

## DG 1SS Result

| Freq(Hz) | S2SPol.       | PhiL            | +/-             | +/-             | +/-             | +/-             | +/-             | +/-               | +/-               | +/-               | +/-               | +/-               | +/-               | +/-               | +/-               | +/-               | +/-               | +/-               | +/-               | +/-               |                   |                   |                   |                   |
|----------|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| DG(dB)   | Φ(0°) Φ(7.5°) | Φ(15°) Φ(22.5°) | Φ(30°) Φ(37.5°) | Φ(45°) Φ(52.5°) | Φ(60°) Φ(67.5°) | Φ(75°) Φ(82.5°) | Φ(90°) Φ(97.5°) | Φ(105°) Φ(112.5°) | Φ(120°) Φ(127.5°) | Φ(135°) Φ(142.5°) | Φ(150°) Φ(157.5°) | Φ(165°) Φ(172.5°) | Φ(180°) Φ(187.5°) | Φ(195°) Φ(202.5°) | Φ(210°) Φ(217.5°) | Φ(225°) Φ(232.5°) | Φ(240°) Φ(247.5°) | Φ(255°) Φ(262.5°) | Φ(270°) Φ(277.5°) | Φ(285°) Φ(292.5°) | Φ(300°) Φ(307.5°) | Φ(315°) Φ(322.5°) | Φ(330°) Φ(337.5°) | Φ(345°) Φ(352.5°) |
| Θ(0°)    | -8.88/-9.57   | -9.41/-8.67     | -8.68/-9.89     | -8.87/-7.31     | -7.06/-6.5      | -6.14/-5.76     | -5.82/-7.07     | -6.84/-7.07       | -7.98/-8.54       | -8.93/-9.38       | -10.25/-10.31     | -9.55/-9.71       | -9.51/-9.24       | -8.39/-8.32       | -9.83/-8.53       | -8.13/-7.55       | -7.61/-7.87       | -7.54/-7.43       | -7.14/-6.78       | -6.68/-6.49       | -6.98/-7.13       | -6.63/-6.98       | -6.86/-7.84       | -6.64/-6.89       |
| Θ(7.5°)  | -8.17/-8.08   | -8.93/-8.51     | -7.96/-8.22     | -9.13/-9.54     | -7.95/-17.7     | -7.76/-97       | -6.55/-6.88     | -7.11/-6.91       | -6.81/-7.67       | -8.07/-6.67       | -7.53/-7.59       | -8.15/-9.44       | -10.93/-12.29     | -12.13/-14.74     | -11.41/-10.23     | -8.83/-7          | -6.75/-6.72       | -5.35/-5.28       | -6.27/-6.24       | -7.91/-6.99       | -11.85/-12.12     | -10.73/-10.04     | -8.71/-8.36       | -8.41/-8.28       |
| Θ(15°)   | -5.94/-6.47   | -8.95/-11.47    | -12.96/-11.64   | -10.55/-10.6    | -9.62/-8.36     | -7.54/-6.65     | -6.51/-6.87     | -8.28/-10.76      | -13.34/-14.75     | -14.25/-12.53     | -11.75/-10.1      | -8.44/-8.52       | -8.83/-8.12       | -8.17/-8.71       | -9.14/-7.83       | -9.36/-10.73      | -8.01/-7.75       | -7.93/-7.16       | -6.88/-8.81       | -13.44/-15.55     | -11.89/-8.97      | -8.16/-9.1        | -6.08/-5.52       | -5.83/-6.47       |
| Θ(22.5°) | -6.91/-6.76   | -7.56/-10.72    | -14.12/-11.83   | -8.35/-6.92     | -7.77/-8.13     | -8.44/-8.07     | -7.25/-8.13     | -12.95/-15.42     | -10.96/-7.02      | -5.57/-6.29       | -7.77/-8.72       | -10.29/-9.68      | -10.52/-11.32     | -10.31/-10.3      | -8.91/-6.53       | -6.57/-8.39       | -9.77/-10.25      | -8.84/-8.4        | -9.22/-12.44      | -13.78/-8.9       | -7.19/-6.9        | -7.48/-6.95       | -7.2/-6.81        | -7.36/-7.29       |
