       | -7.84/-8.10       | -8.40/-8.82       | -9.43/-10.22      | -10.68/-10.80     | -10.68/-10.48     | -10.21/-9.87      | -9.66/-9.62       | -9.72/-9.74       | -9.62/-9.40       |
| Θ(22.5°)  | -6.69/-6.75   | -6.78/-6.66       | -7.03/-7.37     | -7.70/-7.91     | -7.70/-7.04     | -6.73/-6.74     | -6.96/-7.24     | -7.49/-7.80       | -7.81/-7.29       | -6.29/-5.18       | -4.21/-3.52       | -3.20/-3.24       | -3.50/-4.00       | -4.68/-4.52       | -6.20/-6.81       | -7.35/-7.71       | -7.77/-7.75       | -7.84/-8.02       | -8.06/-7.99       | -7.85/-7.67       | -7.27/-6.68       | -6.22/-6.20       | -6.51/-6.70       | -6.78/-6.73       |
| Θ(30°)    | -4.97/-5.11   | -5.22/-5.47       | -6.02/-6.75     | -7.40/-7.58     | -7.29/-6.99     | -6.80/-6.76     | -6.41/-6.43     | -6.66/-7.19       | -7.64/-7.55       | -6.49/-4.93       | -3.41/-2.36       | -1.78/-1.64       | -1.87/-2.51       | -3.56/-5.04       | -6.60/-6.20       | -9.42/-9.98       | -9.45/-8.99       | -8.30/-8.04       | -7.70/-7.39       | -7.04/-6.59       | -6.08/-5.35       | -4.81/-4.61       | -4.62/-4.55       | -4.56/-4.73       |
| Θ(37.5°)  | -2.86/-2.87   | -2.96/-3.22       | -3.78/-4.52     | -5.15/-5.55     | -5.97/-6.47     | -6.68/-6.28     | -5.80/-5.39     | -5.32/-5.58       | -5.99/-5.86       | -4.66/-2.92       | -1.36/-0.30       | -0.230/28         | -0.13/-1.04       | -2.38/-4.02       | -5.64/-6.84       | -7.95/-9.04       | -9.73/-9.66       | -9.18/-8.25       | -7.28/-6.37       | -5.51/-4.81       | -4.17/-3.72       | -3.59/-3.60       | -3.33/-2.79       | -2.82/-2.57       |
| Θ(45°)    | -1.08/-1.01   | -1.03/-0.14       | -1.09/-1.33     | -1.67/-2.24     | -3.04/-4.15     | -4.91/-4.80     | -4.23/-3.49     | -2.83/-2.49       | -2.40/-2.41       | -2.02/-1.16       | -0.090/85         | 1.40/-1.44        | 0.970/00          | -1.48/-3.05       | -4.34/-5.10       | -6.23/-7.77       | -9.39/-10.29      | -8.73/-7.96       | -6.13/-4.66       | -3.59/-2.80       | -2.11/-1.64       | -1.83/-2.27       | -2.35/-1.79       | -1.19/-0.95       |
| Θ(52.5°)  | 0.010/01      | -0.22/-0.13       | 0.260/59        | 0.690/34        | -0.54/-1.66     | -2.48/-2.74     | -2.41/-1.69     | -1.03/-0.64       | -0.51/-0.55       | -0.430/04         | 0.731/39          | 1.500/90          | -0.37/-2.40       | -4.83/-6.21       | -6.20/-6.38       | -7.13/-8.19       | -9.60/-10.98      | -12.09/-10.75     | -8.53/-6.53       | -5.15/-4.16       | -3.11/-2.10       | -1.45/-1.40       | -1.50/-1.16       | -0.53/-0.09       |
| Θ(60°)    | 1.43/-1.54    | 1.000/34          | 0.027/11        | 1.59/-1.65      | 1.400/92        | 0.26/-0.57      | -1.27/-1.45     | -1.33/-1.35       | -1.72/-1.95       | -1.78/-1.26       | -0.490/31         | 0.34/-0.96        | -3.64/-7.08       | -8.40/-6.30       | -4.21/-3.62       | -3.95/-4.65       | -5.63/-6.67       | -7.34/-7.44       | -6.89/-6.85       | -4.62/-3.59       | -2.60/-2.98       | 0.500/71          | 0.94/-0.21        |                   |
| Θ(67.5°)  | 2.050/30      | 2.942/06          | 1.59/-1.63      | 1.49/-1.27      | 1.27/-1.08      | 0.52/-0.21      | -0.68/-0.73     | -0.80/-1.35       | -2.47/-3.37       | -3.24/-2.61       | -1.57/-0.66       | -1.21/-3.80       | -5.98/-3.45       | -2.83/-2.00       | -1.68/-2.27       | -3.67/-5.29       | -6.65/-6.97       | -6.54/-5.96       | -5.24/-4.06       | -2.81/-1.70       | -0.91/-0.36       | 0.060/21          | 0.330/72          | 1.04/-1.34        |
| Θ(75°)    | 0.05/-1.93    | 2.652/20          | 2.192/60        | 2.43/-1.89      | 1.510/96        | -0.08/-1.26     | -1.72/-1.19     | -0.51/-0.39       | -0.93/-1.78       | -2.19/-2.38       | -2.19/-1.29       | -1.62/-2.47       | -5.15/-3.02</     |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |



# Antenna Pattern of 2.4GHz and 5GHz U-NII 1 ~ U-NII 3

# Appendix C

|           |              |                 |                |                |                |                |                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
|-----------|--------------|-----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Θ(67.5°)  | -0.000-42    | 0.330-46        | -1.13/-3.70    | -5.53/-6.06    | -4.40/-4.01    | -2.94/-2.48    | -1.78/-1.31    | -0.83/-0.34      | 0.14/-0.77       | -1.27/-1.45      | -2.10/-1.72      | -1.55/-0.25      | -0.69/-1.74      | -1.10/-2.87      | -3.24/-2.17      | -1.28/-4.10      | -8.30/-11.98     | -11.80/-7.28     | -3.06/-0.01      | -0.11/-3.37      | -5.80/-6.24      | -6.22/-6.01      | -4.30/-1.89      | -0.30/-5.2       |
| Θ(75°)    | 2.773-19     | 3.402-69        | 1.14/-1.19     | -1.79/-1.64    | -1.38/-0.83    | -0.62/-0.15    | 0.38/0.65      | 1.29/1.58        | 2.16/2.08        | 1.29/-0.15       | -0.37/0.03       | 0.31/1.18        | 0.99/-0.82       | -5.47/-7.59      | -3.35/-4.09      | -7.42/-10.68     | -8.26/-3.02      | 1.822-81         | 2.40/-0.00       | -5.67/-7.41      | -3.44/-1.49      | -0.69/-3.3       | 2.46/2.45        |                  |
| Θ(82.5°)  | 3.973-12     | 3.063-16        | 2.20/-0.37     | -0.85/-0.75    | -0.35/-0.09    | 0.93/-1.4      | 0.40/0.54      | 2.193-35         | 3.913-10         | 2.101/-14        | 1.08/0.96        | 1.87/1.55        | 1.05/-1.20       | 1.19/-1.04       | -2.84/-4.15      | -1.81/-1.14      | -4.25/-8.58      | -9.72/-7.26      | -1.83/0.02       | 0.29/-2.27       | -5.88/-8.37      | -2.27/-0.78      | 0.892-71         | 4.06/3.51        |
| Θ(90°)    | 2.322-52     | <b>4.024-29</b> | 2.330-27       | 0.36/-1.19     | -0.66/0.51     | 2.04/2.66      | 2.46/0.86      | 0.08/1.01        | 3.18/3.78        | 2.69/2.85        | 0.73/-0.93       | 0.40/0.93        | 1.59/0.25        | -0.55/-2.08      | -3.71/-3.94      | -2.39/0.51       | 0.84/-1.67       | -0.97/-1.71      | -2.57/-1.43      | -3.63/-8.06      | -6.65/-4.43      | -1.55/-0.63      | 0.142-50         | 3.873-04         |
| Θ(97.5°)  | 3.563-51     | 3.754-09        | 2.971-38       | 1.13/0.33      | 0.72/0.65      | 1.84/-1.87     | 1.57/-0.33     | -3.00/-0.65      | 1.72/-2.49       | 2.37/2.92        | 0.74/-0.83       | -1.19/-0.60      | 1.28/-2.13       | -2.18/-4.43      | -3.92/-4.83      | -4.14/-1.02      | 0.50/-2.50       | -4.24/-5.88      | -6.90/-6.95      | -7.83/-9.15      | -8.96/-1.43      | -2.07/-0.80      | 0.43/-2.8        | 2.14/3.73        |
| Θ(105°)   | -0.162-39    | 2.922-44        | 1.582-27       | 3.48/2.65      | 1.52/0.85      | 0.97/1.36      | 1.79/1.92      | 1.30/0.18        | -0.38/0.13       | 0.11/0.38        | -1.58/-2.56      | -4.99/-2.34      | -0.76/-2.27      | -2.41/-4.07      | -5.61/-9.23      | -8.69/-4.73      | -2.76/-7.51      | -6.64/-3.91      | -6.38/-6.94      | -6.88/-7.84      | -6.44/-4.36      | -2.18/-1.25      | -0.01/0.53       | 1.05/0.13        |
| Θ(112.5°) | -2.03/-1.57  | -0.87/-0.67     | 0.62/1.67      | 2.09/1.73      | 0.58/-0.19     | -0.15/0.41     | 1.52/1.90      | 1.70/1.00        | 1.37/0.55        | -1.07/-3.25      | -6.52/-9.72      | -8.55/-5.51      | -4.81/-6.13      | -6.81/-6.97      | -9.06/-8.13      | -5.29/-1.48      | -3.96/-5.78      | -3.55/-3.09      | 4.40/-7.11       | -5.87/-11.52     | -10.41/-4.87     | -0.81/0.45       | 1.32/1.46        | 1.30/-1.32       |
| Θ(120°)   | -5.00/-2.68  | -2.07/-4.26     | -4.10/-3.15    | -1.76/-0.83    | -0.87/-0.68    | -0.75/-0.52    | 0.51/1.54      | 2.26/1.59        | 0.77/-0.25       | 0.10/-0.30       | -2.84/-11.68     | -11.93/-9.05     | -4.84/-1.96      | -0.99/-0.80      | -2.22/-4.29      | -2.78/-0.78      | -1.27/-1.49      | 0.06/-4.39       | -3.21/-6.10      | -5.99/-3.60      | 0.63/-2.62       | -6.57/-4.10      | -1.92/0.13       | -0.95/-13.44     |
| Θ(127.5°) | -6.49/-6.15  | -6.15/-9.55     | -7.96/-7.86    | -5.83/-1.84    | -0.48/-0.21    | 0.10/0.19      | -0.18/-0.10    | -0.27/0.29       | 0.72/0.16        | 0.16/-0.64       | -3.00/-3.48      | -1.42/-2.32      | -4.28/-3.48      | -0.15/-0.49      | -7.20/-5.78      | -3.28/-10.83     | -8.15/-5.62      | -5.30/-3.39      | -5.90/-6.60      | -0.38/-2.65      | -3.81/-6.46      | -7.26/-7.35      | -7.59/-2.42      | -4.39/-9.64      |
| Θ(135°)   | -4.32/-8.35  | -10.70/-9.80    | -9.29/-7.59    | -6.12/-3.79    | -2.11/-1.60    | -1.39/-1.72    | -1.67/-1.17    | -0.57/-0.26      | -0.20/-0.27      | -0.03/-0.63      | -0.36/-0.44      | 1.29/1.13        | -0.64/-3.24      | -2.42/-0.72      | 0.01/1.44        | -0.99/-8.92      | -9.90/-4.18      | -3.18/-5.03      | -8.10/-7.35      | -11.13/-9.21     | -5.93/-3.76      | -2.32/-5.52      | -9.47/-5.53      | -4.36/-2.38      |
| Θ(142.5°) | -4.44/-5.90  | -6.49/-5.74     | -4.02/-2.07    | -1.50/-2.45    | -3.03/-2.89    | -2.32/-1.82    | -1.67/-0.78    | 0.03/0.56        | 1.07/0.91        | 0.35/-0.39       | -1.48/-2.18      | -1.68/0.34       | 1.59/2.18        | 1.19/-0.69       | -1.80/-3.32      | -6.82/-10.59     | -7.19/-3.36      | -6.96/-9.57      | -13.11/-14.19    | -11.37/-6.39     | -4.27/-1.90      | -1.86/-3.73      | -7.65/-15.87     | -10.17/-0.51     |
| Θ(150°)   | -5.72/-6.49  | -7.24/-6.50     | -6.31/-6.40    | -4.87/-3.49    | -2.44/-1.70    | -1.78/-1.83    | -1.58/-1.44    | -1.11/-0.45      | 0.21/0.55        | 0.57/0.03        | -0.42/-1.85      | -3.24/-2.84      | -2.78/-3.03      | -6.37/-7.66      | -1.83/-0.54      | -0.98/-0.91      | 0.30/-0.09       | -2.70/-3.60      | -3.28/-5.72      | -3.65/-1.80      | -2.75/-5.08      | -8.40/-14.98     | -9.71/-6.31      |                  |
| Θ(157.5°) | -8.19/-10.98 | -10.57/-8.90    | -7.31/-6.04    | -4.97/-3.03    | -1.27/0.20     | 1.10/1.09      | 0.28/-0.65     | -1.26/-1.69      | -2.05/-3.31      | -4.56/-4.74      | -3.76/-2.89      | -2.13/-1.56      | -1.10/-1.05      | -1.79/-2.89      | -3.49/-3.53      | -4.59/-5.37      | -4.64/-5.32      | -6.22/-6.09      | -8.19/-12.63     | -12.51/-9.58     | -6.10/-3.95      | -3.43/-4.02      | -4.99/-6.00      | -5.79/-6.12      |
| Θ(165°)   | -4.25/-2.27  | -1.27/-0.75     | -0.79/-0.80    | -0.97/-1.30    | -1.44/-1.41    | -1.07/-1.25    | -1.94/-2.75    | -3.66/-4.71      | -5.26/-5.16      | -4.71/-4.48      | -4.50/-4.79      | -5.43/-6.86      | -8.63/-10.10     | -11.67/-11.94    | -9.74/-7.68      | -6.68/-5.21      | -3.84/-4.07      | -5.33/-7.26      | -9.54/-11.96     | -10.11/-8.62     | -7.96/-7.65      | -7.60/-7.74      | -7.43/-5.76      |                  |
| Θ(172.5°) | -6.19/-4.47  | -3.55/-2.56     | -2.03/-1.58    | -1.21/-1.34    | -1.49/-1.91    | -2.01/-2.42    | -3.03/-3.33    | -3.62/-3.87      | -3.74/-3.61      | -4.21/-5.65      | -7.53/-9.17      | -10.68/-10.66    | -9.96/-9.47      | -7.68/-6.02      | -4.69/-3.75      | -2.98/-2.41      | -4.86/-6.17      | -6.17/-5.79      | -5.21/-5.08      | -5.54/-7.38      | -9.35/-10.25     | -10.11/-9.75     | -8.10/-6.94      |                  |
| Θ(180°)   | -4.81/-4.67  | -5.01/-5.30     | -6.16/-6.68    | -7.20/-7.63    | -7.59/-6.93    | -6.74/-6.59    | -6.45/-6.07    | -5.66/-6.26      | -7.80/-10.20     | -12.78/-14.71    | -14.50/-14.19    | -12.46/-10.92    | -10.02/-8.94     | -8.01/-7.29      | -7.14/-7.04      | -7.17/-7.26      | -8.05/-8.42      | -7.75/-6.00      | -5.04/-4.46      | -3.85/-3.56      | -3.96/-4.71      | -5.33/-5.41      | -5.11/-4.92      | -4.23/-4.38      |
| Freq(Hz)  | 5.785GPol.   | TotalAnt.2      | -/-            | -/-            | -/-            | -/-            | -/-            | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              | -/-              |
| Gain      | Φ(0°)Φ(7.5°) | Φ(15°)Φ(22.5°)  | Φ(30°)Φ(37.5°) | Φ(45°)Φ(52.5°) | Φ(60°)Φ(67.5°) | Φ(75°)Φ(82.5°) | Φ(90°)Φ(97.5°) | Φ(105°)Φ(112.5°) | Φ(120°)Φ(127.5°) | Φ(135°)Φ(142.5°) | Φ(150°)Φ(157.5°) | Φ(165°)Φ(172.5°) | Φ(180°)Φ(187.5°) | Φ(195°)Φ(202.5°) | Φ(210°)Φ(217.5°) | Φ(225°)Φ(232.5°) | Φ(240°)Φ(247.5°) | Φ(255°)Φ(262.5°) | Φ(270°)Φ(277.5°) | Φ(285°)Φ(292.5°) | Φ(300°)Φ(307.5°) | Φ(315°)Φ(322.5°) | Φ(330°)Φ(337.5°) | Φ(345°)Φ(352.5°) |
| Θ(0°)     | -2.70/-3.09  | -3.45/-3.31     | -2.91/-3.03    | -3.02/-3.22    | -3.95/-4.41    | -4.64/-4.61    | -4.55/-4.13    | -4.00/-4.09      | -4.16/-4.40      | -4.70/-4.77      | -4.93/-5.06      | -5.19/-5.23      | -5.12/-4.87      | -4.42/-4.04      | -3.55/-3.40      | -3.53/-3.67      | -3.95/-3.75      | -3.59/-3.56      | -3.66/-3.74      | -3.77/-3.80      | -3.76/-3.55      | -3.75/-3.68      | -3.19/-2.49      | -2.21/-2.24      |
| Θ(7.5°)   | -3.05/-3.30  | -3.16/-2.82     | -2.82/-3.17    | -3.30/-3.27    | -3.29/-3.02    | -3.49/-3.53    | -3.66/-3.76    | -3.40/-2.69      | -2.54/-2.97      | -3.31/-3.31      | -3.28/-3.27      | -3.38/-3.52      | -3.62/-3.90      | -4.31/-4.42      | -4.41/-4.58      | -4.82/-4.68      | -4.16/-3.53      | -3.24/-3.54      | -3.71/-3.61      | -3.89/-3.68      | -3.35/-3.28      | -3.14/-2.88      | -2.70/-2.83      |                  |
| Θ(15°)    | -1.28/-1.23  | -1.29/-1.43     | -1.74/-1.96    | -2.13/-2.09    | -2.65/-3.46    | -3.63/-3.46    | -3.28/-3.12    | -2.92/-2.94      | -2.78/-2.70      | -2.54/-2.11      | -1.70/-1.45      | -1.44/-1.73      | -2.13/-2.60      | -3.06/-3.91      | -4.79/-5.66      | -6.05/-6.53      | -6.87/-6.82      | -6.14/-5.32      | -4.37/-4.07      | -3.67/-3.33      | -3.11/-2.31      | -1.49/-0.79      | -0.25/-0.42      | -1.03/-1.34      |
| Θ(22.5°)  | -0.66/-0.61  | -0.38/-0.51     | -0.44/-0.39    | -0.47/-1.62    | -2.82/-3.48    | 4.58/-5.29     | 4.98/-4.44     | -3.56/-2.95      | -2.84/-2.76      | -2.26/-1.65      | -1.32/-0.29      | -2.35/-2.28      | -2.95/-4.26      | -4.24/-2.49      | -1.28/-1.17      | -1.56/-2.32      | -3.61/-5.38      | -7.32/-7.98      | -6.90/-5.80      | -4.87/-2.98      | -1.49/-0.06      | 1.02/1.02        | 0.18/-0.83       |                  |
| Θ(30°)    | -0.15/-0.30  | 0.32/0.50       | 0.11/-0.34     | -0.81/-1.90    | -1.39/-1.96    | -3.23/-3.73    | -3.96/-4.29    | -4.74/-4.77      | -3.77/-2.53      | -1.66/-0.61      | 0.13/0.11        | -0.40/-0.78      | -1.66/-3.06      | -3.68/-2.37      | -0.50/-0.46      | 0.98/0.63        | -0.77/-2.73      | -4.52/-6.21      | -6.32/-6.01      | -6.66/-3.90      | -2.21/-4.10      | -1.26/-0.49      | 0.77/1.19        | 1.00/0.43        |
| Θ(37.5°)  | -1.62/-0.79  | -0.07/0.19      | -0.89/-1.39    | -1.37/-1.10    | -1.00/-1.98    | -2.76/-4.20    | -5.78/-5.85    | -4.13/-3.01      | -2.15/-1.36      | -1.34/-1.94      | -1.19/-0.24      | -0.23/-0.27      | -6.04/-8.29      | -8.78/-5.79      | -3.77/-1.55      | -1.28/-2.47      | -2.40/-2.79      | -3.45/-2.98      | -2.83/-2.54      | -1.64/-0.91      | -1.58/-1.94      | -2.30/-3.05      | -2.65/-1.97      | -3.27/-3.53      |
| Θ(45°)    | -9.35/-6.60  | -5.40/-3.69     | -2.30/-1.56    | -1.64/-2.72    | -4.42/-7.18    | -8.72/-9.38    | -7.87/-5.79    | -4.69/-3.49      | -2.29/-1.63      | -0.36/0.09       | -0.54/-1.19      | -0.63/-0.67      | -3.41/-9.35      | -7.01/-3.46      | 0.96/-0.13       | -1.84/-2.80      | -3.30/-1.41      | -1.21/-2.42      | 0.00/-0.20       | 0.11/-1.49       | -5.34/-10.75     | -13.91/-10.63    | -11.33/-10.54    |                  |
| Θ(52.5°)  | -7.38/-8.92  | -8.34/-7.36     | -7.51/-8.23    | -9.71/-11.56   | -10.64/-8.48   | -6.98/-7.38    | -6.86/-4.04    | -1.55/-0.66      | -0.59/-1.93      | -2.57/-1.95      | -1.96/-1.95      | 0.79/-1.09       | -2.20/-4.99      | -1.87/-0.58      | -0.40/-0.82      | -2.24/-6.21      | -6.14/-7.04      | -7.83/-4.83      | -1.06/0.22       | 0.72/1.40        | -6.86/-3.99      | -7.88/-8.95      | -7.75/-6.62      | -6.92/-7.69      |
| Θ(60°)    | -4.79/-4.79  | -4.67/-3.87     | -4.48/-5.37    | -7.21/-10.27   | -10.74/-8.16   | -5.76/-4.06    | -3.64/-3.03    | -1.76/-0.41      | 0.42/0.05        | -1.40/-2.47      | -2.58/-3.21      | 0.22/1.21        | -1.41/-3.98      | -2.79/-2.75      | -2.84/-0.24      | -5.53/-7.28      | -5.22/-2.03      | -0.19/-1.31      | 1.30/-1.38       | -3.82/-6.45      | -7.68/-5.30      | -4.42/-4.89      | -6.64/-5.53      |                  |
| Θ(67.5°)  | 0.69/0.22    | 0.30/-0.07      | -0.96/-2.07    | -3.15/-5.87    | -7.41/-5.32    | -3.42/-2.53    | -2.52/-3.09    | -2.53/-1.31      | -0.16/0.25       | -1.11/-2.23      | -2.51/-2.35      | -0.60/-0.76      | -0.17/-2.14      | -4.86/-5.12      | -6.13/-2.70      | -0.40/-3.91      | -8.48/-9.19      | -8.41/-3.73      | -1.32/-2.62      | -4.05/-6.95      | -8.64/-4.76      | -3.77/-2.88      | -1.89/0.30       |                  |
| Θ(75°)    | 3.13/2.27    | 2.40/2.06       | 1.16/-0.42     | -1.53/-2.95    | -3.87/-4.03    | -2.67/-2.20    | -2.82/-3.56    | -2.92/-0.97      | 1.02/1.99        | 2.08/1.20        | -0.65/-0.36      | -0.62/-0.01      | 1.39/-0.40       | -0.98/-0.73      | -6.35/-10.69     | -9.98/-6.04      | -10.19/-9.55     | -8.42/-3.73      | -1.32/-0.25      | -0.89/-5.29      | -7.47/-12.05     | -6.22/-0.93      | 0.40/0.69        | 0.37/1.95        |
| Θ(82.5°)  | 2.953-10     | 2.803-02        | 1.61/0.26      | 0.58/-0.09     | -1.74/-1.36    | -0.60/-0.53    | -0.43/-1.50    | -3.01/-1.67      | 1.142-84         | 2.922-43         | 0.35/-0.79       | -1.20/0.74       | 1.14/0.50        | 1.08/-1.85       | -2.67/-6.95      | -4.59/-2.13      | -7.09/-12.51     | -9.50/-8.98      | -1.08/-0.45      | -2.54/-8.99      | -13.41/-8.82     | -2.48/0.55       | -0.62/0.78       | 1.19/2.22        |
| Θ(90°)    | 3.63/3.80    | 2.62/1.66       | 0.72/0.17      | 0.56/1.07      | 0.74/0.56      | 1.722-00       | 1.51/0.22      | -1.92/-2.80      | -0.84/0.74       | 1.05/0.64        | 0.42/0.24        | -0.45/-2.42      | -0.92/-2.15      | 1.54/-2.45       | -3.53/-5.63      | -9.42/-4.35      | -4.94/-5.32      | -2.52/-4.51      | -2.67/-2.24      | -7.75/-12.27     | -4.52/-2.21      | 0.77/-0.74       | -2.33/-0.49      | 1.21/2.68        |
| Θ(97.5°)  | 3.11/1.55    | 1.46/0.48       | -0.01/0.94     | 2.18/1.51      | 0.69/0.54      | 0.98/1.27      | 1.43/0.42      | -2.09/-5.54      | -5.12/-3.08      | -1.87/-0.35      | 0.07/-0.19       | -1.72/-7.86      | -1.06/-1.16      | -1.99/-2.09      | -5.14/-3.57      | -6.94/-4.89      | -0.11/0.19       | -2.14/-4.98      | -10.24/-12.60    | -12.59/-5.53     | -5.80/-1.71      | -3.75/-0.91      | -1.48/-1.06      | <b>2.24/4.04</b> |
| Θ(105°)   | 2.322-27     | 0.87/-0.88      | 0.58/-1.99     | 2.58/0.00      | 1.95/0.34      | -0.56/0.53     | 1.63/2.39      | 1.91/-0.71       | -1.39/-1.64      | -1.43/-3.28      | -5.84/-5.39      | -4.69/-6.87      | -3.39/-1.89      | -5.12/-6.77      | -7.36/-6.29      | -8.18/-7.56      | -1.92/-4.27      | -5.71/-4.07      | -8.68/-6.56      | -8.19/-7.59      | -4.73/-4.61      | -2.43/-0.91      | -0.91/-2.01      | 0.56/2.37        |
| Θ(112.5°) | -0.54/-0.64  | -1.46/-2.80     | -2.09/-0.66    | 1.04/1.57      | 1.93/1.18      | 0.61/0.26      | 1.25/2.13      | 2.07/2.48        | 1.44/0.75        | -1.46/-3.25      | -4.22/-8.00      | -12.84/-10.66    | -6.73/-6.35      | -7.36/-7.75      | -7.42/-6.04      | -4.89/-5.08      | -5.27/-3.98      | -4.76/-8.16      | -11.68/-8.48     | -6.27/-5.21      | 0.59/1.68        | 0.79/0.31        | 0.31/-0.73       |                  |
| Θ(120°)   | 0.18/-0.42   | -4.69/-1.09     | -6.25/-3.90    | -0.87/1.33     | 2.07/1.47      | -0.03/-0.75    | -1.01/-3.33    | 2.87/2.94        | 2.28/2.12        | 1.31/-1.41       | -0.50/-0.72      | -1.25/-6.89      | -6.33/-3.35      | -1.83/-0.37      | -2.61/-5.05      | -4.07/-4.77      | -2.24/-6.67      | -1.41/-4.48      | -3.04/-0.72      | -4.01/-4.28      | -1.73/-2.27      | 0.87/1.75        | -0.62/-2.79      |                  |
| Θ(127.5°) | -3.77/-2.41  | -3.59/-6.35     | -7.74/-5.75    | -1.80/0.42     | 1.27/1.10      | -0.08/-1.60    | -1.64/0.32     |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |



# Antenna Pattern of 2.4GHz and 5GHz U-NII 1 ~ U-NII 3

# Appendix C

|            |               |                   |                 |                 |                 |                 |                 |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
|------------|---------------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Θ (112.5°) | -1.30/-0.79   | -1.43/-4.00       | -9.05/-11.06    | -9.86/-9.76     | -9.98/-8.53     | -6.42/-6.06     | -6.63/-7.23     | -7.57/-6.04       | -5.40/-5.22       | -4.69/-4.38       | -4.10/-3.04       | -1.52/-0.33       | -2.56/-2.09       | -1.70/-3.01       | -5.46/-13.73      | -8.23/-6.54       | -4.35/-8.13       | -8.05/-8.67       | -8.76/-8.93       | -5.75/-3.44       | -1.85/-1.66       | -2.75/-1.42       | 0.57/-0.17        | -1.71/-1.53       |
| Θ (120°)   | -1.38/-1.07   | -2.38/-4.48       | -10.04/-15.61   | -11.94/-13.88   | -14.39/-13.10   | -12.43/-9.19    | -7.85/-9.97     | -11.12/-10.35     | -12.10/-11.17     | -13.33/-10.24     | -7.88/-2.57       | -2.55/-2.77       | -2.89/-4.26       | -2.72/-3.21       | -6.69/-9.39       | -6.73/-8.31       | -7.09/-8.88       | -5.13/-6.37       | -7.37/-7.45       | -9.10/-5.22       | -5.13/-5.14       | -5.05/-3.55       | -0.66/-0.31       | -1.52/-0.62       |
| Θ (127.5°) | -2.90/-3.84   | -5.54/-7.90       | -8.88/-11.37    | -10.44/-10.11   | -10.76/-9.65    | -9.07/-11.20    | -11.99/-9.82    | -8.56/-8.85       | -7.82/-7.93       | -5.34/-5.81       | -5.99/-7.93       | -9.24/-6.68       | -6.13/-6.61       | -4.51/-2.59       | -6.43/-8.56       | -13.80/-4.97      | -5.38/-7.33       | -12.24/-12.17     | -14.84/-10.17     | -11.90/-7.58      | -8.00/-5.53       | -6.78/-2.12       | -1.36/-0.66       | -2.22/-2.05       |
| Θ (135°)   | -12.60/-10.55 | -9.47/-9.78       | -11.11/-14.81   | -12.30/-9.64    | -10.59/-12.08   | -12.50/-15.95   | -15.43/-14.92   | -11.32/-8.52      | -6.44/-3.39       | -2.50/-3.85       | -5.35/-7.68       | -9.38/-9.70       | -11.39/-10.86     | -8.67/-5.24       | -7.50/-7.35       | -1.85/-6.09       | -0.85/-2.34       | -5.56/-12.54      | -13.43/-7.84      | -9.89/-5.51       | -5.58/-7.54       | -6.71/-9.48       | -8.03/-7.62       | -7.88/-11.27      |
| Θ (142.5°) | -5.85/-5.85   | -5.52/-5.52       | -5.02/-7.20     | -12.10/-15.38   | -12.37/-14.22   | -15.66/-14.88   | -14.08/-12.25   | -9.11/-6.50       | -3.28/-2.68       | -2.68/-1.81       | -1.26/-2.08       | -3.05/-4.72       | -6.68/-6.36       | -4.50/-4.72       | -3.99/-2.86       | -1.81/-1.64       | -6.98/-7.69       | -7.76/-6.63       | -9.18/-10.46      | -8.52/-11.35      | -9.03/-9.12       | -7.37/-7.37       | -6.49/-5.60       |                   |
| Θ (150°)   | -7.14/-9.72   | -11.15/-9.97      | -7.78/-7.37     | -7.04/-7.90     | -9.19/-9.67     | -10.54/-11.05   | -10.26/-8.30    | -6.57/-5.32       | -5.07/-4.81       | -3.95/-3.24       | -3.69/-5.05       | -7.61/-7.62       | -3.85/-1.20       | -0.16/-1.08       | -2.13/-2.44       | -4.23/-7.69       | -11.32/-14.07     | -12.66/-10.26     | -11.09/-11.08     | -7.81/-5.95       | -4.22/-3.38       | -3.53/-3.37       | -3.92/-5.45       |                   |
| Θ (157.5°) | -6.01/-8.29   | -10.41/-10.03     | -8.28/-8.13     | -10.06/-12.54   | -13.81/-9.43    | -6.11/-4.79     | -4.58/-4.59     | -4.22/-3.92       | -3.48/-2.91       | -2.82/-3.42       | -4.71/-6.52       | -9.28/-11.25      | -12.16/-9.95      | -6.66/-4.28       | -3.01/-2.02       | -1.33/-1.77       | -4.20/-7.70       | -10.84/-12.59     | -11.57/-9.76      | -10.76/-12.73     | -13.06/-9.29      | -6.47/-4.41       | -3.16/-2.68       | -2.80/-4.12       |
| Θ (165°)   | -3.08/-3.90   | -5.16/-5.96       | -5.82/-5.76     | -6.56/-7.22     | -7.80/-7.33     | -6.35/-5.66     | -5.51/-5.06     | -6.12/-6.32       | -6.23/-6.16       | -6.50/-7.04       | -7.98/-9.23       | -10.76/-11.41     | -11.13/-10.30     | -8.28/-6.18       | -4.50/-3.60       | -3.80/-5.17       | -7.91/-10.39      | -10.27/-9.70      | -9.16/-8.24       | -7.23/-6.13       | -5.49/-4.43       | -4.10/-3.90       | -3.28/-3.09       | -2.84/-3.07       |
| Θ (172.5°) | -9.98/-9.20   | -8.58/-7.73       | -6.93/-6.29     | -6.04/-6.07     | -7.05/-8.05     | -8.27/-8.03     | -7.53/-7.09     | -6.27/-5.79       | -5.55/-5.71       | -6.18/-6.80       | -7.45/-8.42       | -9.43/-10.34      | -11.03/-11.24     | -11.98/-13.37     | -14.97/-15.65     | -15.73/-14.09     | -12.78/-12.02     | -10.32/-8.97      | -8.22/-8.17       | -8.28/-8.31       | -8.20/-8.14       | -8.85/-9.57       | -9.59/-9.70       | -8.87/-9.98       |
| Θ (180°)   | -14.26/-13.24 | -12.47/-11.36     | -10.36/-9.95    | -10.15/-10.63   | -12.30/-14.19   | -14.95/-15.53   | -14.64/-13.32   | -12.11/-10.95     | -10.28/-10.20     | -10.62/-11.45     | -12.23/-13.00     | -14.37/-14.70     | -14.74/-14.54     | -14.54/-15.85     | -15.70/-16.02     | -15.63/-14.63     | -16.74/-15.05     | -13.92/-13.66     | -14.32/-13.99     | -13.74/-13.79     | -13.58/-13.08     | -13.60/-13.97     | -15.54/-16.19     | -15.00/-14.44     |
| Freq(Hz)   | 5.6GPol.      | TotalAnt.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°)     | -2.63/-2.85   | -3.00/-3.00       | -2.85/-2.94     | -2.96/-3.06     | -3.00/-3.08     | -2.89/-2.54     | -2.23/-2.04     | -1.88/-1.81       | -1.83/-1.94       | -1.97/-1.82       | -1.80/-1.69       | -1.58/-1.43       | -1.35/-1.33       | -1.11/-0.95       | -0.78/-0.77       | -0.76/-0.78       | -0.84/-0.68       | -0.60/-0.56       | -0.69/-1.00       | -1.15/-1.17       | -1.20/-1.25       | -1.62/-2.06       | -2.54/-2.51       | -2.41/-2.28       |
| Θ (7.5°)   | -1.52/-1.58   | -1.28/-1.01       | -0.94/-0.83     | -1.05/-1.00     | -0.81/-0.90     | -0.86/-0.56     | -0.49/-0.59     | -0.75/-0.87       | -1.26/-1.52       | -1.67/-1.71       | -1.87/-2.12       | -2.52/-2.79       | -2.93/-3.00       | -3.14/-3.41       | -3.45/-3.47       | -3.40/-3.35       | -3.30/-3.29       | -3.47/-3.57       | -3.31/-2.94       | -2.98/-2.98       | -3.02/-2.95       | -2.78/-2.43       | -2.12/-1.96       | -1.68/-1.34       |
| Θ (15°)    | -2.00/-1.58   | -1.17/-0.90       | -0.77/-1.03     | -1.36/-1.44     | -1.63/-1.64     | -1.52/-1.26     | -1.10/-1.03     | -1.19/-1.53       | -1.90/-2.57       | -3.27/-3.82       | -4.11/-4.24       | -4.39/-4.70       | -5.03/-5.56       | -6.12/-6.32       | -6.47/-6.46       | -6.19/-5.83       | -5.51/-5.35       | -5.69/-5.68       | -5.07/-4.36       | -3.96/-3.85       | -3.89/-3.62       | -3.46/-3.03       | -2.53/-2.18       | -1.97/-1.92       |
| Θ (22.5°)  | -1.68/-1.88   | -1.90/-1.41       | -0.95/-0.90     | -0.86/-0.87     | -1.28/-1.57     | -2.15/-2.62     | -3.04/-4.01     | -5.12/-5.69       | -6.81/-6.25       | -6.54/-6.92       | -7.30/-8.00       | -8.44/-8.25       | -7.18/-6.32       | -6.33/-6.79       | -7.01/-7.06       | -6.72/-6.48       | -6.18/-5.87       | -5.46/-4.62       | -3.92/-3.13       | -2.27/-1.76       | -1.29/-0.85       | -0.52/-0.25       | -0.16/-0.21       | -0.84/-1.46       |
| Θ (30°)    | -1.98/-3.16   | -3.42/-3.06       | -2.27/-1.77     | -0.97/-0.62     | -0.57/-1.25     | -2.23/-3.27     | -4.31/-4.82     | -4.45/-3.60       | -3.48/-4.14       | -5.67/-7.65       | -9.14/-10.51      | -11.57/-12.49     | -11.54/-9.81      | -8.77/-8.59       | -8.23/-7.49       | -7.04/-7.34       | -7.98/-8.03       | -6.53/-4.32       | -2.67/-1.62       | -0.80/-0.50       | -0.37/-0.06       | 0.140.38          | 0.330.34          | -0.25/-0.80       |
| Θ (37.5°)  | -3.12/-4.51   | -5.79/-5.54       | -3.32/-1.49     | -0.180.45       | 0.670.30        | -0.49/-1.71     | -2.27/-2.14     | -1.57/-1.13       | -1.22/-1.20       | -3.70/-6.28       | -8.68/-9.83       | -9.08/-7.28       | -5.98/-5.62       | -5.47/-5.49       | -5.81/-6.92       | -7.81/-8.05       | -7.63/-7.50       | -6.85/-5.54       | -5.42/-5.11       | -4.08/-2.41       | -1.03/-0.90       | -1.05/-0.37       | 0.280.38          | -0.28/-1.50       |
| Θ (45°)    | -1.75/-3.19   | -4.01/-4.54       | -3.05/-1.51     | -0.700.50       | 1.020.68        | 0.25/-0.50      | -0.91/-1.19     | -1.02/-1.01       | -1.23/-2.12       | -3.51/-5.15       | -6.04/-6.50       | -5.41/-5.02       | -4.33/-4.39       | -3.92/-2.93       | -3.12/-3.71       | -4.99/-7.07       | -9.70/-9.69       | -8.81/-6.23       | -3.63/-1.37       | -0.86/-2.38       | -3.19/-2.10       | -2.03/-2.27       | -1.65/-0.79       | -0.42/-0.54       |
| Θ (52.5°)  | 1.920.96      | 0.10/-1.51        | -1.50/-1.55     | -0.760.79       | 1.040.93        | 0.900.47        | 0.12/-0.32      | -0.87/-1.53       | -2.06/-2.69       | -2.52/-2.56       | -2.98/-3.89       | -4.08/-4.47       | -3.32/-1.76       | -2.22/-2.50       | -3.15/-2.93       | -3.99/-5.58       | -7.47/-11.66      | -12.81/-10.06     | -8.50/-8.59       | -6.59/-3.98       | -3.45/-2.54       | -1.26/-1.29       | -1.23/-0.24       | 0.51/-1.83        |
| Θ (60°)    | 3.02/-2.35    | 1.56/-1.20        | -2.63/-3.23     | -1.11/-1.14     | 1.75/-2.12      | 1.80/-1.39      | 1.080.53        | -0.78/-2.70       | -4.06/-4.39       | -1.330.09         | 0.62/-0.63        | -1.08/-1.55       | -0.550.66         | -0.27/-0.79       | -2.62/-4.04       | -4.30/-8.13       | -10.83/-10.16     | -8.66/-6.06       | -4.59/-4.50       | -4.01/-3.41       | -3.50/-3.12       | -2.84/-2.27       | -1.59/-0.19       | 1.00/-2.67        |
| Θ (67.5°)  | 3.503.61      | 2.601.49          | 0.46/-1.61      | -1.99/-0.75     | 1.01/-1.78      | 1.43/-1.49      | 0.95/-0.71      | 2.45/-1.42        | 1.37/-2.96        | 2.97/-1.29        | 0.06/-0.66        | -0.20/-0.45       | -1.85/-4.47       | 6.00/-4.31        | -4.84/-7.43       | -9.20/-7.83       | -5.37/-3.32       | -3.14/-2.42       | -1.52/-1.79       | -1.82/-2.53       | -2.69/-2.14       | -0.390.41         | 1.64/-3.69        |                   |
| Θ (75°)    | 3.26/-2.57    | 2.08/-1.51        | 0.84/-0.86      | -2.24/-2.83     | -1.80/-1.13     | -0.96/-0.77     | -0.500.34       | 1.150.34          | -2.13/-3.35       | -1.86/-0.49       | -0.65/-1.06       | -1.44/-0.65       | -1.00/-0.66       | -2.23/-5.21       | -5.31/-4.71       | -8.31/-14.08      | -7.19/-4.29       | -2.72/-2.30       | -2.36/-3.04       | -3.06/-1.03       | -0.50/-0.14       | -1.07/-1.54       | -0.190.98         | 1.54/-3.59        |
| Θ (82.5°)  | 2.65/-2.12    | 2.92/-2.59        | 1.34/-1.30      | -3.86/-4.01     | -2.16/-1.79     | -2.42/-3.20     | -2.62/-2.91     | -4.18/-3.36       | -3.60/-2.60       | -0.32/-0.05       | -2.38/-4.39       | -4.56/-1.01       | 1.160.89          | -1.93/-4.47       | -4.15/-6.33       | -8.01/-12.42      | -5.33/-1.69       | -2.49/-2.52       | -4.17/-3.16       | -0.70/-0.55       | -0.090.68         | 0.32/-2.44        | 0.72/-2.69        | 2.75/-2.61        |
| Θ (90°)    | 2.35/-3.37    | <b>4.53/-3.79</b> | 1.45/-1.96      | -4.32/-5.56     | -4.26/-2.45     | -3.48/-1.84     | -1.79/-2.66     | -1.52/-0.19       | -0.390.08         | 0.21/-1.21        | -4.72/-7.13       | -2.980.59         | 3.070.58          | -0.92/-8.04       | -7.91/-4.72       | -6.72/-13.24      | -6.89/-3.34       | -6.81/-6.34       | -5.23/-4.41       | -1.34/-2.08       | 0.160.21          | 0.930.22          | 0.580.96          | 0.920.63          |
| Θ (97.5°)  | 0.56/-2.27    | 1.42/-2.33        | 0.28/-3.17      | -4.91/-2.86     | -2.78/-5.48     | -5.85/-4.13     | -4.45/-5.15     | -6.59/-3.75       | -2.25/-2.02       | -2.40/-4.00       | -7.47/-8.00       | -2.840.04         | -0.96/-0.96       | -1.36/-3.24       | -4.54/-9.91       | -9.54/-5.26       | -11.70/-7.65      | -10.29/-4.53      | -3.49/-4.72       | 0.64/-2.0         | 0.99/-0.60        | -8.00/-4.6        | 0.19/-0.80        | -2.42/-2.72       |
| Θ (105°)   | 0.060.38      | 2.330.93          | -1.30/-5.66     | -5.76/-5.07     | -4.63/-5.29     | -8.54/-5.92     | -5.75/-8.22     | -6.57/-3.94       | -3.96/-0.45       | -5.91/-7.58       | -8.18/-7.67       | -2.94/-2.32       | 0.29/-0.91        | -1.63/-2.59       | -7.11/-6.56       | -9.35/-8.14       | -6.26/-3.74       | -5.02/-3.55       | -3.14/-7.44       | -0.600.21         | 0.10/-0.93        | -1.18/-0.05       | 1.330.71          | -1.28/-1.76       |
| Θ (112.5°) | -2.270.54     | 1.07/-0.61        | -4.69/-11.49    | -13.48/-11.51   | -12.59/-11.77   | -7.67/-7.53     | -7.66/-7.71     | -8.09/-7.31       | -5.23/-5.18       | -4.89/-4.76       | -3.63/-2.35       | -0.940.03         | -0.44/-4.11       | -4.05/-4.34       | -6.19/-9.56       | -8.21/-6.42       | -4.41/-7.27       | -7.49/-6.31       | -7.95/-8.78       | -2.05/-0.33       | -0.03/-0.86       | -1.770.30         | 1.040.08          | -2.18/-2.77       |
| Θ (120°)   | -3.57/-0.56   | 0.57/-0.16        | -4.85/-9.65     | -12.62/-12.82   | -11.68/-13.51   | -7.23/-7.32     | -7.85/-11.23    | -14.01/-10.00     | -7.03/-7.27       | -7.04/-6.28       | -4.00/-2.65       | -0.35/-0.11       | -0.31/-1.76       | -4.19/-5.91       | -6.14/-15.26      | -6.31/-11.20      | -5.82/-9.36       | -4.75/-6.91       | -8.07/-8.29       | -3.62/-2.22       | -1.72/-5.06       | -3.39/-2.28       | 1.23/-1.40        | -2.81/-2.77       |
| Θ (127.5°) | -4.45/-2.24   | -3.31/-3.25       | -6.86/-8.29     | -9.51/-13.80    | -10.93/-7.91    | -7.61/-9.48     | -11.22/-11.31   | -9.04/-7.73       | -8.89/-10.18      | -11.22/-5.51      | -3.21/-1.23       | -0.96/-2.89       | -1.27/-8.75       | -3.32/-0.77       | -2.10/-11.06      | -11.80/-6.10      | -5.73/-7.19       | -7.89/-4.98       | -8.84/-10.36      | -7.39/-3.51       | -5.37/-4.95       | -9.12/-6.04       | -2.80/-3.36       | -4.97/-4.57       |
| Θ (135°)   | -7.43/-5.22   | -4.64/-4.14       | -4.99/-7.70     | -7.82/-8.41     | -8.43/-9.67     | -12.07/-14.56   | -13.16/-8.77    | -8.72/-9.38       | -9.74/-8.27       | -5.38/-4.67       | -5.86/-8.08       | -8.78/-8.68       | -13.21/-10.12     | -9.58/-3.11       | -4.10/-10.04      | -5.500.53         | -3.00/-5.58       | -5.46/-5.42       | -7.20/-8.99       | -8.78/-2.27       | -6.33/-6.63       | -9.10/-6.90       | -5.53/-2.54       | -7.45/-6.27       |
| Θ (142.5°) | -5.95/-7.26   | -6.62/-4.62       | -3.45/-4.85     | -7.87/-11.87    | -12.83/-13.62   | -14.14/-12.87   | -10.84/-8.98    | -7.64/-6.90       | -5.24/-5.32       | -6.34/-5.49       | -4.61/-5.53       | -7.26/-9.07       | -6.19/-6.33       | -5.52/-5.66       | -7.08/-6.06       | -2.46/-1.54       | -3.83/-4.81       | -6.55/-8.08       | -10.23/-8.94      | -8.95/-5.68       | -6.78/-6.17       | -5.23/-6.67       | -6.98/-8.19       | -7.60/-6.07       |
| Θ (150°)   | -9.34/-7.92   | -6.89/-5.80       | -5.19/-5.60     | -6.55/-6.86     | -6.16/-6.77     | -8.70/-9.39     | -9.01/-7.71     | -5.88/-5.21       | -5.78/-6.93       | -5.10/-3.05       | -2.89/-3.04       | -2.41/-1.49       | -2.40/-4.29       | -2.34/-0.22       | -0.09/-2.05       | -6.14/-8.53       | -8.62/-9.47       | -11.17/-13.06     | -13.76/-10.72     | -14.41/-11.38     | -6.88/-4.85       | -4.04/-3.65       | -4.19/-5.53       | -7.81/-9.14       |
| Θ (157.5°) | -4.04/-5.45   | -7.45/-8.67       | -9.25/-8.75     | -9.80/-12.89    | -15.54/-12.50   | -9.59/-7.99     | -7.25/-7.04     | -7.04/-6.16       | -4.34/-2.96       | -2.62/-3.96       | -6.84/-10.11      | -9.61/-6.48       | -5.23/-4.99       | -4.43/-2.76       | -1.19/-0.90       | -1.95/-3.45       | -6.23/-10.01      | -14.11/-15.21     | -12.24/-8.84      | -8.65/-10.14      | -9.29/-6.06       | -3.82/-2.43       | -1.61/-1.70       | -2.34/-3.28       |
| Θ (165°)   | -3.43/-5.43   | -7.72/-9.05       | -8.28/-8.10     | -8.44/-8.66     | -9.68/-8.29     | -6.81/-6.38     | -6.36/-6.06     | -5.65/-5.06       | -4.42/-4.09       | -4.22/-4.06       | -0.61/-6.68       | -6.34/-5.19       | -4.17/-3.67       | -3.31/-2.60       | -2.10/-2.40       | -3.73/-5.82       |                   |                   |                   |                   |                   |                   |                   |                   |

