



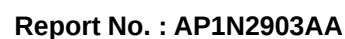
# Antenna Composite Gain Test Report

|                 |                                                                                                |
|-----------------|------------------------------------------------------------------------------------------------|
| Equipment       | Access Point                                                                                   |
| Brand Name      | Extreme Networks                                                                               |
| Model Name      | AP5010                                                                                         |
| Applicant       | Extreme Networks, Inc.<br>2121 RDU Center Drive Morrisville North Carolina United States 27560 |
| Manufacturer    | Extreme Networks, Inc.<br>2121 RDU Center Drive Morrisville North Carolina United States 27560 |
| Sample Received | Dec. 01, 2021                                                                                  |
| Start Test Date | Dec. 01, 2021                                                                                  |
| Final Test Date | Dec. 15, 2021                                                                                  |



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[illegible]

## 1. Operation Mode and Antenna Information

| Antenna Position | WLAN 2.4GHz RF port | WLAN 5GHz RF port | Brand Name | Model Name  | Ant. Type | Connector | Modes of Operation    |
|------------------|---------------------|-------------------|------------|-------------|-----------|-----------|-----------------------|
| 2G 5GAnt1        | 3                   | 3                 | WNC        | 95XEAJ15.30 | PIFA      | I-PEX     | 2.4GHz, 5GHz UNII 1~3 |
| 2G 5GAnt2        | 1                   | 1                 | WNC        | 95XEAJ15.31 | PIFA      | I-PEX     | 2.4GHz, 5GHz UNII 1~3 |
| 2G 5GAnt3        | 2                   | 2                 | WNC        | 95XEAJ15.32 | PIFA      | I-PEX     | 2.4GHz, 5GHz UNII 1~3 |
| 2G 5GAnt4        | 4                   | 4                 | WNC        | 95XEAJ15.33 | PIFA      | I-PEX     | 2.4GHz, 5GHz UNII 1~3 |

Note:

2.4GHz and 5GHz Operation Mode (1TX/4RX)

Only 2G 5GAnt2 can be used as transmitting antennas.

2G 5GAnt1~2G 5GAnt4 can be used as receiving antennas and can receive simultaneously.

2.4GHz and 5GHz Operation Mode (2TX/4RX)

2G 5GAnt2, 2G 5GAnt3 can be used as transmitting antennas and can transmit simultaneously.

2G 5GAnt1~2G 5GAnt4 can be used as receiving antennas and can receive simultaneously.

2.4GHz and 5GHz Operation Mode (4TX/4RX)

2G 5GAnt1~2G 5GAnt4 can be used as transmitting antennas and can transmit simultaneously.

2G 5GAnt1~2G 5GAnt4 can be used as receiving antennas and can receive simultaneously.

## 2. Test Frequency

The middle frequency of each bands are selected to represent each frequency bands.

| Band [MHz]  | Test Frequency [MHz] |
|-------------|----------------------|
| 2400-2483.5 | 2450                 |
| 5150-5250   | 5200                 |
| 5250-5350   | 5300                 |
| 5470-5725   | 5600                 |
| 5725-5850   | 5785                 |

## 3. Testing Location

| Testing Location                    |        |                                                                                            |
|-------------------------------------|--------|--------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | HWA YA | ADD : No.13-1 & 14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333, Taiwan R.O.C. |

| Test Condition | Test Site No. | Test Engineer | Test Environment (°C / %) | Test Date                     |
|----------------|---------------|---------------|---------------------------|-------------------------------|
| Radiated       | 05CH03-HY     | Rex Liao      | 23-23.5 / 40-50           | Dec. 01, 2021 ~ Dec. 15, 2021 |

Note:

Testing Site Information

Brand Name: TDK

Dimension: 11m\*6m\*6m

Characteristic: Fully Anechoic Chamber

## 4. Test Facility and Configuration

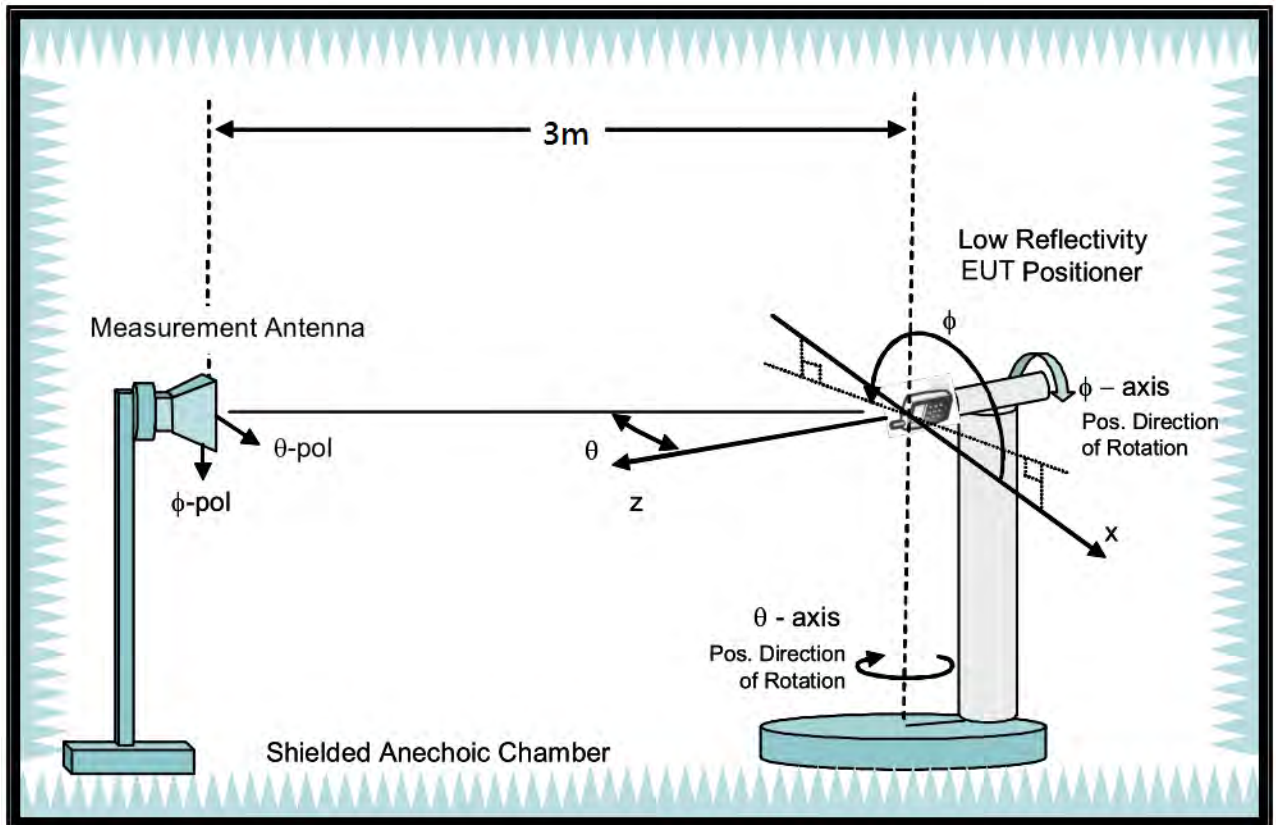
Test configuration: Reference to CITA OTA distributed-axes system configuration.

Chamber: Fully Anechoic Chamber.

Measurement antenna: Single Polarization Horn antenna calibrated according to ANSI C63.5.

Turntable: Multi-axis positioner (Theta and Phi angle).

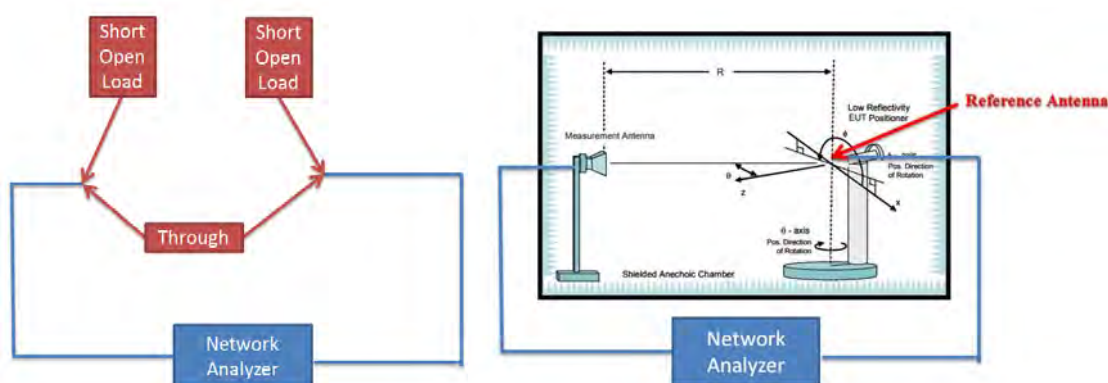
#Reference to CTIA "ctia-test-plan-for-wireless-device-over-the-air-performance-ver-3-7-1"



## 5. Reference Calibration

Connected cables to VNA calibration kit and use network analyzer internal function to do calibration. Do short, open and load to each side. Then connect through to both side and calibrate S21 values. The cable loss is calibrated and set inside the network analyzer.

Measurement Antenna is connected to port1 of Network analyzer and reference antenna connected to port 2 of Network Analyzer. Record S21 values and used with reference antenna gain to calculate gain factor.



| Frequency (MHz)      | 2400  | 2450  | 2500  | 5150  | 5200  | 5300  | 5600  | 5750  | 5800  | 5900  | 6000  | 6500  | 7000  | 7500  |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| S21 values (dBi)     | -31.4 | -31.4 | -31.3 | -31.3 | -31   | -30.7 | -30.1 | -30.5 | -30.5 | -30.8 | -31.3 | -32.8 | -34.4 | -35.4 |
| Reference gain (dBi) | 10.2  | 10.4  | 10.6  | 12.4  | 12.8  | 13.4  | 13.4  | 13.3  | 13.3  | 13.1  | 13.2  | 12.3  | 11.7  | 11.1  |
| Factor (dB)          | 41.63 | 41.81 | 41.89 | 43.72 | 43.78 | 44.12 | 43.5  | 43.78 | 43.76 | 43.88 | 44.45 | 45.14 | 46.08 | 46.51 |

## 6. Test Method

EUT set on multi-axis positioner and adjust EUT's physical center to measurement reference center. Measurement antenna set at phi polarization and 1.5 meter height. Port 1 of Network analyzer connect to antenna 1 of EUT. Record S21 value every 15 degree from 0 to 345 degree on Phi angle and 0 to 180 on theta angle of multi-axis positioner. Then set measurement antenna to theta polarization and repeat process. Repeat process to each antenna of EUT.

DG steps:

1. Each Phi and Theta polarization antenna gain are measured for all test angles.
2. Composite Phi and Theta antenna gain are computed, using formula in KDB662911 D01 d) (i) and (ii), for all angles.
3. Composite antenna gain are examined for all angles to determine max gain and Phi/Theta position. Max gain and phi/theta position are listed in section 7 tables.

## 7. Measured Values and Calculation of Maximum Gain Positions

For 2TX

### DG\_1SS Max Value Position

| Frequency (Hz) | 2.45G | 5.2G  | 5.3G  | 5.6G  | 5.785G |
|----------------|-------|-------|-------|-------|--------|
| Ant. 2 (dBi)   | 2.47  | -1.15 | -0.92 | -2.03 | -1.6   |
| Ant. 3 (dBi)   | 3.37  | 4.38  | 4.4   | 2.73  | 3.04   |
| DG [1SS] (dBi) | 5.94  | 5.06  | 5.15  | 3.68  | 4.04   |
| Polarization   | Theta | Theta | Theta | Theta | Theta  |
| $\Theta$ (°)   | 60    | 75    | 75    | 75    | 75     |
| $\Phi$ (°)     | 75    | 135   | 135   | 135   | 135    |

Note: The DG 1SS max value position is the maximum value of section 11 table DG 1SS Result.

### DG\_1SS Max Value Position Calculation

| Frequency (Hz)               | 2.45G            | 5.2G              | 5.3G              | 5.6G              | 5.785G           |
|------------------------------|------------------|-------------------|-------------------|-------------------|------------------|
| Ant. 2 $[10^{(G/20)}]$       | $10^{(2.47/20)}$ | $10^{(-1.15/20)}$ | $10^{(-0.92/20)}$ | $10^{(-2.03/20)}$ | $10^{(-1.6/20)}$ |
| Ant. 3 $[10^{(G/20)}]$       | $10^{(3.37/20)}$ | $10^{(4.38/20)}$  | $10^{(4.4/20)}$   | $10^{(2.73/20)}$  | $10^{(3.04/20)}$ |
| Ant. 2 $[10^{(G/20)}]$ value | 1.329            | 0.876             | 0.899             | 0.792             | 0.832            |
| Ant. 3 $[10^{(G/20)}]$ value | 1.474            | 1.656             | 1.66              | 1.369             | 1.419            |
| Sum All Antenna [Amax]       | 2.803            | 2.532             | 2.559             | 2.161             | 2.251            |
| DG $[10^{(Amax/20)}]$        | 5.94             | 5.06              | 5.15              | 3.68              | 4.04             |

Note:

Directional Gain (1SS) is the max value of every look angle. Each position value is calculated by KDB662911 D01 d) (i).

Directional gain (1SS) =  $10 \cdot \log(10^{(G_{ant1}/20)} + 10^{(G_{ant2}/20)} + 10^{(G_{ant3}/20)} + 10^{(G_{ant4}/20)} + \dots)^{2/N_{ant}}$

### DG\_2SS max value position

| Frequency (Hz) | 2.45G | 5.2G  | 5.3G  | 5.6G  | 5.785G |
|----------------|-------|-------|-------|-------|--------|
| Ant. 2 (dBi)   | 2.47  | -1.15 | -0.92 | -2.03 | -1.6   |
| Ant. 3 (dBi)   | 3.37  | 4.38  | 4.4   | 2.73  | 3.04   |
| DG [2SS] (dBi) | 2.94  | 2.44  | 2.51  | 0.97  | 1.31   |
| Polarization   | Theta | Theta | Theta | Theta | Theta  |
| $\Theta$ (°)   | 60    | 75    | 75    | 75    | 75     |
| $\Phi$ (°)     | 75    | 135   | 135   | 135   | 135    |

Note: The DG 2SS max value position is the maximum DG 2SS value calculated from section 11 table Gain Result.

### DG\_2SS max value position Calculate

| Frequency (Hz)              | 2.45G  | 5.2G   | 5.3G   | 5.6G   | 5.785G |
|-----------------------------|--------|--------|--------|--------|--------|
| Ant. 2 $((10^{(G/20)})^2)$  | 1.766  | 0.7674 | 0.8091 | 0.6266 | 0.6918 |
| Ant. 3 $((10^{(G/20)})^2)$  | 2.1727 | 2.7416 | 2.7542 | 1.875  | 2.0137 |
| Sum All Antenna             | 3.9387 | 3.5089 | 3.5633 | 2.5016 | 2.7056 |
| DG $[10^{(sum\ all/Nant)}]$ | 2.94   | 2.44   | 2.51   | 0.97   | 1.31   |

Note:

Directional Gain (2SS) is the max value of all position. Each position value is calculated by KDB662911 D01 (e) (ii).

$g_{j,k} = 10^{(S21/20)}$

Directional Gain (2SS) =

$10 \cdot \log(((10^{(S21_{ant1}/20)})^2 + (10^{(S21_{ant2}/20)})^2 + (10^{(S21_{ant3}/20)})^2 + (10^{(S21_{ant4}/20)})^2 + \dots) / N_{ant})$



For 4TX

## DG\_1SS Max Value Position

| Frequency (Hz) | 2.45G | 5.2G  | 5.3G  | 5.6G  | 5.785G |
|----------------|-------|-------|-------|-------|--------|
| Ant. 1 (dBi)   | 0.16  | -2.33 | 1.71  | -1.09 | -2.79  |
| Ant. 2 (dBi)   | 2.47  | -2.09 | 0.5   | -2.03 | -1.6   |
| Ant. 3 (dBi)   | 3.37  | 4     | -3.72 | 2.73  | 3.04   |
| Ant. 4 (dBi)   | -0.46 | 1.98  | 1.38  | -1.62 | -0.18  |
| DG [1SS] (dBi) | 7.55  | 6.83  | 6.24  | 5.74  | 5.92   |
| Polarization   | Theta | Theta | Theta | Theta | Theta  |
| $\Theta$ (°)   | 60    | 75    | 75    | 75    | 75     |
| $\Phi$ (°)     | 75    | 195   | 345   | 135   | 135    |

Note: The DG 1SS max value position is the maximum value of section 11 table DG 1SS Result.

## DG\_1SS Max Value Position Calculation

| Frequency (Hz)                        | 2.45G                     | 5.2G                      | 5.3G                      | 5.6G                      | 5.785G                    |
|---------------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Ant. 1 [10 <sup>^(G/20)</sup> ]       | 10 <sup>^(0.16/20)</sup>  | 10 <sup>^(-2.33/20)</sup> | 10 <sup>^(1.71/20)</sup>  | 10 <sup>^(-1.09/20)</sup> | 10 <sup>^(-2.79/20)</sup> |
| Ant. 2 [10 <sup>^(G/20)</sup> ]       | 10 <sup>^(2.47/20)</sup>  | 10 <sup>^(-2.09/20)</sup> | 10 <sup>^(0.5/20)</sup>   | 10 <sup>^(-2.03/20)</sup> | 10 <sup>^(-1.6/20)</sup>  |
| Ant. 3 [10 <sup>^(G/20)</sup> ]       | 10 <sup>^(3.37/20)</sup>  | 10 <sup>^(4/20)</sup>     | 10 <sup>^(-3.72/20)</sup> | 10 <sup>^(2.73/20)</sup>  | 10 <sup>^(3.04/20)</sup>  |
| Ant. 4 [10 <sup>^(G/20)</sup> ]       | 10 <sup>^(-0.46/20)</sup> | 10 <sup>^(1.98/20)</sup>  | 10 <sup>^(1.38/20)</sup>  | 10 <sup>^(-1.62/20)</sup> | 10 <sup>^(-0.18/20)</sup> |
| Ant. 1 [10 <sup>^(G/20)</sup> ] value | 1.019                     | 0.765                     | 1.218                     | 0.882                     | 0.725                     |
| Ant. 2 [10 <sup>^(G/20)</sup> ] value | 1.329                     | 0.786                     | 1.059                     | 0.792                     | 0.832                     |
| Ant. 3 [10 <sup>^(G/20)</sup> ] value | 1.474                     | 1.585                     | 0.652                     | 1.369                     | 1.419                     |
| Ant. 4 [10 <sup>^(G/20)</sup> ] value | 0.948                     | 1.256                     | 1.172                     | 0.83                      | 0.979                     |
| Sum All Antenna [Amax]                | 4.77                      | 4.392                     | 4.101                     | 3.873                     | 3.956                     |
| DG [10*log(Amax <sup>2</sup> /Nant)]  | 7.55                      | 6.83                      | 6.24                      | 5.74                      | 5.92                      |

Note:

Directional Gain (1SS) is the max value of every look angle. Each position value is calculated by KDB662911 D01 d) (i).

Directional gain (1SS) =  $10 \cdot \log(10^{(G_{ant1}/20)} + 10^{(G_{ant2}/20)} + 10^{(G_{ant3}/20)} + 10^{(G_{ant4}/20)} + \dots)^2 / N_{ant}$

## DG\_4SS max value position

| Frequency (Hz) | 2.45G | 5.2G  | 5.3G  | 5.6G  | 5.785G |
|----------------|-------|-------|-------|-------|--------|
| Ant. 1 (dBi)   | 0.16  | -2.33 | -2.79 | -1.09 | -2.79  |
| Ant. 2 (dBi)   | 2.47  | -2.09 | -0.92 | -2.03 | -1.6   |
| Ant. 3 (dBi)   | 3.37  | 4     | 4.4   | 2.73  | 3.04   |
| Ant. 4 (dBi)   | -0.46 | 1.98  | -1.96 | -1.62 | -0.18  |
| DG [4SS] (dBi) | 1.67  | 1.22  | 0.72  | -0.03 | 0.2    |
| Polarization   | Theta | Theta | Theta | Theta | Theta  |
| $\Theta$ (°)   | 60    | 75    | 75    | 75    | 75     |
| $\Phi$ (°)     | 75    | 195   | 135   | 135   | 135    |

Note: The DG 4SS max value position is the maximum DG 4SS value calculated from section 11 table Gain Result.

## DG\_4SS max value position Calculate

| Frequency (Hz)                                  | 2.45G  | 5.2G   | 5.3G   | 5.6G   | 5.785G |
|-------------------------------------------------|--------|--------|--------|--------|--------|
| Ant. 1 ((10 <sup>^(G/20)</sup> ) <sup>2</sup> ) | 1.0375 | 0.5848 | 0.526  | 0.778  | 0.526  |
| Ant. 2 ((10 <sup>^(G/20)</sup> ) <sup>2</sup> ) | 1.766  | 0.618  | 0.8091 | 0.6266 | 0.6918 |
| Ant. 3 ((10 <sup>^(G/20)</sup> ) <sup>2</sup> ) | 2.1727 | 2.5119 | 2.7542 | 1.875  | 2.0137 |
| Ant. 4 ((10 <sup>^(G/20)</sup> ) <sup>2</sup> ) | 0.8995 | 1.5776 | 0.6368 | 0.6887 | 0.9594 |
| Sum All Antenna                                 | 5.8758 | 5.2923 | 4.7261 | 3.9683 | 4.191  |
| DG [10*log(sum all/Nant)]                       | 1.67   | 1.22   | 0.72   | -0.03  | 0.2    |

Note: Directional Gain (4SS) is the max value of all position. Each position value is calculated by KDB662911 D01 (e) (ii).

$$g_{j,k} = 10^{(G/20)}$$

$$\text{Directional Gain (4SS)} = 10 \cdot \log((10^{(G_{ant1}/20)})^2 + (10^{(G_{ant2}/20)})^2 + (10^{(G_{ant3}/20)})^2 + (10^{(G_{ant4}/20)})^2 + \dots) / N_{ant})$$

## 8. Summary of Test Result

For 2TX

| Frequency (Hz)                                         | 2.45G        |
|--------------------------------------------------------|--------------|
| Ant. 2 Max Gain (dBi)                                  | 2.69         |
| Ant. 3 Max Gain (dBi)                                  | 3.74         |
| Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$ | Theta/60/195 |
| Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$ | Theta/60/90  |
| Max Gain (dBi)                                         | 3.74         |
| DG [1SS] (dBi)                                         | 5.94         |
| DG [2SS] (dBi)                                         | 2.94         |

Note:

- Each antenna max gain is the max value of measurement S21 of theta and phi through all measurement angles.
- The max gain is the max value of all antennas.

| Frequency (Hz)                                         | 5.2G         | 5.3G         | 5.6G         | 5.785G       |
|--------------------------------------------------------|--------------|--------------|--------------|--------------|
| Ant. 2 Max Gain (dBi)                                  | 1.96         | 2.27         | 1.08         | 1.18         |
| Ant. 3 Max Gain (dBi)                                  | 4.38         | 4.4          | 2.73         | 3.04         |
| Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$ | Theta/60/150 | Theta/75/150 | Theta/75/105 | Theta/45/150 |
| Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$ | Theta/75/135 | Theta/75/135 | Theta/75/135 | Theta/75/135 |
| Max Gain (dBi)                                         | 4.38         | 4.4          | 2.73         | 3.04         |
| DG [1SS] (dBi)                                         | 5.06         | 5.15         | 3.68         | 4.04         |
| DG [2SS] (dBi)                                         | 2.44         | 2.51         | 0.97         | 1.31         |

Note:

- Each antenna max gain is the max value of measurement S21 of theta and phi through all measurement angles.
- The max gain is the max value of all antennas.