| Θ(30°)   | -10.11/-9.83  | -10.06/-11.19   | -15.02/-15.68   | -10.98/-9.15    | -7.43/-9.74     | -8.83/-9.19     | -8.34/-8.6      | -11.58/-10.65     | -8.01/-7.95       | -6.81/-7.96       | -11.34/-15.71     | -14.62/-13.12     | -12.75/-8.2       | -6.97/-8.95       | -8.27/-9.78       | -8.88/-6.88       | -6.09/-7.21       | -9.58/-12.31      | -11.77/-13.49     | -10.89/-7.01      | -6.06/-7.88       | -10.68/-10.2      | -9.45/-9.34       | -11.32/-10.13     |
| Θ(37.5°) | -10.17/-9.1   | -8.92/-10.04    | -11.74/-13.55   | -13.99/-14.33   | -9.11/-7.25     | -8.25/-9.37     | -6.71/-10.5     | -11.79/-8.43      | -7.45/-9.56       | -5.01/-6.52       | -8.62/-10.53      | -12.17/-11.45     | -11.91/-9.64      | -6.36/-5.12       | -5.84/-6.27       | -13.48/-11.74     | -8.86/-7.74       | -8.35/-11.37      | -14.91/-13.74     | -8.72/-9.02       | -9.13/-9.76       | -10.08/-9.74      | -9.47/-11.3       | -13.73/-13.12     |
| Θ(45°)   | -6.68/-5.87   | -6.38/-6.84     | -9.41/-9.5      | -9.61/-9.53     | -9.97/-7.29     | -7.92/-7.92     | -7.05/-10.17    | -11.63/-7.42      | -9.14/-6.02       | -3.25/-4.82       | -7.35/-8.8        | -6.8/-8.2         | -13.21/-15.37     | -12.29/-6.34      | -5.06/-7.46       | -9.94/-11.62      | -10.92/-7.29      | -7.01/-8.87       | -12.87/-10.33     | -7.22/-7.2        | -9.27/-16         | -8.02/-10.4       | -10.59/-12.41     | -11.65/-10.8      |
| Θ(52.5°) | -8.78/-5.71   | -5.86/-8.94     | -10.54/-10.29   | -7.39/-7.07     | -8.71/-7.73     | -8.27/-11.24    | -10.94/-9.57    | -10.58/-7.34      | -6.14/-12         | -3.74/-0.53       | -3.41/-4.51       | -8.7/-9.26        | -10.29/-11.46     | -14.84/-11.52     | -7.1/-8.71        | -10.11/-11.56     | -10.81/-8.12      | -5.97/-9.98       | -11.79/-8.93      | -11.87/-8.5       | -7.29/-7.74       | -8.95/-10         | -7.15/-9.18       | -9.42/-8.59       |
| Θ(60°)   | -6.24/-4.46   | -6.11/-10.51    | -10.81/-11.43   | -6.37/-5.84     | -7.72/-7.02     | -8.85/-12.7     | -8.5/-9.44      | -8.44/-8.23       | -7.61/-3.45       | -4.28/-4.72       | -3.48/-5.22       | -5.17/-6.62       | -10.18/-8.7       | -8.47/-11.3       | -7.74/-9.71       | -10.98/-10.9      | -8.92/-7.95       | -7.11/-7.97       | -9.14/-10.48      | -8.81/-5.51       | -6.51/-6.09       | -6.62/-7.44       | -4.95/-7.54       | -9.92/-7.11       |
| Θ(67.5°) | -6.24/-4.2    | -5.14/-7.92     | -11.47/-9.39    | -6.86/-6.3      | -7.55/-8.8      | -8.05/-8.19     | -11.41/-10.68   | -8.74/-9.13       | -7.8/-5.34        | -5.7/-5.51        | -4.01/-4.25       | -6.34/-7.59       | -7.76/-8.76       | -5.39/-12.76      | -8.09/-9.71       | -15.49/-10.06     | -11.49/-          |                   |                   |                   |                   |                   |                   |                   |







## Gain Result

| Gain     | 5.2GPol       | PhiAnt.1      | Phi(0°)       | Phi(15°)      | Phi(30°)      | Phi(45°)      | Phi(60°)      | Phi(75°)      | Phi(90°)      | Phi(105°)     | Phi(120°)     | Phi(135°)     | Phi(150°)     | Phi(165°)     | Phi(180°)     | Phi(195°)     | Phi(210°)     | Phi(225°)     | Phi(240°)     | Phi(255°)     | Phi(270°)     | Phi(285°)     | Phi(300°)     | Phi(315°)     | Phi(330°) | Phi(345°) |