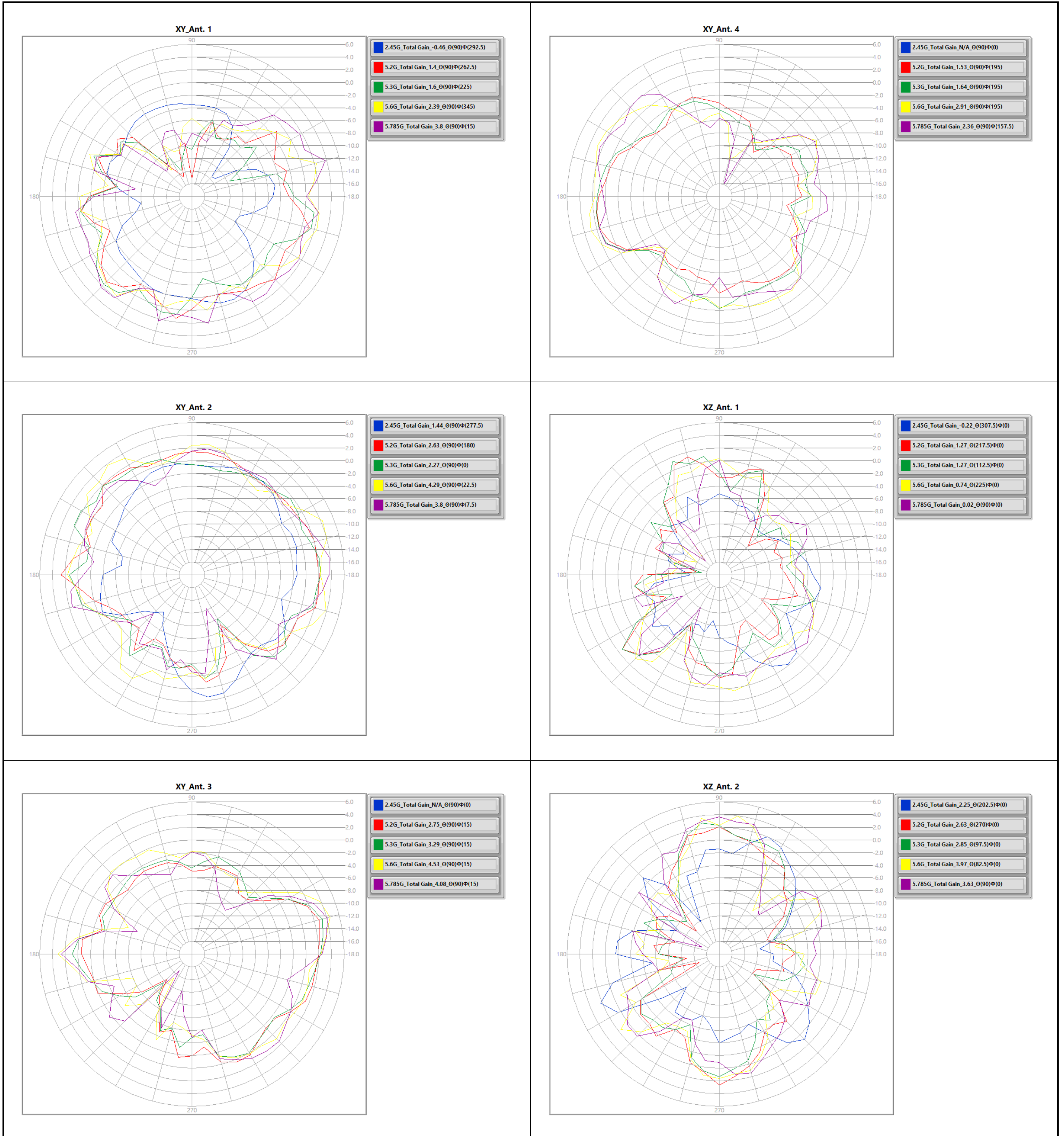


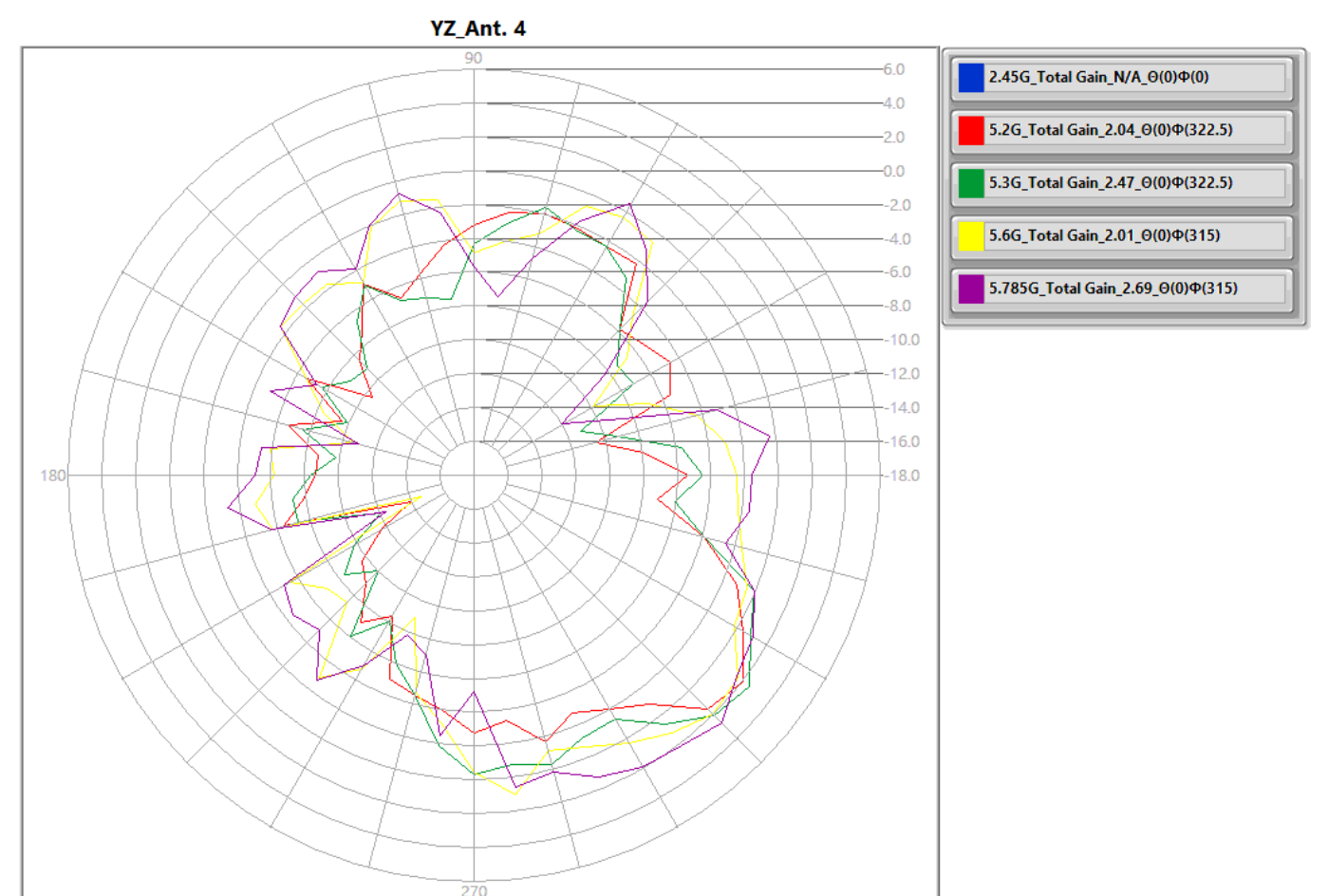
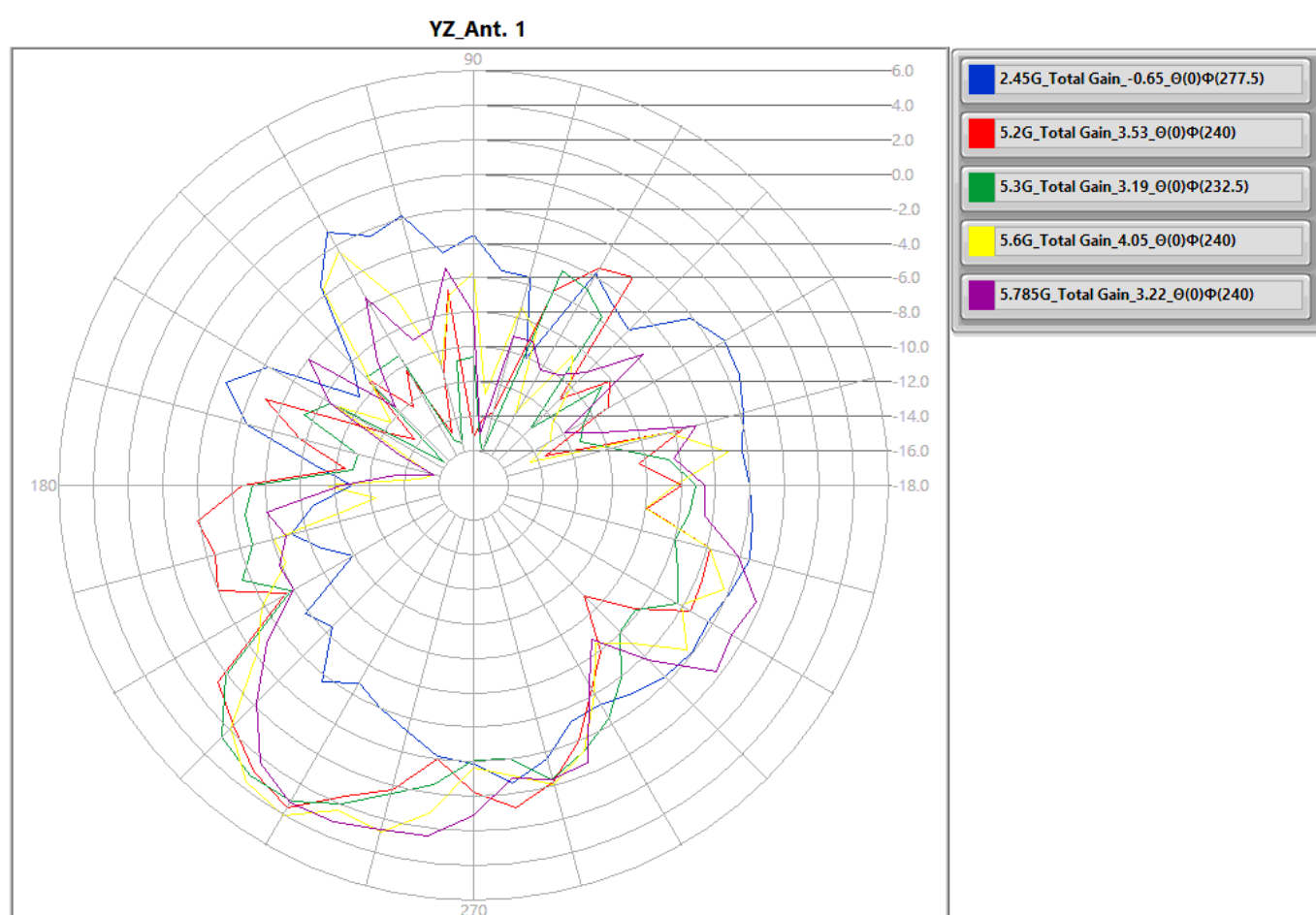
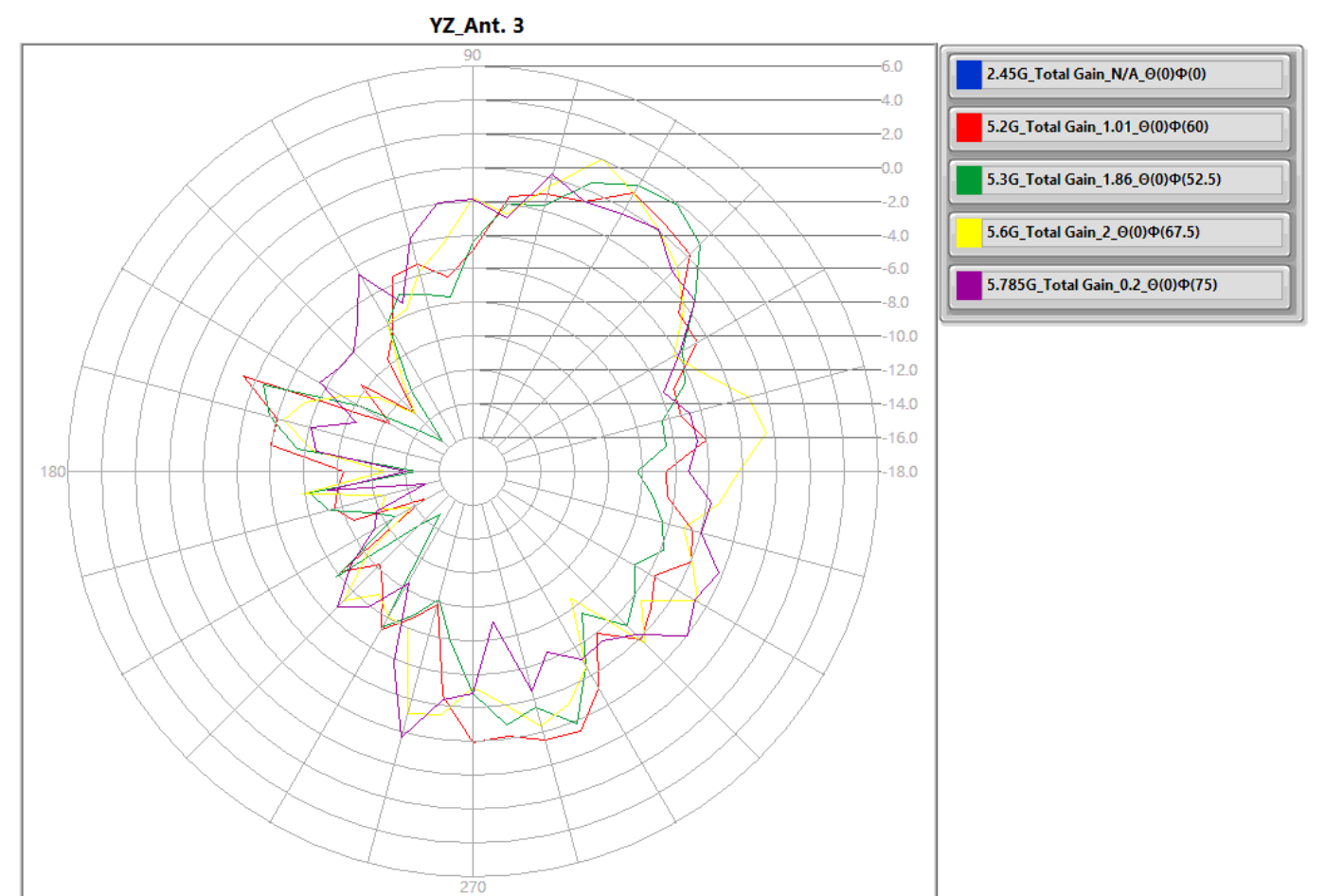
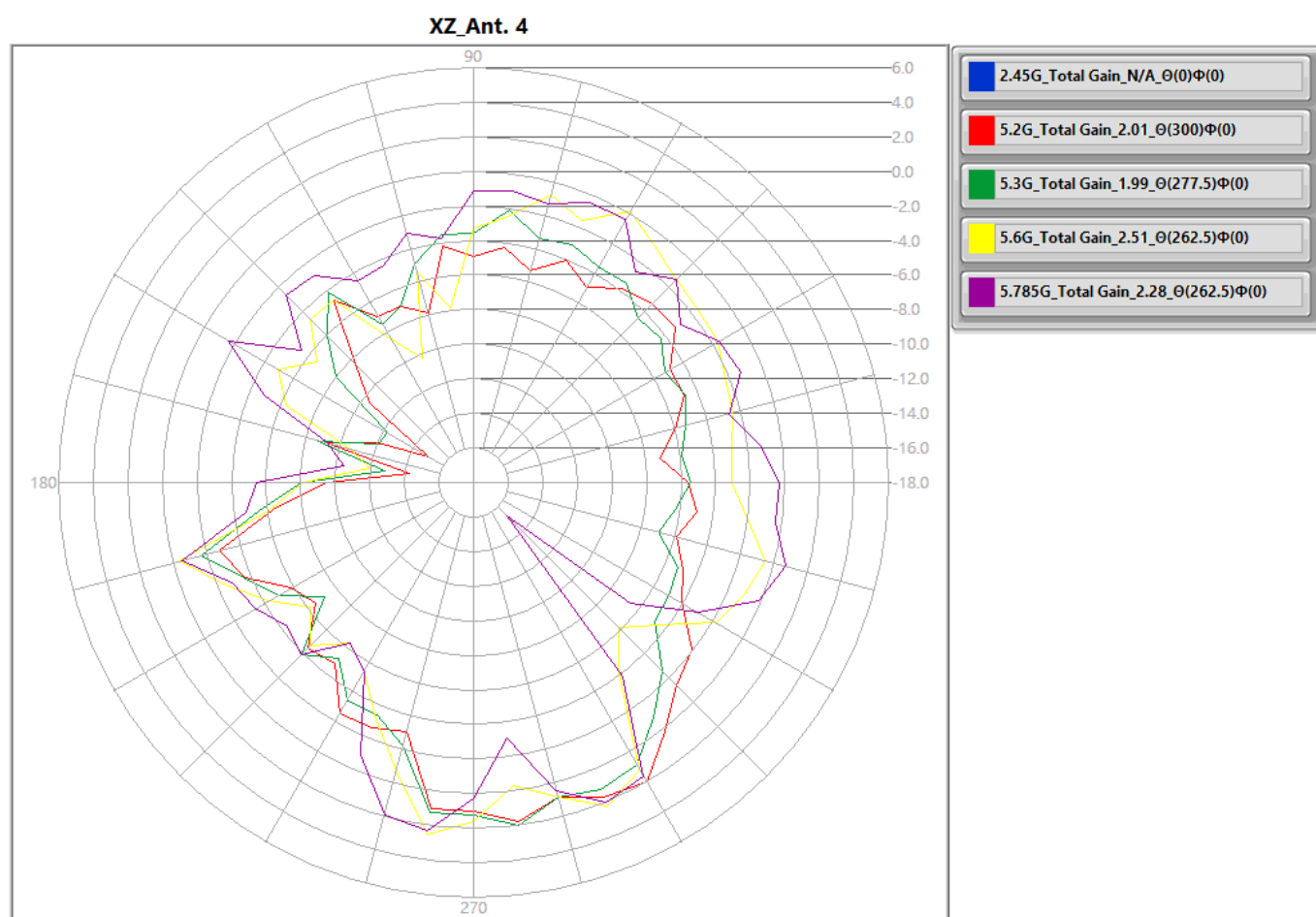
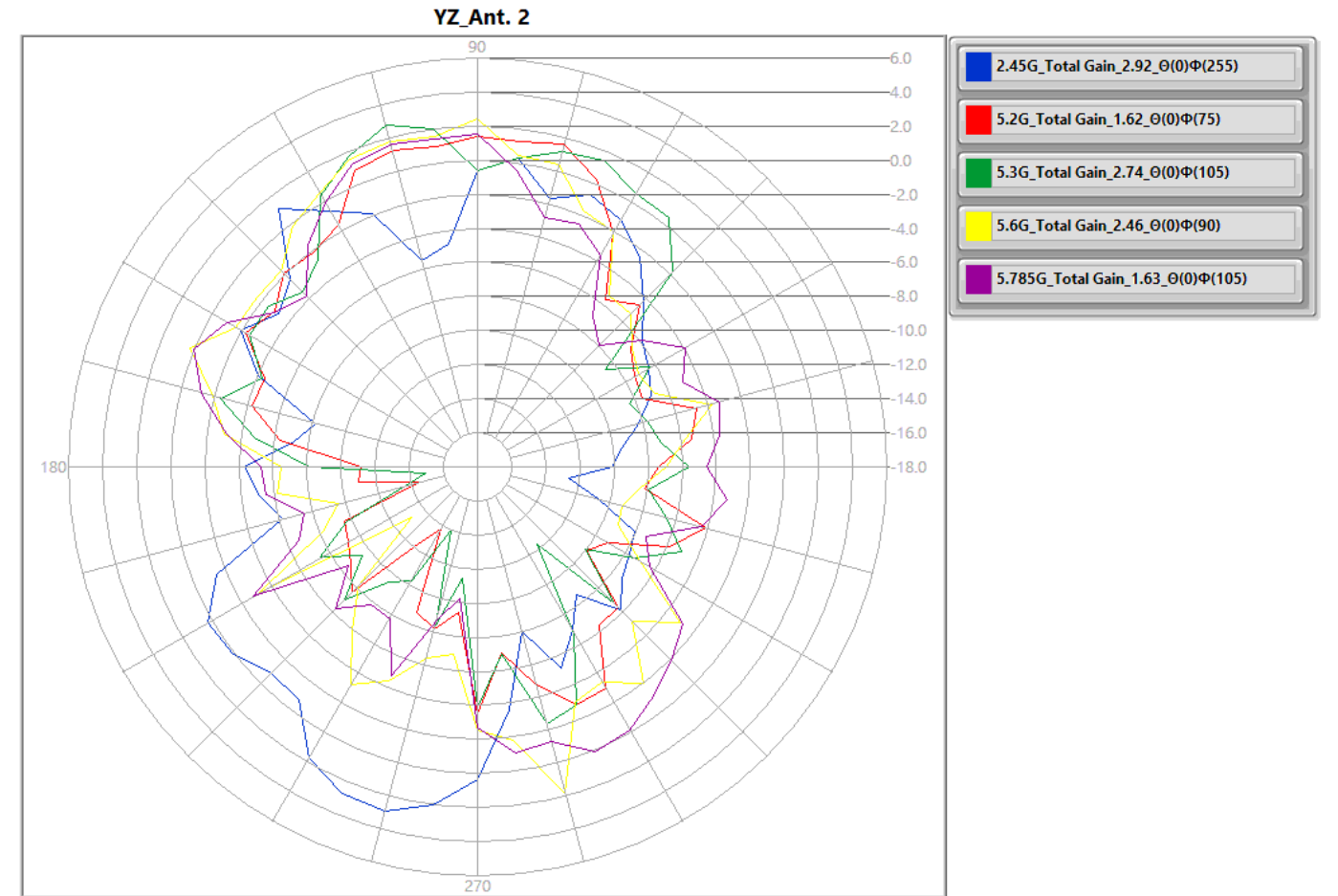
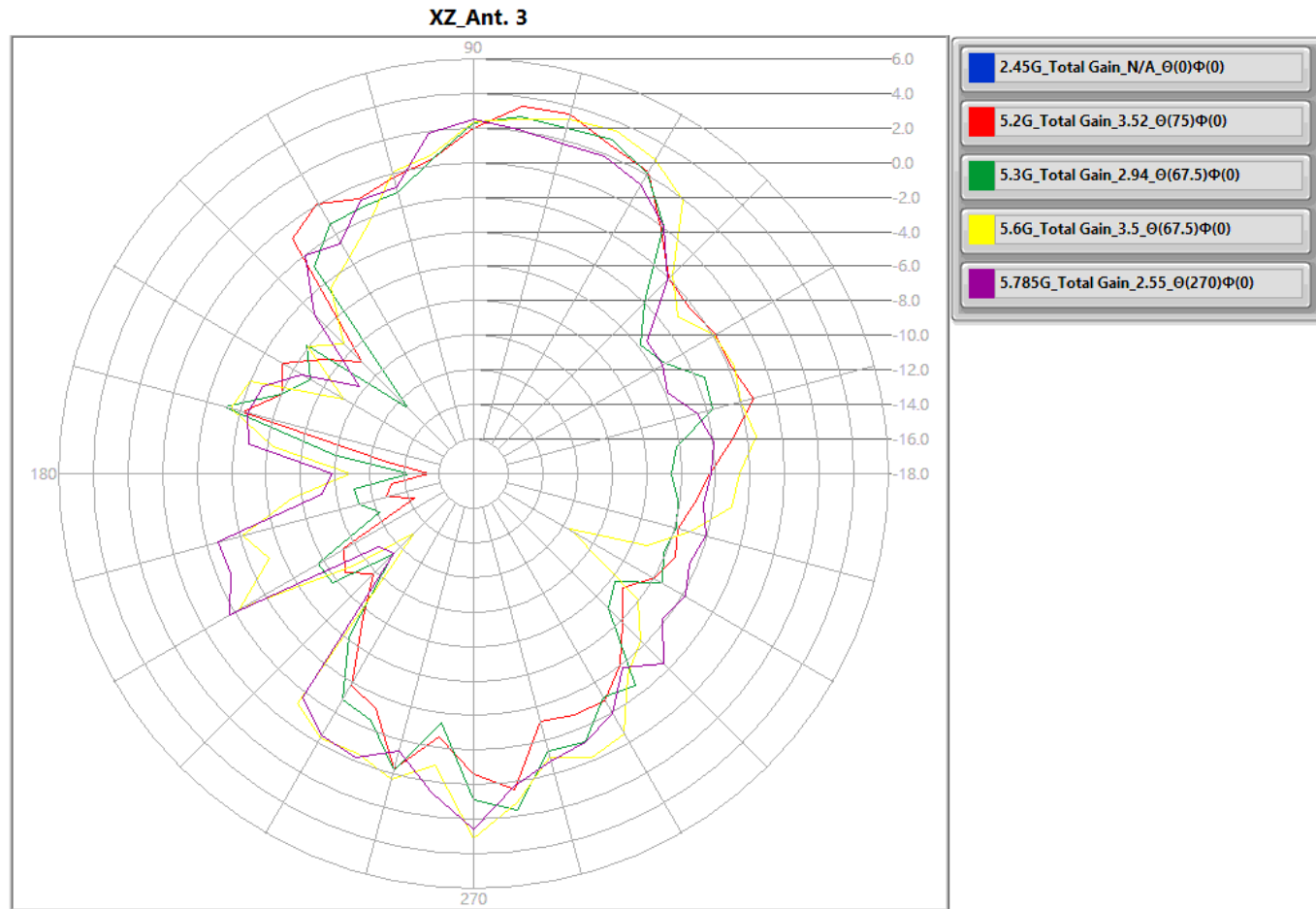
# Antenna Pattern of 2.4GHz and 5GHz U-NII 1 ~ U-NII 3