**For 4TX**

| <b>Frequency (Hz)</b>                                  | <b>2.45G</b> |
|--------------------------------------------------------|--------------|
| Ant. 1 Max Gain (dBi)                                  | 2.04         |
| Ant. 2 Max Gain (dBi)                                  | 2.69         |
| Ant. 3 Max Gain (dBi)                                  | 3.74         |
| Ant. 4 Max Gain (dBi)                                  | 1.68         |
| Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$ | Theta/60/255 |
| Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$ | Theta/60/195 |
| Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$ | Theta/60/90  |
| Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$ | Theta/45/345 |
| Max Gain (dBi)                                         | 3.74         |
| DG [1SS] (dBi)                                         | 7.55         |
| DG [2SS] (dBi)                                         | 4.55         |
| DG [4SS] (dBi)                                         | 1.67         |

## Note:

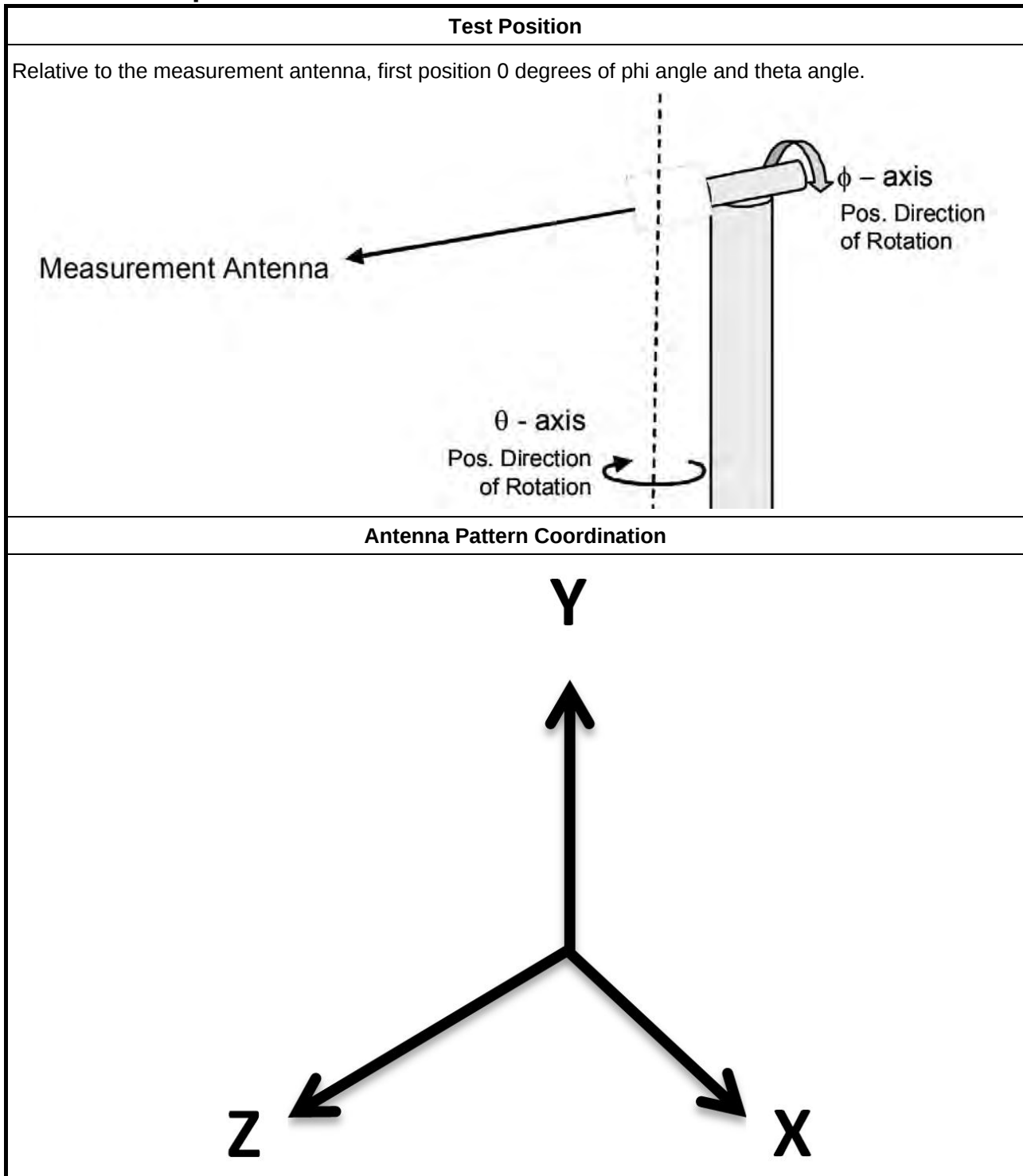
1. Directional Gain (2SS) = Directional Gain (1SS) – 3dB. If directional gain is less than max gain, use max gain as directional gain.
2. Each antenna max gain is the max value of measurement S21 of theta and phi through all measurement angles.
3. The max gain is the max value of all antennas.

| Frequency (Hz)                                         | 5.2G         | 5.3G         | 5.6G         | 5.785G       |
|--------------------------------------------------------|--------------|--------------|--------------|--------------|
| Ant. 1 Max Gain (dBi)                                  | 3.99         | 3.18         | 2.9          | 1.52         |
| Ant. 2 Max Gain (dBi)                                  | 1.96         | 2.27         | 1.08         | 1.18         |
| Ant. 3 Max Gain (dBi)                                  | 4.38         | 4.4          | 2.73         | 3.04         |
| Ant. 4 Max Gain (dBi)                                  | 2.83         | 3.02         | 2.16         | 1.69         |
| Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$ | Theta/75/0   | Theta/75/0   | Theta/75/0   | Theta/75/0   |
| Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$ | Theta/60/150 | Theta/75/150 | Theta/75/105 | Theta/45/150 |
| Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$ | Theta/75/135 | Theta/75/135 | Theta/75/135 | Theta/75/135 |
| Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$ | Theta/75/240 | Phi/75/240   | Theta/75/270 | Phi/75/270   |
| Max Gain (dBi)                                         | 4.38         | 4.4          | 2.9          | 3.04         |
| DG [1SS] (dBi)                                         | 6.83         | 6.24         | 5.74         | 5.92         |
| DG [2SS] (dBi)                                         | 4.38         | 4.4          | 2.9          | 3.04         |
| DG [4SS] (dBi)                                         | 1.22         | 0.72         | -0.03        | 0.2          |

Note:

1. Directional Gain (2SS) = Directional Gain (1SS) – 3dB. If directional gain is less than max gain, use max gain as directional gain.
2. Each antenna max gain is the max value of measurement S21 of theta and phi through all measurement angles.
3. The max gain is the max value of all antennas.

## 9. Test Setup



Note:

Photos of Test Position: Please refer to the test photos in the appendix.

**10. Test Equipment and Calibration Data**

| Instrument    | Brand       | Model No. | Serial No.      | Characteristics | Calibration Date | Calibration Due Date |
|---------------|-------------|-----------|-----------------|-----------------|------------------|----------------------|
| Horn Antenna  | SCHWARZBECK | BBHA9120D | BBHA 9120D-1292 | 1GHz~18GHz      | Aug. 04, 2021    | Aug. 03, 2022        |
| Test Software | SPORTON     | SENSE-RDG | V1.0.6          | -               | N.C.R.           | N.C.R.               |

Note: Calibration Interval of instruments listed above is one year.

NCR means Non-Calibration required.



## **11. Test Results**

Please refer to the appendix.

|                                                                              |         |
|------------------------------------------------------------------------------|---------|
| Appendix A – Radiated Composite Gain of 2.4GHz 5GHz U-NII 1~U-NII 3 2TX..... | Page 16 |
| Appendix B – Radiated Composite Gain of 2.4GHz 5GHz U-NII 1~U-NII 3 4TX..... | Page 22 |
| Appendix C – Antenna Pattern of 2.4GHz 5GHz U-NII 1~U-NII 3.....             | Page 31 |
| Appendix D – Test Photos.....                                                | Page 38 |



| Freq(Hz)                      | 2.45G        | 5.2G         | 5.3G         | 5.6G         | 5.785G       |
|-------------------------------|--------------|--------------|--------------|--------------|--------------|
| Ant. 2 Max Gain (dBi)         | 2.69         | 1.96         | 2.27         | 1.08         | 1.18         |
| Ant. 3 Max Gain (dBi)         | 3.74         | 4.38         | 4.4          | 2.73         | 3.04         |
| Ant. 2 Polarization/Θ(°)/Φ(°) | Theta/60/195 | Theta/60/150 | Theta/75/150 | Theta/75/105 | Theta/45/150 |
| Ant. 3 Polarization/Θ(°)/Φ(°) | Theta/60/90  | Theta/75/135 | Theta/75/135 | Theta/75/135 | Theta/75/135 |
| Max Gain (dBi)                | 3.74         | 4.38         | 4.4          | 2.73         | 3.04         |
| DG [1SS] (dBi)                | 5.94         | 5.06         | 5.15         | 3.68         | 4.04         |
| DG [2SS] (dBi)                | 2.94         | 2.44         | 2.51         | 0.97         | 1.31         |



DG 1SS Result

| Freq(Hz) | 2.45G  | Pol.   | Phi    | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |         |
|----------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| DG(dBi)  | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -4.56  | -8.23  | -12.69 | -11.67 | -9.25  | -4.6   | -1.59  | -0.8    | -0.57   | -0.21   | -0.7    | -1.6    | -4.01   | -8.86   | -9.34   | -8.86   | -6.64   | -3.52   | -1.7    | -0.6    | 0.09    | 0.72    | -0.04   | -1.71   |
| Θ(15°)   | -3.1   | -5.9   | -10.45 | -12.01 | -9.2   | -6.09  | -2.35  | 0.24    | 0.04    | -0.22   | -0.13   | -1.79   | -5.38   | -11.82  | -10.45  | -4.16   | -2.01   | -1.57   | -2.12   | -1.41   | -0.85   | -0.69   | -0.23   | -1.02   |
| Θ(30°)   | -2.96  | -7.9   | -11.33 | -12.48 | -10.72 | -4.58  | -2.28  | -0.34   | -0.32   | -1.77   | -1.19   | -0.32   | -1.49   | -6.93   | -9.37   | -4.96   | -3.27   | -3.39   | -3.15   | -2.41   | -1.23   | -0.47   | 0.03    | -0.49   |
| Θ(45°)   | -4.56  | -6.88  | -10.58 | -14.2  | -12.16 | -5.2   | -2.42  | -2.14   | -1.1    | -0.58   | -2.19   | -1.64   | -1.57   | -5.58   | -9.63   | -4.83   | -7.03   | -4.61   | -3.6    | -1.74   | -1.4    | -1.39   | -0.98   | -2.06   |
| Θ(60°)   | -5.18  | -6.23  | -9.94  | -9.15  | -7.24  | -4.57  | -2.2   | -1.92   | -2.37   | -1.21   | -3.14   | -2.4    | -3.03   | -7.19   | -7.66   | -5.06   | -5.44   | -5.71   | -6.69   | -2.68   | -2.08   | -2.93   | -2.38   | -5.07   |
| Θ(75°)   | -6.07  | -8.1   | -7.16  | -4.49  | -4.75  | -3.93  | -3.26  | -1.98   | -0.87   | -2.02   | -5.37   | -5.81   | -2.93   | -8.68   | -6.56   | -3.76   | -4.37   | -6.32   | -9.06   | -3.05   | -4.41   | -5.97   | -3.34   | -5.72   |
| Θ(90°)   | -7.19  | -8.26  | -7.44  | -4.13  | -3.89  | -5.22  | -4.96  | -3.73   | -2.8    | -5.27   | -1.85   | -8.11   | -3.39   | -11.01  | -4.31   | -3.37   | -2.07   | -5.48   | -5.2    | -4.49   | -4.34   | -6.85   | -5.8    | -7.26   |
| Θ(105°)  | -6.92  | -7.67  | -7.14  | -4.29  | -3.38  | -5.75  | -7.17  | -4.73   | -3.97   | -4.87   | -1.42   | -8.08   | -3.41   | -7.8    | -2.66   | -3.71   | -2.52   | -8.97   | -5.41   | -5.64   | -7.76   | -6.49   | -5.5    | -6.7    |
| Θ(120°)  | -8.27  | -8.71  | -7.88  | -7.07  | -3.54  | -3.17  | -6.98  | -7.35   | -4.74   | -3.64   | -1.82   | -5.99   | -3.46   | -5.82   | -1.07   | -2.53   | -3.33   | -6.38   | -3.1    | -6.51   | -6.42   | -7.78   | -8.31   | -6.9    |
| Θ(135°)  | -8.08  | -8.11  | -6.79  | -7.29  | -7.79  | -7.7   | -7.48  | -7.27   | -8.25   | -4.82   | -6.36   | -5.64   | -2.47   | -4.08   | -5.13   | -3.01   | -4.23   | -8.29   | -5.01   | -4.69   | -4.61   | -5.82   | -7.33   | -8.41   |
| Θ(150°)  | -6.5   | -6.89  | -7.96  | -7.37  | -4.76  | -4.91  | -8.08  | -14.41  | -11.39  | -5.68   | -8.46   | -8.07   | -5.79   | -11.3   | -8.45   | -6.37   | -8.57   | -5.88   | -3.65   | -6.76   | -6.95   | -7.83   | -7.93   | -7.46   |
| Θ(165°)  | -8.89  | -5.88  | -5.43  | -6.72  | -8.62  | -10.77 | -14.59 | -18.52  | -16.71  | -14.92  | -16.89  | -15.33  | -14.99  | -19.54  | -18.17  | -13.55  | -10.53  | -8.52   | -7.01   | -7.61   | -6.52   | -6.15   | -6.88   | -7.6    |
| Θ(180°)  | -9.14  | -8.14  | -10.18 | -9.26  | -7.66  | -8.24  | -10.46 | -12.29  | -14.08  | -14.95  | -14.49  | -13.39  | -14.6   | -11.22  | -9.71   | -9.64   | -8.08   | -8.47   | -10.68  | -10.31  | -10.92  | -11.35  | -11.54  | -12.39  |
| Freq(Hz) | 2.45G  | Pol.   | Theta  | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| DG(dBi)  | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -2.1   | -0.34  | 0.48   | 0.49   | -0.24  | -1.43  | -3.68  | -7.28   | -11.94  | -8.88   | -5.23   | -3.73   | -1.73   | 0.2     | 0.47    | -0.11   | -1.45   | -2.08   | -3.41   | -9.07   | -11.02  | -10.97  | -7.77   | -4.45   |
| Θ(15°)   | -0.42  | 0.54   | 1.2    | 1.32   | 1.11   | 0.38   | -1.78  | -5.42   | -6.02   | -5.18   | -3.59   | -1.57   | 0.44    | 1.76    | 1.67    | -0.12   | -1.52   | -3.13   | -4.44   | -4.43   | -4.93   | -5.63   | -5.01   | -2.5    |
| Θ(30°)   | 2.13   | 2.41   | 2.29   | 2.26   | 1.78   | 0.7    | 0.11   | -0.85   | -1.26   | 0.07    | 0.52    | -0.17   | 0.71    | 2.34    | 2.44    | 1.54    | 1.07    | -0.2    | -2.21   | -2.75   | -3.8    | -3.48   | 0.23    | 1.47    |
| Θ(45°)   | 2.52   | 1.9    | 1.93   | 2.57   | 3.95   | 4.68   | 3.63   | 2.47    | 1.63    | 1.02    | 1.74    | 0.98    | 1.66    | 2.48    | 1.65    | 1.58    | 2.08    | 2.27    | 1.49    | -0.91   | -1.49   | -0.07   | 2.4     | 3.04    |
| Θ(60°)   | 1.94   | 1.2    | 1.97   | 2.82   | 4.43   | 5.94   | 5.44   | 4.36    | 4.14    | 2.48    | 2.28    | 1.38    | 1.72    | 1.65    | 1.62    | 2.44    | 2.47    | 1.63    | 2.25    | 0.28    | -0.74   | 2.79    | 3.67    | 3.42    |
| Θ(75°)   | 2.33   | 1.49   | 1.69   | 2.35   | 3.5    | 4.92   | 4.54   | 3.55    | 4.89    | 2.35    | 1.59    | 0.49    | 2       | 1.99    | 1.57    | 2.53    | 2.34    | 0.44    | 1.94    | 0.18    | -0.56   | 2.81    | 3.91    | 3.64    |
| Θ(90°)   | 1.18   | 1.85   | 1.28   | 1.21   | 1.85   | 2.1    | 1.73   | 2.02    | 3.61    | 1.24    | 1.21    | -1.07   | 1.4     | 1.63    | 1.39    | 1.51    | 2.14    | 1.28    | 1.38    | 0.66    | -2.06   | 1.95    | 2.65    | 1.46    |
| Θ(105°)  | -1.05  | 0.05   | -0.33  | -0.22  | -1.14  | 0.58   | 1.43   | 0.01    | 1.72    | -1.52   | -0.99   | -0.1    | -0.78   | -2.13   | -1.06   | -2.08   | 0.66    | 0.52    | 0.26    | 0.62    | -2.3    | -0.74   | 1.6     | 0.47    |
| Θ(120°)  | -2.62  | -2.22  | -2.5   | -3.51  | -2.63  | 0.33   | -0.47  | -2.43   | -6.25   | -7.83   | -4.66   | -2.91   | -7.14   | -6.15   | -7.57   | -13.55  | -7.35   | -2.99   | -3.65   | -2.59   | -3.49   | -2.9    | -0.2    | -0.63   |
| Θ(135°)  | -5.01  | -3.72  | -2.5   | -5.01  | -6.23  | -4.43  | -6.94  | -8.36   | -5.03   | -5.68   | -8.56   | -16.63  | -10.22  | -6.72   | -9.91   | -11.04  | -16.36  | -13.02  | -7.54   | -7.09   | -7.56   | -7.57   | -3.9    | -3.72   |
| Θ(150°)  | -8.4   | -7.26  | -7.59  | -8.85  | -8.79  | -11.65 | -6.88  | -4.67   | -7.55   | -8.45   | -5.62   | -5.05   | -6.33   | -7.41   | -10.43  | -9.51   | -5.16   | -7.66   | -8.3    | -6.21   | -8.69   | -10.97  | -12.4   | -16.59  |
| Θ(165°)  | -5.92  | -6.82  | -6.81  | -7.25  | -6.75  | -5.75  | -4.92  | -5.2    | -6.72   | -8.05   | -7.09   | -7.47   | -10.89  | -13.45  | -11.8   | -16.36  | -11.1   | -13.83  | -15.28  | -11.12  | -8.35   | -5.49   | -3.81   | -3.86   |
| Θ(180°)  | -12.73 | -16.02 | -14.23 | -13.01 | -12.24 | -12.23 | -12.81 | -12.5   | -11.19  | -9.66   | -10.29  | -10.47  | -11     | -12.56  | -13.82  | -11.38  | -12.09  | -12.07  | -11.06  | -9.34   | -7.62   | -7.06   | -7.46   | -9.3    |
| Freq(Hz) | 5.2G   | Pol.   | Phi    | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| DG(dBi)  | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -10.15 | -7.13  | -5.91  | -4.3   | -3.77  | -3.58  | -4.75  | -6.87   | -8.44   | -10.71  | -12.06  | -11.68  | -8.79   | -6.79   | -5.62   | -4.01   | -4.11   | -4.89   | -5.88   | -6.86   | -8.57   | -9.91   | -12.66  | -12.34  |
| Θ(15°)   | -5.69  | -4.53  | -4.98  | -6.51  | -8.07  | -7.98  | -8.77  | -11.83  | -12.37  | -12.89  | -10.4   | -10.83  | -10.35  | -8.17   | -3.35   | -4.4    | -4.4    | -4.94   | -5.28   | -9.41   | -13.46  | -12.49  | -9.24   | -7.72   |
| Θ(30°)   | -11.7  | -14.77 | -10.77 | -7.44  | -5.49  | -4.72  | -6.65  | -6.86   | -7.08   | -11.55  | -13.54  | -8.82   | -10.54  | -7.23   | -5.37   | -5.01   | -5.07   | -3.73   | -7.39   | -7.85   | -11.51  | -16.81  | -9.28   | -9.52   |
| Θ(45°)   | -9.7   | -10.31 | -9.03  | -10.08 | -8.36  | -5.54  | -6.36  | -4.51   | -6.16   | -6.99   | -9.81   | -5.79   | -6.22   | -8.58   | -2.01   | -7.11   | -4.16   | -6.66   | -10.49  | -5.23   | -12.13  | -8.64   | -10.54  | -7.96   |
| Θ(60°)   | -11.39 | -10.41 | -12.69 | -8.34  | -10.16 | -8.87  | -5.87  | -6.02   | -6.86   | -6.33   | -10.21  | -7.79   | -7.44   | -3.24   | -3.05   | -8.51   | -5.23   | -9.03   | -7.78   | -5.7    | -12.43  | -11.68  | -6.57   | -5.79   |
| Θ(75°)   | -13.15 | -10.2  | -11.05 | -8.43  | -8.51  | -8.9   | -6.7   | -6.09   | -4.94   | -4.78   | -5.43   | -7.67   | -5.07   | -6.93   | -8.82   | -8.41   | -4.67   | -4.72   | -9.48   | -7.64   | -13.17  | -10.12  | -10.39  | -8.42   |
| Θ(90°)   | -11.61 | -8.46  | -8.48  | -7.73  | -9.66  | -8.52  | -8.41  | -8.02   | -6.69   | -6.49   | -4.13   | -5.71   | -6.66   | -8.35   | -11.92  | -5.9    | -5.99   | -7.21   | -6.95   | -5.47   | -9.1    | -6.98   | -9.63   | -10.66  |
| Θ(105°)  | -9.44  | -10.8  | -6.96  | -8.56  | -7.87  | -10.2  | -8.85  | -7.52   | -5.75   | -4.51   | -3.48   | -4.87   | -7.88   | -6.7    | -10.39  | -7.82   | -9.41   | -15.7   | -4.23   | -7.96   | -6.8    | -7.39   | -9.09   | -9.64   |
| Θ(120°)  | -11.37 | -9.75  | -5.86  | -8.93  | -7.96  | -13.27 | -8.77  | -9.84   | -7.49   | -5.23   | -6.11   | -5.18   | -9.3    | -9.5    | -8.83   | -8.03   | -8.69   | -11.83  | -8.65   | -9.67   | -11.77  | -7.28   | -7.7    | -8.57   |
| Θ(135°)  | -9.02  | -9.24  | -8.5   | -8.69  | -12.11 | -8.75  | -12    | -14.15  | -8.16   | -10.05  | -12.06  | -6.07   | -8.32   | -9.11   | -9.53   | -9.03   | -21.62  | -7.93   | -7.64   | -12.26  | -12.75  | -5.36   | -7.17   | -8.7    |
| Θ(150°)  | -8.47  | -9.12  | -9.8   | -10.82 | -11.48 | -19.27 | -10.35 | -11.71  | -8.6    | -8.35   | -8.5    | -8.99   | -6.34   | -9.39   | -15.34  | -24.91  | -8.85   | -9.94   | -12.8   | -17.68  | -15.25  | -11     | -11.66  | -9.43   |
| Θ(165°)  | -8.95  | -11.23 | -10.96 | -9.81  | -10.49 | -12.22 | -16.89 | -17.39  | -12.32  | -10.67  | -8.48   | -16.64  | -10.97  | -18.29  | -13.01  | -13.51  | -10.1   | -12.9   | -13.95  | -10.86  | -9.21   | -8.01   | -11.44  | -8.34   |
| Θ(180°)  | -10.65 | -13.31 | -11.65 | -9.7   | -9.34  | -12.63 | -14.81 | -14.56  | -12.6   | -11.92  | -13.89  | -12.23  | -11.62  | -18.1   | -15.27  | -11.95  | -10.68  | -10.41  | -8.75   | -7.79   | -8.33   | -7.72   | -7.96   | -9.13   |
| Freq(Hz) | 5.2G   | Pol.   | Theta  | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| DG(dBi)  | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -3.98  | -5.38  | -9.27  | -11.28 | -11.85 | -12.17 | -9.92  | -6.74   | -5.35   | -3.8    | -3.93   | -4.13   | -4.54   | -6.73   | -8.5    | -9.89   | -12.33  | -14.13  | -9.78   | -8.08   | -5.58   | -3.81   | -3.15   | -4.31   |
| Θ(15°)   | -3.56  | -3.31  | -3.21  | -3.2   | -3.84  | -4.51  | -7.85  | -10.23  | -9.22   | -7.46   | -7.28   | -8.29   | -9.42   | -7.96   | -8.54   | -9.21   | -9.7    | -10.8   | -6.81   | -4.48   | -2.56   | -2.85   | -3.88   | -4.11   |
| Θ(30°)   | -4.31  | -3.12  | -1.22  | -1.15  | -1.36  | -1.82  | -0.69  | -2.7    | -2.65   | -0.52   | 1.56    | -1.25   | -1.62   | -2.19   | -3.16   | -3.3    | -2.5    | -2.87   | -4.9    | -7.03   | -2.59   | -2.6    | -2.74   | -3.19   |
| Θ(45°)   | -0.88  | 0.86   | 0.56   | 0.96   | 0.43   | -0.98  | -1.01  | 0       | 0.63    | 2.16    | 3.77    | 3.78    | 2.13    | 0.42    | -0.78   | 1.39    | 0.23    | -0.58   | -0.06   | -1.45   | -0.05   | -0.79   | 2.03    | 2.27    |
| Θ(60°)   | 0.58   | -0.83  | 1.39   | 0.66   | 0.27   | 1.75   | 0.93   | 0.74    | -0.38   | 3.42    | 2.69    | 2.17    | 4.46    | 2.21    | 0.61    | 2.84    | 0.94    | -2.31   | 0.06    | 1.99    | 1.17    | 1.33    | 2.26    | 2.78    |
| Θ(75°)   | 0.5    | -0.97  | 0.65   | 2.34   | -0.21  | 2.08   | 1.62   | 2.22    | -0.1    | 5.06    | 4.83    | 4.13    | 4.17    | 4.49    | -0.08   | 1.91    | 1.34    | 1.26    | 3.37    | 3.17    | -2.28   | -0.9    | 0.94    | 2.28    |
| Θ(90°)   | -0.25  | 0.82   | 0.08   | 1.44   | -1.4   | 0.66   | 0.46   | 1.68    | -1.34   | 2.5     | 2.9     | 1.19    | 2.68    | 2.8     |         |         |         |         |         |         |         |         |         |         |