|----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------|-----------|
| 0°       | -12.45/-12.97 | -13.73/-15.23 | -16.75/-19.34 | -18.57/-18.17 | -19.21/-16.94 | -17.53/-16.13 | -13.63/-15.59 | -13.73/-12.51 | -14.3/-15.59  | -15.6/-15.43  | -16.68/-17.42 | -16.46/-17.18 | -15.37/-14.77 | -15.52/-16.1  | -16.62/-17.47 | -17.51/-19.1  | -18.77/-17.8  | -18.48/-17.71 | -17.93/-15.17 | -14.42/-13.86 | -12.48/-13.34 | -12.28/-11.94 | -12.9/-12.94  |               |           |           |
| 0(7.5°)  | -14.09/-14.17 | -14.17/-13.66 | -14.81/-15.81 | -14.73/-16.47 | -16.69/-16.47 | -18.72/-10.82 | -18.11/-17.2  | -18.46/-16.03 | -13.91/-15.04 | -14.65/-12.21 | -11.08/-10.52 | -10.31/-11.81 | -14.01/-15.29 | -16.29/-18.72 | -18.18/-15.15 | -17.62/-16.97 | -16.83/-17.63 | -14.18/-13.49 | -15.66/-13.31 | -15.12/-16.17 | -16.97/-17.25 | -14.96/-16.69 | -15.07/-19.17 | -15.61/-13.91 |           |           |
| 0(15°)   | -11.44/-11.94 | -13.21/-14.34 | -17.89/-18.79 | -17.68/-19.47 | -18.4/-19.09  | -19.35/-17.75 | -18.31/-14.74 | -18.68/-19.4  | -18.22/-17.64 | -15.84/-13.83 | -13.68/-12.72 | -10.53/-9.88  | -10.88/-13.19 | -17.46/-18.04 | -18.84/-15.14 | -16.02/-17.96 | -16.99/-17.84 | -17.58/-18.4  | -17.59/-18.4  | -19.16/-6.1   | -18.27/-17.74 | -19.2/-16.16  | -13.18/-11.88 | -12.04/-12.1  |           |           |
| 0(22.5°) | -11.22/-12.48 | -13.17/-16.32 | -18.59/-17.86 | -16.8/-18.42  | -18.61/-17.89 | -19.32/-18.74 | -17.73/-16.43 | -18.26/-18.75 | -18.48/-14.18 | -11.24/-11.54 | -13.73/-17.77 | -17.17/-13.17 | -13.4/-16.8   | -18.48/-18.87 | -17.16/-14.02 | -15.07/-18.13 | -15.18/-18.28 | -15.21/-17.69 | -17.95/-17.39 | -17.95/-15.77 | -15.01/-16.81 | -18.75/-13.91 | -12.51/-11.87 | -13.1/-12.86  |           |           |
| 0(30°)   | -16.2/-15.42  | -18.55/-14.74 | -18.1/-18.95  | -17.21/-18.47 | -18.36/-17.89 | -18.63/-19.4  | -18.42/-13.91 | -12.48/-15.14 | -15.87/-19.1  | -12.28/-10.88 | -12.95/-19.27 | -18.88/-16.77 | -18.83/-18.05 | -15.63/-13.14 | -16.04/-17.35 | -18.72/-16.22 | -15.79/-15.49 | -13.58/-18.95 | -18.16/-17.3  | -18.85/-15.46 | -11.22/-12.98 | -14.99/-10.08 | -8.95/-10.4   | -16.51/-16.77 |           |           |
| 0(37.5°) | -15.61/-12.91 | -10.77/-13.15 | -15.83/-14.81 | -16.69/-17.07 | -18.32/-18.74 | -18.63/-18.83 | -17.68/-16.62 | -12.73/-12.6  | -11.11/-10.75 | -11.79/-14.34 | -15.88/-14.63 | -13.35/-12.08 | -15.54/-19.1  | -14.35/-13.17 | -17.49/-17.63 | -18.21/-16.2  | -19.09/-19.27 | -15.44/-17.7  | -17.4/-17.1   | -14.95/-16.16 | -10.72/-11.08 | -11.24/-10.09 | -9.28/-11.35  | -15.11/-16.77 |           |           |
| 0(45°)   | -11.6/-8.62   | -8.08/-11.52  | -13.56/-13.14 | -16.15/-15.36 | -17.24/-18.34 | -18.45/-17.91 | -17.98/-15.02 | -15.13/-11.5  | -12.76/-10.81 | -11.5/-12.99  | -15.78/-11.2  | -7.95/-8.71   | -13.73/-19.1  | -13.45/-11.47 | -11.91/-16.91 | -10.86/-16.66 | -17.37/-18.52 | -16.48/-16.62 | -18.58/-15.78 | -10.86/-11.32 | -12.58/-11.62 | -8.88/-10.41  | -10.61/-13.63 | -12.07/-10.73 |           |           |