# Appendix C

|           |               |                 |                 |                 |                 |                 |                 |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
|-----------|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Θ(150°)   | -15.01/-11.87 | -6.51/-6.03     | -5.92/-5.01     | -7.13/-12.55    | -11.51/-9.20    | -9.75/-8.22     | -6.63/-5.24     | -4.47/-4.41       | -4.78/-4.92       | -4.32/-3.52       | -2.93/-2.77       | -2.87/-3.62       | -5.80/-9.40       | -11.77/-11.32     | -8.67/-10.04      | -9.62/-8.95       | -12.63/-15.44     | -11.90/-10.91     | -11.75/-12.44     | -12.09/-9.57      | -8.31/-8.91       | -8.64/-8.04       | -7.90/-8.03       | -9.88/-12.55      |
| Θ(157.5°) | -11.99/-8.56  | -6.02/-5.95     | -7.37/-7.51     | -8.01/-11.12    | -14.83/-12.26   | -13.00/-12.24   | -9.58/-7.50     | -6.74/-6.33       | -5.70/-4.71       | -3.60/-2.53       | -2.10/-2.07       | -2.32/-2.98       | -3.67/-4.85       | -5.14/-4.11       | -3.53/-3.37       | -3.12/-4.53       | -8.42/-14.12      | -15.33/-15.42     | -13.96/-13.37     | -13.19/-11.92     | -9.36/-6.85       | -5.16/-4.60       | -4.84/-5.59       | -7.30/-9.79       |
| Θ(165°)   | -9.15/-9.15   | -7.51/-6.87     | -7.81/-9.21     | -9.45/-9.83     | -9.82/-8.79     | -7.38/-6.90     | -6.58/-5.85     | -5.65/-5.38       | -4.94/-4.00       | -2.91/-2.06       | -1.48/-1.29       | -1.65/-2.23       | -2.80/-3.27       | -3.69/-4.10       | -4.99/-6.63       | -9.07/-11.58      | -11.20/-8.36      | -6.45/-6.06       | -6.42/-7.50       | -8.60/-9.14       | -8.29/-6.69       | -5.68/-5.49       | -5.60/-6.12       | -7.54/-8.94       |
| Θ(172.5°) | -14.28/-13.64 | -11.53/-10.95   | -11.87/-12.66   | -12.36/-11.58   | -11.30/-10.27   | -9.13/-8.73     | -8.73/-8.04     | -7.31/-6.63       | -6.20/-5.90       | -5.66/-5.42       | -5.37/-5.28       | -5.32/-5.68       | -6.33/-7.18       | -8.78/-10.45      | -14.15/-14.84     | -13.62/-10.62     | -8.12/-6.74       | -6.46/-6.83       | -7.85/-9.38       | -10.05/-10.38     | -10.03/-9.53      | -9.19/-9.61       | -11.15/-13.09     | -15.84/-15.26     |
| Θ(180°)   | -9.56/-9.35   | -9.31/-9.60     | -9.67/-8.93     | -8.69/-9.62     | -9.98/-9.69     | -8.78/-8.55     | -8.65/-8.52     | -7.99/-7.44       | -7.22/-7.15       | -7.34/-7.77       | -8.13/-8.51       | -9.41/-10.70      | -11.27/-12.18     | -12.31/-11.98     | -10.59/-9.77      | -8.97/-8.76       | -8.74/-8.88       | -9.26/-10.23      | -11.30/-11.93     | -11.74/-11.03     | -10.63/-10.59     | -10.81/-11.47     | -11.35/-10.83     | -10.03/-9.89      |
| Freq(Hz)  | 5.3GPol.      | 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°)     | -5.46/-5.63   | -5.61/-5.46     | -5.58/-5.75     | -6.06/-5.79     | -5.88/-5.50     | -4.94/-4.63     | -4.47/-4.51     | -4.44/-4.61       | -4.85/-4.93       | -4.95/-5.08       | -5.31/-5.45       | -5.73/-5.89       | -5.97/-6.17       | -6.37/-6.43       | -5.98/-5.66       | -5.67/-5.53       | -5.59/-5.63       | -5.65/-5.72       | -5.74/-5.44       | -5.32/-4.99       | -4.91/-5.13       | -5.19/-5.21       | -5.07/-5.08       | -5.28/-5.59       |
| Θ(7.5°)   | -5.84/-5.92   | -6.23/-6.37     | -6.44/-7.07     | -7.38/-7.09     | -6.96/-6.81     | -6.45/-6.16     | -5.66/-5.76     | -5.43/-5.54       | -5.58/-5.64       | -5.50/-5.34       | -5.40/-5.53       | -5.88/-6.09       | -6.22/-6.54       | -6.92/-6.77       | -6.14/-5.62       | -5.15/-4.90       | -4.65/-4.47       | -4.76/-5.43       | -5.99/-6.43       | -6.33/-5.95       | -5.53/-5.46       | -5.39/-5.06       | -4.92/-4.90       | -5.06/-5.42       |
| Θ(15°)    | -5.31/-5.35   | -5.67/-6.60     | -8.02/-8.85     | -10.17/-11.25   | -11.36/-10.87   | -10.80/-10.53   | -9.21/-8.23     | -7.20/-6.59       | -6.11/-5.56       | -5.13/-5.00       | -5.11/-5.50       | -6.05/-6.66       | -6.94/-7.21       | -6.94/-6.09       | -4.63/-4.08       | -3.57/-3.26       | -2.89/-2.74       | -2.99/-3.61       | -3.95/-4.18       | -4.14/-3.49       | -3.14/-3.01       | -2.98/-2.97       | -3.51/-4.25       | -4.35/-4.81       |
| Θ(22.5°)  | -4.77/-5.28   | -5.08/-5.91     | -7.22/-8.29     | -8.96/-10.29    | -11.52/-11.54   | -11.86/-11.80   | -11.16/-9.00    | -7.52/-6.16       | -5.07/-4.27       | -3.77/-3.59       | -3.87/-4.04       | -4.34/-4.79       | -5.23/-5.50       | -4.89/-3.76       | -2.77/-1.96       | -1.31/-0.75       | -0.48/-0.46       | -0.66/-0.55       | -0.08/-0.26       | 0.53/-0.42        | 0.33/-0.09        | -0.28/-0.74       | -1.52/-2.53       | -3.54/-4.35       |
| Θ(30°)    | -5.21/-5.68   | -5.49/-5.30     | -5.98/-6.75     | -6.03/-4.89     | -4.88/-6.02     | -6.93/-7.30     | -7.09/-6.54     | -5.33/-3.88       | -2.33/-1.24       | -0.63/-0.64       | -0.99/-1.55       | -2.46/-3.70       | -4.97/-5.32       | -4.55/-3.42       | -1.74/-0.40       | 0.34/-0.66        | 0.91/-1.21        | 1.47/-1.29        | 0.89/-0.51        | 0.33/-0.40        | 0.79/-0.95        | 0.88/-0.70        | 0.16/-0.77        | -2.32/-4.32       |
| Θ(37.5°)  | -4.34/-4.71   | -4.15/-4.30     | -4.21/-4.34     | -4.22/-3.92     | -4.81/-6.65     | -8.87/-9.14     | -7.36/-5.78     | -4.07/-2.71       | -1.63/-0.73       | -0.05/-0.12       | -0.12/-0.57       | -1.67/-3.55       | -4.83/-4.80       | -3.91/-2.50       | -0.99/-0.36       | 0.05/-0.59        | 1.44/-1.71        | 1.44/-1.79        | 2.47/-2.76        | 2.34/-1.49        | 0.59/-0.03        | -0.64/-1.17       | -1.16/-1.20       | -1.51/-2.82       |
| Θ(45°)    | -4.56/-4.71   | -3.53/-3.92     | -3.94/-3.62     | -4.14/-5.71     | -7.95/-8.50     | -7.89/-7.40     | -5.83/-4.30     | -3.14/-2.39       | -2.06/-1.55       | -0.82/-0.29       | -0.32/-0.35       | -0.52/-1.41       | -2.60/-2.80       | -3.46/-3.31       | -2.23/-0.99       | 0.50/-0.69        | 2.44/-8.1         | <b>2.91/2.60</b>  | 2.03/-1.82        | 1.99/-1.79        | 0.88/-0.97        | -2.44/-3.26       | -3.00/-2.91       | -3.34/-3.37       |
| Θ(52.5°)  | -3.46/-4.48   | -3.67/-3.48     | -3.72/-5.19     | -7.89/-8.30     | -6.52/-5.34     | -4.02/-3.47     | -3.26/-2.46     | -2.02/-1.72       | -1.26/-1.14       | -1.57/-2.02       | -2.33/-2.05       | -0.53/-0.90       | -0.90/-0.97       | -4.16/-4.89       | -4.81/-3.50       | -1.80/-0.36       | 0.68/-0.74        | 0.77/-0.68        | 0.56/-0.68        | 0.46/-0.12        | -2.94/-3.04       | -2.98/-2.51       | -3.03/-2.98       |                   |
| Θ(60°)    | -3.58/-3.21   | -2.07/-1.98     | -3.19/-5.00     | -7.64/-6.92     | -5.83/-5.16     | -4.22/-3.34     | -2.41/-1.29     | -0.84/-0.38       | -0.29/-0.08       | 0.09/-0.74        | -1.41/-2.64       | -1.77/-0.15       | 0.87/-1.74        | -0.38/-3.65       | -5.90/-4.15       | -2.15/-1.10       | -0.54/-0.46       | -0.70/-0.99       | -1.36/-2.05       | -2.04/-1.93       | -2.69/-3.77       | -3.43/-1.31       | 0.12/-0.18        | -1.88/-3.59       |
| Θ(67.5°)  | -3.12/-5.28   | -2.79/-3.70     | -6.46/-9.02     | -8.86/-6.69     | -6.14/-5.56     | -4.85/-3.07     | -2.31/-2.24     | -1.73/-1.59       | -1.84/-1.52       | -0.78/-1.08       | -1.66/-2.40       | -2.07/-0.01       | 1.22/-4.9         | 0.49/-3.22        | -7.99/-5.82       | -3.65/-2.50       | -1.62/-1.10       | -0.83/-1.70       | -1.22/-1.10       | -2.27/-3.37       | -3.62/-3.12       | -1.55/-0.66       | 0.83/-0.31        | -1.89/-1.5        |
| Θ(75°)    | -3.40/-2.67   | -3.65/-4.98     | -7.51/-9.18     | -9.41/-8.64     | -9.78/-8.01     | -4.52/-2.68     | -1.65/-1.21     | -1.05/-2.35       | -3.16/-3.07       | -1.63/-0.12       | 0.62/-0.81        | -0.22/-0.07       | 0.82/-1.7         | 2.22/-0.59        | -3.05/-7.18       | -6.14/-5.11       | -3.73/-3.18       | -2.45/-1.68       | -0.27/-0.39       | -0.29/-0.83       | -1.51/-2.28       | -2.03/-1.46       | -0.99/-1.69       | -3.45/-3.61       |
| Θ(82.5°)  | -2.14/-2.24   | -2.56/-4.32     | -5.74/-7.87     | -8.67/-10.02    | -8.49/-6.46     | -5.14/-4.38     | -3.04/-3.15     | -2.91/-2.87       | -2.70/-2.96       | -2.11/-1.32       | -0.31/-0.64       | 0.84/-0.98        | 1.99/-2.78        | 2.64/-1.91        | -1.36/-4.79       | -6.12/-3.63       | -3.20/-2.57       | -2.03/-1.57       | -0.77/-0.29       | -0.01/-0.91       | -1.37/-1.38       | -0.55/-1.11       | -1.31/-2.00       | -3.51/-3.82       |
| Θ(90°)    | -3.56/-4.29   | -3.55/-4.02     | -3.39/-4.85     | -7.61/-8.63     | -7.03/-6.01     | -5.90/-5.04     | -4.35/-2.22     | -2.43/-2.46       | -2.26/-3.15       | -3.62/-2.65       | -1.74/-0.27       | 0.43/-0.86        | 1.28/-1.57        | 1.64/-1.31        | -0.96/-3.99       | -4.91/-4.50       | -3.95/-3.66       | -1.96/-1.64       | -0.30/-1.24       | -2.29/-2.12       | -2.09/-1.81       | -1.41/-1.75       | -2.78/-3.39       | -5.24/-6.72       |
| Θ(97.5°)  | -5.43/-4.19   | -2.56/-3.81     | -4.29/-7.82     | -7.43/-6.82     | -7.50/-8.44     | -5.55/-10.03    | -7.45/-5.56     | -3.93/-3.54       | -3.40/-3.99       | -4.00/-3.12       | -2.23/-1.24       | -0.73/-3.27       | 1.29/-1.71        | 1.10/-0.07        | -1.82/-3.95       | -4.90/-4.27       | -3.65/-2.71       | -2.81/-2.35       | -1.87/-2.27       | -3.56/-5.60       | -4.49/-3.90       | -2.89/-3.95       | -5.30/-5.70       | -5.91/-6.05       |
| Θ(105°)   | -4.93/-6.39   | -3.88/-4.57     | -5.41/-10.10    | -8.46/-7.02     | -6.57/-8.29     | -10.45/-9.88    | -7.14/-4.69     | -2.65/-2.55       | -2.39/-3.13       | -4.03/-2.35       | -1.89/-1.49       | -2.29/-3.29       | -2.22/-0.27       | -0.09/-1.36       | -3.18/-4.71       | -5.52/-3.25       | -1.91/-2.24       | -2.86/-5.58       | -4.51/-3.92       | -5.97/-7.84       | -6.59/-7.21       | -8.19/-11.44      | -5.26/-2.66       | -2.74/-6.55       |
| Θ(112.5°) | -7.01/-8.21   | -4.21/-8.42     | -5.92/-8.24     | -6.97/-8.57     | -6.59/-8.93     | -8.79/-8.60     | -6.82/-6.57     | -5.13/-4.22       | -3.58/-3.72       | -3.03/-2.39       | -1.37/-1.33       | -0.23/-3.28       | -3.41/-1.10       | -0.79/-2.34       | -1.80/-2.97       | -7.35/-4.77       | -2.77/-3.85       | -4.50/-7.66       | -5.94/-4.16       | -5.12/-8.11       | -7.48/-7.11       | -3.84/-5.87       | -5.47/-4.90       | -5.85/-8.26       |
| Θ(120°)   | -7.41/-6.05   | -3.64/-4.98     | -6.58/-11.76    | -10.09/-6.83    | -7.25/-7.48     | -7.49/-6.17     | -5.08/-4.63     | -3.56/-3.17       | -3.47/-4.01       | -3.93/-3.20       | -2.20/-1.47       | -1.90/-2.18       | -3.42/-2.64       | -2.83/-3.29       | -2.03/-3.90       | -10.32/-13.16     | -5.06/-5.65       | -4.13/-8.80       | -8.05/-7.97       | -7.52/-4.27       | -4.50/-2.64       | -3.84/-8.21       | -6.14/-3.76       | -9.44/-8.82       |
| Θ(127.5°) | -4.18/-4.40   | -3.51/-6.83     | -12.27/-12.18   | -6.99/-6.63     | -5.89/-7.79     | -7.22/-7.61     | -6.62/-4.87     | -3.99/-4.16       | -4.33/-3.80       | -3.64/-2.52       | -2.15/-1.28       | -1.40/-3.21       | -5.21/-7.00       | -5.78/-6.47       | -4.67/-6.17       | -6.83/-11.14      | -9.30/-9.32       | -8.47/-12.40      | -5.99/-8.60       | -10.65/-6.13      | -4.27/-4.21       | -4.31/-8.04       | -13.18/-8.41      | -8.54/-8.77       |
| Θ(135°)   | -6.07/-9.00   | -9.09/-11.94    | -11.36/-8.62    | -4.55/-2.92     | -4.22/-5.67     | -7.82/-9.69     | -9.06/-8.33     | -6.88/-6.52       | -4.92/-5.58       | -5.69/-4.15       | -2.54/-0.69       | -0.86/-2.42       | -3.95/-10.26      | -9.61/-9.18       | -7.40/-9.61       | -5.27/-8.10       | -6.30/-13.55      | -14.35/-11.70     | -9.98/-14.49      | -12.86/-8.68      | -5.26/-3.04       | -4.42/-4.14       | -13.26/-13.13     | -11.36/-10.41     |
| Θ(142.5°) | -7.94/-7.20   | -8.66/-7.78     | -5.68/-5.57     | -6.67/-4.04     | -3.67/-6.41     | -7.95/-9.06     | -8.82/-7.48     | -5.61/-4.18       | -3.96/-3.72       | -3.96/-4.58       | -4.04/-3.00       | -1.13/-4.38       | -7.11/-10.06      | -10.47/-12.29     | -10.87/-7.61      | -8.40/-8.93       | -6.46/-4.03       | -4.40/-4.35       | -4.47/-6.36       | -7.86/-7.15       |                   |                   |                   |                   |
| Θ(150°)   | -12.23/-10.87 | -7.09/-7.03     | -5.74/-4.66     | -7.29/-11.28    | -7.89/-7.48     | -8.81/-8.30     | -7.64/-6.50     | -5.49/-5.50       | -5.87/-6.00       | -5.31/-4.15       | -3.16/-2.80       | -3.18/-3.67       | -4.95/-7.95       | -12.03/-12.30     | -8.64/-9.34       | -12.57/-11.82     | -12.07/-11.85     | -10.84/-10.53     | -9.86/-9.52       | -10.09/-9.43      | -9.99/-11.02      | -9.41/-8.11       | -7.53/-8.15       | -9.90/-10.90      |
| Θ(157.5°) | -12.08/-7.73  | -5.95/-6.24     | -7.11/-6.81     | -7.69/-11.41    | -12.08/-11.28   | -13.53/-13.64   | -9.86/-7.76     | -6.93/-6.74       | -6.28/-9.41       | -3.31/-2.03       | -1.50/-1.57       | -2.25/-2.93       | -3.62/-3.52       | -7.02/-6.09       | -4.62/-4.18       | -4.22/-5.59       | -8.98/-13.55      | -13.17/-13.32     | -12.08/-11.16     | -11.16/-11.14     | -9.83/-7.33       | -5.26/-4.23       | -4.30/-5.33       | -7.47/-10.77      |
| Θ(165°)   | -8.71/-7.92   | -6.70/-6.31     | -7.68/-9.08     | -10.55/-11.24   | -10.63/-8.86    | -7.86/-7.99     | -7.53/-7.27     | -6.72/-6.19       | -5.41/-4.48       | -3.30/-2.15       | -1.43/-1.00       | -0.99/-1.28       | -1.73/-2.44       | -3.11/-3.71       | -4.59/-6.07       | -8.42/-11.39      | -12.25/-9.80      | -7.55/-6.75       | -7.26/-8.47       | -9.67/-9.59       | -8.89/-7.18       | -5.82/-5.07       | -5.36/-6.05       | -7.11/-8.39       |
| Θ(172.5°) | -12.83/-11.96 | -10.66/-10.45   | -11.88/-12.51   | -12.00/-11.52   | -11.10/-10.73   | -9.64/-10.08    | -9.76/-9.09     | -8.73/-8.29       | -7.89/-7.67       | -7.46/-7.11       | -6.57/-6.14       | -5.72/-5.46       | -5.48/-5.90       | -7.12/-8.95       | -11.81/-13.56     | -13.21/-10.09     | -7.72/-6.58       | -6.20/-6.54       | -7.20/-7.93       | -7.97/-8.25       | -8.34/-8.08       | -7.92/-8.41       | -10.34/-12.82     | -14.02/-13.24     |
| Θ(180°)   | -8.01/-7.38   | -7.36/-7.75     | -8.18/-7.40     | -7.55/-8.58     | -8.92/-8.98     | -8.75/-8.48     | -8.31/-7.98     | -7.55/-7.04       | -6.56/-6.51       | -6.60/-7.04       | -7.46/-7.77       | -8.01/-8.29       | -8.71/-8.90       | -9.08/-9.69       | -10.44/-10.48     | -10.52/-10.15     | -9.43/-8.88       | -8.90/-9.27       | -9.83/-10.14      | -9.75/-9.54       | -10.53/-11.64     | -12.20/-11.94     | -11.42/-10.41     | -9.08/-8.38       |
| Freq(Hz)  | 5.3GPol.      | 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°)     | -3.08/-2.76   | -2.81/-2.56     | -2.26/-2.29     | -2.62/-2.22     | -2.22/-2.15     | -2.24/-2.12     | -2.48/-2.44     | -2.59/-2.65       | -2.91/-3.01       | -3.05/-3.04       | -3.02/-3.09       | -3.29/-3.48       | -3.69/-3.87       | -3.94/-3.83       | -3.64/-3.36       | -2.93/-2.63       | -2.57/-2.56       | -2.61/-2.88       | -2.92/-2.62       | -2.54/-2.78       | -2.96/-2.89       | -2.68/-2.64       | -2.66/-2.65       |                   |