Radiated Composite Gain of 2.4GHz 5GHz U-NII 1~U-NII 3 2TX

Appendix A

|          |        |        |        |        |        |        |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
|----------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Θ(180°)  | -8.09  | -8.23  | -7.02  | -7.78  | -9.4   | -11.65 | -11.49 | -13.88  | -16.32  | -17.41  | -12.52  | -11.42  | -11.55  | -10.73  | -9.03   | -7.78   | -8.79   | -10.22  | -13.5   | -12.87  | -10.44  | -9.6    | -10.48  | -9.58   |
| Freq(Hz) | 5.6G   | Pol.   | Phi    | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| DG(dBi)  | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -8.2   | -9.41  | -5.96  | -6.86  | -5.91  | -6.11  | -8.04  | -9.19   | -14.2   | -16.86  | -11.1   | -9.09   | -7.21   | -6.32   | -7.45   | -5.24   | -6.37   | -8.78   | -8.73   | -10.32  | -12.78  | -13.26  | -13.38  | -10.99  |
| Θ(15°)   | -6.2   | -6.69  | -5.17  | -5.09  | -5.8   | -8.76  | -11.61 | -11.43  | -9.71   | -11.83  | -14.1   | -9.81   | -6.86   | -6.47   | -6.35   | -4.73   | -7.52   | -6.52   | -8.73   | -9.31   | -6.79   | -6.21   | -7.01   | -6.78   |
| Θ(30°)   | -7.24  | -6.04  | -12.11 | -14.39 | -13.17 | -8.32  | -5.04  | -5.79   | -6.3    | -9.35   | -5.54   | -6.63   | -9.03   | -3.48   | -8.43   | -4.88   | -7.07   | -4.94   | -10.05  | -10.45  | -11.02  | -7.85   | -6.9    | -6.36   |
| Θ(45°)   | -5.99  | -10.29 | -9.77  | -15.47 | -18.63 | -9.89  | -8.71  | -8.42   | -6.08   | -5.32   | -7.25   | -9.11   | -5.15   | -6.08   | -2.37   | -13.34  | -4.24   | -13.95  | -4.94   | -6.95   | -13.31  | -9.96   | -6.82   | -6.07   |
| Θ(60°)   | -8.4   | -9.44  | -11.18 | -11.06 | -14.08 | -8.93  | -9.47  | -11.82  | -9.15   | -6.51   | -9.27   | -5.01   | -5.15   | -3.5    | -3.78   | -7.9    | -5.13   | -10.89  | -7.43   | -15.36  | -8.92   | -7.88   | -9.61   | -7.52   |
| Θ(75°)   | -7.38  | -13.44 | -11.56 | -9.52  | -8.25  | -10.14 | -7.51  | -9.99   | -8.17   | -4.75   | -5.58   | -4.92   | -3.31   | -5.75   | -7.53   | -11.29  | -4.77   | -7.65   | -16.51  | -8.77   | -19.28  | -10.5   | -6.29   | -7.82   |
| Θ(90°)   | -6.56  | -9.98  | -9.52  | -8.85  | -7.38  | -11.34 | -8.79  | -12.36  | -7.69   | -6.55   | -5.17   | -6.32   | -6.85   | -8.63   | -10.2   | -13.6   | -6.5    | -9.31   | -8.9    | -10.06  | -13.67  | -9.36   | -8.97   | -9.9    |
| Θ(105°)  | -8.53  | -8.22  | -9.09  | -7.71  | -8.06  | -11.37 | -9.64  | -11.85  | -8.51   | -5.44   | -5.35   | -8.08   | -5.32   | -6.61   | -12.13  | -11.93  | -8.77   | -17.72  | -7.7    | -10.97  | -8.78   | -9.22   | -9.5    | -9.93   |
| Θ(120°)  | -10.97 | -10.33 | -8.05  | -7.69  | -10.98 | -11.87 | -10.34 | -11.31  | -10.12  | -9.17   | -6.08   | -6.95   | -9.23   | -9.64   | -13.03  | -11.01  | -9.32   | -18.92  | -11.27  | -13.25  | -12.83  | -8.29   | -10.88  | -8.79   |
| Θ(135°)  | -10.02 | -7.14  | -7.83  | -9.69  | -9.82  | -14.69 | -20.44 | -16.32  | -9.52   | -8.22   | -11.45  | -10.27  | -11.45  | -10.32  | -13.11  | -8.44   | -14.25  | -12.17  | -7.93   | -17.15  | -9.82   | -11.57  | -11.13  | -10.9   |
| Θ(150°)  | -11.36 | -10.14 | -11.6  | -10.82 | -11.48 | -17.63 | -18.43 | -14.75  | -14.68  | -7.64   | -10.23  | -12.27  | -7.49   | -8.34   | -16.21  | -18.79  | -13.33  | -18.18  | -14.6   | -14.77  | -15.07  | -15.62  | -14.39  | -9.97   |
| Θ(165°)  | -12.19 | -12.15 | -14.77 | -13.34 | -16.54 | -14.91 | -15.69 | -18.05  | -16.58  | -11.99  | -9.71   | -11.62  | -17.02  | -13.71  | -16.89  | -16.93  | -17.6   | -15.51  | -12.33  | -12.23  | -13.45  | -14.74  | -14.94  | -11.08  |
| Θ(180°)  | -13.36 | -12.64 | -11.64 | -11.68 | -12.33 | -13.05 | -12.94 | -10.32  | -10.34  | -10     | -11.97  | -16.05  | -15.92  | -18.88  | -12.09  | -13.05  | -10.44  | -10.6   | -7.8    | -8.23   | -8.65   | -8.67   | -9.5    | -10.47  |
| Freq(Hz) | 5.6G   | Pol.   | Theta  | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| DG(dBi)  | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -9.16  | -10.33 | -12.69 | -14.88 | -17.26 | -11.41 | -8.22  | -6.83   | -6.36   | -5.98   | -6.84   | -7.31   | -9.01   | -12.5   | -16.51  | -16.32  | -13.16  | -10.33  | -9.59   | -8.53   | -7.3    | -5.88   | -6.54   | -6.83   |
| Θ(15°)   | -6.32  | -4.98  | -3.32  | -2.49  | -2.04  | -1.99  | -2.88  | -4.71   | -5.42   | -5.68   | -6.26   | -10.01  | -12.71  | -11.56  | -10.68  | -10.41  | -13.39  | -11.6   | -6.42   | -5.94   | -5.9    | -5.67   | -6.48   | -7.28   |
| Θ(30°)   | -2.97  | -2.27  | -1.82  | -0.86  | -0.21  | 0.11   | -0.75  | -2.49   | -1.49   | -0.81   | -0.75   | -0.3    | -1.15   | -1.46   | -6.67   | -7.35   | -4.76   | -2.43   | -3.8    | -5.47   | -5.33   | -7.56   | -2.31   | -2.94   |
| Θ(45°)   | -0.53  | -0.33  | 0.96   | -0.21  | 1.06   | 0.5    | -0.59  | -0.29   | 1.28    | 1.53    | 2.74    | 1.44    | -0.6    | -1.69   | -3.51   | -1.61   | 0.78    | -1.15   | -2.21   | -2      | -3.65   | -3.54   | -1.34   | -1      |
| Θ(60°)   | -1.46  | -1.02  | -1.78  | 1.06   | 0.71   | 1      | 1.69   | -0.56   | 1.49    | 2.34    | 2.91    | 0.28    | 1.88    | -0.32   | -0.07   | 0.45    | 0.46    | -4.08   | -0.54   | -1.89   | -0.31   | -2      | -3.31   | -1.41   |
| Θ(75°)   | -1.43  | -0.98  | -0.41  | 0.27   | 0.71   | 1.64   | 2.56   | 1.71    | 0.01    | 3.68    | 2.78    | 2.07    | 3.18    | 0.9     | -1.5    | 0.54    | 1.41    | 1.66    | 0.42    | 1.08    | -1.85   | -4.22   | -4.82   | -1.37   |
| Θ(90°)   | -2.36  | -2.33  | -1.17  | -2.52  | -0.8   | 0.51   | 1.65   | -0.8    | -2.83   | 0.78    | 1.18    | 0.72    | 1.43    | 0.48    | -1.57   | -2.14   | 1.32    | -0.21   | 1.11    | -0.11   | -4.27   | -2.78   | -4.72   | -1.25   |
| Θ(105°)  | -1.98  | -2.88  | -3.38  | -3.56  | -1.25  | -0.71  | -0.68  | -1.45   | -2.17   | -1.44   | -1.66   | -3.16   | -2.45   | -2.84   | -6.34   | -3.45   | -5.1    | -3.94   | -3.8    | -5.37   | -4.89   | -4.19   | -5.52   | -4.94   |
| Θ(120°)  | -7.84  | -4.61  | -4.6   | -5.95  | -4.31  | -2.93  | -2.25  | -3.55   | -6.12   | -2.4    | -4.85   | -7.33   | -12.7   | -7.43   | -7.67   | -6.7    | -9.8    | -4.07   | -4.97   | -7.9    | -10.4   | -8.86   | -7.44   | -6.73   |
| Θ(135°)  | -11.05 | -10.14 | -8.37  | -8.05  | -5.29  | -6.81  | -5.28  | -5.85   | -8.63   | -8.12   | -6.28   | -6.8    | -11.8   | -12.73  | -9.93   | -8.67   | -13.19  | -14.63  | -7.47   | -9.16   | -10.5   | -12.49  | -10.19  | -15.47  |
| Θ(150°)  | -16.91 | -11.6  | -10.17 | -11.26 | -8.14  | -7.16  | -8.57  | -9.58   | -10.5   | -11.67  | -11.88  | -10.1   | -14.39  | -18.23  | -14.21  | -13.02  | -10.33  | -13.51  | -16.33  | -17.47  | -13.33  | -12.76  | -18.83  | -10.83  |
| Θ(165°)  | -15.63 | -13.68 | -12.05 | -15.61 | -13.06 | -10.98 | -10.92 | -11.34  | -11.25  | -10.28  | -14.09  | -15.98  | -25.23  | -11.76  | -9.61   | -10.57  | -12.03  | -11.91  | -12.12  | -13.27  | -12.15  | -14.87  | -17.06  | -17.6   |
| Θ(180°)  | -10.35 | -7.58  | -7.45  | -7.96  | -9.12  | -10.31 | -11.71 | -13.42  | -13.76  | -13.75  | -11.03  | -10.26  | -9.38   | -9.13   | -8.34   | -7.72   | -7.52   | -8.71   | -10.44  | -11.54  | -10.61  | -10.85  | -11.91  | -13.28  |
| Freq(Hz) | 5.785G | Pol.   | Phi    | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| DG(dBi)  | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -7.62  | -7.13  | -5.62  | -6.68  | -6.46  | -6.49  | -8.54  | -8.72   | -9.61   | -8.99   | -7.64   | -5.91   | -6.02   | -4.19   | -5.5    | -4.19   | -6.46   | -7.79   | -9.7    | -11.21  | -10.58  | -8.99   | -9.68   | -10.71  |
| Θ(15°)   | -5.31  | -7.41  | -5.84  | -5.57  | -5.6   | -6.67  | -8.75  | -7.4    | -8.23   | -5.94   | -6.7    | -9.51   | -6.73   | -5.59   | -5.98   | -8.59   | -5.06   | -4.21   | -5.43   | -5.13   | -6.06   | -6.56   | -6.88   | -6.38   |
| Θ(30°)   | -6.73  | -5.1   | -9.72  | -14.6  | -13.74 | -8.84  | -5.48  | -6.44   | -6.02   | -7.72   | -3.99   | -4.99   | -7.46   | -2.35   | -6.91   | -6.14   | -5.71   | -5.84   | -9.14   | -9.48   | -8.25   | -5.13   | -5.67   | -6.16   |
| Θ(45°)   | -6.98  | -6.82  | -7.56  | -20.8  | -8.56  | -7.31  | -5.62  | -7.3    | -4.48   | -5.66   | -6.02   | -7.27   | -2.89   | -6.63   | -1.71   | -11.32  | -5.78   | -11.84  | -6.85   | -8.31   | -10.57  | -6.75   | -5.38   | -6.05   |
| Θ(60°)   | -9.19  | -10.42 | -7.37  | -11.21 | -6.61  | -6.69  | -4.87  | -10.47  | -7.95   | -6.1    | -8.73   | -5.49   | -6.47   | -3.44   | -3.1    | -9.99   | -7.67   | -9.28   | -5.84   | -14.34  | -8.83   | -8.44   | -8.18   | -6.28   |
| Θ(75°)   | -6.36  | -13.28 | -8.09  | -10.61 | -4.97  | -10.53 | -6.62  | -10.18  | -8.68   | -3.7    | -3.6    | -5.88   | -5.52   | -5.4    | -7.46   | -9.85   | -5.73   | -9.17   | -10.61  | -8.2    | -15.89  | -9.55   | -6.15   | -8.16   |
| Θ(90°)   | -7.64  | -12.32 | -7.55  | -10.85 | -6.89  | -12.82 | -8.95  | -11.69  | -7.48   | -9.14   | -3.87   | -7.02   | -10.18  | -9.29   | -10.27  | -13.32  | -8.04   | -9.33   | -7      | -10.43  | -12.56  | -11.37  | -8.48   | -11.07  |
| Θ(105°)  | -9.53  | -7.83  | -7.93  | -8.75  | -8.25  | -13.52 | -9.72  | -10.99  | -9.91   | -6.02   | -5.42   | -9.15   | -6.29   | -8.2    | -11.65  | -15.65  | -10.98  | -12.89  | -7.94   | -17.42  | -10.07  | -11.03  | -10.28  | -8.65   |
| Θ(120°)  | -9.37  | -8.35  | -8.6   | -9.1   | -12.51 | -10.46 | -11.81 | -11.1   | -13.1   | -10.52  | -6.69   | -7.31   | -10.68  | -7.34   | -12.53  | -14.11  | -9.45   | -14.77  | -18.37  | -16.8   | -14.39  | -9.41   | -10.88  | -8.22   |
| Θ(135°)  | -9.75  | -9.83  | -9.68  | -9.55  | -12.47 | -13.87 | -16.98 | -10.89  | -10.45  | -10.94  | -12.86  | -8.66   | -8.62   | -9.01   | -13.17  | -7.46   | -10.9   | -10.9   | -13.58  | -15.86  | -13.16  | -16.16  | -11.81  | -9.85   |
| Θ(150°)  | -12.24 | -10.76 | -11.58 | -13.33 | -12.63 | -16.17 | -19.63 | -13.32  | -20.54  | -7.11   | -12.09  | -10.81  | -7.88   | -9.09   | -19.31  | -18.39  | -14.58  | -19.32  | -19.31  | -16.61  | -14.91  | -18.38  | -14.28  | -9.98   |
| Θ(165°)  | -14.44 | -13.38 | -13.33 | -14.67 | -14.38 | -15.03 | -19.42 | -18.26  | -11.68  | -13.23  | -11.53  | -10.19  | -10.84  | -15.96  | -11.55  | -16.35  | -18.06  | -12.89  | -12.9   | -14.03  | -18.02  | -14.11  | -14.08  | -10.8   |
| Θ(180°)  | -13.27 | -12.82 | -11.81 | -14.59 | -14.45 | -15.76 | -14.11 | -12.63  | -10.24  | -10.93  | -13.96  | -20.92  | -23.91  | -16     | -12.46  | -12.71  | -13.41  | -14.9   | -12.4   | -13.85  | -11.82  | -9.31   | -11.4   | -12.09  |
| Freq(Hz) | 5.785G | Pol.   | Theta  | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| DG(dBi)  | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -7.74  | -8.45  | -8.87  | -9.44  | -8.99  | -7.84  | -6.14  | -5.08   | -4.98   | -5.32   | -6.12   | -7.23   | -7.95   | -8.49   | -10.37  | -9.46   | -7.67   | -6.44   | -6.69   | -6.45   | -6.21   | -6.16   | -6.74   | -8.22   |
| Θ(15°)   | -5.27  | -4.84  | -3.16  | -2.14  | -1.7   | -2.07  | -2.04  | -3.16   | -5.9    | -6.44   | -6.05   | -9.1    | -13.09  | -14.99  | -10.9   | -8.35   | -13.7   | -7.83   | -4.92   | -5.06   | -5.95   | -5.49   | -6.65   | -6.78   |
| Θ(30°)   | -1.55  | -1.13  | -1.03  | 0.28   | -0.03  | -0.88  | -1.51  | -1.15   | -0.89   | -0.75   | -1.42   | -0.27   | -2.52   | -3.46   | -5.88   | -7.41   | -4.57   | -2.75   | -5.73   | -4.77   | -5.03   | -5.3    | -2.5    | -3.77   |
| Θ(45°)   | -2.56  | -1.18  | -1.24  | 0.89   | 1.47   | 1.61   | 0.47   | 0.64    | 0.73    | 1.59    | 3.04    | 0.59    | -0.18   | -1.25   | -1.86   | -3.11   | -0.63   | -0.69   | -2.59   | -1.99   | -1.28   | -1.54   | -1.29   | -3.14   |
| Θ(60°)   | -1.69  | -1.18  | -2.99  | 1.35   | 1.45   | 1.33   | 1.65   | -1.04   | 1.17    | 0.82    | 2.22    | -0.66   | -0.78   | -1.26   | -0.12   | -1.05   | -0.98   | -2.4    | -0.92   | -3.61   | -0.7</  |         |         |         |