| 0(52.5°) | -10.21/-14.74 | -8.3/-10.36   | -10.19/-12.61 | -12.07/-10.28 | -15.96/-18.17 | -18.55/-17.91 | -17.71/-12.45 | -11.74/-8.41  | -9.93/-12.01  | -10.6/83      | -9.97/-11.65  | -12.73/-16.76 | -18.57/-18.89 | -15.11/-19.51 | -17.02/-14.53 | -14.33/-18.88 | -14.58/-17.48 | -17.41/-15.11 | -14.19/79     | -10.15/-80.3  | -8.38/-13.39  | -9.25/-12.92  | -9.51/-7.84   |               |           |           |
| 0(60°)   | -9.03/-5.78   | -7.22/-11.89  | -10.83/-13.08 | -11.41/-12.74 | -14.61/-14.13 | -18.38/-18.29 | -14.05/-11.57 | -11.38/-10.59 | -8.6/-9.35    | -10.45/-12.17 | -9.02/-8.75   | -7.6/-7.47    | -10.38/-13.97 | -15.26/-15.77 | -18.29/-18.01 | -13.01/-13.55 | -10.74/-16.68 | -14.75/-18.69 | -14.89/-16.83 | -14.97/-8.25  | -9.11/-10.55  | -8.17/-15.51  | -7.88/-9.49   | -9.38/-7.58   |           |           |
| 0(67.5°) | -9.45/-6.13   | -7.5/-9.68    | -10.23/-12.36 | -10.58/-12.35 | -14.34/-15.29 | -18.09/-17.68 | -18.11/-13.51 | -14.9/-9.96   | -8.89/-10.89  | -7.45/-11.77  | -7.43/-5.41   | -8.1/-6.73    | -10.37/-10.76 | -10.51/-13.7  | -15.55/-18.84 | -16.85/-13.6  | -12.77/-17.61 | -17.53/-17.47 | -15.85/-13.98 | -14.73/-12.63 | -9.02/-12.07  |               |               |               |           |           |

















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| Freq(Hz)                                               | 6.175G           | 6.475G         | 6.695G         | 6.995G           |
|--------------------------------------------------------|------------------|----------------|----------------|------------------|
| Ant. 1 Max Gain (dBi)                                  | 5.33             | 4.93           | 5.5            | 4.83             |
| Ant. 2 Max Gain (dBi)                                  | 5.41             | 4.54           | 5.26           | 5.39             |
| Ant. 3 Max Gain (dBi)                                  | 5.95             | 5.96           | 4.82           | 4.77             |
| Ant. 4 Max Gain (dBi)                                  | 5.79             | 5.88           | 5.89           | 5.91             |
| Ant. 1 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$ | Theta/67.5/352.5 | Theta/67.5/345 | Theta/60/0     | Theta/67.5/307.5 |
| Ant. 2 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$ | Theta/52.5/7.5   | Theta/60/225   | Theta/67.5/285 | Theta/75/180     |
| Ant. 3 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$ | Theta/60/315     | Theta/75/127.5 | Theta/75/292.5 | Theta/82.5/127.5 |
| Ant. 4 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$ | Theta/75/60      | Theta/75/157.5 | Theta/75/165   | Theta/75/157.5   |
| Max Gain (dBi)                                         | 5.95             | 5.96           | 5.89           | 5.91             |