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







# Antenna Pattern of 6GHz U-NII 5 ~ U-NII 8

# Appendix D

## Total Gain Data

| Freq(Hz)  | 6.175GPol.    | 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°)     | -1.57/-1.80   | -1.78/-1.39    | -1.08/-0.64    | -0.43/-0.54    | -0.72/-0.86    | -0.98/-0.89    | -0.78/-0.51    | -0.51/-0.54      | -0.56/-0.48      | -0.46/-0.38      | -0.18/-0.01      | 0.07/0.11        | 0.03/-0.04       | -0.14/-0.10      | -0.02/-0.22      | -0.39/-0.17      | -0.22/-0.52      | -1.20/-1.69      | -1.69/-1.89      | -1.98/-2.01      | -1.73/-1.79      | -1.59/-1.26      | -1.16/-1.18      | -1.10/-1.40      |
| Θ(7.5°)   | 0.04/-0.15    | -0.53/-0.76    | -0.42/0.13     | 0.31/0.14      | -0.45/-1.24    | -1.68/-1.78    | -1.53/-1.50    | -1.95/-2.78      | -3.48/-3.66      | -3.27/-2.71      | -2.21/-2.10      | -2.09/-2.00      | -1.76/-1.53      | -1.29/-1.12      | -0.92/-0.90      | -0.93/-0.52      | -0.07/0.07       | -0.01/-0.02      | 0.10/-0.22       | 0.27/-0.04       | -0.10/0.51       | 0.96/1.13        | 0.80/1.05        |                  |
| Θ(15°)    | 0.87/0.86     | 0.46/-0.25     | -0.27/0.07     | 0.03/-0.10     | -0.78/-1.40    | -2.12/-2.68    | -2.63/-3.29    | -4.33/-5.62      | -6.12/-5.76      | -5.59/-5.14      | -4.77/-4.53      | -4.27/-3.96      | -3.94/-3.57      | -2.91/-2.10      | -1.33/-0.87      | -0.45/-0.25      | 0.05/0.20        | 0.35/0.40        | 0.78/1.11        | 0.95/0.68        | 0.54/0.75        | 1.17/1.36        | 1.40/1.26        | 1.23/1.34        |
| Θ(22.5°)  | 1.72/1.50     | 0.74/0.25      | 0.15/0.32      | 0.51/0.50      | -0.23/-0.91    | -1.58/-2.15    | -3.15/-4.73    | -6.93/-8.46      | -8.87/-9.14      | -9.04/-7.86      | -6.89/-5.90      | -5.13/-4.84      | -5.32/-5.55      | -4.56/-3.01      | -1.45/-0.25      | 0.92/1.64        | 2.04/2.13        | 1.92/1.88        | 2.27/2.53        | 2.15/1.73        | 1.60/1.74        | 1.85/1.67        | 1.22/0.69        | 0.69/1.29        |
| Θ(30°)    | 1.48/1.60     | 1.66/1.99      | 1.51/0.74      | 0.10/-0.59     | -2.01/-3.46    | -5.37/-6.94    | -7.65/-7.51    | -6.78/-6.04      | -5.19/-4.86      | -5.45/-5.87      | -5.84/-4.41      | -2.33/-0.95      | -1.31/-2.53      | -2.25/-0.72      | 0.67/1.14        | 1.49/1.85        | 2.05/2.15        | 2.22/2.45        | 2.93/2.23        | 2.99/2.64        | 2.10/1.32        | 1.01/1.14        | 1.24/1.39        | 1.28/1.43        |
| Θ(37.5°)  | 2.41/3.00     | 3.19/2.99      | 2.91/2.46      | 1.54/-0.17     | -1.98/-3.04    | -3.00/-2.80    | -2.95/-2.71    | -2.85/-3.01      | -3.08/-2.78      | -2.21/-1.87      | -2.36/-1.64      | -0.03/-1.27      | 1.47/0.59        | -0.16/0.99       | 1.96/1.80        | 1.44/-1.17       | 1.10/1.65        | 1.91/1.93        | 2.06/1.94        | 1.85/1.64        | 1.92/2.23        | 2.32/2.62        | 2.70/1.69        | 1.46/1.84        |
| Θ(45°)    | 3.60/3.84     | 3.80/3.61      | 3.08/1.61      | -0.54/-2.46    | -2.65/-2.75    | -2.44/-2.10    | -1.90/-1.84    | -1.20/-1.36      | -2.26/-3.06      | -3.15/-2.49      | -1.74/-0.07      | 0.83/1.07        | 2.10/2.68        | 1.27/0.37        | 0.99/0.98        | 0.65/0.69        | 1.22/2.27        | 2.89/2.60        | 2.60/3.12        | 3.30/1.56        | -0.28/-0.34      | 1.73/0.05        | 3.46/2.92        | 2.70/3.24        |
| Θ(52.5°)  | 4.034/2.8     | 3.49/1.96      | 0.51/-0.44     | -0.70/-1.12    | -0.10/-1.28    | -2.51/-2.71    | -2.71/-3.25    | -3.04/-2.26      | -6.19/-4.18      | -1.21/-4.03      | -1.93/1.41       | 1.43/0.66        | 1.69/1.45        | -0.71/-1.15      | 0.46/0.94        | 1.37/1.89        | 1.55/1.33        | 1.62/1.92        | 2.01/1.79        | 1.58/0.95        | 1.14/1.45        | 1.14/1.61        | 2.71/3.17        | 3.08/3.32        |
| Θ(60°)    | 3.43/3.07     | 1.55/0.25      | 0.23/-1.10     | 0.86/1.48      | 0.20/-1.29     | -1.34/-1.61    | -3.00/-3.82    | -4.88/-6.46      | -6.89/-3.26      | -0.13/0.35       | -1.56/-1.11      | 3.18/1.74        | 0.27/0.45        | -1.47/-2.65      | -0.71/-0.98      | -0.07/0.11       | -1.40/-1.41      | -0.58/0.99       | 1.64/1.21        | 0.65/0.48        | -0.48/-0.04      | -0.97/-1.08      | 1.29/2.14        | 2.14/2.49        |
| Θ(67.5°)  | 1.99/-0.27    | 0.26/1.76      | 1.52/1.78      | 1.87/0.42      | -2.20/-3.10    | -1.76/-1.06    | -2.30/-5.17    | -6.64/-6.27      | -6.69/-5.20      | -0.91/1.04       | -0.07/-1.50      | 2.53/-0.38       | -2.53/-2.23      | -4.83/-4.38      | -1.66/-1.63      | -2.16/-2.38      | -1.94/-1.78      | -1.13/-0.47      | -0.02/-0.87      | -1.58/-1.09      | -1.37/-2.18      | -2.76/-3.40      | 0.52/1.45        | 0.93/2.50        |
| Θ(75°)    | -1.13/-2.35   | 0.09/1.27      | 0.39/-0.21     | -1.21/-3.09    | -3.53/-0.82    | 0.35/-1.05     | -3.65/-6.63    | -5.80/-4.16      | -2.64/-3.32      | -4.74/-2.29      | -1.62/-2.18      | -0.24/-0.54      | -4.00/-4.56      | -3.11/-4.39      | -6.30/-5.25      | -4.68/-6.55      | -5.94/-3.86      | -2.14/-2.62      | -3.99/-4.23      | -6.48/-4.60      | -2.56/-4.30      | -4.06/-3.33      | -0.65/1.21       | 0.62/0.34        |
| Θ(82.5°)  | -2.02/-1.11   | 0.26/0.93      | 0.43/-0.68     | -3.82/-2.33    | -0.46/0.35     | -1.34/-4.65    | -7.01/-7.05    | -4.27/-1.06      | -0.52/-1.26      | -2.89/-1.58      | -1.52/-5.41      | -4.40/-2.19      | -1.05/-0.97      | -0.22/0.42       | -0.99/-2.37      | -3.32/-2.84      | -3.85/-4.69      | -3.58/-3.15      | -3.78/-2.16      | -1.16/-1.33      | -2.26/-2.28      | -0.80/0.98       | 0.42/-0.81       |                  |
| Θ(90°)    | -2.12/-0.26   | 1.59/0.50      | -1.93/-5.78    | -7.71/-1.54    | 1.24/-0.47     | -3.01/-2.10    | -0.61/0.60     | -3.71/-3.43      | -0.38/-0.62      | -3.41/-2.22      | -2.65/-1.97      | -8.10/-8.78      | -6.01/-6.16      | 0.45/0.21        | 1.09/1.09        | 0.53/-0.04       | -1.53/-4.36      | -4.01/-3.22      | -4.47/-3.70      | -3.10/-1.76      | 0.38/-0.82       | -2.56/-1.75      | -0.34/-6.12      | 0.04/-1.60       |
| Θ(97.5°)  | -1.09/0.58    | 0.93/-5.32     | -7.40/-4.65    | -6.29/-1.60    | 1.44/-0.52     | -3.28/-1.16    | 1.04/-0.13     | -3.71/-3.45      | -2.28/-2.56      | -6.54/-4.29      | -3.37/-9.77      | -8.85/-6.25      | -11.61/-0.25     | 1.59/1.10        | 1.91/3.27        | 3.28/3.05        | 0.06/-3.50       | -2.81/-0.36      | -2.79/-2.54      | -7.46/-5.80      | -3.42/-3.49      | -7.77/-4.82      | -1.52/-3.20      | -4.51/-1.25      |
| Θ(105°)   | -2.65/-0.49   | -1.03/-8.66    | -3.97/-4.00    | -5.64/0.06     | 2.45/-0.27     | -3.72/-1.62    | 0.83/-0.14     | -3.32/-1.61      | -0.36/-0.11      | -6.19/-4.83      | 0.47/-1.24       | -2.82/-1.49      | -8.78/-3.54      | 0.56/-1.89       | -2.05/1.03       | 2.23/3.85        | 3.24/-0.67       | -2.61/0.91       | -1.43/-5.06      | -8.90/-6.53      | -4.01/-4.37      | -8.98/-6.83      | -7.51/-7.49      | -3.90/-1.08      |
| Θ(112.5°) | -3.92/-0.88   | -1.21/-6.61    | -8.45/-6.87    | -5.62/-2.70    | -1.62/-3.53    | -7.08/-3.09    | -1.78/-3.26    | -11.60/-3.52     | 0.08/-1.08       | -3.73/-5.79      | -1.62/-3.29      | 0.37/0.50        | -3.29/-2.17      | -2.41/-6.57      | -4.25/-1.80      | -2.21/0.22       | 1.22/-1.47       | -4.12/-0.76      | -2.21/-5.25      | -4.03/-6.48      | -5.53/-7.90      | -6.94/-7.95      | -11.57/-9.70     | -5.99/-5.00      |
| Θ(120°)   | -6.95/-2.84   | -4.33/-1.51    | -4.46/-5.92    | -13.19/-4.51   | -1.79/-3.59    | -14.15/-4.69   | -3.79/-8.28    | -15.17/-5.98     | -1.93/-3.03      | -3.91/-3.42      | 0.23/-2.51       | -2.61/0.87       | -1.51/-3.70      | -1.39/-6.03      | -8.03/-5.25      | -4.27/-3.02      | -2.96/-3.63      | -3.34/-3.65      | -2.22/-3.22      | -6.03/-5.44      | -8.28/-5.88      | -6.61/-9.18      | -11.99/-9.11     | -8.41/-8.89      |
| Θ(127.5°) | -10.68/-11.29 | -9.89/-7.22    | -3.10/-6.84    | -15.20/-11.83  | -7.45/-8.86    | -10.10/-6.94   | -5.54/-7.53    | -9.19/-4.69      | -1.86/-1.65      | -7.23/-2.70      | 1.79/0.72        | -1.68/0.67       | 2.08/0.47        | -0.12/-1.61      | -7.19/-5.88      | -8.15/-4.36      | -6.08/-5.63      | -0.94/-2.80      | -7.65/-7.38      | -6.08/-6.60      | -10.01/-7.79     | -6.22/-5.55      |                  |                  |
| Θ(135°)   | -5.09/-6.74   | -6.25/-5.95    | -8.89/-9.29    | -4.64/-2.77    | -5.20/-9.39    | -8.65/-6.82    | -8.51/-8.82    | -4.97/-1.03      | 0.66/-0.06       | -2.66/-5.98      | -1.41/0.86       | 0.22/0.88        | 2.77/2.84        | 0.27/-1.69       | -3.22/-3.30      | -4.63/-6.96      | -7.08/-4.58      | -7.89/-7.88      | -5.07/-6.64      | -9.52/-5.42      | -9.10/-8.39      | -7.89/-2.98      | -4.14/-3.68      | -2.98/-3.22      |
| Θ(142.5°) | -8.07/-14.30  | -8.65/-5.82    | -7.16/-5.86    | -5.83/-3.06    | -3.79/-5.13    | -3.44/-1.95    | -0.82/-0.06    | -1.05/-6.44      | -7.23/-5.03      | -3.84/-3.66      | -4.63/-3.97      | -5.12/-5.09      | -1.92/0.22       | -0.76/-6.11      | -8.89/-6.63      | -3.40/-2.97      | -5.93/-7.32      | -8.56/-6.14      | -5.68/-6.81      | -14.01/-9.04     | -7.78/-11.84     | -13.88/-10.96    | -7.63/-6.60      | -4.45/-1.15      |
| Θ(150°)   | -2.62/-7.15   | -8.22/-7.73    | -7.91/-8.18    | -8.83/-8.39    | -6.90/-5.13    | -3.81/-2.57    | -2.21/-3.32    | -5.36/-1.52      | -10.50/-10.84    | -5.13/-2.30      | -2.16/-1.93      | -2.68/-4.70      | -3.42/-0.05      | -1.69/-1.39      | -2.47/-4.88      | -7.17/-8.55      | -8.70/-9.01      | -3.22/-6.61      | -5.97/-10.10     | -7.48/-8.51      | -8.21/-6.46      | -5.73/-5.07      | -7.17/-6.12      |                  |
| Θ(157.5°) | -8.87/-8.44   | -4.84/-2.49    | -1.13/-0.77    | -1.49/-3.67    | -8.12/-15.30   | -12.81/-9.85   | -10.51/-12.53  | -13.40/-12.35    | -9.72/-7.36      | -2.48/0.39       | 1.35/1.13        | -0.04/-1.72      | -3.01/-3.97      | -6.36/-7.55      | -6.19/-4.54      | -4.67/-7.41      | -9.98/-8.67      | -8.15/-6.94      | -6.59/-8.31      | -9.90/-9.84      | -9.78/-7.28      | -6.40/-4.57      | -4.38/-6.12      | -6.75/-6.96      |
| Θ(165°)   | -5.48/-5.84   | -6.19/-7.27    | -12.49/-15.47  | -14.36/-10.72  | -8.79/-7.52    | -6.99/-6.74    | -6.51/-6.14    | -6.30/-1.47      | -13.31/-14.79    | -10.95/-5.71     | -3.40/-2.03      | -0.68/0.06       | -0.02/-0.53      | -1.33/-2.45      | -3.46/-3.63      | -3.50/-3.68      | -4.35/-3.35      | -6.68/-7.33      | -6.34/-6.11      | -5.41/-6.52      | -5.65/-6.94      | -9.43/-7.85      | -5.64/-4.97      | -4.98/-5.51      |
| Θ(172.5°) | -12.50/-10.89 | -9.70/-8.13    | -5.96/-4.53    | -10.42/-6.04   | -4.73/-5.75    | -6.70/-8.23    | -7.80/-7.23    | -6.64/-6.37      | -5.72/-4.76      | -4.19/-4.20      | -4.10/-3.43      | -6.29/-2.28      | -2.36/-3.11      | -4.30/-4.72      | -4.34/-4.26      | -4.33/-4.21      | -4.34/-3.33      | -3.05/-2.42      | -2.08/-1.54      | -1.73/-3.48      | -6.95/-6.25      | -9.98/-9.74      | -11.37/-12.42    |                  |
| Θ(180°)   | -5.41/-5.56   | -5.95/-7.97    | -10.35/-12.45  | -13.49/-13.89  | -13.30/-12.97  | -11.14/-9.98   | -9.21/-8.65    | -7.93/-8.00      | -8.89/-10.51     | -11.23/-11.56    | -10.75/-10.21    | -9.91/-9.66      | -9.18/-8.72      | -8.86/-9.28      | -8.01/-6.75      | -5.67/-4.94      | -4.29/-4.17      | -4.54/-4.55      | -4.13/-3.90      | -3.45/-3.43      | -3.87/-5.07      | -6.37/-8.45      | -9.93/-8.99      | -7.13/-5.81      |
| Freq(Hz)  | 6.475GPol.    | 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°)     | -1.85/-1.85   | -1.56/-1.43    | -1.45/-1.24    | -0.85/-1.05    | -1.15/-1.38    | -1.28/-1.10    | -1.24/-1.43    | -1.47/-1.24      | -0.79/-0.87      | -1.17/-1.38      | -1.18/-0.97      | -1.08/-1.30      | -1.47/-1.30      | -1.05/-1.22      | -1.56/-1.59      | -1.25/-0.91      | -0.84/-1.29      | -1.98/-2.34      | -2.16/-2.14      | -2.22/-2.28      | -2.43/-2.34      | -2.33/-2.81      | -3.02/-2.51      | -1.72/-1.74      |
| Θ(7.5°)   | -0.80/-0.90   | -0.76/-1.12    | -1.46/-1.54    | -1.48/-1.43    | -1.33/-1.71    | -1.87/-1.93    | -2.19/-2.44    | -2.38/-2.37      | -2.28/-2.76      | -2.95/-2.97      | -2.92/-2.53      | -2.81/-2.66      | -2.33/-1.95      | -1.51/-1.08      | -0.76/-0.75      | -0.92/-0.96      | -0.83/-0.68      | -0.86/-1.58      | -1.87/-1.34      | -0.91/-0.80      | -1.11/-1.83      | -1.66/-1.39      | -0.93/-0.54      | -0.51/-0.48      |
| Θ(15°)    | -1.20/-0.92   | -0.70/-1.25    | -0.99/-1.17    | -1.62/-1.21    | -1.64/-2.13    | -2.10/-1.86    | -2.03/-2.67    | -3.17/-2.78      | -2.29/-2.31      | -2.98/-3.67      | -3.91/-4.38      | -4.42/-4.07      | -3.85/-3.68      | -2.35/-1.15      | -0.25/0.18       | 0.70/0.22        | 0.54/0.92        | 0.82/0.50        | 0.35/0.37        | 0.39/0.55        | 0.24/-0.06       | -0.17/-0.54      | -0.71/-0.97      | -1.22/-1.08      |
| Θ(22.5°)  | -0.38/-0.73   | -1.02/-0.29    | -0.27/-0.52    | -0.86/-0.97    | -1.44/-1.59    | -1.87/-2.65    | -3.82/-4.57    | -5.67/-6.40      | -6.05/-5.68      | -5.91/-6.10      | -6.03/-5.42      | -4.83/-4.11      | -3.85/-3.55      | -2.63/-1.82      | -1.18/-0.41      | -0.04/0.13       | 0.53/0.95        | 1.26/1.40        | 1.27/0.76        | 0.79/1.42        | 1.19/0.38        | -0.61/-0.81      | -0.40/-0.10      | -0.20/-0.26      |
| Θ(30°)    | -1.11/-0.46   | 0.10/0.84      | 0.94/1.06      | 1.30/1.17      | 0.78/0.27      | -0.04/-0.84    | -2.17/-2.40    | -4.88/-5.47      | -6.30/-9.96      | -7.49/-7.04      | -6.65/-5.50      | -3.81/-2.39      | -2.31/-2.91      | -2.85/-1.86      | -0.55/0.44       | 1.23/1.60        | 1.85/2.04        | 2.23/2.03        | 1.84/1.70        | 1.73/-1.44       | 0.55/-0.29       | -0.39/0.29       | 0.68/0.29        | -0.37/-0.91      |
| Θ(37.5°)  | -0.79/-0.81   | -0.20/-3.32    | 1.14/1.32      | 1.50/0.45      | -0.92/-2.02    | -0.64/-2.38    | -5.21/-5.77    | -5.47/-5.04      | -5.56/-5.16      | -4.23/-2.64      | -0.94/-0.02      | -0.21/-1.28      | -1.01/0.67       | 1.30/1.27        | 1.51/1.95        | 2.07/1.93        | 1.66/1.63        | 2.68/2.82        | 2.76/2.42        | 2.13/-1.43       | 0.98/-2.02       | -0.48/0.67       | 1.27/2.13        | 2.99/3.06        |
| Θ(45°)    | 0.15/0.46     | 0.72/1.58      | 2.51/2.67      | 1.53/-0.70     | -3.31/-4.28    | -3.44/-2.33    |                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |



# Antenna Pattern of 6GHz U-NII 5 ~ U-NII 8

# Appendix D

|           |               |                |                |                |                |                |                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                   |                  |                  |                  |                  |                  |                  |                  |
|-----------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Θ(22.5°)  | -3.48/4.18    | -4.36/3.95     | -3.19/-1.97    | -0.80/-0.36    | -0.11/0.07     | 0.05/-0.25     | -0.47/-0.07    | 0.81/1.62        | 1.97/2.01        | 1.97/2.14        | 2.38/2.39        | 1.72/0.68        | -0.03/-0.32      | 0.15/0.16        | -0.36/-0.80      | -1.03/-1.36      | -1.85/-2.57       | -3.03/-2.94      | -2.51/-2.04      | -1.61/-1.69      | -1.82/-2.32      | -2.82/-3.19      | -3.76/-3.48      | -2.99/-2.94      |
| Θ(30°)    | -5.24/-5.98   | -5.84/-4.03    | -2.46/-1.03    | -0.11/-0.30    | 0.69/1.13      | 0.96/1.15      | 1.48/-1.17     | 2.08/-1.83       | 1.52/1.38        | 1.57/1.71        | 1.84/2.07        | 2.02/1.94        | 2.32/2.32        | 1.97/2.03        | 1.61/1.17        | 0.04/-1.10       | -1.60/-1.84       | -2.27/-3.23      | -4.73/-5.74      | -6.37/-6.52      | -5.90/-4.66      | -4.90/-6.18      | -8.32/-9.33      | -7.91/-5.96      |
| Θ(37.5°)  | -12.32/-10.21 | -8.59/-5.05    | -2.51/-1.57    | -0.76/-0.50    | 0.22/0.88      | 1.48/2.11      | 1.48/2.11      | 1.87/1.49        | 1.24/1.31        | 1.41/1.71        | 1.88/2.52        | 2.56/2.04        | 1.59/0.70        | 1.03/1.18        | 0.67/0.39        | 0.46/2.72        | 1.18/1.30         | 1.37/1.67        | 1.55/0.90        | -0.45/-2.56      | -5.38/-8.14      | -6.19/-4.88      | -6.86/-11.63     | -15.32/-13.08    |
| Θ(45°)    | -11.79/-12.06 | -8.01/-5.78    | -4.76/-3.50    | -2.01/-0.94    | 0.49/1.14      | 1.81/2.27      | 2.23/2.11      | 1.98/1.80        | 1.68/1.26        | 0.83/0.76        | 0.97/1.67        | 1.80/1.41        | 0.82/0.61        | 1.46/1.41        | 1.70/1.06        | 0.91/1.18        | 0.91/1.05         | 0.14/0.01        | 0.97/1.16        | 0.45/-0.24       | -2.15/-4.99      | -8.95/-8.40      | -8.31/-8.53      | -8.97/-8.85      |
| Θ(52.5°)  | -11.57/-14.12 | -13.03/-12.51  | -11.80/-10.35  | -6.72/-3.75    | -1.91/-1.16    | -0.76/-0.43    | 0.95/1.50      | 1.54/1.34        | 0.81/0.10        | 0.46/1.32        | 1.23/1.46        | 1.44/2.14        | 1.21/-0.06       | 0.14/0.66        | -0.73/-0.21      | 1.26/1.32        | -0.03/-1.04       | -0.93/-1.57      | -1.16/0.13       | 0.04/0.53        | -0.73/-1.99      | -3.00/-5.82      | -9.27/-12.24     | -12.61/-10.70    |
| Θ(60°)    | -9.63/-10.26  | -8.30/-6.41    | -6.55/-4.44    | -4.04/-3.10    | -2.50/-1.75    | -0.52/1.09     | 1.99/2.82      | 2.97/2.79        | 2.51/1.27        | 0.96/1.55        | 1.95/2.04        | 2.38/3.41        | 1.87/1.06        | 0.98/-0.12       | -2.18/0.85       | 1.97/1.17        | 0.52/-0.73        | -1.15/-2.02      | -1.81/-2.00      | -2.02/-2.42      | -2.66/-2.43      | -3.54/-6.38      | -10.67/-10.33    | -11.21/-11.55    |
| Θ(67.5°)  | -10.50/-7.68  | -5.62/-3.88    | -4.19/-3.03    | -1.18/-0.57    | -0.50/0.22     | 1.62/2.47      | 3.07/3.43      | 3.11/2.62        | 2.25/1.44        | 1.11/2.00        | 2.35/1.65        | 1.82/1.50        | -0.21/1.09       | 0.31/2.63        | 0.78/1.16        | 0.44/-1.36       | -0.32/-0.62       | -0.62/-2.10      | -2.42/-1.26      | -0.88/-1.31      | -3.37/-4.45      | -5.49/-6.48      | -9.51/-12.64     | -11.57/-12.63    |
| Θ(75°)    | -11.10/-14.01 | -9.41/-4.90    | -4.91/-3.57    | -1.82/-0.49    | -0.32/-0.24    | 0.84/1.14      | 0.97/1.64      | 1.69/1.17        | 0.57/0.61        | 1.33/2.21        | 1.66/-0.45       | -0.53/0.27       | -2.71/-0.28      | 0.45/-0.57       | 1.37/0.03        | -1.22/-1.68      | -2.59/-1.96       | -2.12/-2.24      | -2.39/-2.51      | -3.02/-3.14      | -4.28/-5.83      | -5.30/-4.48      | -7.49/-13.86     | -7.73/-8.07      |
| Θ(82.5°)  | -5.47/-5.33   | -3.47/-2.34    | -2.21/-2.37    | -2.12/-0.61    | 0.50/1.45      | 1.80/1.19      | 0.90/0.47      | 0.72/0.63        | -0.26/-1.00      | 0.29/0.79        | -0.13/-0.27      | -0.86/-2.72      | -0.94/-2.14      | 1.70/-0.99       | 0.23/-1.47       | -3.55/-1.52      | -1.89/-2.80       | -3.51/-4.06      | -5.96/-3.99      | -3.71/-2.72      | -2.83/-6.90      | -6.84/-5.57      | -7.67/-9.12      | -4.64/-4.34      |
| Θ(90°)    | -0.87/-0.47   | -0.82/-0.51    | -1.54/-1.70    | -0.99/-0.10    | 0.75/1.37      | 1.57/1.02      | 0.32/-0.22     | 0.59/0.33        | -0.45/-1.75      | -1.33/-0.76      | -1.29/-2.47      | -4.83/-3.07      | -2.11/-1.39      | -0.56/-5.76      | 7.25/-1.89       | -2.85/-1.13      | -0.95/-3.05       | -5.23/-2.62      | -2.87/-2.92      | -2.02/-1.30      | -2.68/-4.38      | -4.95/-3.98      | -7.10/-5.45      | -3.79/-2.76      |
| Θ(97.5°)  | -0.06/-0.67   | -2.55/-0.95    | -0.74/-1.05    | -0.54/-1.24    | 0.60/1.03      | 2.28/1.71      | 0.87/1.19      | 1.68/0.49        | 0.01/-1.49       | -0.84/-0.97      | -3.32/-3.18      | -1.55/-3.07      | -5.62/-1.88      | -4.97/-5.81      | -1.90/-3.66      | -5.46/0.47       | 1.48/-0.26        | -1.94/-2.18      | -0.68/-1.66      | -1.16/-0.00      | -1.84/-7.70      | -2.74/-0.68      | -2.98/-2.29      | -1.69/-2.19      |
| Θ(105°)   | -2.49/-0.35   | -2.08/-1.87    | -1.41/-1.50    | 0.37/0.93      | -0.53/0.88     | 0.41/1.86      | 1.26/1.85      | 1.28/-1.71       | -2.84/-2.61      | -0.87/-1.87      | -2.25/-1.59      | -4.04/-4.43      | -2.74/-1.78      | -6.81/-8.02      | -0.80/-1.67      | -3.15/2.62       | <b>3.56/-1.71</b> | -0.37/0.83       | 1.55/-1.43       | 0.61/1.92        | 2.55/-2.44       | -4.01/-0.98      | -5.28/-1.95      | -0.70/-4.24      |
| Θ(112.5°) | -3.34/-0.97   | -1.41/-0.90    | 0.52/-0.93     | -0.86/0.96     | -0.12/0.06     | -1.57/-0.88    | 0.16/-0.93     | -2.83/-2.54      | -4.15/-2.33      | -3.09/-2.19      | -2.42/-4.66      | -5.52/-3.38      | -4.44/-4.80      | -7.79/-2.25      | 0.11/0.28        | -4.15/1.25       | 1.75/-0.66        | 1.22/2.19        | -1.55/-1.21      | -5.34/-2.53      | -0.78/-3.98      | -8.05/-1.20      | -4.75/-2.44      | -1.75/-3.12      |
| Θ(120°)   | -0.14/0.76    | 0.53/-0.28     | 1.17/0.95      | -0.12/-0.06    | 1.17/1.38      | 2.05/-1.69     | 0.80/-0.16     | 0.22/-1.06       | -2.08/-3.36      | -3.85/-6.38      | -9.33/-8.36      | -5.71/-4.49      | -2.76/-2.02      | -8.55/-3.05      | -4.58/-0.97      | -9.10/-4.79      | -1.01/-5.31       | -4.55/-0.32      | -4.18/-2.85      | -6.07/-4.91      | -4.67/-5.25      | -6.67/-4.08      | -6.01/-1.19      | -1.81/-0.26      |
| Θ(127.5°) | -1.08/1.04    | 0.93/-0.36     | 0.36/1.77      | -0.01/-1.99    | -1.09/-0.93    | -1.36/-1.10    | -0.98/-1.19    | -1.64/-1.25      | -2.36/-4.11      | -8.33/-9.20      | -6.75/-6.89      | -7.88/-2.55      | -3.57/-4.21      | -13.54/-6.81     | -0.16/-10.63     | -6.83/-5.31      | -8.70/-14.50      | -13.44/-8.81     | -5.72/-10.58     | -12.43/-4.16     | -5.27/0.28       | -12.43/-4.16     | -5.27/0.28       | 0.68/1.08        |
| Θ(135°)   | -0.66/-0.86   | -1.43/-2.38    | -3.04/-1.33    | -0.22/-0.64    | -2.06/-4.43    | -3.57/-2.74    | -2.72/-3.21    | -4.08/-4.08      | -3.44/-3.64      | -4.81/-7.61      | -8.36/-5.06      | -2.29/-0.84      | -4.01/-8.33      | -5.94/-2.93      | -4.81/-4.96      | -8.31/-12.77     | -12.10/-4.12      | -9.27/-6.31      | -5.76/-9.13      | -4.17/-4.06      | -2.80/-7.67      | -5.38/-3.85      | -13.99/-3.66     | -2.17/-0.31      |
| Θ(142.5°) | -1.95/-0.43   | -0.84/-1.25    | -2.02/-2.14    | -2.23/-1.69    | -1.79/-2.74    | -4.14/-4.93    | -5.20/-5.43    | -5.75/-5.41      | -4.59/-4.40      | -4.24/-5.52      | -8.26/-13.85     | -5.73/-6.19      | -6.31/-3.39      | -7.47/-11.83     | -5.62/-5.17      | -5.66/-6.16      | -1.28/-7.09       | -4.71/-5.28      | -5.04/-5.33      | -7.94/-14.98     | -10.34/-9.50     | -6.65/-5.01      | -6.28/-5.50      |                  |
| Θ(150°)   | -5.39/-2.16   | 0.27/0.99      | -0.15/-1.69    | -3.99/-6.26    | -6.88/-6.50    | -5.10/-4.28    | -4.54/-4.83    | -5.23/-6.10      | -6.42/-6.37      | -7.13/-5.06      | -5.72/-6.97      | -9.43/-14.73     | -13.40/-12.11    | -10.13/-10.98    | -11.76/-13.92    | -8.97/-9.28      | -13.17/-10.59     | -9.23/-8.68      | -10.47/-8.91     | -5.42/-4.10      | -2.97/-2.42      | -3.01/-6.72      |                  |                  |
| Θ(157.5°) | -2.86/-4.51   | -5.08/-2.41    | -1.44/-1.91    | -0.22/-3.17    | -4.82/-6.31    | -6.96/-7.97    | -8.61/-8.44    | -8.13/-7.65      | -7.20/-6.12      | -4.61/-3.35      | -4.28/-5.45      | -7.21/-12.24     | -15.01/-13.30    | -12.60/-11.52    | -9.92/-7.02      | -5.30/-5.84      | -8.67/-11.71      | -9.91/-8.00      | -8.60/-12.73     | -11.65/-5.06     | -2.72/-2.33      | -1.97/-0.87      | 0.86/1.44        | 0.60/-1.52       |
| Θ(165°)   | -1.92/-2.93   | -2.91/-1.82    | -0.17/0.53     | 0.84/0.95      | 0.68/0.24      | -0.32/-0.87    | -1.67/-2.16    | -2.95/-4.21      | -5.45/-6.27      | -7.20/-8.20      | -8.65/-7.66      | -7.48/-8.49      | -8.15/-8.52      | -4.08/-5.30      | -3.81/-4.20      | -5.24/-7.02      | -9.58/-11.44      | -11.55/-10.59    | -8.56/-6.01      | -4.12/-3.50      | -3.64/-3.72      | -2.43/-3.73      | -3.51/-2.70      | -2.08/-1.58      |
| Θ(172.5°) | -4.29/-4.16   | -3.97/-3.95    | -4.19/-4.29    | -3.92/-3.15    | -3.10/-4.07    | -4.98/-5.19    | -4.79/-4.37    | -4.03/-4.47      | -4.96/-5.34      | -5.47/-5.37      | -5.55/-6.33      | -7.23/-7.83      | -8.73/-8.49      | -10.44/-13.28    | -15.60/-14.00    | -11.24/-9.35     | -8.81/-9.18       | -9.17/-8.19      | -7.65/-7.13      | -6.44/-5.28      | -2.79/-3.05      | -3.79/-4.48      | -4.96/-5.11      |                  |
| Θ(180°)   | -3.45/-3.36   | -3.31/-3.60    | -3.73/-3.91    | -4.16/-4.51    | -4.22/-3.81    | -3.09/-2.78    | -2.94/-2.76    | -2.67/-2.77      | -3.25/-4.24      | -5.66/-7.35      | -9.05/-9.51      | -6.87/-8.95      | -8.27/-7.63      | -7.33/-7.46      | -6.82/-8.03      | -8.37/-8.68      | -8.56/-8.54       | -8.10/-7.59      | -7.04/-6.50      | -6.13/-5.39      | -5.15/-5.46      | -6.00/-6.26      | -5.99/-4.98      | -4.72/-3.89      |
| Freq(Hz)  | 6.475GPol.    | 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°)     | -5.40/-5.55   | -5.93/-6.55    | -6.58/-6.46    | -6.06/-5.85    | -5.50/-5.25    | -5.64/-6.17    | -6.50/-5.60    | -4.86/-3.45      | -4.58/-5.21      | -5.74/-6.24      | -6.26/-6.10      | -6.05/-6.01      | -6.39/-6.82      | -6.87/-6.88      | -6.33/-5.80      | -5.43/-5.39      | -5.66/-5.93       | -6.06/-5.63      | -5.04/-5.10      | -5.67/-6.89      | -6.47/-6.97      | -5.90/-5.37      | -5.56/-5.85      | -5.76/-5.45      |
| Θ(7.5°)   | -5.92/-6.15   | -6.78/-8.17    | -8.40/-8.20    | -7.46/-6.71    | -6.17/-5.85    | -6.29/-6.58    | -6.30/-5.88    | -5.63/-4.95      | -4.45/-3.49      | -4.75/-5.41      | -5.58/-5.33      | -5.03/-4.59      | -4.64/-4.79      | -5.12/-5.12      | -5.00/-5.22      | -5.53/-5.78      | -5.72/-5.66       | -5.45/-5.06      | -5.29/-5.32      | -5.33/-5.57      | -5.53/-5.50      | -5.74/-5.66      | -5.85/-5.88      | -5.91/-5.87      |
| Θ(15°)    | -5.83/-6.06   | -6.32/-7.56    | -8.47/-8.63    | -7.23/-7.45    | -7.40/-7.14    | -6.76/-6.48    | -6.41/-5.41    | -4.94/-3.65      | -2.37/-1.89      | -1.99/-2.45      | -2.88/-2.83      | -2.49/-2.19      | -2.66/-3.38      | -3.75/-3.31      | -2.16/-2.17      | -1.74/-1.53      | -1.41/-1.59       | -1.63/-1.54      | -2.03/-3.14      | -3.49/-4.26      | -4.73/-4.68      | -5.51/-5.69      | -6.80/-6.09      |                  |
| Θ(22.5°)  | -5.86/-7.32   | -8.11/-8.14    | -7.94/-6.91    | -6.67/-6.54    | -5.52/-5.13    | -5.08/-4.55    | -3.70/-2.90    | -2.62/-2.78      | -2.89/-1.79      | -0.56/-0.05      | -0.54/-1.00      | -0.82/-0.83      | -1.16/-1.22      | -0.63/-0.48      | -1.16/-1.94      | -2.16/-2.26      | -2.61/-2.73       | -2.96/-2.86      | -2.73/-2.43      | -1.97/-2.32      | -3.14/-4.01      | -4.71/-4.68      | -4.62/-4.23      | -4.53/-5.06      |
| Θ(30°)    | -7.77/-9.26   | -9.40/-8.14    | -7.52/-6.38    | -5.12/-4.57    | -3.42/-2.36    | -2.11/-1.79    | -1.69/-1.49    | -1.51/-1.62      | -1.51/-1.54      | -1.34/-0.02      | 1.19/1.50        | 1.36/0.79        | 0.19/0.24        | -0.12/-1.41      | -1.90/-1.56      | -1.76/-2.04      | -2.85/-3.47       | -3.43/-3.02      | -3.04/-3.19      | -2.85/-1.95      | -1.38/-1.53      | -2.65/-4.39      | -5.12/-4.18      | -4.91/-6.43      |
| Θ(37.5°)  | -7.81/-7.86   | -5.46/-5.01    | -4.94/-5.21    | -3.99/-2.96    | -2.05/-1.47    | -1.53/-1.42    | -1.60/-1.66    | -1.14/-0.55      | 0.16/0.07        | 0.23/0.87        | 0.98/0.56        | 0.08/-0.24       | 0.33/0.08        | 0.26/1.45        | 2.00/1.73        | 1.04/-0.00       | -0.29/-0.28       | 0.46/0.77        | -0.01/-1.46      | -3.28/-4.37      | -5.05/-4.67      | -4.56/-5.04      | -6.67/-7.68      | -7.59/-9.74      |
| Θ(45°)    | -11.00/-8.45  | -5.28/-4.44    | -4.49/-3.60    | -2.02/-1.08    | -0.78/-0.95    | -1.26/-1.54    | -1.64/-1.23    | -0.61/-0.19      | 0.17/0.04        | -0.09/0.40       | -0.43/-0.09      | -0.39/0.05       | 1.10/0.85        | 1.17/1.84        | 1.42/0.97        | -0.84/-0.81      | -0.19/0.39        | 0.18/0.90        | 0.66/-0.23       | -0.83/-2.43      | -6.61/-9.70      | -6.66/-6.05      | -8.03/-10.88     | -12.92/-12.76    |
| Θ(52.5°)  | -13.39/-8.07  | -6.27/-5.94    | -6.38/-5.05    | -2.91/-1.08    | -0.37/-0.62    | -0.90/-1.43    | -1.20/-1.46    | -1.22/0.20       | 0.97/1.00        | -0.16/-0.70      | 0.42/1.14        | 1.15/0.50        | 0.56/1.37        | 1.49/1.32        | 0.65/-0.89       | 0.50/0.29        | -0.67/-0.44       | -1.07/-0.83      | -0.43/-0.84      | -0.85/-0.98      | -1.76/-3.93      | -8.89/-11.58     | -10.70/-9.13     | -12.46/-15.04    |
| Θ(60°)    | -13.00/-10.01 | -10.12/-12.86  | -10.92/-7.43   | -5.35/-3.63    | -2.08/-1.48    | -1.20/-1.42    | -1.29/-0.86    | -0.38/0.36       | 1.33/1.29        | 0.24/0.27        | 0.57/1.01        | 1.15/0.98        | 1.02/0.79        | -0.58/-1.65      | -2.88/-2.01      | -1.13/-0.22      | -0.82/-1.78       | -2.18/-2.27      | -0.89/-0.55      | -0.79/-0.68      | -0.54/-1.98      | -3.57/-5.70      | -15.48/-10.68    | -11.71/-14.62    |
| Θ(67.5°)  | -8.63/-7.98   | -6.47/-6.13    | -3.79/-1.97    | -1.19/-0.52    | -0.13/-0.30    | -0.47/0.19     | 1.28/2.01      | 2.39/2.71        | 2.28/0.72        | -0.43/0.75       | 1.63/1.52        | 1.11/1.69        | 1.31/-1.01       | -0.37/-2.22      | -2.68/-0.75      | 0.19/0.29        | -1.18/-1.79       | -2.13/-1.25      | -1.21/-0.31      | -0.20/-0.90      | -2.01/-1.99      | -2.27/-2.60      | -12.25/-9.85     | -13.82/-14.72    |
| Θ(75°)    | -14.93/-8.26  | -5.07/-4.33    | -1.20/0.48     | 0.31/0.39      | 1.04/1.07      | 0.80/1.18      | 1.54/1.56      | 1.44/1.51        | 0.92/-0.62       | -1.74/-0.88      | 0.69/-1.22       | 1.00/0.22        | -0.44/-2.49      | -0.80/-1.34      | -0.13/-1.12      | 0.96/-1.82       | -1.30/-1.99       | -3.67/-3.08      | -2.94/-1.78      | -0.83/-1.96      | -5.35/-7.41      | -5.35/-5.88      | -7.81/-8.70      |                  |