Gain Result

| Freq(Hz) | 2.45G  | Pol.   | Phi    | Ant. 2 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |         |
|----------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -9.81  | -16.86 | -25.94 | -13.28 | -10.19 | -5.7   | -2.72  | -2.9    | -3.69   | -2.96   | -4.19   | -6.66   | -11.32  | -21.29  | -15.97  | -10.87  | -7.37   | -4.47   | -2.81   | -2.69   | -2.67   | -2.62   | -4.16   | -6.3    |
| Θ(15°)   | -8.11  | -10.17 | -16.62 | -12.54 | -8.2   | -8.85  | -5.1   | -1.96   | -3.41   | -4.62   | -4.21   | -5.87   | -10.92  | -25.78  | -10.08  | -5.06   | -3.33   | -3.06   | -3.87   | -3.4    | -4.1    | -5.4    | -5.25   | -6.49   |
| Θ(30°)   | -8.16  | -12.81 | -20.1  | -16.97 | -10.21 | -8.01  | -6.6   | -2.43   | -1.46   | -4.16   | -4.86   | -4.57   | -6.39   | -16.86  | -10.58  | -5.12   | -4.49   | -5.22   | -4.97   | -4.99   | -4.95   | -5.08   | -4.94   | -5.59   |
| Θ(45°)   | -8.51  | -11.97 | -19.99 | -27.19 | -17.65 | -11.23 | -6.38  | -4.15   | -2.82   | -2.43   | -4.77   | -5.34   | -5.79   | -13.46  | -9.19   | -5.77   | -7.76   | -7.22   | -6.86   | -5.19   | -5.73   | -5.81   | -4.02   | -4.93   |
| Θ(60°)   | -10.09 | -10.86 | -14.79 | -22.81 | -18.61 | -10.62 | -5.85  | -6.24   | -5.71   | -2.84   | -3.42   | -5.71   | -5.76   | -11.7   | -9.64   | -8.93   | -8.52   | -9.08   | -12.41  | -8.4    | -6.47   | -6.42   | -4.24   | -8.29   |
| Θ(75°)   | -8.06  | -10.48 | -11.6  | -12.11 | -10.51 | -9.4   | -9.29  | -5.86   | -4.84   | -5.74   | -5.07   | -6.35   | -4.55   | -11.31  | -9.69   | -9.91   | -7.93   | -11.03  | -20.97  | -9.74   | -7.66   | -9.42   | -5.42   | -7.76   |
| Θ(90°)   | -7.77  | -9.58  | -11.31 | -10.66 | -10.68 | -15.3  | -12.75 | -7.32   | -7.42   | -9.3    | -4.43   | -6.83   | -6.34   | -10.34  | -5.31   | -8.2    | -5.57   | -11.95  | -9.82   | -14.2   | -6.64   | -9.35   | -6.68   | -8.26   |
| Θ(105°)  | -8.1   | -9     | -9.37  | -11.61 | -10.2  | -13.49 | -16.15 | -11.34  | -9.52   | -8.78   | -5.15   | -8.12   | -4.59   | -7.24   | -7.57   | -8.73   | -6.28   | -16     | -8.67   | -13.81  | -9.76   | -8.09   | -6.74   | -6.34   |
| Θ(120°)  | -7.43  | -8.57  | -9.25  | -12.43 | -11.31 | -12.29 | -14.82 | -13.85  | -11.85  | -7.84   | -3.84   | -6.56   | -6.38   | -7.14   | -5.35   | -7.5    | -8.82   | -15.36  | -6.97   | -13.83  | -8.58   | -7.96   | -7.58   | -5.86   |
| Θ(135°)  | -6.61  | -7.06  | -9.19  | -12.5  | -13.75 | -16.03 | -20.07 | -18.32  | -11.51  | -5.94   | -6.92   | -7.09   | -3.64   | -6.31   | -12.68  | -9.28   | -12.69  | -16.28  | -9.49   | -11     | -8.24   | -6.27   | -6.13   | -6.3    |
| Θ(150°)  | -6.89  | -7.78  | -8.41  | -10.5  | -11.38 | -12.42 | -18.32 | -23.39  | -13.38  | -9.61   | -10.03  | -9.51   | -9.6    | -17.63  | -11.52  | -8.32   | -15.35  | -13.02  | -9.25   | -16.02  | -9.81   | -8.73   | -7.45   | -6.95   |
| Θ(165°)  | -6.76  | -6.39  | -7.23  | -9.62  | -11.58 | -12.63 | -16.51 | -20.65  | -19.35  | -16.73  | -16.03  | -15.91  | -16.84  | -20.3   | -26.24  | -21.59  | -17.02  | -14.6   | -13.67  | -21.15  | -17.31  | -12.73  | -11.09  | -8.04   |
| Θ(180°)  | -9.29  | -8.5   | -9.37  | -9.86  | -9.22  | -12.1  | -21.94 | -27.27  | -27.91  | -21.94  | -17.09  | -14.03  | -13.07  | -12.47  | -13.29  | -13.32  | -12.16  | -15.05  | -25.96  | -23.04  | -19.06  | -16.22  | -12.98  | -10.41  |
| Freq(Hz) | 2.45G  | Pol.   | Theta  | Ant. 2 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -3.99  | -3.31  | -2.91  | -2.94  | -4.16  | -6.29  | -10.64 | -18.22  | -22.56  | -11     | -6.51   | -3.97   | -2.77   | -1.8    | -2.02   | -3.7    | -6.63   | -6.93   | -8.62   | -21.66  | -16.31  | -12.13  | -8.36   | -5.75   |
| Θ(15°)   | -2.37  | -1.82  | -1.26  | -1.58  | -1.74  | -2.17  | -4.17  | -7.68   | -7.69   | -8.56   | -6.7    | -3.85   | -1.65   | -0.75   | -1.88   | -4.65   | -8.49   | -14.86  | -20.02  | -15.15  | -9.52   | -6.72   | -5.14   | -3.65   |
| Θ(30°)   | -0.39  | -0.64  | -0.45  | -0.26  | -0.48  | -1.52  | -1.27  | -3.24   | -6.33   | -4.03   | -1.75   | -1.02   | 0.27    | 1.25    | 0.01    | -2.47   | -5.35   | -8.98   | -13.39  | -12.51  | -10.16  | -5.39   | -1.23   | -0.45   |
| Θ(45°)   | 0.52   | -1.3   | -0.52  | 1.08   | 2.23   | 2.02   | 0.15   | -1.37   | -2.85   | -2.67   | 0.06    | 0.63    | 1.73    | 2.4     | 0.42    | -2.2    | -3.59   | -2.78   | -3.75   | -6.11   | -3.95   | -2.32   | 0.31    | 1.51    |
| Θ(60°)   | 0.52   | -1.77  | -0.31  | 1.85   | 2.41   | 2.47   | 0.88   | -0.08   | -0.09   | -0.71   | 0.01    | 1.14    | 1.99    | 2.69    | 0.32    | -1.2    | -3.58   | -4.38   | -3.56   | -5.94   | -4.45   | 0.23    | 1.48    | 1.84    |
| Θ(75°)   | -0.33  | -1.99  | -0.85  | 0.76   | 0.82   | 1.22   | 0.55   | -0.56   | 0.36    | -0.46   | -0.91   | -0.01   | 0.44    | 1.34    | -1.34   | -2.29   | -3.87   | -6.9    | -6.01   | -5.97   | -4.93   | -1.21   | 0.56    | 1.12    |
| Θ(90°)   | -2.27  | -1.99  | -0.97  | -0.36  | -0.91  | -1.77  | -1.53  | -1.09   | -1.46   | -1.32   | -2.46   | -3.08   | -0.4    | 0.27    | -2.34   | -2.64   | -3.18   | -4.41   | -5.73   | -3.18   | -7.73   | -2.26   | -1.13   | -1.6    |
| Θ(105°)  | -6.85  | -3.79  | -3.87  | -3.66  | -3.28  | -2.01  | -1.97  | -4.47   | -2.2    | -3.78   | -6.63   | -4.42   | -2.68   | -3.64   | -7.04   | -8.96   | -2.52   | -2.2    | -7.56   | -3.57   | -6.36   | -7.54   | -3.75   | -5.34   |
| Θ(120°)  | -6.7   | -6.91  | -5.11  | -3.77  | -3.73  | -2.34  | -2.68  | -3.29   | -7.34   | -6.87   | -6.11   | -7.98   | -10.75  | -11.01  | -16.81  | -20.24  | -12.11  | -4.68   | -11.66  | -7.6    | -9.36   | -11.32  | -10.32  | -8.14   |
| Θ(135°)  | -10.27 | -11.17 | -7.91  | -5.59  | -4.35  | -4.34  | -6.69  | -7.04   | -6.46   | -8.99   | -8.13   | -15.67  | -18.91  | -13.78  | -10.65  | -11.39  | -27.96  | -20.37  | -15.86  | -12.95  | -19.91  | -23.46  | -22.56  | -13.73  |
| Θ(150°)  | -13.12 | -9.4   | -8.69  | -8.26  | -8.97  | -10.11 | -7.82  | -7.51   | -14.21  | -10.18  | -9.67   | -17.06  | -17.15  | -12.55  | -11.31  | -12.54  | -7.65   | -7.82   | -8.02   | -8.61   | -14.24  | -16.26  | -15.74  | -27.72  |
| Θ(165°)  | -24.26 | -18.3  | -12.03 | -9.66  | -7.1   | -5.98  | -5.41  | -6.17   | -6.95   | -8.23   | -10.34  | -13.63  | -15.99  | -15.92  | -15.13  | -15.81  | -16.07  | -20.79  | -16.17  | -12.06  | -15.46  | -13.38  | -12.59  | -15.17  |
| Θ(180°)  | -18.53 | -26.47 | -20.85 | -15.74 | -12.48 | -10.54 | -11.9  | -14.78  | -15.19  | -13.07  | -13.38  | -15.37  | -19.56  | -23.19  | -24.7   | -16.57  | -13.73  | -11.38  | -9      | -9.02   | -9.5    | -10.2   | -11.33  | -14.04  |
| Freq(Hz) | 5.2G   | Pol.   | Phi    | Ant. 2 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -8.4   | -9.2   | -7.78  | -7.98  | -8.77  | -8.97  | -11.2  | -17.47  | -23.21  | -26.56  | -15.51  | -11.46  | -8.97   | -9.02   | -9.22   | -8.04   | -10.5   | -10.51  | -14.1   | -18.71  | -23.04  | -27.51  | -17.64  | -12.49  |
| Θ(15°)   | -6.11  | -6.38  | -7.99  | -11.05 | -11.52 | -13.35 | -14.73 | -14.71  | -13.69  | -15.48  | -11.28  | -8.78   | -10.81  | -10.97  | -8.36   | -11.1   | -8.05   | -11.7   | -12.5   | -19.52  | -27.21  | -22.33  | -12.18  | -7.71   |
| Θ(30°)   | -11.52 | -15.2  | -12.53 | -12.72 | -11.47 | -10.26 | -10.17 | -8.1    | -9.78   | -9.62   | -23.98  | -11.67  | -10.58  | -7.86   | -6.34   | -6.13   | -8.86   | -8.85   | -12.99  | -26.59  | -23.82  | -19.27  | -9.95   | -11     |
| Θ(45°)   | -9.51  | -10.96 | -10.34 | -13.92 | -13.66 | -12.88 | -8.72  | -6.11   | -7.26   | -9.97   | -9.48   | -11.66  | -7.93   | -11.18  | -5.13   | -11.85  | -11.18  | -19.2   | -18.52  | -13.64  | -13.25  | -13.04  | -10.05  | -8.57   |
| Θ(60°)   | -13.47 | -10.95 | -13.83 | -27.56 | -21.7  | -20.43 | -13.54 | -10.71  | -6.2    | -5.65   | -8.58   | -10.25  | -8.42   | -6.56   | -6.75   | -13.42  | -8.92   | -27.58  | -10.7   | -13.04  | -11.39  | -10.61  | -6.49   | -6.15   |
| Θ(75°)   | -14.14 | -9.63  | -12.43 | -13.34 | -16.12 | -27.01 | -18.21 | -12.88  | -6.12   | -4.89   | -6.4    | -6.24   | -6.1    | -8.82   | -13.03  | -20.37  | -5.58   | -10.53  | -17.35  | -15.31  | -14.09  | -11.32  | -8.36   | -8.01   |
| Θ(90°)   | -10.52 | -8.07  | -8.86  | -11.34 | -15.71 | -25.28 | -17.62 | -14.45  | -7.56   | -6.72   | -4.66   | -4.75   | -4.87   | -7.44   | -11.21  | -8.53   | -7.59   | -9.95   | -9.39   | -6.44   | -10.05  | -10.42  | -8.51   | -8.55   |
| Θ(105°)  | -7.84  | -8.76  | -7.1   | -11.38 | -12.46 | -23.55 | -19.48 | -11.9   | -8.17   | -5.86   | -4.45   | -5.37   | -6.66   | -6.08   | -9.06   | -9.63   | -13.05  | -17.15  | -7.56   | -9.26   | -6.98   | -10.29  | -7.88   | -8.15   |
| Θ(120°)  | -9.95  | -7.94  | -6.1   | -10.51 | -14.59 | -27.87 | -22.45 | -13.82  | -9.83   | -5.21   | -7.92   | -4.87   | -7.6    | -8.83   | -9.78   | -9.53   | -13.19  | -17.3   | -18.77  | -14.87  | -14.52  | -6.48   | -6.06   | -7.46   |
| Θ(135°)  | -8.39  | -8.17  | -6.62  | -9.32  | -14.49 | -15.18 | -28.06 | -17.77  | -9.84   | -10.72  | -10.88  | -5.66   | -13.02  | -13.22  | -11.97  | -14.53  | -24.58  | -16.62  | -13.78  | -17.54  | -11.16  | -7.13   | -8.46   | -8.73   |
| Θ(150°)  | -8.71  | -7.48  | -10.39 | -13.98 | -17.85 | -23.26 | -23.04 | -13.42  | -10.25  | -10.52  | -9.76   | -9.99   | -6.53   | -12.15  | -18.21  | -28.11  | -14.97  | -22.11  | -19.43  | -27.22  | -28.49  | -14.36  | -11.63  | -8.74   |
| Θ(165°)  | -8.17  | -9.29  | -11.08 | -14.79 | -22.17 | -22.93 | -24.2  | -16.91  | -12.3   | -8.6    | -8.07   | -15.52  | -13.55  | -19.17  | -18.35  | -15.96  | -19.61  | -24.04  | -16.57  | -15.99  | -15.58  | -14     | -16.15  | -8.95   |
| Θ(180°)  | -11.27 | -12.39 | -12.48 | -13.86 | -14.01 | -20.02 | -21.16 | -20.25  | -16.75  | -17.08  | -16.91  | -12.95  | -12.14  | -19.74  | -15.19  | -14.82  | -17.47  | -24.19  | -25.45  | -18.99  | -15.01  | -11.37  | -10.75  | -12.07  |
| Freq(Hz) | 5.2G   | Pol.   | Theta  | Ant. 2 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -11.66 | -14.41 | -24.81 | -24.1  | -16.4  | -12.23 | -9.16  | -8.16   | -8.26   | -8      | -9.03   | -10.78  | -12.73  | -19.75  | -20.93  | -18.68  | -16.27  | -13.17  | -9.06   | -9.6    | -8.57   | -7.46   | -7.83   | -9.79   |
| Θ(15°)   | -16.33 | -15.27 | -11.38 | -8.67  | -7.29  | -5.28  | -7.14  | -8.14   | -8.79   | -7.53   | -6.13   | -7.74   | -9.03   | -10.14  | -12.23  | -14.29  | -20.03  | -27.17  | -14.7   | -11.99  | -11.34  | -12.65  | -17.15  | -17.61  |
| Θ(30°)   | -11.93 | -8.14  | -5.44  | -6.09  | -6.14  | -4.86  | -2.78  | -4.44   | -4.15   | -2.68   | 0.14    | -4.07   | -3.1    | -4.75   | -5.66   | -8.05   | -7      | -10.1   | -27.1   | -23.75  | -9.92   | -10.32  | -14.04  | -16.13  |
| Θ(45°)   | -7.78  | -0.87  | -2.6   | -3.16  | -4.49  | -4.35  | -4.96  | -5.55   | -2.47   | -0.22   | 0.65    | -0.67   | -1.6    | -3.86   | -2.96   | -3.68   | -5.85   | -5.24   | -3.35   | -9.5    | -5.83   | -10.52  | -6.92   | -3.72   |
| Θ(60°)   | -2.97  | -2.18  | -0.34  | -2.49  | -1.9   | -1.79  | -3.63  | -6.42   | -3.8    | -0.23   | 1.96    | -0.69   | -0.71   | -3.97   | -2.97   | -0.17   | -2.8    | -9.28   | -6.04   | -3.35   | -3.31   | -5.74   | -3.52   | -1.13   |
| Θ(75°)   | -1.56  | -1.5   | 0.01   | -0.88  | -2.41  | -0.6   | -1.14  | -2.08   | -2.13   | -1.15   | 0.84    |         |         |         |         |         |         |         |         |         |         |         |         |         |



Radiated Composite Gain of 2.4GHz 5GHz U-NII 1~U-NII 3 2TX

Appendix A

|          |        |        |        |        |          |        |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
|----------|--------|--------|--------|--------|----------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Θ (135°) | -9.54  | -6.89  | -9.01  | -9.99  | -14.76   | -20.7  | -27.27 | -17.66  | -12.29  | -8.28   | -11.15  | -9.23   | -12.65  | -11.94  | -16.26  | -14.23  | -19.54  | -17.24  | -14.48  | -26.01  | -10.75  | -15.35  | -10.13  | -8.78   |
| Θ (150°) | -11.51 | -9.52  | -9.97  | -12.99 | -16.37   | -22.04 | -26.22 | -18.86  | -15.99  | -9.35   | -13.68  | -11.14  | -7.38   | -10.59  | -27.11  | -19.1   | -19.55  | -26.84  | -20.33  | -27.39  | -27.75  | -16.65  | -12.89  | -9.01   |
| Θ (165°) | -10.32 | -12.47 | -15.39 | -13.39 | -19.84   | -24.08 | -22.4  | -17.23  | -19.88  | -11.24  | -7.66   | -9.93   | -28.52  | -12.16  | -25.66  | -24.57  | -17.88  | -22.51  | -27.69  | -26.78  | -26.25  | -17.65  | -13.41  | -9.72   |
| Θ (180°) | -12.5  | -11.4  | -14.37 | -16.31 | -19.1    | -27.25 | -28.11 | -15.7   | -15.06  | -13.88  | -18.67  | -19.95  | -19.03  | -20.54  | -13.59  | -16.7   | -16.38  | -26.59  | -17.26  | -17.39  | -14.62  | -12.81  | -11.58  | -11.13  |
| Freq(Hz) | 5.6G   | Pol.   | Theta  | Ant. 2 | -        | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°)   | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ (0°)   | -9.53  | -9.98  | -12.06 | -13.65 | -16.48   | -12.67 | -9.49  | -7.71   | -7.72   | -6.57   | -7.19   | -7.24   | -8.49   | -11.13  | -15.55  | -15.09  | -14.73  | -11.12  | -11.43  | -9.87   | -8.43   | -7.36   | -7.09   | -8.28   |
| Θ (15°)  | -8.61  | -7.25  | -6.04  | -5.58  | -5.03    | -5.54  | -7.86  | -10.34  | -8.09   | -6.72   | -6.57   | -9.83   | -10.79  | -10.75  | -13.37  | -18.61  | -19.4   | -15.32  | -10.93  | -9.34   | -10.04  | -9.54   | -10.7   | -10.41  |
| Θ (30°)  | -7.18  | -4.16  | -4.26  | -3.17  | -1.89    | -3.48  | -4.52  | -5.83   | -4.9    | -2.05   | -2.13   | -1.97   | -4.66   | -3.41   | -8.51   | -14.08  | -10.72  | -8.46   | -10.44  | -12.79  | -12.99  | -27.44  | -9.88   | -10.3   |
| Θ (45°)  | -2.44  | -1.77  | -0.45  | -1.44  | -0.48    | -2.61  | -2.15  | -3.39   | -2.65   | -1.29   | -0.16   | -1.06   | -3.38   | -5.33   | -5.82   | -4.91   | -2.09   | -2.47   | -6.28   | -7.59   | -9.13   | -9.24   | -8.51   | -4.87   |
| Θ (60°)  | -3.41  | -1.72  | -2.81  | -0.83  | -1.87    | -2.07  | -1.59  | -2.98   | -3.75   | -1.31   | 0.02    | -2.66   | -1.49   | -8.32   | -4.17   | -2.22   | -2.48   | -7.46   | -3.71   | -6.17   | -5.21   | -6.65   | -8.02   | -3.23   |
| Θ (75°)  | -3.06  | -2.19  | -1.17  | -1.34  | -1.21    | -2.29  | -0.71  | 1.08    | -2.68   | -2.03   | -1.5    | -1.98   | -0.78   | -6.47   | -15.72  | -3.37   | -1.08   | -1.02   | -3.83   | -0.63   | -6      | -8.71   | -5.43   | -2.24   |
| Θ (90°)  | -2.69  | -3.79  | -1.46  | -4.15  | -2.32    | -2.34  | -1.87  | -2.31   | -4.54   | -4.28   | -4.38   | -3.21   | -2.98   | -5.76   | -8.05   | -14.66  | -1.99   | -4.33   | -1.43   | -1.84   | -13.49  | -7.13   | -5.51   | -2.21   |
| Θ (105°) | -3.61  | -4.93  | -3.94  | -4.05  | -1.69    | -2.14  | -1.3   | -2.97   | -3.18   | -3.54   | -5.91   | -8.7    | -8.42   | -9.94   | -9.54   | -5.19   | -7.48   | -5.41   | -6.87   | -6.44   | -9.11   | -7.22   | -6.14   | -7.23   |
| Θ (120°) | -10.61 | -8.16  | -7.03  | -5.37  | -4.95    | -2.91  | -2.83  | -2.92   | -6.08   | -5.48   | -9.59   | -13.48  | -23.05  | -22.66  | -14.7   | -19.7   | -15.41  | -8.26   | -6.93   | -8.32   | -12.39  | -16.06  | -11.99  | -9.83   |
| Θ (135°) | -13.62 | -15.46 | -10.47 | -6.79  | -5.99    | -4.95  | -3.18  | -4.82   | -7.65   | -8.7    | -10.35  | -14.17  | -22.1   | -14.32  | -11.18  | -9.43   | -27.68  | -27.1   | -10.06  | -11.4   | -13.12  | -16.79  | -17.78  | -27.68  |
| Θ (150°) | -22.17 | -17.15 | -13.37 | -9.27  | -6.93    | -6.87  | -6.82  | -7.37   | -8.35   | -12.17  | -13.51  | -21.72  | -26.93  | -18.98  | -16.57  | -16.27  | -18.16  | -13.64  | -22.19  | -19.11  | -13.89  | -13.5   | -23.08  | -14.76  |
| Θ (165°) | -22.51 | -20.03 | -15.63 | -15.21 | -11.45   | -10.09 | -9.9   | -9.36   | -11.3   | -13.15  | -16.89  | -23.49  | -28.08  | -18.31  | -14.52  | -18.15  | -18.27  | -13.4   | -11.58  | -14.15  | -15.7   | -13.78  | -17.02  | -19.04  |
| Θ (180°) | -28    | -16.79 | -12.81 | -11.23 | -11.42   | -11.28 | -10.21 | -11.73  | -13.62  | -21.33  | -19.92  | -25.05  | -24.29  | -20.58  | -16.52  | -11.85  | -10.28  | -10.21  | -10.1   | -11.08  | -11.64  | -14.58  | -18     | -25.01  |
| Freq(Hz) | 5.785G | Pol.   | Phi    | Ant. 2 | -        | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°)   | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ (0°)   | -11.86 | -11.03 | -8.35  | -8.02  | -7.49    | -7.01  | -8.5   | -8.76   | -12.19  | -17.66  | -13.01  | -11.88  | -10.68  | -7.11   | -8.72   | -6.04   | -8.1    | -7.84   | -9.58   | -11.2   | -12.3   | -12.01  | -13.76  | -14.94  |
| Θ (15°)  | -6.41  | -9.78  | -10.61 | -10.32 | -9.3     | -9.43  | -10.06 | -8.94   | -12.41  | -8.12   | -10.11  | -12.24  | -9.61   | -7.78   | -8.51   | -8.99   | -7.04   | -6.22   | -6.68   | -8.16   | -11.53  | -10.46  | -9.33   | -7.73   |
| Θ (30°)  | -11.63 | -6.77  | -10.9  | -16.77 | -18.72   | -11.05 | -8.53  | -8.38   | -7.21   | -10.84  | -7.6    | -9.81   | -8.9    | -6.14   | -8.43   | -8.6    | -6.65   | -8.71   | -11.48  | -13.65  | -17.07  | -9.16   | -5.62   | -7.46   |
| Θ (45°)  | -13.64 | -12.5  | -12.35 | -21.36 | -12.3    | -9.11  | -7.2   | -6.52   | -4.51   | -7.64   | -9.07   | -10.9   | -5.21   | -6.96   | -6.07   | -13.96  | -11.46  | -13.8   | -11.76  | -11.15  | -15.01  | -8.75   | -6.99   | -9      |
| Θ (60°)  | -13.24 | -14.98 | -13.29 | -11.88 | -15.49   | -9.46  | -7.62  | -12.59  | -8.94   | -8.62   | -8.12   | -9.27   | -7.49   | -8.38   | -6.15   | -11.61  | -9.63   | -15.59  | -5.85   | -19.93  | -10.85  | -7.01   | -7.83   | -9.77   |
| Θ (75°)  | -10.16 | -16.47 | -10.99 | -13.36 | -10.43   | -13.41 | -13.9  | -13.15  | -8.95   | -5.51   | -5.95   | -8.23   | -10.08  | -6.99   | -11.35  | -15.09  | -6      | -10.64  | -17.21  | -8.95   | -14.85  | -9.04   | -7.49   | -10.94  |
| Θ (90°)  | -9.84  | -14.71 | -8.75  | -12.93 | -11.65   | -13.09 | -20.7  | -16.97  | -8.01   | -7.2    | -6.17   | -7.75   | -9.47   | -8.33   | -8.2    | -18.73  | -10.19  | -7.5    | -7.97   | -10.09  | -12.99  | -10.33  | -10.85  | -13.56  |
| Θ (105°) | -10.63 | -8.17  | -8.48  | -9.1   | -11.33   | -17.77 | -17.97 | -15.4   | -10.6   | -6.2    | -6.99   | -8.94   | -7.31   | -10.05  | -10.8   | -14.8   | -15.83  | -13.87  | -7.66   | -18.41  | -8.76   | -10.73  | -11.4   | -10.28  |
| Θ (120°) | -9.92  | -6.91  | -9.28  | -9.72  | -14.99   | -19.28 | -21.83 | -20.85  | -16.34  | -11.16  | -6.39   | -7.53   | -11.27  | -7.57   | -21.74  | -18.01  | -11.46  | -22.2   | -26.91  | -21.13  | -17.62  | -10.6   | -10.04  | -8.19   |
| Θ (135°) | -9.98  | -10.31 | -10.27 | -10.52 | -13.01   | -17.58 | -25.1  | -13.75  | -12.02  | -11.56  | -11.01  | -8.94   | -10.61  | -11.99  | -17.06  | -12.95  | -16.3   | -17.53  | -20.43  | -26.56  | -13.63  | -16.89  | -10.63  | -9.07   |
| Θ (150°) | -10.51 | -10.29 | -9.87  | -13.71 | -15.24   | -19.27 | -26.77 | -17.45  | -21.93  | -8.03   | -15.81  | -10.24  | -8.33   | -11.58  | -27.53  | -25.54  | -20.33  | -23.83  | -21.21  | -27.14  | -17.57  | -17.55  | -12.75  | -10.15  |
| Θ (165°) | -13.02 | -13.5  | -13.86 | -13.34 | -15.38   | -21.86 | -27.64 | -19.18  | -12.23  | -13.73  | -9.49   | -8.15   | -14.79  | -16.45  | -13.39  | -20.54  | -22.28  | -21.76  | -27.24  | -22.36  | -27.79  | -13.95  | -12.55  | -9.8    |
| Θ (180°) | -11.49 | -11    | -11.35 | -17.71 | -18.94   | -27.82 | -28.16 | -18.52  | -13.19  | -14.68  | -18.3   | -28.49  | -27.75  | -14.74  | -13.53  | -13.63  | -15.25  | -26.19  | -20.04  | -20.54  | -14.38  | -11.05  | -12.85  | -11.94  |
| Freq(Hz) | 5.785G | Pol.   | Theta  | Ant. 2 | -        | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°)   | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ (0°)   | -7.73  | -7.98  | -9.27  | -12.07 | -14.78   | -13.71 | -11.29 | -8.2    | -7.65   | -7.5    | -7.79   | -8.36   | -9.39   | -10.23  | -13.21  | -14.19  | -12.44  | -10.12  | -11.26  | -9.73   | -8.36   | -7.41   | -6.8    | -8.11   |
| Θ (15°)  | -6.13  | -5.73  | -5.44  | -5.07  | -4.65    | -5.37  | -6.33  | -8.19   | -10.15  | -8.15   | -6.64   | -8.11   | -12.98  | -15     | -14.29  | -13.37  | -27.02  | -15.96  | -9.64   | -8.38   | -10.09  | -9.29   | -9.79   | -8.61   |
| Θ (30°)  | -4.32  | -1.82  | -2.32  | -1.38  | -1.94    | -5.06  | -5.39  | -4.69   | -5.23   | -2.56   | -9.31   | -1.65   | -6.96   | -5.47   | -10.37  | -14.34  | -9.21   | -8.59   | -11.81  | -8.16   | -10.79  | -14.21  | -8.52   | -10.26  |
| Θ (45°)  | -2.86  | -1.88  | -1.14  | -0.59  | -0.05    | -0.4   | -1.73  | -2.11   | -4.06   | -1.33   | 1.18    | -2.3    | -3.14   | -4.73   | -4.18   | -5.51   | -2.73   | -2.18   | -6.67   | -7.75   | -8.07   | -7.68   | -7.08   | -7.03   |
| Θ (60°)  | -3.57  | -1.7   | -4.03  | -1.56  | -0.69    | -1.53  | -1.59  | -1.28   | -3.33   | -3.07   | -0.52   | -2.22   | -5.45   | -8.18   | -2.93   | -2.2    | -3.9    | -5.86   | -4.23   | -7.51   | -4.2    | -7.43   | -7.34   | -5.38   |
| Θ (75°)  | -2.67  | -2.39  | -0.92  | -4.09  | -0.01    | 0      | -0.44  | -0.5    | -2.25   | -1.6    | -1.68   | -2.42   | -6.56   | -7.22   | -11.81  | -2.53   | -3.07   | -1.06   | -4.45   | -1.73   | -5.63   | -10.92  | -7.11   | -2.89   |
| Θ (90°)  | -3.83  | -2.28  | -2.78  | -5.37  | -2.66    | -1.08  | -0.76  | -2.76   | -3.88   | -2.28   | -5.21   | -4.79   | -6.81   | -6.74   | -11.83  | -7.88   | -3.56   | -2.34   | -1.86   | -2.62   | -16.43  | -8.97   | -6.1    | -3.37   |
| Θ (105°) | -5.4   | -3.85  | -4.12  | -4.23  | -1.68    | -1.45  | -2     | -2.17   | -3.87   | -4.26   | -7.19   | -7.37   | -9.26   | -13.4   | -9.42   | -4.16   | -8.11   | -3.84   | -4.94   | -7.21   | -8.22   | -12.87  | -6.87   | -7.13   |
| Θ (120°) | -11.13 | -9.24  | -7.96  | -6.61  | -4.1     | -4.71  | -3.31  | -1.56   | -5.63   | -5.67   | -12.24  | -16.89  | -19.65  | -26.98  | -16.22  | -12.61  | -18.32  | -6.97   | -6.04   | -9.71   | -8.62   | -15.47  | -9.55   | -11.28  |
| Θ (135°) | -21.92 | -13.79 | -11.17 | -6.34  | -4.87    | -5.17  | -3.6   | -3.11   | -5.56   | -9.28   | -10.38  | -13.79  | -24.93  | -13.71  | -15.12  | -10.24  | -18.16  | -26.44  | -10.41  | -11.92  | -18.35  | -14.02  | -15.88  | -19.28  |
| Θ (150°) | -28.34 | -16.68 | -11.08 | -9     | -7.69    | -7.29  | -7.78  | -6.16   | -8.33   | -12.95  | -13.81  | -26.9   | -24.77  | -16.1   | -18.8   | -14.09  | -19.5   | -14.63  | -26.27  | -15.83  | -15.94  | -13.86  | -22.85  | -17.37  |
| Θ (165°) | -24.13 | -18.64 | -13.15 | -9.84  | -9.21    | -7.91  | -8.44  | -7.72   | -10.09  | -11.68  | -16.57  | -20.45  | -25.1   | -17.33  | -16.2   | -14.49  | -20.04  | -19.36  | -16.3   | -15.15  | -15.47  | -14.27  | -13.57  | -18.22  |
| Θ (180°) | -22.45 | -18.15 | -13.04 | -9.8   | -11.26   | -11.82 | -11.61 | -12.52  | -14.8   | -22.77  | -27.29  | -25.99  | -21     | -22.62  | -16.62  | -11.9   | -9.84   | -9.03   | -9.52   | -9.65   | -11.23  | -13.37  | -18.78  | -24.15  |
| Freq(Hz) | 2.45G  | Pol.   | Phi    | Ant. 3 | -        | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°)   | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ (0°)   | -5.79  | -7.85  | -11.13 | -16.36 | -14.98   | -10.06 | -7.01  | -4.83   | -3.48   | -3.48   | -3.26   | -2.96   | -4.16   | -7.46   | -9.81   | -13     | -12.76  | -9.23   | -7.15   | -4.65   | -3.17   | -1.98   | -2.07   | -3.39   |
| Θ (15°)  | -4.48  | -7.81  | -11.15 | -18.51 | -19.88</ |        |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |



|          |        |        |        |        |        |        |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
|----------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Θ(90°)   | -2.33  | -3.43  | -3.92  | -2.28  | -4.96  | -2.59  | -3.86  | -1.04   | -7      | 0.7     | 1.29    | -0.77   | 1.5     | 2.54    | -1.73   | -0.53   | -0.29   | -1.73   | -0.48   | -3.49   | -3.59   | -2.85   | -3.98   | -1.98   |
| Θ(105°)  | -4.9   | -3.15  | -5.33  | -4.38  | -10.2  | -5.33  | -4.08  | -4.25   | -4.02   | -1.64   | -2.68   | -2.96   | -3.43   | -1.01   | -12.04  | -3.98   | -6.11   | -7.24   | -3.95   | -9.31   | -5.11   | -5.28   | -6.52   | -3.75   |
| Θ(120°)  | -6.95  | -9.22  | -9.23  | -6.74  | -13.52 | -15.68 | -8.36  | -7.8    | -18.63  | -3.75   | -3.69   | -6.93   | -7.42   | -2.24   | -4.73   | -2.01   | -10.55  | -6.19   | -9.04   | -6.59   | -5.77   | -5.8    | -6.38   | -5.05   |
| Θ(135°)  | -7.02  | -8.95  | -13.02 | -10.96 | -12.25 | -17.74 | -18.28 | -12.08  | -20.18  | -10.83  | -11.29  | -7.06   | -16.42  | -21.63  | -13.06  | -12.19  | -9.6    | -8.65   | -10.32  | -10.54  | -8.56   | -3.34   | -9.68   | -9.24   |
| Θ(150°)  | -7.45  | -7.58  | -14.52 | -18.08 | -15.19 | -14.28 | -22.69 | -14.17  | -18.04  | -17.99  | -8.84   | -7.05   | -11.45  | -21.44  | -14.37  | -23.15  | -10.06  | -21.02  | -16.46  | -11.23  | -15.04  | -14.05  | -9      | -11.4   |
| Θ(165°)  | -7.88  | -10.45 | -17.5  | -26.77 | -18.72 | -17.75 | -22.45 | -20.45  | -14.47  | -17.28  | -15.45  | -13.85  | -20.73  | -11.91  | -9.65   | -7.58   | -10.02  | -14.51  | -14.09  | -21.4   | -10.05  | -12.88  | -11.42  | -5.91   |
| Θ(180°)  | -7.2   | -7.19  | -6.61  | -10.04 | -15.73 | -18.12 | -19.9  | -26.44  | -27.31  | -21.59  | -14.08  | -13.72  | -11.19  | -10.76  | -10.37  | -10.27  | -12.06  | -12.98  | -17.91  | -22.88  | -14.21  | -10.66  | -10.88  | -8.11   |
| Freq(Hz) | 5.3G   | Pol.   | Phi    | Ant. 3 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -15.67 | -9.22  | -6.39  | -6.08  | -4.17  | -3.64  | -4.46  | -5.33   | -8.01   | -12.82  | -16.53  | -19.9   | -13.53  | -9.49   | -5.98   | -5.81   | -3.97   | -3.64   | -4.24   | -5.74   | -8.23   | -10.71  | -18.48  | -25.77  |
| Θ(15°)   | -18.57 | -11.21 | -7.99  | -8.82  | -11.62 | -9.33  | -8.8   | -9.85   | -14     | -14.82  | -17.65  | -21.08  | -15.71  | -10.78  | -7.55   | -4.96   | -6.44   | -6.98   | -7.97   | -14.45  | -16.96  | -10.93  | -10.71  | -16.45  |
| Θ(30°)   | -10.37 | -26.73 | -16.47 | -11.71 | -7.5   | -5.27  | -7.13  | -13.99  | -12.54  | -13.82  | -10.7   | -11.78  | -25.22  | -11.91  | -10.13  | -10.1   | -6.04   | -5.17   | -6.68   | -5.49   | -12.62  | -17.73  | -12.78  | -13.95  |
| Θ(45°)   | -14.55 | -16.33 | -23.59 | -10.86 | -19.67 | -5.92  | -6.89  | -14.32  | -14.33  | -9.05   | -11.31  | -9.11   | -8.56   | -18.76  | -4.15   | -11.88  | -3.95   | -6.26   | -13.15  | -7.49   | -14.41  | -8.5    | -20.18  | -20.52  |
| Θ(60°)   | -14.71 | -14.05 | -19.87 | -7.85  | -8.18  | -9.1   | -4.81  | -8.28   | -15.6   | -11.21  | -20.34  | -11.64  | -10.47  | -7.65   | -6.27   | -9.25   | -7.21   | -8.08   | -23.52  | -7.97   | -18.2   | -13.59  | -13.73  | -26.89  |
| Θ(75°)   | -14.04 | -14.21 | -16.15 | -11.75 | -9.04  | -7.28  | -5.48  | -6.64   | -10.24  | -22.34  | -14.11  | -9.89   | -13.68  | -11.26  | -8.96   | -7.76   | -5.67   | -7.78   | -13.64  | -10.82  | -19.96  | -14.53  | -22     | -18.27  |
| Θ(90°)   | -21.38 | -13.26 | -13.39 | -11.89 | -8.16  | -8.59  | -6.75  | -8.81   | -10.69  | -10.83  | -9.14   | -18.55  | -17.87  | -16.09  | -20.62  | -12.01  | -9.27   | -11.24  | -15.08  | -10.69  | -16.61  | -12.21  | -15.68  | -25.87  |
| Θ(105°)  | -27.64 | -17.4  | -15.98 | -12.76 | -9.07  | -8.15  | -9.32  | -7.54   | -9.28   | -7.78   | -8.99   | -15.33  | -14.29  | -12.78  | -27.05  | -12.52  | -14.5   | -17.01  | -10.93  | -9.65   | -19.86  | -12.07  | -16.82  | -22.1   |
| Θ(120°)  | -15.95 | -17.83 | -12.8  | -11.78 | -8.59  | -10.32 | -7.68  | -9.95   | -9.82   | -10.81  | -13.07  | -13.33  | -18.03  | -21.63  | -15.48  | -13.79  | -9.47   | -17.21  | -8.29   | -11.24  | -15.64  | -10.08  | -20.39  | -27.93  |
| Θ(135°)  | -19.54 | -20.93 | -20.69 | -13.13 | -14.34 | -10.47 | -11.2  | -13.95  | -10.6   | -14.72  | -19.04  | -18     | -9.14   | -10.67  | -20.26  | -11.02  | -27.52  | -8.77   | -12.31  | -13.37  | -17.89  | -8.54   | -14.52  | -18.11  |
| Θ(150°)  | -13.12 | -23.81 | -13.13 | -12.35 | -11.21 | -27.73 | -9.88  | -12.89  | -14.81  | -11.81  | -13.55  | -18.43  | -12.57  | -11.7   | -14.69  | -22.26  | -10.13  | -12.09  | -12.75  | -16.75  | -13.97  | -14.34  | -19.59  | -16.93  |
| Θ(165°)  | -19.17 | -22.25 | -27.04 | -15.73 | -9.94  | -10.67 | -17.46 | -20.88  | -15.43  | -19.62  | -23.48  | -13.72  | -17.79  | -15.38  | -14.77  | -11.14  | -19.71  | -13.85  | -10.12  | -9.96   | -8.43   | -13.95  | -13.88  | -13.88  |
| Θ(180°)  | -17.27 | -28.16 | -16.22 | -10.82 | -9.77  | -10.84 | -12.11 | -11.13  | -10.39  | -11.46  | -12.54  | -17.11  | -21.83  | -18.85  | -20.36  | -13.74  | -11.92  | -7.88   | -6.02   | -6.24   | -7.95   | -8.38   | -10.02  | -12.94  |
| Freq(Hz) | 5.3G   | Pol.   | Theta  | Ant. 3 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -5.72  | -6.04  | -9.02  | -11.55 | -17.37 | -27.44 | -14.1  | -9.98   | -6.34   | -4.92   | -4.43   | -4.26   | -5.01   | -6.27   | -8.22   | -11.28  | -22.28  | -22.83  | -13.74  | -8.82   | -6.13   | -4.06   | -4.92   | -4.24   |
| Θ(15°)   | -3.92  | -3.54  | -3.56  | -3.52  | -4.49  | -6.69  | -10.25 | -18.22  | -26.66  | -16.47  | -12.85  | -17.66  | -11.32  | -11.45  | -9.42   | -6.11   | -6.86   | -10.44  | -8.93   | -6.19   | -5.21   | -4.78   | -4.64   | -3.91   |
| Θ(30°)   | -1.76  | -3.75  | -3.61  | -3.21  | -3.35  | -5.73  | -8.03  | -5.23   | -8.11   | -6.07   | -3.56   | -2.27   | -5.52   | -2.39   | -6.95   | -7.4    | -3.85   | -3.58   | -1.94   | -3.26   | -1.92   | -2.25   | -0.18   | -0.29   |
| Θ(45°)   | 1.34   | -3.79  | -7.59  | -3.11  | 0.43   | -4.32  | -4.21  | -0.27   | -1.98   | 0.43    | 1.21    | 0.26    | -0.05   | -0.83   | -3.88   | 0.28    | -3.08   | -3.77   | -2.37   | -2.12   | -0.15   | -0.55   | -0.48   | 2.08    |
| Θ(60°)   | -1.92  | -7.1   | -4.01  | -2.1   | -2.94  | -2.71  | -0.91  | 0.95    | -2.71   | 0.83    | 0.06    | 0.22    | 2.59    | 0.76    | -2.93   | 1.69    | -4.63   | -3.71   | 0.37    | -0.58   | -1.68   | -0.73   | 0.31    | 0.29    |
| Θ(75°)   | -0.59  | -2.7   | -4.61  | -1.37  | -4.99  | -1.77  | -0.37  | 0.69    | -3.8    | 4.4     | 1.38    | 2.43    | 3.48    | 2.82    | -1.04   | -1.13   | -0.9    | -1.52   | 1.95    | -1.6    | -2.4    | -3.7    | -3.62   | -3.72   |
| Θ(90°)   | -1.85  | -2.5   | -4.69  | -0.89  | -5.18  | -2.97  | -2.83  | -0.53   | -9.2    | 0.01    | 1.19    | 0.48    | 1.28    | 3.24    | -5.56   | 0.19    | -1.38   | -2.79   | -0.97   | -4.37   | -3.29   | -6.99   | -4.75   | -5.72   |
| Θ(105°)  | -3.69  | -2.73  | -5.15  | -2.64  | -7.9   | -6.23  | -4.32  | -3.76   | -6.38   | -2.86   | -3.15   | -2.32   | -1.3    | -0.54   | -14.84  | -3.92   | -11.34  | -5.19   | -7.82   | -8.18   | -6.15   | -11.17  | -7.52   | -5.7    |
| Θ(120°)  | -5.98  | -8.41  | -11.33 | -5.68  | -14.96 | -21.35 | -8.86  | -8.68   | -19.29  | -4.56   | -3.9    | -4.78   | -6.31   | -0.91   | -5.1    | -1.73   | -11.67  | -4.83   | -9.44   | -6.29   | -7.36   | -8.4    | -9.69   | -5.9    |
| Θ(135°)  | -6.87  | -5.27  | -11.9  | -9.77  | -12.69 | -22.22 | -14.18 | -11.94  | -17.73  | -12.97  | -8.49   | -6.8    | -9.45   | -18.54  | -12.43  | -14.81  | -8.04   | -9.55   | -9.96   | -8.83   | -9.98   | -5.8    | -21     | -10.33  |
| Θ(150°)  | -6.86  | -7.18  | -12.55 | -17.52 | -15.38 | -13.27 | -21.31 | -15.71  | -19.74  | -23.83  | -9.81   | -5.9    | -10.42  | -20.01  | -20.58  | -19.95  | -8.33   | -17.42  | -26.9   | -11.65  | -16.71  | -13.63  | -11.87  | -13.94  |
| Θ(165°)  | -7.84  | -11.11 | -13.35 | -22.6  | -24.21 | -24.68 | -27.8  | -28.23  | -14.03  | -15.13  | -19.49  | -10.83  | -23.29  | -14.86  | -9.05   | -6.57   | -10.97  | -15.69  | -13.95  | -17.98  | -9.77   | -15.75  | -11.84  | -7.64   |
| Θ(180°)  | -6.16  | -5.89  | -6.01  | -7.73  | -11.38 | -15.89 | -20.79 | -27.1   | -27.8   | -18.49  | -12.01  | -9.96   | -9.58   | -9.02   | -8.46   | -8.8    | -11.17  | -14.68  | -24.38  | -19.72  | -14.03  | -12.26  | -10.58  | -7.71   |
| Freq(Hz) | 5.6G   | Pol.   | Phi    | Ant. 3 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -13.57 | -15.19 | -10.44 | -12.9  | -12.23 | -12.12 | -15.12 | -17.68  | -26.82  | -22.32  | -15.98  | -14.71  | -12.33  | -12.29  | -12.21  | -10.33  | -12.96  | -16.74  | -15.57  | -16.68  | -22.97  | -24.05  | -26.74  | -19.75  |
| Θ(15°)   | -12.47 | -10.62 | -7.6   | -8.23  | -10.24 | -15.61 | -21.77 | -17.17  | -15.41  | -16.45  | -14.79  | -12.43  | -11.87  | -9.51   | -8.11   | -6.85   | -11.64  | -10.41  | -13.8   | -11.33  | -6.9    | -7.34   | -11.81  | -13.91  |
| Θ(30°)   | -9     | -10.02 | -23.36 | -14.64 | -14.76 | -12.18 | -8.68  | -10     | -11.4   | -12.68  | -7.6    | -8.22   | -10.17  | -5.8    | -14.16  | -7.65   | -12.34  | -6.91   | -12.51  | -11.14  | -12.84  | -8.29   | -12.07  | -10.7   |
| Θ(45°)   | -8.89  | -13.27 | -19.35 | -16.08 | -19    | -13.6  | -14.49 | -18.42  | -15.35  | -11.05  | -10.05  | -11.82  | -8.34   | -12.36  | -3.83   | -19.35  | -5.62   | -20.11  | -5.4    | -8.69   | -12.85  | -14.01  | -12.33  | -8.72   |
| Θ(60°)   | -9.39  | -10.74 | -14.21 | -21.07 | -12.75 | -9.92  | -12.36 | -16.19  | -27.12  | -8.31   | -19.94  | -7.88   | -10.02  | -6.2    | -6.52   | -11.58  | -9.68   | -10.45  | -14.31  | -13.93  | -11.07  | -19.02  | -24.8   | -13.87  |
| Θ(75°)   | -10.1  | -17.4  | -14.19 | -14.13 | -9.91  | -11.85 | -8.08  | -13.67  | -14.96  | -7.38   | -9.37   | -11.67  | -6.76   | -12.75  | -11.46  | -13.05  | -9.92   | -10.21  | -15.46  | -15.58  | -19.16  | -20.54  | -13.21  | -14.47  |
| Θ(90°)   | -10.43 | -14.77 | -14.35 | -13.54 | -8.48  | -13.56 | -7.8   | -12.98  | -14.86  | -14.77  | -8.79   | -15.95  | -15.66  | -21.09  | -23.87  | -14.97  | -10.32  | -16.2   | -18.66  | -19.85  | -26.04  | -15.54  | -15.6   | -17.7   |
| Θ(105°)  | -15.55 | -15.05 | -15.25 | -13.06 | -10.06 | -14.1  | -7.52  | -13.9   | -14.39  | -10.48  | -11.43  | -18.63  | -15.55  | -13.75  | -27.75  | -19.15  | -9.65   | -20.74  | -15.46  | -17.79  | -17.34  | -18.59  | -16.5   | -17.62  |
| Θ(120°)  | -23.28 | -20.81 | -16.17 | -13.35 | -12.08 | -12.61 | -11.05 | -12     | -16.07  | -14.32  | -13.6   | -11.99  | -15.54  | -16.51  | -15.29  | -18.98  | -13.19  | -18.26  | -9.65   | -13.14  | -15.29  | -13.78  | -27.83  | -16.9   |
| Θ(135°)  | -18.96 | -15.44 | -13.16 | -16.65 | -11.26 | -15.48 | -20.8  | -21.4   | -12.77  | -15.72  | -19.88  | -21.13  | -16.75  | -14.99  | -15.98  | -9.34   | -15.45  | -13.52  | -8.44   | -16.69  | -15.57  | -13.88  | -21.83  | -28.09  |
| Θ(150°)  | -18.65 | -19.5  | -25.23 | -14.75 | -12.95 | -19.44 | -18.38 | -16.79  | -19.81  | -12.17  | -12.83  | -23.46  | -15.43  | -12.18  | -15.15  | -25.73  | -14     | -17.79  | -15.55  | -13.33  | -13.62  | -21.21  | -27.3   | -20.52  |
| Θ(165°)  | -27.4  | -19.08 | -21.08 | -20.88 | -19.27 | -14.35 | -16.12 | -28.08  | -19.31  | -21.77  | -26.26  | -25.62  | -15.82  | -26.89  | -16.47  | -16.93  | -24.61  | -15.8   | -10.44  | -10.45  | -11.98  | -17.86  | -28.05  | -23.28  |
| Θ(180°)  | -23.53 | -24.34 | -14.94 | -13.32 | -12.73 | -11.33 | -11.07 | -11.47  | -11.93  | -12.22  | -12.4   | -1      |         |         |         |         |         |         |         |         |         |         |         |         |



| Freq(Hz)                                               | 2.45G        | 5.2G         | 5.3G         | 5.6G         | 5.785G       |
|--------------------------------------------------------|--------------|--------------|--------------|--------------|--------------|
| Ant. 1 Max Gain (dBi)                                  | 2.04         | 3.99         | 3.18         | 2.9          | 1.52         |
| Ant. 2 Max Gain (dBi)                                  | 2.69         | 1.96         | 2.27         | 1.08         | 1.18         |
| Ant. 3 Max Gain (dBi)                                  | 3.74         | 4.38         | 4.4          | 2.73         | 3.04         |
| Ant. 4 Max Gain (dBi)                                  | 1.68         | 2.83         | 3.02         | 2.16         | 1.69         |
| Ant. 1 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$ | Theta/60/255 | Theta/75/0   | Theta/75/0   | Theta/75/0   | Theta/75/0   |
| Ant. 2 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$ | Theta/60/195 | Theta/60/150 | Theta/75/150 | Theta/75/105 | Theta/45/150 |
| Ant. 3 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$ | Theta/60/90  | Theta/75/135 | Theta/75/135 | Theta/75/135 | Theta/75/135 |
| Ant. 4 Polarization/ $\theta(^{\circ})/\phi(^{\circ})$ | Theta/45/345 | Theta/75/240 | Phi/75/240   | Theta/75/270 | Phi/75/270   |
| Max Gain (dBi)                                         | 3.74         | 4.38         | 4.4          | 2.9          | 3.04         |
| DG [1SS] (dBi)                                         | 7.55         | 6.83         | 6.24         | 5.74         | 5.92         |
| DG [2SS] (dBi)                                         | 4.55         | 4.38         | 4.4          | 2.9          | 3.04         |
| DG [4SS] (dBi)                                         | 1.67         | 1.22         | 0.72         | -0.03        | 0.2          |