| DG [1SS] (dBi)                                         | 9.23             | 8.77           | 9.49           | 9.13             |
| DG [2SS] (dBi)                                         | 6.23             | 5.96           | 6.49           | 6.13             |
| DG [4SS] (dBi)                                         | 5.95             | 5.96           | 5.89           | 5.91             |

## DG 1SS Result

| Freq(Hz) | 6.175GPol.   | PhiL           | -              | -              | -              | -              | -              | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                |                  |                  |                  |                  |             |
|----------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------------|
| DQ(dB)   | 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°)    | -2.65/-3.08  | -3.54/-3.38    | -3.52/-3.61    | -4.07/-4.54    | -4.61/-4.83    | -4.42/-4.84    | -5.43/-4.98    | -5.44/-6.05      | -6.44/-6.09      | -4.95/-4.03      | -3.87/-3.66      | -3.65/-3.58      | -3.64/-3.09      | -2.65/-2.34      | -2.41/-2.67      | -2.87/-2.74      | -3.03/-3.63      | -3.96/-3.85      | -4.77/-5.66      | -5.65/-6.68      | -5.47/-5.11      | -4.74/-4.36      | -3.61/-2.83      | -2.18/-2.56      |             |
| Θ(7.5°)  | -3.78/-4.24  | -4.03/-3.87    | -3.61/-3.25    | -2.88/-2.61    | -3/-3.43       | -3.36/-3.38    | -3.85/-4.56    | -4.71/-4.5       | -3.61/-3.03      | -2.69/-2.49      | -2.3/-2.09       | -2.18/-2.48      | -2.41/-2.55      | -2.75/-2.77      | -2.93/-2.72      | -3.15/-3.88      | -4.19/-2.47      | -4.69/-4.55      | -4.76/-4.83      | -5.3/-6.08       | -6.32/-5.95      | -5.89/-4.53      | -4.67/-3.71      | -2.97/-3.17      |             |
| Θ(15°)   | -4.95/-5.75  | -5.13/-5.05    | -4.78/-4.93    | -4.36/-4.49    | -2.68/-2.28    | -2.85/-3.3     | -2.58/-2.51    | -3.21/-2.95      | -2.23/-2.55      | -2.99/-2.95      | -3.46/-4.5       | -5.05/-6.14      | -6.88/-5.48      | -3.92/-3.06      | -2.98/-3.46      | -3.62/-4.16      | -4.77/-5.01      | -6.55/-5.43      | -5.93/-7         | -5.08/-4.86      | -3.11/-2.26      | -4.46/-4.72      | -7.82/-6.69      | -5.69/-4.44      | -3.79/-4.35 |
| Θ(22.5°) | -3.18/-3.33  | -3.04/-3.45    | -5.21/-8.31    | -9.12/-7.46    | -4.54/-2.73    | -2.41/-3.83    | -5.44/-4.25    | -3.65/-3.09      | -2.32/-3.7       | -5.42/-5.03      | -5.87/-7.03      | -7.41/-8.24      | -6.52/-5.85      | -4.13/-3.3       | -3.13/-3.15      | -3.4/-26         | -7.01/-8.98      | -7.4/-5.59       | -4.58/-3.49      | -3.47/-3.98      | -5.04/-4.82      | -3.4/-2.39       | -2.61/-3.93      | -5.05/-3.73      |             |
| Θ(30°)   | -4.31/-4.05  | -3.65/-4.19    | -6.72/-8.16    | -4.22/-0.03    | -3.36/-2.58    | -3.17/-6.09    | -1.61/-8.65    | -5.41/-3.49      | -3.5/-5.69       | -6.34/-6.77      | -7.05/-8.27      | -6.63/-4.78      | -3.96/-3.62      | -3.4/-2.43       | -3.7/-5.4        | -3.22/-2.53      | -4.6/-3.7        | -6.74/-5.55      | -5.67/-5.77      | -6.46/-7.8       | -7.05/-4.29      | -2.02/-1.68      | -1.94/-2.97      | -4.83/-6.44      |             |