# Antenna Pattern of 6GHz U-NII 5 ~ U-NII 8

# Appendix D

|           |               |                 |                 |                 |                 |                 |                 |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
|-----------|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| θ(75°)    | 0.67/-0.38    | -0.47/-1.41     | -0.320/-46      | -1.85/-6.63     | -7.27/-6.66     | -6.86/-5.31     | -4.63/-4.03     | -3.43/-2.91       | -1.04/-0.71       | -0.60/-0.52       | -0.02/-0.78       | -0.37/-1.61       | -3.94/-4.82       | -4.02/-3.62       | -3.08/-1.56       | 0.01/-2.64        | -3.44/-0.61       | -0.93/-2.99       | -2.71/-2.17       | -4.78/-13.04      | -9.34/-5.76       | -1.56/-1.58       | -0.43/-2.01       | -2.210/29         |
| θ(82.5°)  | -1.99/-2.15   | 0.61/-2.06      | -3.300/-44      | -0.95/-3.80     | -4.43/-5.77     | -7.84/-7.09     | -6.48/-5.27     | -3.64/-2.26       | -0.78/-0.81       | 0.70/0.80         | 2.702/75          | 3.212/30          | 0.07/-1.05        | -0.84/-3.09       | -1.05/-1.22       | -0.80/-2.22       | -7.16/-3.14       | 1.25/-0.13        | 0.18/-1.64        | -3.93/-5.81       | -4.78/-3.34       | -1.50/-2.02       | 1.07/-1.61        | -2.59/-0.88       |
| θ(90°)    | -1.11/-3.66   | -0.560/-3.03    | -5.70/-1.42     | -1.92/-3.14     | -4.94/-4.79     | -5.66/-5.73     | -6.35/-6.12     | -2.12/-0.83       | 0.962/32          | 1.772/09          | 2.951/97          | 0.560/64          | 0.29/-0.10        | -1.40/-0.40       | -0.52/-5.55       | -4.21/-70         | 2.31/0.92         | 0.23/0.92         | -0.550/56         | 0.53/-3.93        | -3.22/-1.07       | -2.64/-1.11       | 2.07/-0.04        | 0.10/0.57         |
| θ(97.5°)  | 0.95/-1.21    | -0.18/-3.44     | -8.92/-4.85     | -7.21/-7.19     | -6.68/-3.83     | -2.52/-1.70     | -2.58/-3.55     | -4.77/-3.74       | -1.77/-1.26       | -0.64/-0.08       | -1.93/-2.08       | 0.06/-0.36        | -0.212/13         | 1.30/-0.86        | -0.36/-0.05       | -0.15/-5.07       | -3.10/-1.49       | 2.30/-0.34        | 0.27/-0.53        | -2.06/-8.48       | -1.68/-2.46       | -3.34/-0.45       | 0.650/38          | 1.722/69          |
| θ(105°)   | 1.26/-1.43    | -3.04/-2.08     | -4.08/-7.04     | -6.03/-6.55     | -8.22/-10.44    | -9.02/-2.33     | -1.82/-3.07     | -4.51/-0.99       | 0.740/64          | 0.79/-0.27        | -3.65/-4.04       | -2.04/-2.58       | -3.07/-1.93       | -2.34/-4.58       | -3.06/-2.06       | -0.42/-5.23       | -4.15/-1.41       | 1.180/53          | <b>1.993/63</b>   | -0.83/-8.66       | -2.05/-4.90       | -11.41/-3.88      | 0.04/0.62         | 1.040/83          |
| θ(112.5°) | -3.08/-4.26   | -3.15/-2.37     | -0.63/-2.93     | -4.87/-5.28     | -6.53/-4.94     | -6.18/-7.21     | -5.33/-5.16     | -2.66/-0.38       | -0.53/-1.50       | 0.860/31          | -1.46/-1.41       | -1.81/-3.82       | -5.58/-6.56       | -4.21/-4.92       | -5.00/-2.33       | 0.33/-3.97        | -4.50/-1.48       | 0.20/-1.12        | -3.96/-3.43       | 0.70/-6.95        | -6.87/-1.50       | -1.55/-0.22       | 0.10/-1.50        |                   |
| θ(120°)   | -4.24/-4.74   | -3.47/-0.57     | -0.34/-1.98     | -2.93/-2.71     | -3.09/-3.17     | -2.45/-5.24     | -5.74/-3.42     | -2.02/-1.26       | 0.88/1.77         | 2.782/17          | 1.08/1.75         | 1.70/-0.09        | -1.20/-2.22       | -4.89/-5.75       | -3.720/31         | 0.86/-5.30        | -7.49/-3.70       | -3.67/-1.99       | -6.71/-2.77       | -0.86/-4.84       | -9.35/-3.36       | -4.56/-5.19       | -5.21/-5.68       | -4.48/-3.63       |
| θ(127.5°) | -4.39/-3.07   | -1.18/-0.94     | -1.86/-1.03     | -2.15/-3.31     | -2.74/-2.63     | -3.25/-2.91     | -4.17/-5.98     | -5.52/-3.12       | -1.650/13         | 0.680/95          | 1.85/-21          | 3.042/07          | 0.560/74          | -1.24/-1.26       | -1.32/-1.42       | -4.14/-4.09       | -7.61/-2.93       | -3.42/-6.58       | -12.91/-5.59      | -0.95/-6.49       | -8.34/-6.08       | -9.37/-2.93       | -7.44/-13.32      | -11.62/-12.76     |
| θ(135°)   | -3.05/-2.14   | -0.80/-0.92     | -1.54/-1.35     | -1.92/-4.09     | -5.52/-4.97     | -3.46/-3.02     | -3.80/-4.37     | -4.23/-3.18       | -2.60/-2.58       | -1.49/-0.73       | 0.82/-1.51        | 2.232/10          | 2.112/81          | 2.02/-0.90        | -4.70/-5.24       | -3.76/-5.76       | -4.81/-9.81       | -4.71/-15.15      | -12.69/-7.13      | -7.78/-4.34       | -3.79/-6.42       | -12.15/-11.62     | -8.72/-11.15      | -10.62/-8.39      |
| θ(142.5°) | -3.81/-3.78   | -2.77/-1.97     | -2.43/-3.57     | -4.02/-5.00     | -5.67/-5.24     | -4.35/-3.74     | -2.90/-2.93     | -3.86/-3.57       | -2.85/-3.00       | -3.12/-1.87       | -0.16/-1.30       | 1.32/-1.00        | 1.23/-1.22        | -0.03/-2.31       | -1.87/-1.75       | -2.83/-5.53       | -6.97/-13.08      | -10.28/-8.61      | -7.32/-8.12       | -11.02/-8.31      | -3.56/-6.35       | -6.50/-14.57      | -12.86/-13.09     | -10.05/-7.19      |
| θ(150°)   | -8.07/-9.25   | -8.19/-5.10     | -3.48/-3.45     | -4.81/-7.01     | -7.26/-6.72     | -7.17/-5.71     | -5.05/-4.39     | -4.40/-5.14       | -0.58/-3.90       | -2.56/-1.23       | -0.30/-0.25       | -0.99/-1.31       | -1.78/-1.61       | -2.74/-4.00       | -3.26/-3.61       | -5.04/-4.38       | -2.71/-1.09       | -5.00/-13.91      | -14.43/-9.52      | -11.45/-6.09      | -2.78/-4.02       | -6.80/-10.09      | -10.14/-6.32      | -4.80/-5.27       |
| θ(157.5°) | -4.80/-5.33   | -2.71/-1.03     | -0.49/-0.51     | -3.31/-3.24     | -5.72/-4.78     | -2.65/-1.47     | -0.60/-0.11     | -0.20/-0.59       | 1.021/30          | 0.91/-0.03        | -1.32/-3.29       | -5.68/-7.96       | -8.32/-4.18       | -1.05/-0.54       | -1.37/-1.80       | -2.33/-3.04       | -3.63/-4.86       | -7.90/-11.95      | -12.46/-11.73     | -13.67/-9.98      | -5.63/-3.93       | -2.82/-2.62       | -3.61/-4.06       | -2.88/-2.91       |
| θ(165°)   | -2.84/-2.04   | -0.85/-0.33     | 0.070/25        | 0.16/-0.79      | -2.25/-4.20     | -6.25/-6.39     | -5.33/-3.67     | -1.76/-0.95       | -0.79/-1.01       | -1.23/-1.62       | -2.20/-2.45       | -2.33/-1.86       | -1.59/-1.18       | -0.84/-0.83       | -1.13/-1.65       | -3.43/-6.79       | -10.21/-11.64     | -14.04/-12.64     | -10.70/-10.11     | -13.10/-12.76     | -8.07/-5.82       | -4.58/-3.97       | -4.20/-3.82       | -3.24/-3.05       |
| θ(172.5°) | -7.43/-6.02   | -5.06/-4.18     | -3.42/-2.58     | -2.42/-2.83     | -3.61/-6.61     | -5.38/-5.36     | -5.23/-3.48     | -3.50/-3.30       | -3.65/-4.40       | -4.63/-4.79       | -5.58/-6.94       | -8.05/-7.82       | -7.23/-6.91       | -6.86/-6.89       | -7.09/-7.70       | -9.29/-10.56      | -11.14/-12.97     | -15.06/-15.51     | -15.54/-15.28     | -15.38/-16.10     | -15.09/-15.07     | -12.70/-9.73      | -7.13/-6.43       | -6.70/-7.12       |
| θ(180°)   | -9.82/-9.39   | -10.79/-12.75   | -14.24/-15.37   | -13.50/-13.84   | -13.36/-13.62   | -13.09/-13.41   | -14.41/-14.11   | -13.51/-15.35     | -12.32/-10.25     | -9.92/-10.22      | -11.21/-10.80     | -10.16/-10.21     | -9.65/-9.02       | -8.24/-7.89       | -8.02/-8.58       | -9.14/-9.92       | -11.05/-11.94     | -11.18/-9.68      | -8.66/-9.87       | -11.22/-11.12     | -12.07/-14.08     | -14.70/-13.74     | -12.74/-13.31     | -11.91/-10.88     |
| Freq(Hz)  | 6.475GPol.    | TotalAnt 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°)     | -7.98/-8.27   | -8.38/-8.56     | -7.94/-7.98     | -8.57/-8.69     | -8.02/-6.52     | -6.66/-6.14     | -7.15/-7.42     | -6.68/-5.74       | -5.62/-6.48       | -6.60/-5.94       | -5.45/-5.75       | -6.52/-7.42       | -7.91/-7.84       | -7.65/-7.52       | -7.82/-6.67       | -9.65/-10.12      | -9.42/-8.14       | -8.10/-8.79       | -9.69/-10.11      | -9.67/-9.99       | -10.66/-9.24      | -8.64/-8.23       | -9.32/-10.10      | -9.70/-8.87       |
| θ(7.5°)   | -7.38/-7.25   | -8.27/-8.80     | -9.17/-9.44     | -9.62/-9.21     | -8.75/-8.75     | -8.55/-8.53     | -9.74/-10.63    | -10.36/-9.42      | -8.94/-9.31       | -9.61/-9.39       | -8.58/-7.96       | -7.69/-7.83       | -8.37/-8.96       | -9.54/-8.90       | -8.66/-8.27       | -7.97/-7.86       | -7.33/-6.67       | -6.38/-6.29       | -6.12/-6.29       | -6.00/-6.04       | -7.03/-6.99       | -6.67/-6.20       | -6.00/-7.05       | -8.09/-7.38       |
| θ(15°)    | -6.15/-4.76   | -8.43/-9.78     | -8.14/-8.77     | -9.26/-9.17     | -9.65/-10.02    | -10.79/-10.53   | -10.59/-10.91   | -12.22/-13.49     | -10.51/-8.94      | -7.22/-7.15       | -6.99/-6.39       | -6.31/-7.22       | -8.27/-8.50       | -8.26/-7.90       | -7.30/-6.71       | -5.80/-6.89       | -6.00/-6.15       | -5.79/-5.53       | -5.07/-4.82       | -4.33/-3.94       | -4.69/-5.71       | -5.82/-4.77       | -5.62/-5.84       | -6.73/-5.96       |
| θ(22.5°)  | -7.37/-7.71   | -7.18/-7.69     | -7.25/-6.69     | -6.88/-7.99     | -9.32/-12.93    | -15.19/-12.95   | -10.19/-10.01   | -11.64/-11.63     | -8.54/-8.59       | -5.07/-4.90       | -4.44/-3.78       | -5.61/-6.05       | -1.79/-2.90       | -2.82/-2.29       | -1.79/-2.04       | -2.78/-3.21       | -3.96/-3.81       | -4.21/-4.86       | -4.85/-5.00       | -6.21/-7.44       |                   |                   |                   |                   |
| θ(30°)    | -3.46/-5.68   | -6.11/-5.56     | -5.17/-5.52     | -7.53/-9.77     | -11.57/-13.73   | -10.69/-9.18    | -7.62/-6.96     | -6.71/-7.10       | -6.27/-4.43       | -3.87/-3.76       | -3.19/-2.34       | -2.25/-1.89       | -1.41/-1.72       | -2.06/-2.45       | -2.40/-1.99       | -1.86/-1.52       | -1.21/-1.29       | -1.01/-0.46       | -0.41/-0.67       | -0.96/-1.80       | -2.72/-3.64       | -3.56/-3.09       | -2.92/-3.52       | -3.83/-3.49       |
| θ(37.5°)  | -3.48/-3.28   | -3.26/-3.41     | -4.49/-5.59     | -7.31/-11.05    | -14.42/-13.74   | -14.40/-14.57   | -13.15/-13.21   | -9.26/-6.23       | -4.03/-2.37       | -2.48/-3.27       | -1.81/-0.30       | 1.040/93          | 0.670/12          | -0.33/-0.75       | -0.52/-2.40       | -0.13/-1.17       | -1.65/-0.74       | -0.39/-0.29       | -0.50/-0.84       | -2.57/-3.93       | -4.55/-4.56       | -2.87/-2.39       | -3.01/-2.02       |                   |
| θ(45°)    | -2.65/-2.82   | -3.20/-2.49     | -2.65/-3.49     | -4.12/-5.77     | -8.97/-11.69    | -11.14/-9.07    | -8.10/-8.29     | -9.10/-8.00       | -6.42/-3.84       | -1.39/-0.37       | 0.440/63          | 1.001/52          | 1.67/-1.56        | 1.50/-1.21        | 1.040/69          | 0.24/-0.72        | -1.46/-1.10       | -0.480/73         | 0.15/-1.38        | -1.63/-3.12       | -4.57/-3.66       | -4.28/-4.64       | -3.20/-1.08       | -1.41/-1.80       |
| θ(52.5°)  | -1.83/-1.74   | -1.95/-2.15     | -2.55/-3.14     | -3.63/-5.23     | -6.71/-8.40     | -9.22/-10.42    | -9.23/-6.71     | -5.27/-5.03       | -4.71/-3.23       | -1.55/-1.37       | -1.220/05         | 1.391/44          | 1.11/-1.69        | 2.282/05          | 2.21/-1.58        | -0.16/-0.90       | -2.34/-2.09       | -1.48/-0.62       | 0.29/-0.10        | -1.52/-3.24       | -4.13/-5.69       | -4.92/-5.02       | -4.04/-3.10       | -3.72/-2.81       |
| θ(60°)    | -0.29/-2.83   | -3.26/-2.45     | -2.61/-3.98     | -5.27/-7.23     | -7.17/-9.64     | -11.24/-14.30   | -14.99/-9.95    | -6.16/-5.37       | -5.33/-4.47       | -3.13/-1.72       | -1.55/-1.46       | -0.460/82         | 0.590/72          | 1.372/12          | 3.052/72          | 2.090/71          | -0.36/-0.95       | -0.81/-1.24       | -1.64/-1.60       | -2.54/-3.17       | -3.43/-3.63       | -4.61/-5.69       | -4.29/-2.43       | -3.01/-2.02       |
| θ(67.5°)  | 0.620/39      | 0.49/-0.85      | -1.77/-3.45     | -5.23/-5.00     | -5.43/-6.08     | -9.38/-9.36     | -12.33/-11.81   | -7.78/-5.08       | -3.68/-2.10       | -2.64/-2.03       | -0.79/-0.65       | -2.23/-2.18       | -0.510/11         | 0.031/99          | 2.191/52          | 1.85/-1.45        | -0.74/-3.35       | -4.66/-8.98       | -7.76/-6.50       | -4.45/-6.04       | -6.86/-6.08       | -9.33/-6.48       | -1.40/-0.70       |                   |
| θ(75°)    | 2.382/96      | 2.281/26        | 0.14/-2.16      | -4.40/-3.79     | -4.27/-3.31     | -3.42/-4.21     | -5.97/-5.65     | -3.31/-2.08       | -3.13/-1.88       | -0.19/-0.27       | 0.220/78          | -0.46/-2.38       | -2.66/-5.01       | -4.78/-1.99       | -2.14/-1.43       | 0.49/-0.83        | -2.63/-2.00       | -2.71/-3.69       | -7.65/-8.16       | -7.46/-9.23       | -7.39/-5.44       | -6.75/-4.48       | -4.60/-2.83       | -0.11/1.84        |
| θ(82.5°)  | 1.592/28      | 0.27/-0.01      | 0.36/-0.78      | -4.04/-3.87     | -3.78/-4.88     | -5.83/-5.07     | -5.45/-5.05     | -2.18/-1.77       | -2.31/-0.98       | -0.330/15         | 0.901/49          | 1.380/84          | 0.02/-0.22        | -3.89/-5.06       | -3.99/-2.73       | -3.26/-3.73       | -1.79/-1.27       | -5.33/-7.11       | -6.75/-10.23      | -5.88/-5.43       | -2.75/-1.91       | -0.89/-2.09       | -1.760/31         |                   |
| θ(90°)    | 0.631/65      | -0.28/-0.64     | -0.26/-0.11     | -2.78/-2.82     | -3.18/-4.41     | -7.31/-7.92     | -5.81/-4.52     | -2.13/-1.09       | -1.040/27         | 0.901/33          | 2.312/41          | <b>2.613/82</b>   | 3.461/32          | -0.04/-1.92       | -3.11/-3.04       | -2.32/-3.43       | -8.57/-0.76       | -1.34/-1.64       | -3.48/-0.44       | -1.65/-4.23       | -2.07/-3.40       | -4.36/-1.92       | 1.46/-0.42        | -0.83/-1.56       |
| θ(97.5°)  | -0.170/63     | -0.602/68       | -2.81/-2.50     | -3.46/-4.82     | -5.48/-4.18     | -3.72/-5.87     | -7.06/-4.99     | -2.78/-1.45       | -1.54/-0.05       | -0.24/-0.03       | 0.330/42          | 0.502/39          | 2.140/54          | 0.470/14          | -3.29/-2.32       | -0.89/-3.18       | -7.40/-0.57       | 2.620/69          | -4.47/-1.02       | -1.11/-3.06       | -1.95/-3.13       | -5.27/-0.63       | 1.330/08          | 1.360/39          |
| θ(105°)   | 1.11/-1.01    | 0.83/-1.91      | -3.38/-3.58     | -6.47/-9.63     | -10.65/-6.04    | -2.12/-4.00     | -2.65/-1.32     | 0.28/-0.25        | -0.06/-0.10       | -1.12/-0.75       | -0.87/-4.20       | -5.40/-0.63       | 0.46/-0.92        | -1.23/-0.62       | -5.11/-3.89       | -0.42/-1.35       | -5.81/-3.99       | 3.73/-0.47        | 0.521/38          | 0.88/-3.57        | -1.78/-6.07       | -8.61/-0.31       | 1.04/-6.31        | 1.25/-1.24        |
| θ(112.5°) | -2.67/-2.07   | -3.59/-1.76     | -1.12/-3.62     | -3.90/-4.21     | -6.59/-8.09     | -3.69/-2.98     | -3.05/-1.61     | -1.51/-1.04       | 1.400/58          | 1.380/82          | 0.32/-1.14        | -3.44/-2.80       | -3.51/-6.40       | -5.06/-6.72       | -6.43/-7.14       | -1.59/-3.47       | -6.21/-2.05       | -0.44/-3.45       | -5.73/-3.15       | -0.66/-10.02      | -6.56/-7.00       | -6.41/-0.99       | -1.69/-0.21       | -0.54/-1.77       |
| θ(120°)   | -6.72/-5.57   | -3.27/-1.63     | -0.34/-2.23     | -2.21/-1.92     | -2.96/-5.10     | -6.78/-3.56     | -1.22/-3.06     | -1.284/-0.78      | -1.051/29         | 2.213/10          | 2.932/39          | -0.72/-0.35       | -1.20/-4.75       | -7.88/-9.28       | -8.00/-1.63       | -0.864/-2.3       | -3.93/-3.80       | -0.67/-2.78       | -6.30/-0.03       | -1.26/-7.81       | -3.17/-3.50       | -5.76/-0.88       | -3.86/-5.71       | -3.92/-3.64       |
| θ(127.5°) | -4.95/-3.90   | -2.82/-0.20     | 0.740/35        | -1.18/-1.35     | -1.53/-2.65     | -2.63/-2.23     | -2.66/-2.20     | -2.76/-3.97       | -1.680/24         | 1.992/63          | 2.913/04          | 2.110/99          | 0.18/-0.84        | -1.72/-2.38       | -2.52/-3.00       | -5.56/-4.81       | -6.24/-2.45       | -6.78/-8.38       | -8.37/-4.20       | -1.65/-3.79       | -5.79/-7.64       | -5.97/-3.60       | -4.59/-4.75       | -5.52/-6.52       |
| θ(135°)   | -3.40/-2.81   | -0.710/25       | 0.400/44        |                 |                 |                 |                 |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |



# Antenna Pattern of 6GHz U-NII 5 ~ U-NII 8

# Appendix D

|           |               |                 |                 |                 |                 |                 |                 |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
|-----------|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Θ(127.5°) | -3.830/11     | -1.864/4.43     | -12.67/-11.82   | -7.70/-6.49     | -7.57/-8.61     | -9.32/-4.67     | -1.68/-1.55     | -0.99/-0.37       | -0.92/-1.49       | -4.03/-4.75       | -2.98/-2.45       | -3.62/-3.00       | -2.32/-3.47       | -4.18/-4.08       | -3.20/-5.95       | -7.08/-8.06       | -12.48/-9.17      | -6.74/-11.37      | -2.34/-3.30       | -3.80/-1.33       | -1.15/-3.05       | -4.26/-10.61      | -3.60/-8.09       | -8.58/-3.12       |
| Θ(135°)   | -4.42/-4.18   | -6.33/-9.35     | -9.33/-5.46     | -3.51/-3.12     | -4.59/-5.40     | -5.47/-5.14     | -4.53/-2.88     | -2.52/-3.55       | -3.67/-3.66       | -3.62/-3.95       | -4.54/-4.71       | -6.69/-5.58       | -4.47/-2.31       | -2.02/-3.61       | -8.60/-10.89      | -8.48/-8.54       | -12.46/-6.13      | -11.06/-6.80      | -4.40/-6.27       | -8.00/-4.51       | -0.74/-0.96       | -3.36/-9.71       | -6.18/-8.53       | -6.46/-3.16       |
| Θ(142.5°) | -5.87/-12.00  | -12.57/-11.38   | -10.25/-5.33    | -1.68/-0.66     | -1.20/-4.43     | -9.06/-7.32     | -5.18/-3.98     | -3.51/-4.79       | -7.26/-6.70       | -4.49/-3.53       | -4.04/-5.11       | -7.31/-6.36       | -6.07/-4.78       | -7.65/-13.45      | -8.23/-8.50       | -5.03/-9.99       | -9.79/-10.63      | -12.36/-5.63      | -4.36/-4.92       | -5.37/-4.63       | -2.20/-2.17       | -5.17/-6.27       | -5.10/-4.01       | -7.21/-6.71       |
| Θ(150°)   | -4.20/-5.42   | -7.17/-6.66     | -8.44/-7.15     | -3.05/-1.77     | -2.30/-3.25     | -6.99/-9.84     | -6.31/-3.51     | -2.45/-2.14       | -2.95/-5.01       | -7.03/-7.28       | -6.55/-5.78       | -4.54/-2.83       | -2.79/-2.60       | -2.91/-4.44       | -5.72/-5.80       | -4.60/-5.02       | -4.65/-9.01       | -14.48/-7.49      | -6.28/-5.09       | -2.69/-2.54       | -5.74/-8.75       | -9.36/-8.12       | -6.59/-8.60       | -13.78/-6.82      |
| Θ(157.5°) | -4.01/-4.87   | -5.97/-5.34     | -6.86/-9.73     | -8.27/-6.04     | -5.82/-6.19     | -7.84/-7.78     | -6.06/-4.63     | -3.78/-4.16       | -5.48/-6.72       | -6.29/-4.76       | -3.57/-3.06       | -2.70/-1.94       | -1.46/-1.27       | -1.61/-2.52       | -4.19/-4.49       | -4.73/-6.18       | -6.61/-7.21       | -6.21/-4.45       | -3.80/-3.71       | -3.71/-4.27       | -5.02/-5.41       | -4.75/-3.78       | -4.48/-7.06       | -11.95/-6.83      |
| Θ(165°)   | -7.55/-8.75   | -8.52/-8.97     | -10.13/-11.05   | -12.13/-13.18   | -13.19/-12.20   | -8.89/-7.07     | -5.98/-5.42     | -5.58/-6.03       | -7.18/-8.70       | -9.40/-8.56       | -6.41/-4.76       | -3.22/-2.29       | -2.17/-2.80       | -3.49/-4.17       | -4.62/-5.60       | -7.26/-10.21      | -12.07/-11.04     | -8.78/-5.91       | -3.91/-3.49       | -4.19/-5.10       | -5.22/-4.58       | -4.17/-4.69       | -6.39/-8.67       | -8.36/-7.70       |
| Θ(172.5°) | -12.33/-10.95 | -9.54/-8.02     | -6.85/-6.42     | -6.47/-6.90     | -7.49/-8.58     | -8.48/-8.55     | -8.55/-8.03     | -7.56/-7.32       | -6.92/-6.30       | -5.65/-4.99       | -4.26/-3.67       | -3.00/-2.72       | -2.77/-3.35       | -4.13/-4.97       | -5.71/-6.53       | -6.90/-7.11       | -7.50/-8.10       | -8.56/-9.30       | -9.38/-9.98       | -10.07/-9.27      | -7.77/-6.41       | -5.50/-5.58       | -6.64/-8.41       | -9.70/-12.08      |
| Θ(180°)   | -13.59/-12.69 | -12.05/-11.71   | -11.97/-11.65   | -10.92/-10.94   | -11.43/-11.33   | -10.48/-9.90    | -10.03/-9.77    | -9.96/-10.83      | -11.77/-12.29     | -11.86/-11.26     | -10.66/-10.09     | -9.69/-9.61       | -9.92/-10.17      | -10.26/-9.75      | -9.07/-8.64       | -8.03/-7.81       | -8.06/-8.46       | -8.65/-8.96       | -9.25/-9.74       | -9.69/-9.44       | -9.83/-10.55      | -11.19/-12.46     | -13.86/-15.25     | -15.65/-14.25     |
| Freq(Hz)  | 6.475GPol.    | 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°)     | 2.56/0.60     | 2.51/2.77       | 2.78/2.77       | 2.69/2.92       | 2.92/2.80       | 3.00/3.11       | 3.15/2.99       | 2.93/2.93         | 2.85/2.73         | 2.43/2.29         | 1.99/2.02         | 1.88/1.64         | 1.31/1.12         | 0.73/0.39         | 0.36/0.36         | 0.24/0.18         | 0.23/0.46         | 0.58/1.00         | 1.28/1.41         | 1.42/1.31         | 1.38/1.42         | 1.55/1.68         | 1.76/1.85         | 2.06/2.36         |
| Θ(7.5°)   | 1.39/1.28     | 1.22/1.26       | 1.11/1.02       | 0.90/0.93       | 0.67/0.82       | 0.99/0.99       | 0.98/0.98       | 1.07/1.06         | 1.12/1.27         | 1.46/1.68         | 1.91/2.02         | 2.13/2.30         | 2.53/2.65         | 2.61/2.75         | 2.82/2.92         | 3.00/3.03         | 3.01/2.89         | 2.95/3.15         | 3.33/3.26         | 3.18/2.93         | 2.78/2.63         | 2.39/2.15         | 1.85/1.45         | 1.50/1.49         |
| Θ(15°)    | -1.91/-2.34   | -1.83/-1.35     | -1.19/-1.09     | -1.00/-1.01     | -1.05/-1.02     | -1.22/-1.51     | -1.85/-2.17     | -2.45/-2.26       | -2.14/-2.13       | -1.90/-1.47       | -1.00/-0.56       | 0.20/1.19         | 2.20/3.05         | <b>3.43/3.63</b>  | 3.59/3.51         | 3.45/3.55         | 3.59/3.27         | 2.85/2.77         | 2.59/2.34         | 1.90/1.43         | 1.43/1.31         | 0.88/0.39         | 0.19/-0.52        | -1.10/-1.50       |
| Θ(22.5°)  | -6.49/-6.40   | -5.75/-4.78     | -3.75/-3.38     | -3.26/-2.66     | -2.05/-2.15     | -1.97/-2.17     | -2.46/-3.00     | -3.89/-4.62       | -4.88/-4.90       | -4.87/-5.48       | -5.08/-4.17       | -3.25/-1.64       | 0.11/1.37         | 1.92/1.65         | 1.24/1.27         | 1.73/1.96         | 1.50/1.05         | 0.62/-0.27        | -0.87/-1.65       | -2.36/-2.98       | -3.82/-4.46       | -5.23/-5.72       | -5.62/-5.44       | -5.68/-6.21       |
| Θ(30°)    | -10.48/-9.10  | -5.99/-5.04     | -4.31/-4.09     | -4.21/-4.21     | -4.39/-4.52     | -4.03/-3.84     | -3.43/-3.06     | -3.10/-3.64       | -4.18/-4.23       | -5.11/-6.87       | -9.12/-7.62       | -7.13/-4.80       | -2.11/-0.85       | -0.94/-1.02       | -0.17/0.87        | 1.18/1.09         | 0.80/-0.24        | -1.95/-3.04       | -4.22/-4.28       | -4.17/-4.03       | -4.86/-6.97       | -11.67/-15.14     | -9.93/-9.20       |                   |
| Θ(37.5°)  | -6.54/-4.67   | -3.65/-4.31     | -3.80/-3.04     | -4.09/-5.89     | -8.49/-11.06    | -11.52/-11.15   | -9.47/-6.28     | -4.05/-2.91       | -2.62/-2.97       | -3.70/-5.40       | -8.45/-9.24       | -6.88/-3.73       | -1.34/-1.05       | -1.52/-3.50       | -4.76/-2.66       | -0.62/1.17        | 0.86/0.74         | 0.14/-0.85        | -0.47/0.06        | -1.03/-2.00       | -2.22/-2.88       | -3.72/-4.90       | -6.01/-7.18       | -9.44/-8.78       |
| Θ(45°)    | -3.99/-1.96   | -0.95/-0.57     | -0.82/-1.02     | -0.96/-0.51     | -1.49/-1.53     | -2.36/-4.11     | -8.33/-13.67    | -5.71/-1.99       | -1.17/-0.27       | -2.56/-3.59       | -6.51/-7.37       | -9.21/-9.28       | -4.12/-1.53       | -2.01/-2.76       | -6.34/-4.27       | -0.75/-1.47       | 2.28/2.21         | 1.43/1.10         | -0.18/-0.98       | -0.37/-1.16       | -2.74/-4.27       | -5.59/-4.73       | -4.83/-4.31       | -3.64/-3.90       |
| Θ(52.5°)  | 0.07/0.97     | 0.15/-1.55      | -1.32/-0.09     | -0.00/-1.46     | -2.37/-1.96     | -1.98/-3.34     | -7.54/-9.45     | -3.87/-0.55       | 0.19/-1.32        | -3.54/-3.16       | -4.04/-6.16       | -7.28/-6.44       | -3.46/-2.46       | -3.44/-2.94       | -5.96/-7.64       | -2.36/0.30        | 0.65/0.90         | 1.26/2.32         | 2.58/1.69         | -0.00/-2.76       | -3.93/-2.95       | -2.02/-0.29       | -1.30/-2.25       | -1.30/-0.31       |
| Θ(60°)    | -0.00/0.50    | -0.75/-2.31     | -0.53/0.82      | -1.52/-5.37     | -7.19/-5.00     | -4.46/-5.79     | -9.73/-8.65     | -3.24/-0.29       | 0.66/0.17         | -2.55/-4.29       | -5.43/-7.15       | -6.63/-5.48       | -2.52/-2.25       | -5.17/-5.37       | -5.05/-4.92       | -5.97/0.11        | 1.66/2.39         | 1.68/0.98         | -0.58/-1.72       | -3.51/-3.37       | -3.59/-1.92       | 0.78/2.49         | 1.93/0.25         | -2.40/-0.94       |
| Θ(67.5°)  | -0.82/-1.01   | -3.53/-4.40     | -2.09/-1.97     | -5.35/-6.59     | -3.58/-2.61     | -2.89/-7.77     | -9.09/-6.63     | -4.05/-1.01       | 0.29/1.08         | -0.44/-0.53       | -4.23/-6.09       | -5.20/-7.11       | -7.43/-7.45       | -7.45/-9.58       | -4.82/-2.29       | -3.19/0.06        | 1.94/2.24         | 1.08/-1.55        | -3.32/-2.52       | -2.47/-2.51       | -3.39/-1.69       | -0.64/-1.27       | 0.64/-0.96        | -2.60/-0.48       |
| Θ(75°)    | -1.42/-1.90   | -3.66/-1.39     | -0.50/-3.10     | -7.29/-5.50     | -3.69/-2.26     | -7.50/-5.00     | -0.83/-1.53     | 0.39/0.41         | 0.17/1.57         | 2.31/1.57         | -2.00/-5.06       | -2.31/-1.68       | -4.55/-7.74       | -3.41/-8.12       | -0.36/-6.97       | -4.10/0.18        | 2.77/2.33         | 0.81/2.92         | -1.41/-1.90       | -2.85/-1.51       | -1.40/-0.64       | 0.43/0.55         | -1.76/-3.06       | -2.62/0.05        |
| Θ(82.5°)  | -1.90/-2.28   | -2.09/-0.28     | 0.08/-3.77      | -6.14/-5.96     | -5.10/-8.44     | -4.30/-0.66     | 2.51/3.28       | 2.40/1.55         | 1.71/1.74         | 1.85/0.47         | -2.61/-3.80       | -2.21/0.18        | -1.42/-9.33       | -5.75/-6.97       | -4.63/-4.05       | -2.12/-0.43       | 1.31/1.81         | 0.34/-1.65        | -1.87/-1.35       | -1.51/-0.60       | 0.80/1.81         | 2.29/0.39         | -5.51/-4.23       | -3.55/-1.06       |
| Θ(90°)    | -0.56/-0.28   | -1.64/-2.01     | -3.47/-6.64     | -5.42/-8.93     | -6.44/-7.99     | -1.09/1.24      | 2.67/3.21       | 3.12/0.86         | 1.86/2.20         | 3.48/1.51         | -0.54/-0.79       | -0.15/-6.65       | 0.33/-5.04        | -6.18/-11.86      | -4.48/-2.21       | -2.28/-4.25       | -5.19/-1.41       | -1.19/-5.48       | -5.54/-2.29       | -3.09/0.25        | 1.11/0.17         | -0.28/-2.78       | -5.41/-4.64       | -2.97/-0.01       |
| Θ(97.5°)  | -0.74/-0.27   | -3.92/-4.38     | -4.12/-5.79     | -4.59/-3.21     | -2.68/-6.34     | -3.16/-1.57     | -1.29/0.09      | 1.81/0.56         | 2.54/2.27         | 3.20/1.48         | 0.18/-0.13        | -0.60/-5.5        | -0.23/-7.29       | -6.88/-6.97       | -4.07/-3.24       | -3.88/-2.66       | -7.05/-8.82       | -4.41/-1.13       | -10.45/-9.01      | -9.57/-1.53       | -2.84/-5.03       | -5.44/-5.45       | -4.81/-5.02       | -5.63/-0.59       |
| Θ(105°)   | -0.67/-1.32   | -4.92/-6.34     | -5.94/-5.01     | -3.77/-6.25     | -3.00/-8.12     | -5.69/-5.55     | -3.01/-1.19     | -0.70/1.01        | 1.86/1.91         | 2.46/1.91         | 0.27/-0.26        | 0.65/3.05         | 2.68/-1.05        | -6.95/-6.00       | -6.71/-7.94       | -5.23/-5.98       | -4.06/-2.84       | -4.49/-14.95      | -10.57/-4.77      | -11.38/-3.22      | -1.61/-2.63       | -2.98/-3.95       | -2.65/-10.19      | -7.13/-2.27       |
| Θ(112.5°) | -1.51/-1.42   | -4.02/-6.11     | -6.06/-3.05     | -4.45/-4.79     | -3.32/-3.63     | -4.98/-5.68     | -3.59/-2.49     | -1.24/0.03        | -0.66/0.51        | 0.67/-0.11        | -2.68/-4.63       | -2.20/2.15        | 3.04/-0.42        | -6.94/-11.24      | -8.50/-9.49       | -12.88/-11.27     | -6.76/-5.57       | -2.04/-5.60       | -3.53/-6.65       | -15.36/-6.20      | -2.33/0.59        | -0.46/-2.91       | -3.51/-6.60       | -5.67/-2.68       |
| Θ(120°)   | -1.26/-4.76   | -5.28/-6.08     | -4.21/-3.11     | -4.52/-7.79     | -9.07/-4.24     | -4.47/-3.89     | -5.53/-2.21     | -0.60/-0.20       | -0.36/-0.37       | -0.74/-1.55       | -4.19/-6.28       | -6.93/-2.86       | -0.41/-1.75       | -5.59/-6.68       | -7.65/-5.00       | -7.00/-13.38      | -11.65/-6.72      | -4.37/-8.73       | -11.17/-7.75      | -1.17/1.75        | -1.91/-4.06       | -5.33/-4.22       | -5.15/-6.26       | -0.86/0.87        |
| Θ(127.5°) | -3.29/-0.27   | -2.25/-3.83     | -5.14/-8.20     | -11.51/-11.34   | -9.82/-8.41     | -7.68/-6.91     | -5.06/-2.74     | -1.60/-1.09       | -1.45/-2.02       | -3.00/-5.02       | -6.28/-8.42       | -8.34/-6.99       | -3.96/-3.09       | -3.05/-3.97       | -2.36/-2.46       | -4.17/-6.04       | -9.60/-5.22       | -14.45/-9.47      | -4.34/-3.23       | -3.71/-0.86       | -0.60/-2.32       | -6.80/-11.49      | -5.11/-10.97      | -4.92/-3.06       |
| Θ(135°)   | -8.18/-4.79   | -8.46/-9.19     | -12.55/-14.76   | -9.35/-7.53     | -6.78/-5.06     | -4.10/-4.88     | -5.77/-6.06     | -4.07/-2.63       | -2.06/-1.93       | -2.38/-2.02       | -3.26/-5.06       | -7.48/-8.46       | -6.39/-5.49       | -1.56/-2.87       | -3.89/-7.74       | -9.30/-7.81       | -13.48/-5.83      | -9.73/-8.23       | -6.01/-9.05       | -9.85/-4.84       | -1.22/-2.62       | -6.21/-9.67       | -4.49/-7.75       | -5.64/-4.34       |
| Θ(142.5°) | -8.28/-8.41   | -10.55/-13.39   | -9.00/-6.00     | -4.05/-4.53     | -6.73/-10.67    | -8.90/-5.86     | -3.25/-3.03     | -2.14/-2.46       | -2.65/-3.24       | -3.25/-3.32       | -5.25/-8.49       | -10.69/-7.39      | -7.31/-10.45      | -9.48/-9.17       | -7.86/-5.95       | -4.80/-5.22       | -9.45/-7.60       | -10.41/-8.53      | -5.11/-5.17       | -7.61/-9.65       | -7.31/-7.85       | -8.15/-8.94       | -10.31/-7.99      | -7.44/-6.06       |
| Θ(150°)   | -3.98/-6.20   | -6.61/-6.65     | -7.78/-3.36     | -1.31/-1.53     | -1.71/-4.19     | -10.14/-8.06    | -4.36/-3.02     | -2.81/-2.98       | -3.91/-5.51       | -7.48/-8.38       | -10.74/-12.86     | -3.68/-4.10       | -4.21/-5.97       | -6.13/-10.18      | -7.44/-7.45       | -6.98/-10.27      | -7.78/-5.16       | -5.99/-6.62       | -4.46/-3.31       | -4.57/-6.95       | -8.92/-8.75       | -9.42/-8.70       | -6.46/-3.70       |                   |
| Θ(157.5°) | -4.24/-5.14   | -5.41/-4.77     | -14.85/-10.62   | -6.50/-5.01     | -5.54/-8.65     | -13.86/-11.12   | -8.74/-7.06     | -5.63/-5.54       | -6.57/-8.96       | -9.18/-7.75       | -6.19/-4.24       | -3.06/-2.79       | -2.18/-1.64       | -2.16/-3.16       | -3.58/-3.60       | -3.08/-4.38       | -6.89/-10.19      | -14.36/-12.55     | -11.77/-9.24      | -6.83/-5.46       | -5.57/-1.11       | -9.74/-12.26      | -11.15/-6.86      | -4.13/-3.27       |
| Θ(165°)   | -9.33/-8.80   | -8.50/-9.56     | -10.07/-10.42   | -9.77/-8.44     | -6.92/-6.06     | -5.60/-3.99     | -2.82/-2.45     | -2.44/-2.89       | -3.71/-5.00       | -5.48/-5.78       | -4.70/-3.88       | -2.95/-1.94       | -1.62/-1.93       | -2.28/-3.33       | -2.41/-3.13       | -4.87/-4.77       | -11.78/-15.09     | -13.81/-10.09     | -7.88/-7.25       | -6.54/-6.06       | -6.89/-8.04       | -8.41/-8.30       | -8.15/-6.70       | -7.78/-8.75       |
| Θ(172.5°) | -13.32/-13.63 | -10.89/-9.08    | -8.45/-8.92     | -9.24/-8.95     | -8.38/-7.34     | -6.76/-5.92     | -6.65/-7.04     | -7.44/-7.65       | -7.12/-6.74       | -6.11/-5.28       | -4.61/-3.77       | -3.38/-3.65       | -3.75/-4.56       | -5.29/-6.00       | -7.05/-7.68       | -8.22/-8.69       | -9.59/-9.78       | -9.37/-9.35       | -9.52/-9.24       | -7.91/-7.02       | -7.59/-9.28       | -11.55/-13.39     |                   |                   |
| Θ(180°)   | -8.70/-8.65   | -7.85/-6.45     | -6.10/-5.66     | -5.87/-6.17     | -6.43/-6.34     | -7.33/-8.73     | -6.57/-8.37     | -8.19/-7.64       | -6.97/-6.26       | -6.12/-6.28       | -6.79/-7.01       | -7.07/-7.35       | -7.37/-7.90       | -8.24/-8.49       | -8.39/-8.09       | -7.70/-7.08       | -6.87/-7.13       | -7.30/-8.09       | -8.23/-8.29       |                   |                   |                   |                   |                   |

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