DG 1SS Result

| Freq(Hz) | 2.45G | Pol.   | Phi    | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |         |
|----------|-------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| DG(dBi)  | Φ(0°) | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | 0.66  | 0      | -0.58  | -0.89  | -1.32  | -0.8   | -0.48  | -0.77   | -1.33   | -0.6    | 0.76    | 1.24    | 0.68    | -0.07   | 0.03    | -0.07   | -0.37   | -0.41   | -0.67   | -1.05   | -1.37   | 0.51    | 1.41    | 1.27    |
| Θ(15°)   | 1.34  | 0.31   | -0.85  | -1.56  | -1.76  | -1.46  | -0.15  | 0.66    | -0.44   | -0.58   | 0.88    | 1.78    | 0.98    | -0.51   | -0.25   | 1.2     | 1.31    | 0.91    | -0.28   | -0.46   | 0.11    | 1.21    | 2.08    | 2.13    |
| Θ(30°)   | 1.22  | -0.9   | -2.05  | -2.65  | -2.72  | -0.74  | 0.22   | 0.78    | 0.02    | -0.8    | 0.5     | 2.68    | 3.08    | 1.48    | 0.47    | 1.11    | 1.14    | 1.1     | 0.09    | -1.53   | 0.48    | 2.28    | 2.9     | 2.55    |
| Θ(45°)   | 1.98  | 0.05   | -1.05  | -1.45  | -0.49  | 1.18   | 1.27   | -0.1    | 0.34    | 1.14    | 1.55    | 2.12    | 2.87    | 2.07    | 0.45    | 1.3     | -0.21   | 0.15    | -0.33   | -0.04   | 1.26    | 2.18    | 3.12    | 3.05    |
| Θ(60°)   | 1.85  | 0.95   | -1.52  | -0.97  | 0.7    | 1.84   | 1.77   | 0.71    | 0.86    | 2       | 1.61    | 1.75    | 1.8     | 1.03    | 0.27    | 1.21    | 0.76    | 0.17    | -0.55   | 0.57    | 1.42    | 1.38    | 2.34    | 1.56    |
| Θ(75°)   | 0.12  | -0.9   | -1.92  | 0.57   | 0.33   | 0.31   | -0.08  | 0.28    | 1.37    | 1.2     | -0.54   | -0.13   | 1.39    | -0.69   | -0.35   | 1.17    | 0.87    | -0.19   | -1.47   | 0.8     | 0.15    | -0.04   | 1.03    | -0.76   |
| Θ(90°)   | -1.64 | -2.87  | -4.15  | -0.11  | -0.27  | -2.46  | -2.7   | -1.35   | -0.02   | -1.08   | 0.79    | -1.34   | 0.09    | -2.74   | -0.13   | 0.88    | 1.47    | -0.32   | -0.88   | 0.02    | 0.62    | 0.17    | -1.24   | -2.58   |
| Θ(105°)  | -3.43 | -3.36  | -5.84  | -1.42  | -0.06  | -2.51  | -3.65  | -1.59   | -0.13   | -1.74   | -0.7    | -2.71   | -0.31   | -3.05   | -0.24   | -0.76   | -0.43   | -2.23   | -1.74   | -0.95   | -1.84   | -1.3    | -2.66   | -3.6    |
| Θ(120°)  | -2.89 | -2.61  | -4.37  | -4.3   | -0.03  | 0.1    | -3.06  | -3.69   | -0.73   | -1.52   | -0.88   | -2.85   | -1.57   | -4.7    | -0.73   | -0.69   | -1.07   | -1.81   | -0.75   | -2.11   | -2.52   | -2.63   | -4.48   | -2.5    |
| Θ(135°)  | -3.4  | -3.51  | -4.5   | -3.05  | -4.41  | -4.01  | -5.11  | -7.38   | -5.63   | -3.7    | -4.67   | -4.12   | -1.72   | -2.78   | -3.91   | -1.72   | -0.64   | -1.91   | -2      | -2.79   | -2.58   | -3.16   | -4.56   | -5.28   |
| Θ(150°)  | -4.51 | -6.77  | -6.58  | -4.39  | -3.37  | -4.06  | -6.59  | -8.69   | -7.26   | -4.7    | -5.48   | -5.29   | -4.55   | -6.78   | -4.25   | -2.84   | -3.41   | -2.93   | -3.28   | -4.95   | -5.02   | -7.38   | -7.18   | -5.38   |
| Θ(165°)  | -7.71 | -5.24  | -4.23  | -3.78  | -3.71  | -4.84  | -7.92  | -10.3   | -7.67   | -7.68   | -10.01  | -9.52   | -8.97   | -9.61   | -9.17   | -7.86   | -6.85   | -6      | -5.9    | -6.18   | -5.47   | -6.37   | -7.34   | -7.13   |
| Θ(180°)  | -6.99 | -5.59  | -6.64  | -6.74  | -6.54  | -7.31  | -8.95  | -10.37  | -11.12  | -11.37  | -11.64  | -10.61  | -10.21  | -7.95   | -7.17   | -7.69   | -7.5    | -8.19   | -10.19  | -9.99   | -9.62   | -8.8    | -9.29   | -9.7    |
| Freq(Hz) | 2.45G | Pol.   | Theta  | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| DG(dBi)  | Φ(0°) | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | 0.27  | 1.3    | 1.98   | 2.34   | 2      | 1.32   | 0.03   | -1.69   | -4.29   | -3.46   | -1.71   | -0.58   | 0.76    | 1.83    | 2.04    | 2.02    | 1.61    | 1.32    | 0.36    | -2.83   | -4.96   | -3.8    | -1.72   | -0.54   |
| Θ(15°)   | 0.99  | 1.29   | 1.75   | 2.22   | 2.36   | 2.17   | 1.41   | 0.25    | 0       | 0.48    | 1.44    | 1.91    | 2.45    | 3.28    | 3.46    | 2.82    | 2.27    | 1.38    | 0.43    | 0.06    | -0.16   | -0.24   | -0.3    | 0.35    |
| Θ(30°)   | 3.57  | 3.44   | 3.27   | 3.33   | 3.16   | 2.67   | 3.04   | 3.26    | 3.09    | 3.61    | 4.47    | 4.53    | 3.95    | 4.08    | 4.55    | 4.62    | 4.88    | 4.28    | 2.5     | 1.22    | 0.58    | 0.61    | 2.55    | 3.3     |
| Θ(45°)   | 5.19  | 4.4    | 4.11   | 5.18   | 6.34   | 6.71   | 6.13   | 5.33    | 5.01    | 4.96    | 5.53    | 5.3     | 5.08    | 4.61    | 4.81    | 5.17    | 5.57    | 5.76    | 4.69    | 2.79    | 2.16    | 3.02    | 4.77    | 5.34    |
| Θ(60°)   | 5.08  | 4.71   | 4.24   | 5.61   | 6.98   | 7.55   | 7.3    | 6.5     | 6.48    | 5.82    | 5.68    | 5.37    | 5.32    | 4.59    | 5       | 5.55    | 5.91    | 6.02    | 5.8     | 4.13    | 3.12    | 4.9     | 6.11    | 5.93    |
| Θ(75°)   | 4.58  | 3.94   | 3.82   | 5.35   | 5.9    | 5.83   | 5.97   | 5.17    | 6.28    | 5.27    | 4.96    | 4.46    | 5.1     | 4.49    | 4.8     | 5.71    | 5.5     | 5.25    | 5.56    | 4.38    | 3.98    | 5.14    | 5.56    | 5.21    |
| Θ(90°)   | 3.07  | 3.48   | 2.82   | 3.72   | 4.13   | 2.41   | 3.18   | 3.57    | 5.16    | 3.84    | 3.96    | 3.59    | 4.26    | 3.78    | 4.07    | 4.52    | 4.9     | 5.25    | 5.04    | 4.36    | 3.11    | 4.22    | 4.13    | 3.39    |
| Θ(105°)  | 0.98  | 1.85   | 1.14   | 1.51   | 2.41   | 1.07   | 1.94   | 1.54    | 4.14    | 2.65    | 2.32    | 2.68    | 3       | 0.87    | 1.03    | 1.66    | 3.08    | 3.76    | 3.18    | 3.79    | 2.39    | 2.29    | 2.54    | 2.44    |
| Θ(120°)  | 0.42  | 1.22   | -1.06  | -1.64  | 0.9    | 2.75   | 1.81   | 0.44    | 0.33    | -0.88   | -0.21   | 0.62    | -1.29   | -4.56   | -2.62   | -3.85   | -2.16   | 1.11    | -0.41   | -0.29   | -0.53   | 0.66    | 1.67    | 2.19    |
| Θ(135°)  | -3.71 | -2.84  | -3.28  | -2.85  | -4.07  | -1.7   | -2.6   | -5.07   | -1.65   | -2.67   | -5.41   | -7.39   | -4.49   | -4.88   | -4.49   | -3.91   | -4.46   | -3.95   | -4.01   | -3.04   | -2.54   | -2.5    | -2.07   | -2.22   |
| Θ(150°)  | -8.13 | -6.87  | -6.74  | -8.27  | -9.14  | -10.28 | -6.69  | -4.34   | -6.67   | -8.43   | -3.85   | -3.16   | -4.77   | -4.48   | -5.01   | -5.05   | -2.81   | -3.98   | -6.02   | -6      | -7.2    | -7.64   | -7.03   | -8.98   |
| Θ(165°)  | -5.14 | -6.17  | -5.54  | -5.23  | -4.85  | -4.25  | -4.35  | -4.5    | -3.84   | -4.47   | -4.86   | -4.79   | -6.22   | -7.99   | -7.94   | -9.53   | -7.3    | -9.31   | -12.01  | -8.69   | -6.04   | -4.19   | -3.78   | -4      |
| Θ(180°)  | -9.03 | -10.73 | -10.19 | -10.22 | -10.86 | -11.53 | -11.14 | -10.11  | -8.67   | -7.62   | -8.46   | -8.41   | -8.27   | -9.11   | -10.22  | -9.92   | -11.49  | -11.1   | -9.68   | -8.12   | -6.6    | -6.37   | -6.11   | -6.73   |
| Freq(Hz) | 5.2G  | Pol.   | Phi    | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| DG(dBi)  | Φ(0°) | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -7    | -6.78  | -6.3   | -4.32  | -2.79  | -1.87  | -1.87  | -2.35   | -2.52   | -3.35   | -4.67   | -5.14   | -5.58   | -6.15   | -5.09   | -3.69   | -2.75   | -2.45   | -2.42   | -2.57   | -2.87   | -3.62   | -5.25   | -6.13   |
| Θ(15°)   | -3.69 | -3.58  | -4.46  | -4.22  | -5.09  | -3.99  | -3.26  | -4.07   | -3.57   | -3.8    | -3.9    | -4.37   | -4.99   | -3.6    | 0.01    | -0.41   | -1.7    | -1.29   | -1.26   | -3.43   | -4.68   | -4.15   | -3.8    | -3.66   |
| Θ(30°)   | -4.41 | -3.65  | -5.49  | -4.32  | -2.45  | -0.56  | -2.56  | -1.77   | -1.4    | -4.91   | -6.34   | -4.17   | -4.4    | -1.94   | -2.05   | -0.04   | 1.1     | 1.18    | -0      | -2.57   | -1.99   | -3.08   | -1.58   | -1.23   |
| Θ(45°)   | -1.6  | -2.97  | -1.49  | -3.13  | -0.58  | 0.68   | -1.02  | -1.57   | -2.26   | -3.62   | -5.31   | -2.29   | -1      | -1.21   | 2.04    | -0.41   | 0.92    | -1.28   | -3.51   | -0.64   | -2.94   | -1.76   | -0.56   | 0.58    |
| Θ(60°)   | -0.25 | -2.91  | -1.53  | -1.8   | -0.87  | -3.93  | -0.83  | -0.86   | -1.2    | -4.03   | -3.73   | -4.51   | -3.35   | 1.01    | 2.72    | -1.17   | 0.88    | -0.73   | 0.36    | 0.83    | -3.56   | -1.98   | -1.5    | 2.39    |
| Θ(75°)   | -2.75 | -2.55  | -4.16  | -2.07  | -0.89  | -2.04  | -0.43  | 0.4     | 0.94    | -2.57   | -0.2    | -3.12   | -0.86   | 0.38    | 0.5     | 0.54    | 1.86    | 0.76    | -0.54   | 0.99    | -2.44   | -1.81   | -2.37   | -0.07   |
| Θ(90°)   | -2.6  | -1.52  | -4.97  | -3.5   | -3.18  | -3.13  | -1.26  | -0.29   | -1.36   | -2.35   | 0.02    | -1.65   | -2.31   | 0.11    | -1.24   | 0.92    | 0.86    | -0.37   | -0.49   | -0.78   | -1.78   | -0.56   | -2.64   | -3.31   |
| Θ(105°)  | -4.74 | -3.96  | -5.99  | -3.61  | -3.77  | -3.75  | -4.37  | -3.81   | -2.93   | -2.93   | -0.36   | -2.1    | -4.96   | 0.07    | -2.52   | -0.47   | -1.02   | -5.39   | 0.91    | -4.57   | -2.41   | -2.24   | -5.39   | -4.73   |
| Θ(120°)  | -7.54 | -6.71  | -5.46  | -5.99  | -4.02  | -8.01  | -3.99  | -2.94   | -3.28   | -1.92   | -4.82   | -4.29   | -8.31   | -1.81   | -3.21   | -0.87   | -1.57   | -4.5    | -1.36   | -6.35   | -6.4    | -5.22   | -9.05   | -6.78   |
| Θ(135°)  | -7.11 | -4.73  | -4.48  | -5.39  | -6.12  | -5.1   | -6.33  | -7.96   | -5.7    | -6.72   | -7.06   | -6      | -7.62   | -4.81   | -7.9    | -3.03   | -3.79   | -4.57   | -0.58   | -6.14   | -8.53   | -3.55   | -6.61   | -7.05   |
| Θ(150°)  | -8.2  | -7.75  | -6.51  | -8.32  | -7.1   | -7.66  | -6.48  | -8.39   | -7.45   | -7.6    | -7.67   | -8.09   | -7.18   | -5.53   | -7.52   | -10.46  | -4.95   | -4.86   | -5.55   | -7.05   | -13.71  | -10.18  | -10.58  | -6.78   |
| Θ(165°)  | -7.65 | -10.24 | -10.78 | -7.81  | -7.28  | -8.16  | -8.57  | -9.5    | -7.64   | -7.41   | -7.51   | -13.49  | -8.89   | -10.32  | -6.91   | -8.09   | -6.25   | -8.5    | -5.99   | -3.97   | -4.19   | -4.93   | -8.32   | -9.99   |
| Θ(180°)  | -8.43 | -11.44 | -9.09  | -8.38  | -7.63  | -7.71  | -8.45  | -7.61   | -6.11   | -7.05   | -8.38   | -9.03   | -7.36   | -11.2   | -11.65  | -10.78  | -7.65   | -6.73   | -5.26   | -4.39   | -4.57   | -4.58   | -5.84   | -6.81   |
| Freq(Hz) | 5.2G  | Pol.   | Theta  | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| DG(dBi)  | Φ(0°) | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -1.62 | -2.5   | -4.7   | -5.44  | -5.89  | -6.1   | -6.34  | -4.31   | -4.04   | -2.22   | -2.43   | -1.73   | -2.02   | -3.17   | -3.26   | -4.73   | -5.74   | -6.99   | -6.48   | -6.23   | -4.05   | -2.29   | -1.45   | -1.96   |
| Θ(15°)   | -2.78 | -2.88  | -2.63  | -2.8   | -3.93  | -4.1   | -3.99  | -3.24   | -2.15   | -1.52   | -1.67   | -2.25   | -1.71   | 0.21    | 0.3     | -0.62   | -0.91   | -1.79   | -1.29   | -1.11   | -0.53   | -1.2    | -1.77   | -2.4    |
| Θ(30°)   | 0.15  | 0.91   | 0.48   | -0.04  | -0.58  | -0.12  | 0.85   | 1.38    | 2.04    | 1.63    | 3.21    | 2.33    | 2       | 2.21    | 0.83    | 3.84    | 4.15    | 2.83    | 1.13    | -0.72   | 1.03    | 1.47    | 2.25    | 1.5     |
| Θ(45°)   | 3.43  | 3.54   | 2.79   | 2.41   | 2.46   | 2.87   | 3.4    | 3.17    | 3.89    | 3.95    | 4.75    | 5.54    | 5.03    | 4.37    | 3.95    | 5.03    | 5.02    | 3.52    | 2.43    | 2.03    | 2.9     | 3.39    | 5.69    | 5.93    |
| Θ(60°)   | 4.96  | 3.01   | 4.83   | 3.38   | 3.01   | 3.03   | 3.97   | 4.1     | 4.25    | 4.9     | 4.91    | 3.7     | 5.87    | 5.29    | 5.5     | 5.39    | 5.05    | 3.81    | 4.54    | 4.88    | 3.39    | 4.73    | 4.77    | 6.68    |
| Θ(75°)   | 5.95  | 4      | 3.72   | 4.38   | 2.84   | 4.43   | 5.09   | 5.72    | 5.27    | 5.81    | 6.22    | 5.61    | 5.6     | 6.83    | 5.16    | 5.55    | 5.39    | 4.97    | 6.29    | 5.66    | 1.35    | 3.74    | 4.37    | 6.42    |
| Θ(90°)   | 5.06  | 3.67   | 1.91   | 2.86   | 0.98   | 2.96   | 4.03   | 4.73    | 3.8     | 4.54    | 4.99    | 4.38    | 4.42    | 6.13    | 3.96    | 3.47    | 4.29    | 4.15    | 6.31    | 2.32    | 1.28    | 3.6     | 2.6     | 5.34    |
| Θ(105°)  | 0.17  | 1.74   | -0.13  | 2      | -0.42  | 1.53   | 1.06   | 1.82    | 2.7     | 1.75    |         |         |         |         |         |         |         |         |         |         |         |         |         |         |