| Θ(37.5°) | -7.24/-5.25  | -3.71/-3.61    | -4.74/-7.08    | -5.35/-2.59    | -3.86/-4.15    | -6.57/-6.05    | -10.67/-7.25   | -5.25/-5.71      | -4.85/-3         | -3.34/-2.5       | -2.58/-4.21      | -4.08/-2.63      | -2.01/-2.41      | -3.17/-3.28      | -3.94/-7.41      | -6.99/-7.63      | -4.87/-5.59      | -8.55/-5.43      | -5.93/-7         | -5.08/-4.86      | -3.88/-4.18      | -3.04/-2.68      | -5.59/-8.15      | -3.71/-6.71      |             |
| Θ(45°)   | -10.66/-8.51 | -6.15/-5.3     | -4.83/-5.1     | -6.83/-6.07    | -5.25/-4.2     | -6.82/-6.58    | -9.53/-9.09    | -6.42/-6.55      | -5.65/-4.38      | -8.86/-3.72      | -2.74/-2.92      | -3.54/-4.21      | -3.94/-3.63      | -2.63/-3.27      | -6.81/-8.07      | -6.53/-8.95      | -5.14/-3.98      | -11.02/-7.11     | -7.17/-8.2       | -8.51/-9.23      | -8.36/-6.3       | -4.78/-4.97      | -9.21/-9.46      | -8.07/-8.98      |             |
| Θ(52.5°) | -9.94/-6.44  | -5.55/-7.59    | -7.73/-5.1     | -5.83/-4.02    | -4.35/-4.22    | -6.98/-6.21    | -7.75/-8.69    | -7.17/-4.45      | -8.06/-9.43      | -8.81/-3.5       | -4.39/-3.21      | -5.55/-7.66      | -9.61/-4.39      | -2.61/-3.28      | -5.93/-7.44      | -6.91/-8.2       | -3.41/-7.21      | -6.47/-3.3       | -5.08/-6.73      | -10.58/-6.84     | -8.16/-5.91      | -4.92/-6.46      | -8.27/-9.16      | -7.91/-10.02     |             |
| Θ(60°)   | -7.37/-6.22  | -5.41/-5.88    | -5.95/-6.08    | -5.32/-6.1     | -2.81/-3.6     | -9.4/-5.7      | -6.04/-7.73    | -6.54/-4.78      | -9.27/-8.71      | -5.67/-3.28      | -4.4/-1.9        | -6.63/-8.7       | -6.86/-4.45      | -3.71/-4.07      | -6.21/-6.83      | -6.99/-7.63      | -4.87/-5.59      | -8.55/-5.43      | -5.93/-7         | -5.08/-4.86      | -3.88/-4.18      | -3.04/-2.68      | -5.59/-8.15      | -3.71/-6.71      |             |
| Θ(67.5°) | -7.36/-6.74  | -6.94/-6.88    | -6.36/-5.33    | -3.15/-3.51    | -1.15/-7.07    | -4.44/-6.97    | -6.5/-5.74     | -7.18/-4.04      | -2.92/-2.84      | -4.47/-5.14      | -8.41/-6         | -5.5/-3.6        | -5.61/-3.78      | -6.52/-7.67      | -4.86/-7.59      | -5.39/-6.87      | -7.72/-10.56     | -6.87/-7.59      | -7.72/-10.56     | -8.51/-9.23      | -8.36/-6.3       | -4.78/-4.97      | -9.21/-9.46      | -9.04/-8.64      |             |
| Θ(75°)   | -7.57/-8.04  |                |                |                |                |                |                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |             |





## Appendix E

| 6.175GPa |               | Phi/Ant 1      |                |                |                |                |                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |               |  |  |  |  |
|----------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|---------------|--|--|--|--|
| Gain     | Φ(0°)Ψ(7.5°)  | Φ(15°)Ψ(22.5°) | Φ(30°)Ψ(37.5°) | Φ(45°)Ψ(52.5°) | Φ(60°)Ψ(67.5°) | Φ(75°)Ψ(82.5°) | Φ(90°)Ψ(97.5°) | Φ(105°)Ψ(112.5°) | Φ(120°)Ψ(127.5°) | Φ(135°)Ψ(142.5°) | Φ(150°)Ψ(157.5°) | Φ(165°)Ψ(172.5°) | Φ(180°)Ψ(187.5°) | Φ(195°)Ψ(202.5°) | Φ(210°)Ψ(217.5°) | Φ(225°)Ψ(232.5°) | Φ(240°)Ψ(247.5°) | Φ(255°)Ψ(262.5°) | Φ(270°)Ψ(277.5°) | Φ(285°)Ψ(292.5°) | Φ(300°)Ψ(307.5°) | Φ(315°)Ψ(322.5°) | Φ(330°)Ψ(337.5°) | Φ(345°)Ψ(352.5°) |               |  |  |  |  |
| Θ(0°)    | -13.77/-14.99 | -16.17/-15.21  | -14.85/-14.1   | -16.59/-16.58  | -17.35/-14.3   | -12.05/-13.9   | -13.37/-10.42  | -10.41/-11.48    | -12.04/-12.8     | -12.13/-12.49    | -14.04/-15.61    | -19.18/-17.16    | -19.18/-17.16    | -19.18/-17.16    | -18.47/-15.34    | -13.97/-12.5     | -11.19/-27       | -10.05/-11.42    | -10.31/-9.78     | -9.81/-11.02     | -12.59/-13.01    | -12.55/-12.12    | -12.44/-13.08    | -14.52/-13.33    | -11.98/-13.63 |  |  |  |  |
| Θ(7.5°)  | -17.66/-16.94 | -14.11/-13.34  | -12.98/-13     | -9.75/-7.49    | -8.4/-9.39     | -8.75/-8.28    | -8.66/-10.37   | -11.24/-11.23    | -11.03/-11.41    | -12.4/-12.5      | -12.04/-11.02    | -10.9/04         | -7.93/-8.35      | -9.63/-10.2      | -9.71/-9.24      | -10.91/-14.05    | -14.52/-12.12    | -11.94/-11.77    | -10.93/-9.29     | -9.4/-9.9        | -11.14/-11.83    | -12.69/-13.69    | -15.37/-17.18    | -17.52/-17.46    |               |  |  |  |  |
| Θ(15°)   | -14.25/-14.85 | -11.85/-18.12  | -19.09/-18.09  | -15.54/-12.27  | -9.36/-7.5     | -7.75/-8.76    | -7.03/-6.76    | -7.9/-8.53       | -8.31/-8.88      | -9.58/-10.05     | -10.91/-11.25    | -11.37/-10.24    | -8.86/-7.61      | -6.13/-5.43      | -5.35/-6.07      | -6.23/-6.58      | -9.33/-12.7      | -13.71/-12.24    | -10.52/-8.61     | -7.38/-7.84      | -11.11/-16.47    | -18.36/-17.47    | -19.28/-17.32    | -17.26/-16.02    |               |  |  |  |  |
| Θ(22.5°) | -8.03/-7      | -8.62/-9.23    | -12.71/-18.14  | -16.36/-17.27  | -11.45/-9.25   | -8.2/-10.11    | -13.36/-11.29  | -13.02/-16.62    | -10.73/-14.35    | -14.89/-16.27    | -15.56/-11.25    | -8.83/-8.51      | -7.88/-6.95      | -6.98/-8.98      | -8.73/-9.46      | -12.31/-14.59    | -14.51/-13.27    | -11.41/-18.94    | -14.94/-12.1     | -11.51/-35.36    | -17.83/-17.36    | -14.31/-14.84    | -18.15/-17.32    | -16.15/-16.03    |               |  |  |  |  |
| Θ(30°)   | -10.27/-10.37 | -9.44/-10.47   | -14.84/-18.24  | -18.44/-17.25  | -15.01/-8.38   | -9.86/-10.29   | -19.39/-17.98  | -18.51/-10.56    | -8.31/-11.22     | -18.57/-17.91    | -18.69/-18.37    | -7.76/-5.19      | -6.01/-8.31      | -9.45/-7.49      | -11.76/-18.51    | -18.21/-16.25    | -13.04/-11.98    | -10.71/-12.29    | -18.65/-12.24    | -12.33/-14.88    | -9.26/-7         | -10.17/-13.82    | -19.32/-16.05    | -11.36/-8.64     |               |  |  |  |  |
| Θ(37.5°) | -12.99/-13.99 | -9.4/-8.44     | -17.39/-18.73  | -17.11/-10.12  | -15.15/-9.68   | -8.44/-11.8    | -18.62/-9.8    | -10.09/-11.72    | -6.08/-6.29      | -12.14/-9.33     | -10.11/-19.69    | -12.13/-6.56     | -4.74/-5.27      | -9.66/-15.72     | -19.02/-16.69    | -16.48/-17.47    | -18.51/-17.18    | -12.75/-17.75    | -15.62/-10.53    | -8.45/-7.44      | -6.68/-9.57      | -17.88/-15.85    | -19.29/-16.66    | -17.65/-13.29    |               |  |  |  |  |
| Θ(45°)   | -12.92/-18.09 | -13.55/-11.86  | -19.18/-54     | -17.61/-15.89  | -12.74/-8.36   | -9.81/-18.92   | -18.54/-11.8   | -7.28/-13.31     | -9.37/-9.22      | -13.51/-9.55     | -10.76/-13.78    | -17.93/-17.64    | -11.52/-6.61     | -5.82/-11.42     | -15.57/-15.98    | -9.58/-18.15     | -16.71/-17.72    | -18.34/-19.28    | -13.24/-12.8     | -17.76/-16.33    | -12.61/-13.91    | -13.48/-10.58    | -17.97/-12.6     | -14.11/-17.69    |               |  |  |  |  |
| Θ(52.5°) | -12.44/-15.36 | -18.21/-19.07  | -17.69/-16.35  | -13.02/-10.66  | -9.71/-7.85    | -12.65/-10.07  | -18.04/-18.41  | -8.97/-6.78      | -11.4/-19.03     | -12.89/-10.64    | -18.56/-13.71    | -18.72/-18.32    | -19.22/-9.07     | -4.57/-7.82      | -18.52/-18       | -9.3/-17.24      | -10.06/-18.72    | -18/-13.47       | -8.75/-18        | -18.05/-13.92    | -14.17/-9.42     | -8.14/-10.16     | -13.64/-9.86     | -13.37/-18.64    |               |  |  |  |  |
| Θ(60°)   | -10.76/-14.02 | -15.27/-18.32  | -18.39/-18.84  | -14.06/-9.52   | -9.35/-9.17    | -18.99/-12.95  | -18.62/-14.5   | -10.27/-6.21     | -9.47/-11.3      | -7.46/-5.07      | -5.95/-10.9      | -13.03/-18.6     | -15.72/-15.22    | -5.21/-4.74      | -16.44/-14.75    | -17.18/-18.18    | -10.18/-18.73    | -18.05/-13.59    | -11.25/-18.7     | -9.89/-6.74      | -7.28/-6.74      | -8.17/-14.1      | -15.6/-13.88     |                  |               |  |  |  |  |
| Θ(67.5°) | -13.81/-17.87 | -12.97/-17.6   | -11.72/-14.52  | -              |                |                |                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |               |  |  |  |  |

















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| Freq(Hz)                      | 6.175G           | 6.475G         | 6.695G         | 6.995G           |
|-------------------------------|------------------|----------------|----------------|------------------|
| Ant. 1 Max Gain (dBi)         | 5.33             | 4.93           | 5.5            | 4.83             |
| Ant. 2 Max Gain (dBi)         | 5.41             | 4.54           | 5.26           | 5.39             |
| Ant. 1 Polarization/Θ(°)/Φ(°) | Theta/67.5/352.5 | Theta/67.5/345 | Theta/60/0     | Theta/67.5/307.5 |
| Ant. 2 Polarization/Θ(°)/Φ(°) | Theta/52.5/7.5   | Theta/60/225   | Theta/67.5/285 | Theta/75/180     |
| Max Gain (dBi)                | 5.41             | 4.93           | 5.5            | 5.39             |
| DG [1SS] (dBi)                | 7.38             | 6.63           | 8              | 7.03             |
| DG [2SS] (dBi)                | 5.41             | 4.93           | 5.5            | 5.39             |