|          |        |        |        |        |        |        |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
|----------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Θ(180°)  | -5.6   | -7.59  | -6.99  | -6.6   | -6.88  | -7.76  | -7     | -6.9    | -6.67   | -7.54   | -7      | -7.29   | -8.4    | -9.75   | -9.65   | -7.87   | -6.96   | -5.77   | -6.38   | -6.22   | -6.12   | -5.54   | -6.45   | -6.43   |
| Freq(Hz) | 5.6G   | Pol.   | Phi    | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| DG(dBi)  | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -3.54  | -4.62  | -3.57  | -4.56  | -4.35  | -4.41  | -3.57  | -4.15   | -4.82   | -5.31   | -3.47   | -3.35   | -2.82   | -3.17   | -4.65   | -4.22   | -5.35   | -5.96   | -4.51   | -4.83   | -4.49   | -4.23   | -3.98   | -3.99   |
| Θ(15°)   | -2.94  | -5.09  | -3.67  | -3.72  | -4.83  | -6.05  | -5.84  | -4.87   | -4.74   | -6.47   | -6.57   | -2.87   | -1.41   | -2.35   | -2.16   | 0.17    | -0.88   | -2.21   | -2.97   | -3.2    | -3.47   | -3.83   | -3.92   | -3.5    |
| Θ(30°)   | -2.9   | -2.65  | -5.93  | -8.08  | -7.93  | -4.2   | -1.96  | -2.37   | -3.32   | -7.17   | -3.69   | -3.77   | -1.86   | -0.51   | -1.29   | 0.85    | 0.22    | 0.96    | -1.1    | -2      | -4.22   | -2.79   | -2.74   | -1.49   |
| Θ(45°)   | -2.3   | -4.47  | -7.02  | -3.67  | -4.53  | -2.11  | -1.9   | -3.78   | -3.73   | -3.4    | -3.75   | -3.35   | -0.21   | 0.64    | 1.52    | -1.78   | 0.4     | -2.73   | -0.23   | -2.34   | -5.48   | -4.57   | -0.94   | -0.46   |
| Θ(60°)   | -3.41  | -5.52  | -4.18  | -3.51  | -4.85  | -2.69  | -4.03  | -4.85   | -3.76   | -2.37   | -4.9    | -2.46   | -3.21   | 1.1     | 0.66    | -0.34   | -0.01   | -1.77   | -1.88   | -3.74   | -3.01   | -3.86   | -2.85   | 0.48    |
| Θ(75°)   | -3.65  | -5.4   | -4.4   | -0.74  | -3     | -2.56  | -1.6   | -3.01   | -1.93   | -0.84   | -1.35   | -3.06   | -2.58   | -0.14   | -0.78   | -0.24   | 0.44    | -1.52   | -1.05   | -1.56   | -3.31   | -1.45   | -1.46   | -0.5    |
| Θ(90°)   | -4.19  | -3.57  | -6.89  | -2.68  | -3.27  | -7.45  | -3.22  | -4.81   | -1.86   | -1.95   | -1.87   | -3.93   | -5.15   | -2.55   | -2.72   | -1.01   | 0.29    | -3.86   | -0.7    | -1.4    | -2.62   | -1.76   | -3.37   | -2.51   |
| Θ(105°)  | -5.02  | -5.88  | -7.39  | -4.32  | -5.1   | -4.59  | -6.05  | -6.48   | -4.49   | -3.68   | -2.67   | -4.73   | -2.87   | -1.89   | -4.29   | -1.62   | -2.51   | -6.88   | -1.21   | -3.79   | -3.98   | -3.81   | -5.05   | -3.96   |
| Θ(120°)  | -7.39  | -8.57  | -7.65  | -4.97  | -6.68  | -8.38  | -4.04  | -5.16   | -6.44   | -5.39   | -3.62   | -5.5    | -7.12   | -3.72   | -5.97   | -6.91   | -3.92   | -7.58   | -2.09   | -10.14  | -5.31   | -3.56   | -8.84   | -6.53   |
| Θ(135°)  | -6.93  | -6.03  | -6.08  | -6.7   | -6.02  | -7.37  | -10.8  | -12.09  | -7.78   | -5.56   | -8.31   | -9.09   | -11.25  | -5.64   | -8.77   | -4.58   | -5.53   | -7.82   | -1.1    | -11.2   | -6.58   | -10.66  | -10.09  | -9.04   |
| Θ(150°)  | -11.27 | -7.46  | -8.37  | -7.42  | -8.19  | -8.06  | -8.79  | -10.58  | -10.61  | -7.86   | -9.3    | -10.73  | -8.6    | -5.9    | -9.24   | -11.09  | -8.37   | -8.22   | -6.51   | -10.38  | -11.85  | -11.34  | -12.73  | -7.69   |
| Θ(165°)  | -11.03 | -13.15 | -11.23 | -8.82  | -10.17 | -8.23  | -8.87  | -11.86  | -12.17  | -10.13  | -8.89   | -12.42  | -14.84  | -10.73  | -8.28   | -8.53   | -11.08  | -8.11   | -8.24   | -6.88   | -6.95   | -8.19   | -10.19  | -10.61  |
| Θ(180°)  | -12.65 | -12.47 | -9.97  | -8.41  | -8.81  | -9.07  | -7.6   | -6.63   | -6.44   | -6.64   | -8.79   | -13.21  | -14.79  | -16.16  | -11.52  | -10.09  | -7.08   | -6.48   | -5.53   | -4.76   | -5.9    | -5.77   | -7.65   | -9.67   |
| Freq(Hz) | 5.6G   | Pol.   | Theta  | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| DG(dBi)  | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -4.5   | -5.44  | -6.64  | -7.19  | -7.61  | -5.43  | -3.32  | -2.51   | -2.27   | -1.82   | -2.69   | -2.76   | -3.99   | -6.02   | -7.05   | -7.24   | -6.24   | -5.05   | -4.72   | -4.26   | -3.77   | -2.66   | -3.13   | -3.45   |
| Θ(15°)   | -4.53  | -4.21  | -2.09  | -1.59  | -1.68  | -1.37  | -0.92  | -0.99   | -0.99   | -0.82   | -0.94   | -2.14   | -3.02   | -3.12   | -1.76   | -1.36   | -2.68   | -2.72   | -1.48   | -2.54   | -3.37   | -4.66   | -4.85   | -5.71   |
| Θ(30°)   | 0.24   | -0.04  | 0.23   | -0.67  | -1.09  | 0.89   | 2.1    | 2.14    | 2.31    | 1.72    | 2.11    | 2.01    | 2.55    | 1.7     | 0.76    | 0.82    | 2.18    | 2.14    | 0.66    | -0.36   | -2.45   | -3.14   | 0.05    | 0.29    |
| Θ(45°)   | 1.79   | 1.85   | 1.92   | 0.57   | 1.91   | 2.97   | 2.53   | 2.55    | 3.3     | 4.01    | 4.5     | 3.91    | 3.11    | 3.58    | 2.42    | 2.54    | 3.64    | 3.46    | 2.25    | 1.4     | -0.38   | -0.12   | 3.16    | 2.64    |
| Θ(60°)   | 1.48   | 1.86   | 0.96   | 2.1    | 1.78   | 2.84   | 3.95   | 2.73    | 4.06    | 4.47    | 3.8     | 2.65    | 2.97    | 4       | 4.03    | 3.67    | 3.59    | 1.57    | 2.55    | 1.38    | 2.31    | 1.02    | 2.27    | 3.78    |
| Θ(75°)   | 3.56   | 2.62   | 2.06   | 3.21   | 2.16   | 3.93   | 5      | 4.27    | 3.72    | 5.74    | 5.06    | 3.82    | 3.31    | 4.74    | 3.09    | 4.55    | 3.81    | 4.33    | 4.91    | 2.98    | 2.35    | 2.26    | 0.93    | 4.17    |
| Θ(90°)   | 2.28   | 1.12   | -0.08  | 0.48   | 0.98   | 1.55   | 3.34   | 1.81    | 2.02    | 3.69    | 3.44    | 3.1     | 2.24    | 3.81    | 2.24    | 2.92    | 3.89    | 1.99    | 4.76    | 2.87    | 0.94    | 2.75    | 0.57    | 3.32    |
| Θ(105°)  | -0.28  | -1.5   | -1.28  | -1.12  | -0.28  | 1.37   | 0.58   | 0.19    | 0.65    | 0.94    | 0.84    | 0.48    | 0.93    | 2.16    | -0.02   | 1.29    | -0.43   | -1.54   | 1.8     | -1.2    | -0.92   | -0.64   | -1.45   | 0.03    |
| Θ(120°)  | -2.11  | -1.79  | -3.97  | -3.1   | -2.7   | -2.91  | -0.59  | -0.98   | -1.97   | -1.11   | -1.11   | -2.72   | -5.11   | -0.55   | -2.94   | -4.28   | -5.38   | -2.71   | -0.61   | -6.12   | -3.99   | -2.01   | -3.38   | -3.84   |
| Θ(135°)  | -7.67  | -8.4   | -8.93  | -7.39  | -4.52  | -4.78  | -3.89  | -4.61   | -6.36   | -4.18   | -2.26   | -3.55   | -8.37   | -4.53   | -5.25   | -4.37   | -5.74   | -10.48  | -2.09   | -6.83   | -4.84   | -8.3    | -7.03   | -12.98  |
| Θ(150°)  | -16.96 | -8.11  | -7.72  | -9.77  | -8.13  | -5.69  | -6.72  | -8.84   | -8.22   | -8.58   | -8.7    | -7.59   | -8.37   | -8.48   | -8.44   | -7.14   | -6.36   | -9.71   | -8.14   | -12.37  | -8.85   | -8.54   | -13.24  | -9.06   |
| Θ(165°)  | -11.7  | -13.99 | -9.32  | -10.1  | -9.85  | -9.1   | -9.43  | -10.71  | -9.62   | -8.59   | -10.42  | -11.87  | -14.09  | -8.09   | -6.25   | -7.64   | -7.96   | -7.88   | -7.13   | -7.49   | -6.24   | -6.82   | -9.15   | -12.86  |
| Θ(180°)  | -9.8   | -7.25  | -6.3   | -6.2   | -7.23  | -7.8   | -7.88  | -8.74   | -8.63   | -8.55   | -8.07   | -8.21   | -8.39   | -9.31   | -8.63   | -7.04   | -5.98   | -6.09   | -6.94   | -8.08   | -8.45   | -7.89   | -9.24   | -10     |
| Freq(Hz) | 5.785G | Pol.   | Phi    | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| DG(dBi)  | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -2.3   | -2.39  | -2.74  | -3.86  | -3.64  | -3.82  | -4.03  | -4.35   | -4.21   | -4.06   | -2.99   | -1.84   | -2.08   | -1.09   | -2.44   | -1.46   | -3.32   | -4.51   | -5.43   | -5.31   | -5.07   | -3.13   | -3.16   | -3.86   |
| Θ(15°)   | -2.7   | -4.31  | -3.51  | -3.01  | -4.27  | -4.93  | -5.09  | -3.42   | -4.21   | -3.46   | -3.92   | -3.32   | -1.37   | -0.92   | -1.32   | -2.09   | -0.55   | -1.58   | -3.96   | -2.2    | -2.62   | -3.47   | -4.32   | -3.71   |
| Θ(30°)   | -2.55  | -2.56  | -4.33  | -6.79  | -6.64  | -4.29  | -2.56  | -2.77   | -4.6    | -6.45   | -4.2    | -2.54   | -1.12   | 0.35    | 0.09    | 0.88    | -0.34   | 0.01    | -1.68   | -1.58   | -4.52   | -1.35   | -2.02   | -1.72   |
| Θ(45°)   | -3.02  | -3.19  | -4.7   | -4.32  | -3.42  | -1.62  | -0.76  | -5.55   | -2.66   | -3.43   | -2.77   | -1.67   | 0.14    | -0.22   | 1.47    | -1.56   | -0.64   | -1.89   | -1.86   | -1.98   | -3.05   | -4.32   | -0.66   | -2.26   |
| Θ(60°)   | -3.15  | -7.16  | -3.17  | -2.56  | -2.47  | -2.39  | -2.95  | -4.35   | -3.64   | -1.62   | -4.71   | -1.77   | -2.79   | 1.17    | 0.73    | -0.91   | -0.45   | -0.52   | -0.38   | -4.6    | -2.31   | -3.95   | -2.51   | 0.33    |
| Θ(75°)   | -2.24  | -6.64  | -3.63  | -1.66  | -1.25  | -3.73  | -2.58  | -4.09   | -3.02   | 0.51    | -0.44   | -2.9    | -2.95   | -1.16   | -2.71   | -0.32   | 0.46    | -1.49   | -0.21   | -1.67   | -1.73   | -1.55   | -0.39   | -0.05   |
| Θ(90°)   | -3.4   | -4.56  | -6.59  | -4.63  | -3.14  | -6     | -3.9   | -5.08   | -2.28   | -2.41   | -1.68   | -4.66   | -6.78   | -4.5    | -5.39   | -1.81   | -0.45   | -4.6    | -1.43   | -2.35   | -2.17   | -2.88   | -2.86   | -3.13   |
| Θ(105°)  | -4.63  | -6.18  | -7.64  | -6.04  | -4.98  | -6.79  | -6.63  | -6.16   | -4.74   | -3.47   | -2.99   | -5.57   | -4.02   | -3.91   | -6.47   | -3.5    | -2.71   | -7.26   | -2.62   | -5.47   | -4.05   | -6.25   | -4.8    | -3.82   |
| Θ(120°)  | -5.57  | -8.23  | -9.32  | -7.28  | -6.89  | -8.58  | -6.25  | -6.14   | -8.53   | -5.85   | -4.16   | -4.85   | -8.09   | -4.04   | -7.14   | -8.16   | -2.85   | -8.29   | -4.1    | -10.93  | -4.87   | -3.9    | -9.32   | -5.61   |
| Θ(135°)  | -6.74  | -7.73  | -7.88  | -7.67  | -7.36  | -7.97  | -9.45  | -9.35   | -8.36   | -6.5    | -10.68  | -8.18   | -8.73   | -6.72   | -8.7    | -3.7    | -4.98   | -8.36   | -3.78   | -13.12  | -9.95   | -13.18  | -10.76  | -7.22   |
| Θ(150°)  | -10.86 | -8.3   | -9.27  | -9.52  | -8.82  | -8.64  | -8.95  | -9.67   | -13.3   | -7.52   | -9.82   | -9.16   | -9.71   | -6.87   | -11.62  | -11.66  | -10.31  | -9.48   | -7.41   | -10.57  | -11.33  | -10.68  | -12.03  | -8      |
| Θ(165°)  | -12.14 | -12.94 | -9.82  | -9.74  | -9.44  | -7.5   | -9.87  | -13.66  | -11.8   | -12.97  | -10.48  | -10.44  | -10.84  | -10.94  | -7.7    | -9.8    | -13.26  | -7.12   | -6.63   | -6.88   | -8.25   | -8.43   | -8.46   | -9.13   |
| Θ(180°)  | -13.69 | -13.8  | -12.92 | -11.59 | -10.92 | -11.36 | -9.77  | -9.09   | -7.54   | -7.65   | -9.98   | -13.16  | -16.47  | -14.46  | -12.91  | -12.25  | -11.53  | -11.16  | -8.95   | -9.09   | -8.54   | -7.4    | -9.74   | -10.86  |
| Freq(Hz) | 5.785G | Pol.   | Theta  | -      | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| DG(dBi)  | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -2.98  | -3.76  | -4.83  | -5.33  | -4.87  | -4.23  | -3.12  | -2.16   | -1.87   | -1.68   | -1.81   | -2.08   | -2.2    | -3.27   | -4.24   | -3.93   | -3.7    | -3.53   | -3.59   | -3.05   | -3.33   | -1.9    | -2.87   | -3.54   |
| Θ(15°)   | -3.56  | -3.1   | -1.82  | -1.32  | -1.38  | -1.28  | -0.49  | -0.16   | -0.84   | -1.22   | -0.71   | -1.51   | -3      | -4.25   | -2.81   | -1.67   | -4.13   | -3.64   | -2.32   | -2.15   | -2.56   | -3.36   | -4.51   | -5.07   |
| Θ(30°)   | 0.86   | 0.12   | 0.5    | 0.09   | -0.53  | 0.68   | 1.24   | 2.49    | 2.07    | 1.64    | 0.25    | 2.49    | 2.19    | 0.43    | 1.3     | 0.31    | 1.26    | 1.61    | -1.17   | -0.54   | -2.86   | -2.42   | -1.44   | -1.07   |
| Θ(45°)   | 0.14   | 1.08   | 0.51   | 1.69   | 1.88   | 3.66   | 3.58   | 2.39    | 3.09    | 3.72    | 4.67    | 3.52    | 2.27    | 3.17    | 2.87    | 1.58    | 2.14    | 3.27    | 1.49    | 1.29    | 1.48    | -0      | 2.11    | 0.45    |
| Θ(60°)   | 1.66   | 1.14   | -0.01  | 2.09   | 2.17   | 3.03   | 3.03   | 2.55    | 3.47    | 3.76    | 3.63    | 3.07    | 1.95    | 3.89    | 3.54    | 3.14    | 3.12    | 2.99    | 2.48    | 0.06    | 2.25    | 0.04    | 1.54    | 1.81    |
| Θ(75°)   | 2.33   | 0.72   | 1.02   | 2.92   | 2.43   | 4.07   | 4.39   | 2.65    | 3.93    | 5.92    | 4.44    | 4.11    | 2.22    | 3.43    | 1.63    | 3.58    | 3.33    | 4.34    | 3.89    | 2.13    | 2.5     | 2.39    | 1.55    | 3.24    |
| Θ(90°)   | 1.03   | 0.86   | -1.17  |        |        |        |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |



Gain Result

| Freq(Hz) | 2.45G  | Pol.   | Phi    | Ant. 1 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |         |         |
|----------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -3.97  | -3.04  | -2.54  | -3.39  | -4.74  | -6.99  | -10.39 | -12.1   | -10.63  | -9.76   | -5.3    | -3.89   | -3.98   | -2.64   | -2.16   | -2.73   | -4.55   | -7.49   | -10.97  | -13.31  | -12.41  | -8.12   | -5.5    | -4.78   |
| Θ(15°)   | -4.16  | -4.26  | -3.41  | -3.23  | -4.47  | -6.1   | -7.94  | -12.7   | -21.48  | -17.92  | -11.18  | -4.06   | -2.74   | -3.07   | -2.93   | -3.43   | -5.09   | -5.58   | -7.06   | -9.94   | -11.19  | -7.79   | -5.35   | -4.09   |
| Θ(30°)   | -8.58  | -7.4   | -5.6   | -3.74  | -3.66  | -4.24  | -6.24  | -10.38  | -16.69  | -16.07  | -15.1   | -6.22   | -2.11   | -1.36   | -2.61   | -4.12   | -5.21   | -3.69   | -5.26   | -11.56  | -8.17   | -5.98   | -6.97   | -8.65   |
| Θ(45°)   | -6.22  | -8.4   | -4.48  | -3.32  | -2.98  | -3.79  | -7.66  | -16.22  | -25.75  | -20.36  | -11.51  | -9.29   | -3.55   | 1.31    | -3.46   | -4.82   | -7.28   | -8.43   | -10.18  | -11.42  | -6.38   | -6.17   | -6.46   | -5.79   |
| Θ(60°)   | -6.14  | -5.51  | -4.39  | -4.73  | -3.5   | -3.29  | -9.18  | -16.75  | -14.65  | -11.48  | -10.26  | -11.32  | -6.23   | -3.65   | -5.51   | -5.88   | -7.91   | -11.08  | -10.8   | -10.34  | -7.23   | -9.02   | -8.45   | -7.69   |
| Θ(75°)   | -8.9   | -7.69  | -6.53  | -4.76  | -5.3   | -5.55  | -10.69 | -11.12  | -10.33  | -12.37  | -15.08  | -11.35  | -6.92   | -5.65   | -7.75   | -8.83   | -9.77   | -12.94  | -11.82  | -9.12   | -11.42  | -10.94  | -12.09  | -15.13  |
| Θ(90°)   | -11.39 | -9.7   | -9.14  | -5.87  | -6.75  | -8.15  | -11.34 | -10.47  | -11.24  | -12.75  | -12.69  | -12.59  | -11.33  | -7.54   | -8.76   | -11.34  | -12.34  | -17.42  | -13.93  | -7.83   | -8.3    | -7.45   | -26.55  | -20.21  |
| Θ(105°)  | -10.9  | -10.13 | -12.97 | -6.12  | -7.04  | -9.72  | -11.6  | -10.07  | -12.76  | -15.31  | -19.1   | -13.56  | -10.74  | -8.22   | -8.13   | -13.8   | -16.2   | -10.84  | -14.12  | -9.11   | -12.18  | -9.35   | -26.64  | -14.93  |
| Θ(120°)  | -11.65 | -10.49 | -10.23 | -7.29  | -6.27  | -9.25  | -13.52 | -10.49  | -12.81  | -17.93  | -14.63  | -12.44  | -12.56  | -9.91   | -9.7    | -10.09  | -15.08  | -14.71  | -11.55  | -7.53   | -12.67  | -12.62  | -23.4   | -14.14  |
| Θ(135°)  | -8.28  | -8.47  | -9.29  | -7.24  | -8.19  | -8.85  | -13.29 | -14.39  | -15.79  | -12.99  | -10.66  | -10.44  | -9.97   | -9.26   | -13.13  | -13.77  | -9.12   | -8.19   | -11.82  | -13.08  | -14.48  | -16.25  | -18.75  | -16.29  |
| Θ(150°)  | -8.61  | -12.63 | -10.37 | -5.94  | -6.7   | -8.28  | -10.46 | -11.45  | -10.35  | -9.31   | -9.68   | -10.9   | -13.18  | -11.47  | -9.13   | -9.37   | -9.44   | -12.41  | -21.19  | -12.94  | -11.37  | -16.54  | -19.87  | -12.34  |
| Θ(165°)  | -16.96 | -16.19 | -13.38 | -10.3  | -8.19  | -8.34  | -9.13  | -8.91   | -7.92   | -7.95   | -9.34   | -10.3   | -11.27  | -10.28  | -10.6   | -11.74  | -12.73  | -12.83  | -15.51  | -14.45  | -14.35  | -21.35  | -21.15  | -15.34  |
| Θ(180°)  | -12.08 | -9.91  | -9.67  | -10.18 | -10.99 | -11.41 | -12.28 | -13.03  | -13.68  | -14.22  | -16.87  | -19.51  | -19.34  | -15.46  | -13.33  | -12.94  | -12.6   | -14.02  | -16.8   | -16.87  | -14.55  | -12.45  | -15.25  | -15.77  |
| Freq(Hz) | 2.45G  | Pol.   | Theta  | Ant. 1 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -11.15 | -13.42 | -13.43 | -9.28  | -6.45  | -4.71  | -3.52  | -2.48   | -2.26   | -3.54   | -5.53   | -6.88   | -8.43   | -10.52  | -10.41  | -8.03   | -5.3    | -3.46   | -2.97   | -3.22   | -3.45   | -2.85   | -3.49   | -6.68   |
| Θ(15°)   | -15.78 | -22.63 | -19.9  | -10.6  | -6.59  | -4.55  | -2.8   | -1.59   | -0.77   | -0.29   | -1.06   | -3.96   | -7.45   | -8.17   | -6.71   | -4.01   | -2.39   | -1.54   | -1.3    | -2.12   | -3.17   | -3.99   | -5.76   | -9.27   |
| Θ(30°)   | -11.4  | -10.51 | -8.04  | -4.35  | -2.53  | -1.98  | -0.58  | 0.89    | 1.16    | 0.81    | 1.12    | 1.01    | -2.49   | -6.57   | -4.24   | -1.13   | 1.25    | 1.81    | 0.58    | -0.78   | -2.77   | -6.98   | -10.5   | -11.39  |
| Θ(45°)   | -5.11  | -4.88  | -3.29  | 0.03   | 0.65   | 0.33   | 0.61   | 0.88    | 0.65    | 0.76    | 0.24    | 0.53    | -0.5    | -4.66   | -1.85   | 0       | 1       | 1.75    | 0.56    | -0.87   | -2.7    | -5.14   | -6.42   | -6.4    |
| Θ(60°)   | -4.3   | -1.89  | -1.26  | 1.24   | 1.76   | 0.16   | -0.21  | 0.02    | -0.06   | 0.04    | -0.93   | -0.35   | -0.08   | -3.05   | -0.85   | -0.68   | 0.36    | 2.04    | 1.05    | -0.38   | -2.42   | -4.62   | -2.97   | -3.56   |
| Θ(75°)   | -4.76  | -3.95  | -1.15  | 1.11   | 0.96   | -2.28  | -1.22  | -1.52   | -1.08   | -1.12   | -0.98   | -1.2    | -0.66   | -2.43   | -0.71   | -0.38   | -1.06   | 1.09    | 0.75    | 0.14    | -0.78   | -3.78   | -5.54   | -4.96   |
| Θ(90°)   | -6.74  | -3.46  | -1.51  | -1.31  | -0.98  | -6     | -2.46  | -2.6    | -2.14   | -2.92   | -2.89   | -1.46   | -1.81   | -2.6    | -2.04   | -3.13   | -3.17   | -0.16   | 0.76    | 0.15    | -1.57   | -5.87   | -9.42   | -5.98   |
| Θ(105°)  | -5.05  | -4.54  | -2.64  | -3.64  | -1.75  | -10.12 | -8.05  | -7.2    | -3.62   | -1.3    | -1.76   | -4      | -1.36   | -3.62   | -6.21   | -4.49   | -3.9    | -1.63   | -2.54   | -1.16   | -2.44   | -4.61   | -10.39  | -3.58   |
| Θ(120°)  | -7.33  | -5.25  | -8.46  | -5.16  | -4.11  | -4.65  | -4.94  | -4.1    | -4.34   | -4.21   | -3.72   | -3.85   | -4.21   | -8.94   | -4.16   | -5.97   | -9.8    | -5.87   | -7.84   | -7.64   | -9.11   | -6.37   | -6.84   | -4.48   |
| Θ(135°)  | -21.33 | -18.78 | -18.94 | -10.97 | -9.8   | -6.57  | -5.38  | -5.56   | -5.67   | -6.68   | -9.1    | -7.06   | -5.96   | -11.15  | -6.5    | -6.9    | -9.27   | -11.12  | -17.54  | -8.47   | -7.09   | -7.95   | -13.26  | -12.92  |
| Θ(150°)  | -19.66 | -11.94 | -11.68 | -15.56 | -19.68 | -15    | -13.73 | -14.42  | -15.92  | -17.23  | -9.33   | -8.95   | -12.64  | -9.62   | -9.04   | -12.79  | -14.75  | -13.65  | -19.82  | -23.76  | -17.13  | -10.87  | -9.2    | -11.32  |
| Θ(165°)  | -12.87 | -17.75 | -15.84 | -16.06 | -19.6  | -16.35 | -12.72 | -9.79   | -7.73   | -6.64   | -7.16   | -7.34   | -8.12   | -10.49  | -12.98  | -13.67  | -13.29  | -16.71  | -27.54  | -17.25  | -12.36  | -10.29  | -12.08  | -12.2   |
| Θ(180°)  | -13.05 | -15.09 | -14.8  | -15.21 | -16.8  | -16.88 | -14.56 | -12.15  | -11.22  | -11.41  | -13.79  | -16.24  | -17.71  | -18.17  | -17.72  | -18.36  | -17.72  | -16.28  | -13.72  | -12.07  | -11.41  | -13.04  | -12.32  | -11.21  |
| Freq(Hz) | 5.2G   | Pol.   | Phi    | Ant. 1 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -15.1  | -23.27 | -26.68 | -17.62 | -11.85 | -8.69  | -6.22  | -6.75   | -5.78   | -6.55   | -7.14   | -9.43   | -12.31  | -21.14  | -22.8   | -13.16  | -9.51   | -7.46   | -6.94   | -6.06   | -5.82   | -6.08   | -7.63   | -10.92  |
| Θ(15°)   | -11.76 | -14.59 | -20.32 | -10.49 | -7.17  | -5.64  | -8.16  | -10.11  | -9.32   | -7.69   | -7.4    | -6.05   | -8.85   | -11.66  | -8.92   | -10.82  | -2.26   | -8.92   | -6.76   | -7.6    | -7.38   | -5.71   | -6.02   | -7.32   |
| Θ(30°)   | -11.32 | -8.87  | -15.68 | -13.59 | -9.97  | -6.14  | -8.3   | -7.36   | -10.12  | -10.92  | -11.1   | -10.5   | -8.58   | -9.32   | -12.99  | -14.23  | -11.42  | -8.52   | -4.66   | -9.8    | -5.85   | -10     | -16.4   | -7.88   |
| Θ(45°)   | -9.33  | -16.19 | -10.02 | -12.02 | -4.39  | -7.86  | -12.7  | -13.23  | -19.49  | -24.24  | -12.93  | -13.3   | -7.94   | -10.13  | -6.11   | -13.8   | -11.61  | -13.34  | -7.58   | -7.81   | -9.67   | -11.94  | -7.96   | -10.96  |
| Θ(60°)   | 3.89   | -11.16 | -10.92 | -12.02 | -4.66  | -9.77  | -12.45 | -17.38  | -23.88  | -27.94  | -13.94  | -13.86  | -11.55  | -11.28  | -7.7    | -10.93  | -10.15  | -17.01  | -7.87   | -10.25  | -12.86  | -12.61  | -22.49  | -5.56   |
| Θ(75°)   | -12.78 | -18.7  | -21.03 | -8.71  | -7.15  | -8.88  | -12.41 | -16.35  | -16.32  | -19.84  | -12.27  | -22.6   | -10.68  | -14.46  | -9.89   | -8      | -11.28  | -9.78   | -7.63   | -10.7   | -9.21   | -11.07  | -13.37  | -7.96   |
| Θ(90°)   | -15.28 | -10.59 | -27.8  | -13.68 | -9.29  | -9.64  | -13.38 | -12.28  | -18.06  | -16.05  | -13.27  | -27     | -14.2   | -13.41  | -10.99  | -6.89   | -12.35  | -7.81   | -10.29  | -9.39   | -11.79  | -12.03  | -10.33  | -14.18  |
| Θ(105°)  | -12.27 | -10.97 | -18.63 | -11.67 | -12.3  | -9.25  | -9.22  | -10.01  | -15.22  | -11.62  | -13.19  | -24.1   | -15.52  | -14.01  | -12.68  | -6.53   | -7.55   | -11.31  | -11.27  | -14.69  | -17.72  | -13.4   | -14.04  | -23.42  |
| Θ(120°)  | -18.2  | -27.48 | -12.86 | -10.25 | -9.91  | -10.48 | -11.69 | -14.1   | -10.33  | -11.5   | -18.11  | -16.79  | -14.17  | -13.79  | -15.67  | -5.7    | -9.18   | -10.94  | -9.94   | -11.07  | -26.65  | -19.39  | -21.6   | -15.18  |
| Θ(135°)  | -9.83  | -9.66  | -8.47  | -10.13 | -6.07  | -11.47 | -9.86  | -10.08  | -10.35  | -14.75  | -15.24  | -18.07  | -12.58  | -16.33  | -17.63  | -10.45  | -11.53  | -12.97  | -8.09   | -16.48  | -24.08  | -23.64  | -18.03  | -10.11  |
| Θ(150°)  | -20.96 | -15.79 | -10.42 | -13.42 | -11.78 | -10.79 | -10.08 | -11.92  | -14.41  | -17.89  | -15.69  | -17.22  | -19.95  | -17.55  | -19.36  | -17.5   | -10.66  | -9.62   | -16.36  | -15.15  | -27.28  | -20.31  | -20.22  | -16.25  |
| Θ(165°)  | -17.62 | -17.94 | -20.82 | -12.7  | -11.14 | -9.94  | -8.51  | -9.6    | -10.1   | -12.88  | -16.86  | -28.06  | -24.13  | -15.24  | -12.09  | -14.76  | -10.66  | -17.57  | -9.98   | -10.24  | -13.07  | -14.29  | -15.26  | -26.6   |
| Θ(180°)  | -16.75 | -14.38 | -11.29 | -12.56 | -14.87 | -13.97 | -16.05 | -16.77  | -13.64  | -19.46  | -16.35  | -20.34  | -11.33  | -13.4   | -15.45  | -14.81  | -14.89  | -19.79  | -16.42  | -13.31  | -14.23  | -17.76  | -20.69  | -17.81  |
| Freq(Hz) | 5.2G   | Pol.   | Theta  | Ant. 1 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -5.88  | -5.84  | -6.56  | -6.53  | -8.45  | -9.78  | -13.98 | -18.12  | -25.26  | -16.77  | -12.78  | -8.87   | -6.6    | -6.25   | -5.28   | -5.84   | -7.01   | -9.87   | -17.21  | -21.48  | -18.5   | -11.96  | -8.52   | -8.59   |
| Θ(15°)   | -14.39 | -15.95 | -14.41 | -13.4  | -12.15 | -12.47 | -13.09 | -8.61   | -7.04   | -5.75   | -4.21   | -3.07   | -1.6    | -0.24   | -1.41   | -4.3    | -4.12   | -3.59   | -4.8    | -6.66   | -7.65   | -9.22   | -7.7    | -9.35   |
| Θ(30°)   | -4.69  | -5.39  | -8.27  | -9.6   | -12.9  | -11.15 | -6.82  | -2.54   | -2.85   | -4.52   | -1.77   | -0.35   | -0.72   | -1.74   | -4.04   | 1.14    | -0.44   | -2.31   | -3.49   | -4.11   | -5.84   | -7.28   | -5.5    | -5.29   |
| Θ(45°)   | -1.49  | -4.33  | -8.37  | -9.03  | -7.05  | -5.58  | -1.48  | -1.35   | -1.27   | -2.79   | -1.23   | 0.02    | 0.59    | -0.71   | -0.55   | -1.72   | 0.21    | -1.61   | -2.57   | -3.71   | -3.35   | -2.13   | -0.01   | -1.58   |
| Θ(60°)   | 0.7    | -2.34  | -2.34  | -4.44  | -4.64  | -3.47  | -2.86  | -2.98   | -1.23   | -1.03   | -0.71   | -1.54   | 0.57    | -1.32   | -0.76   | -1.7    | -1.21   | -1.72   | -1.27   | -4.76   | -4.82   | -1.83   | -3.42   | -0.1    |
| Θ(75°)   | 3.99   | -0.62  | -1.93  | -2.1   | -5.18  | -1.72  | -1.23  | -2.41</ |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |



|          |        |        |        |        |        |        |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
|----------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Θ(135°)  | -12.94 | -12.67 | -11.4  | -11.35 | -10.49 | -10.58 | -13.27 | -17.08  | -11.38  | -13.01  | -22.8   | -15.63  | -20.95  | -15.95  | -19.78  | -12.57  | -13.6   | -13.08  | -10.45  | -18.91  | -21.77  | -16.35  | -18.91  | -13.27  |
| Θ(150°)  | -18.59 | -17.23 | -13.72 | -12.67 | -12.01 | -10.92 | -11.91 | -12.33  | -13.05  | -22.33  | -16.23  | -16.12  | -25.81  | -13.52  | -15.99  | -26.95  | -14.12  | -10.25  | -13.9   | -17.6   | -22.92  | -19.78  | -16.42  | -18.8   |
| Θ(165°)  | -27.27 | -27.04 | -16.01 | -11.54 | -12.57 | -11.08 | -11.76 | -12.46  | -14.03  | -17.68  | -15.7   | -24.89  | -23.56  | -22.48  | -12.34  | -13.24  | -18.81  | -11.12  | -26.28  | -13.05  | -11.67  | -15.41  | -24.46  | -24.45  |
| Θ(180°)  | -20.99 | -24.06 | -20.22 | -17.54 | -18.39 | -20.9  | -15.82 | -16.19  | -14.32  | -14.37  | -15.9   | -19.23  | -20.35  | -19.41  | -18.95  | -15.37  | -14.4   | -15.87  | -19.28  | -11.98  | -13.52  | -13.6   | -18.38  | -26.91  |
| Freq(Hz) | 5.6G   | Pol.   | Theta  | Ant. 1 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -11.55 | -11.5  | -10.58 | -9.24  | -8.8   | -8.27  | -8.41  | -8.31   | -8.98   | -8.58   | -11.65  | -9.51   | -10.39  | -10.46  | -8.72   | -8.41   | -8.66   | -9.24   | -9.99   | -12.72  | -13.67  | -14.64  | -14.48  | -13.78  |
| Θ(15°)   | -16.04 | -12.19 | -8.29  | -7.08  | -6.99  | -7.88  | -6.29  | -4.57   | -3.32   | -2.72   | -2.61   | -3.99   | -5.13   | -5.21   | -3.22   | -3.91   | -6.24   | -6.63   | -6.01   | -8.36   | -10.39  | -16.97  | -17.57  | -27.84  |
| Θ(30°)   | -5.22  | -7.81  | -5.39  | -10.35 | -11.13 | -6.08  | -1.82  | -1.61   | -1.42   | -0.87   | -0.56   | -1.25   | -1.53   | -2.02   | -1.5    | -4.54   | -2.45   | -5.15   | -6.32   | -7.04   | -15.48  | -9.99   | -7.76   | -7.52   |
| Θ(45°)   | -3.64  | -5.58  | -4.75  | -18.13 | -7.22  | -4.25  | -3.63  | -1.78   | -2.24   | -0.41   | -0.18   | -1.77   | -1.45   | -1.83   | -2.31   | -2.11   | -5      | -1.35   | -3.63   | -4.74   | -4.76   | -4.54   | -1.91   | -4.51   |
| Θ(60°)   | -1.39  | -3.43  | -6.06  | -8.69  | -6.46  | -3.41  | -1.76  | -1.93   | -1.6    | -1.72   | -2.46   | -2.19   | -1.93   | -1.89   | -1.99   | -3.77   | -3.82   | -2.91   | -4.65   | -6.69   | -4.83   | -3.97   | -1.49   | -1.31   |
| Θ(75°)   | 2.9    | -2.02  | -4.16  | -7.5   | -5.78  | -3.01  | -2.29  | -2.39   | -1.63   | -1.09   | -1.2    | -0.93   | -4.01   | -0.96   | -2.5    | -3.34   | -5.64   | -3.34   | -2.45   | -7.53   | -5.84   | -2.56   | -3.58   | 0.86    |
| Θ(90°)   | 1.37   | -5.75  | -7.44  | -8.9   | -7.06  | -4.03  | -5.06  | -5.74   | -3.26   | -3.04   | -2.58   | -1.92   | -3.6    | -2.41   | -3.57   | -4.75   | -6.98   | -5.16   | -2.3    | -7.34   | -6.45   | -2.66   | -3.39   | -0.79   |
| Θ(105°)  | -6.35  | -10.35 | -6.83  | -8.44  | -7.34  | -6.95  | -5.82  | -6.95   | -4.48   | -3.58   | -4.98   | -4.37   | -3.61   | -3.83   | -5.34   | -7.42   | -7.67   | -10.2   | -5.23   | -10.53  | -10.01  | -12.22  | -6.23   | -6.81   |
| Θ(120°)  | -3.18  | -5.39  | -9.63  | -10.02 | -10.12 | -10.63 | -11.47 | -8.98   | -5.23   | -7.92   | -6.1    | -4.13   | -6.33   | -5.8    | -8.3    | -12.47  | -12.73  | -21.34  | -12.41  | -13.79  | -13.46  | -7.06   | -5.84   | -9.27   |
| Θ(135°)  | -13.93 | -14.58 | -26.5  | -19.3  | -15.24 | -13.59 | -10.95 | -10.1   | -8.66   | -7.98   | -5.25   | -4.75   | -10.05  | -7.78   | -9.94   | -11.32  | -17.31  | -20.61  | -22.67  | -15.26  | -9.6    | -8.35   | -9.55   | -18.39  |
| Θ(150°)  | -28.14 | -17.15 | -14.11 | -26.02 | -22.33 | -20.73 | -20.7  | -15.67  | -12.22  | -12.37  | -11.13  | -10.14  | -8.17   | -10.2   | -15.05  | -13.18  | -11.15  | -24.72  | -20.07  | -21.77  | -12.97  | -13.31  | -12.72  | -27.23  |
| Θ(165°)  | -18.71 | -24.31 | -13.99 | -12.56 | -16.14 | -23.92 | -26.22 | -20.07  | -14.98  | -15.07  | -12.76  | -12.48  | -13.07  | -14.07  | -15.38  | -22.79  | -14.65  | -15.19  | -16.62  | -14.41  | -10.8   | -10.32  | -14.93  | -17.69  |
| Θ(180°)  | -17.09 | -14.37 | -13.58 | -16.64 | -18.47 | -21.09 | -21.27 | -22.21  | -17.62  | -15.79  | -14.44  | -12.41  | -12.42  | -16.69  | -17.31  | -15.51  | -17.47  | -19.51  | -19.42  | -23.42  | -23.71  | -20.11  | -20.41  | -17.12  |
| Freq(Hz) | 5.785G | Pol.   | Phi    | Ant. 1 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -7.79  | -7.75  | -9.17  | -9.67  | -8.87  | -9.51  | -7.44  | -8.9    | -7.98   | -8.99   | -8.61   | -7.68   | -8.52   | -6.86   | -8.36   | -7.4    | -8.14   | -9.23   | -10.32  | -9.5    | -9.57   | -8.54   | -7.14   | -8.84   |
| Θ(15°)   | -8.61  | -8.77  | -7.89  | -7.28  | -10.23 | -10.65 | -7.3   | -6.98   | -10.88  | -12.19  | -10.8   | -6.64   | -5.02   | -4.7    | -6.48   | -5.58   | -4.85   | -7.98   | -13.69  | -7.16   | -8.13   | -9.83   | -11.54  | -10.26  |
| Θ(30°)   | -10.24 | -9.87  | -9.45  | -8.41  | -7.01  | -7.26  | -8.75  | -10.85  | -20.02  | -16.5   | -12.51  | -10.42  | -4.79   | -4.47   | -4.55   | -4.25   | -11.35  | -6.65   | -7.13   | -6.82   | -12.28  | -7.83   | -7.64   | -8.58   |
| Θ(45°)   | -7.95  | -14.72 | -13.46 | -6.3   | -6.06  | -7.09  | -7.65  | -17.61  | -15.5   | -13.96  | -11.97  | -9.27   | -5.98   | -7.44   | -8.72   | -4.7    | -9.39   | -7.11   | -13     | -8.05   | -8.13   | -9.42   | -7.79   | -9.42   |
| Θ(60°)   | -7.46  | -18.17 | -11.9  | -6.63  | -7.25  | -8.53  | -14.56 | -14.28  | -14.48  | -11.13  | -12.21  | -11.6   | -8.73   | -8.42   | -9.56   | -6.57   | -8.06   | -7.59   | -11.41  | -11.27  | -12.16  | -13.77  | -13.12  | -5.1    |
| Θ(75°)   | -9.78  | -11.67 | -8.11  | -7.43  | -9.83  | -12.51 | -13.54 | -16.98  | -17.33  | -13.53  | -12.03  | -13.4   | -8.7    | -13.63  | -12.16  | -7.44   | -7.59   | -9.97   | -9.89   | -11.58  | -10.48  | -11.26  | -9.93   | -7.4    |
| Θ(90°)   | -11.42 | -11.65 | -16.21 | -12.54 | -12.78 | -14.46 | -18.65 | -21.61  | -15.64  | -12.59  | -13.3   | -17.84  | -12.59  | -18.56  | -13.73  | -8.74   | -7.73   | -12.66  | -11.6   | -12.18  | -9.81   | -16.05  | -12.78  | -12.74  |
| Θ(105°)  | -11.42 | -19.8  | -27.78 | -13.45 | -14.95 | -20.66 | -17.82 | -14.16  | -11.68  | -14.42  | -12.74  | -22.19  | -15.1   | -27.14  | -20.57  | -11.57  | -8.49   | -15.97  | -15.64  | -10.77  | -14.53  | -27.87  | -14.92  | -19.92  |
| Θ(120°)  | -16.28 | -26.85 | -19.12 | -19.35 | -14.62 | -14.34 | -11.17 | -12.79  | -13.36  | -16.45  | -18.31  | -16.45  | -18.31  | -20.33  | -17.7   | -16.28  | -7.29   | -23.9   | -8.31   | -13.69  | -15.81  | -17.04  | -23.98  | -14.21  |
| Θ(135°)  | -14.2  | -13.98 | -14.33 | -13.89 | -12.34 | -12.44 | -12.28 | -13.83  | -14.25  | -10.67  | -21.15  | -17.14  | -28.08  | -22.85  | -19.06  | -12.85  | -13.58  | -14.67  | -14.62  | -23.98  | -28.07  | -19.27  | -18.17  | -10.51  |
| Θ(150°)  | -14.99 | -19.67 | -18.84 | -13.66 | -11.73 | -14.46 | -10.96 | -12.87  | -13.25  | -19.45  | -15.41  | -16.15  | -27.63  | -11.92  | -19.15  | -26.37  | -18.47  | -13.18  | -14.34  | -17.68  | -26.89  | -17.66  | -16.97  | -14.04  |
| Θ(165°)  | -19.09 | -27.19 | -13.98 | -12.67 | -14.16 | -11.52 | -13.24 | -17.16  | -20.41  | -20.23  | -18.38  | -23.86  | -28.25  | -19.39  | -12.56  | -13.75  | -26.49  | -11.72  | -17.92  | -16.16  | -13.06  | -15.27  | -18.41  | -17.41  |
| Θ(180°)  | -24.73 | -27.49 | -27.9  | -19.3  | -14.83 | -15.59 | -15.7  | -16.43  | -16.08  | -13.89  | -15.62  | -15.44  | -19.15  | -20.31  | -22.69  | -18.44  | -18.99  | -22.11  | -16.42  | -14.7   | -14.48  | -15.1   | -19.33  | -24.14  |
| Freq(Hz) | 5.785G | Pol.   | Theta  | Ant. 1 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -10.05 | -10.82 | -11.13 | -10.11 | -8.97  | -8.73  | -7.85  | -7.27   | -7.05   | -6.31   | -6.6    | -6.69   | -6.14   | -7.86   | -7.34   | -7.74   | -7.62   | -8.66   | -8.5    | -9.14   | -10.01  | -7.86   | -10.56  | -11.54  |
| Θ(15°)   | -13.42 | -9.71  | -7.64  | -8.39  | -8.85  | -7.68  | -4.31  | -3.17   | -3.1    | -3.35   | -1.87   | -2.39   | -4.46   | -6.1    | -5.73   | -5.64   | -7.18   | -9.6    | -7.47   | -7.16   | -8.57   | -11.89  | -13.14  | -17     |
| Θ(30°)   | -5.94  | -7.95  | -6.87  | -10.94 | -11.44 | -4.09  | -2.42  | -0.61   | -0.95   | -0.98   | -2.52   | -1.07   | -0.69   | -2.5    | -1.72   | -5.13   | -4.94   | -5.01   | -9.86   | -9.83   | -12.21  | -13.43  | -14.25  | -11.19  |
| Θ(45°)   | -4.39  | -6.72  | -5.65  | -11.34 | -6.36  | -2.79  | -1.52  | -1.9    | -1.38   | -0.46   | -0.64   | -2.09   | -2.96   | -2.05   | -1.91   | -3.03   | -7.02   | -1.86   | -4.59   | -5.25   | -4.95   | -4.53   | -3.86   | -4.29   |
| Θ(60°)   | -2.58  | -3.4   | -6.67  | -11.52 | -6.2   | -3.22  | -3.16  | -1.68   | -1.81   | -1.31   | -1.68   | -0.72   | -1.88   | -0.46   | -2.41   | -2.67   | -3.15   | -2.2    | -6.71   | -6.93   | -5.74   | -4.43   | -1.35   | -2.47   |
| Θ(75°)   | 1.52   | -3.24  | -6.02  | -5.62  | -8.6   | -6     | -3.04  | -2.72   | -2.49   | -2.79   | -1.95   | -0.02   | -2.16   | -2.33   | -2.52   | -3.5    | -4.23   | -2.4    | -5.13   | -8.84   | -5.32   | -3.8    | -2.15   | -0.05   |
| Θ(90°)   | 0.27   | -5.74  | -8.68  | -6.27  | -7.87  | -5.64  | -5.01  | -4.81   | -4.42   | -4.86   | -3.76   | -2.54   | -2.16   | -5.9    | -2.74   | -3.52   | -6.68   | -2.7    | -2.99   | -7.12   | -4.29   | -4.16   | -4.36   | -2.02   |
| Θ(105°)  | -6.17  | -10.02 | -10.01 | -7.95  | -8.44  | -7.36  | -4.93  | -7.12   | -8.88   | -3.64   | -3.79   | -3.64   | -3.15   | -6.23   | -3.11   | -8.35   | -7.47   | -7.48   | -10.33  | -10.53  | -9.51   | -18.97  | -7.17   | -6.95   |
| Θ(120°)  | -3.71  | -7.09  | -14.11 | -11.6  | -18.72 | -16.24 | -11.28 | -8.42   | -6.32   | -7.01   | -7.86   | -4.84   | -4.76   | -5.25   | -8.19   | -11.43  | -15.33  | -14.17  | -13.69  | -16.7   | -11.2   | -7.49   | -6.26   | -8.03   |
| Θ(135°)  | -10.23 | -16.08 | -17.4  | -25.82 | -20.95 | -11.5  | -8.1   | -11.86  | -8.9    | -11.86  | -9.52   | -5.83   | -10.43  | -8.38   | -9.78   | -12.64  | -23.37  | -27.44  | -27.06  | -9.84   | -9.16   | -9.29   | -9.18   | -14.13  |
| Θ(150°)  | -20.52 | -20.56 | -23.78 | -23.09 | -19.32 | -21.72 | -19.43 | -19     | -13.31  | -12.19  | -10.75  | -9.14   | -8.33   | -9.67   | -16.84  | -17.04  | -12.82  | -22.74  | -19.83  | -26.73  | -14.98  | -14.01  | -10.87  | -17.87  |
| Θ(165°)  | -25.28 | -18.53 | -12.81 | -16.43 | -27.92 | -26.47 | -19.61 | -16.56  | -12.86  | -14.61  | -14.32  | -12.61  | -13.34  | -12.42  | -13.52  | -26.1   | -17.95  | -18.47  | -18.01  | -20.77  | -15.75  | -14.5   | -20.36  | -25.45  |
| Θ(180°)  | -13.38 | -12.67 | -12.99 | -16.8  | -17.09 | -21.69 | -25.18 | -28.26  | -27.23  | -26.56  | -20.26  | -16.85  | -14.59  | -17.4   | -20.96  | -19.1   | -19.83  | -20.4   | -17.18  | -21.59  | -28.23  | -23.25  | -22.29  | -16.33  |
| Freq(Hz) | 2.45G  | Pol.   | Phi    | Ant. 2 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -9.81  | -16.86 | -25.94 | -13.28 | -10.19 | -5.7   | -2.72  | -3.69   | -2.96   | -4.19   | -6.66   | -11.32  | -21.29  | -15.97  | -10.87  | -10.87  | -7.37   | -4.47   | -2.81   | -2.69   | -2.67   | -2.62   | -4.16   | -6.3    |
|          |        |        |        |        |        |        |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |



Radiated Composite Gain of 2.4GHz 5GHz U-NII 1~U-NII 3 4TX

Appendix B

|          |        |        |        |        |        |        |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
|----------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Θ(90°)   | -4.31  | -1.1   | -2.04  | -0.92  | -3.89  | -2.12  | -1.42  | -1.63   | -2.32   | -1.91   | -1.77   | -3.01   | -2.64   | -4.21   | -7.11   | -13.24  | -3.95   | -4.29   | 0.89    | -4.87   | -14.36  | -4.28   | -3.48   | -0.55   |
| Θ(105°)  | -6.91  | -2.42  | -3.56  | -1.31  | -2.53  | -2.16  | -2.46  | -1.5    | -2.15   | -3.24   | -6.2    | -5.58   | -10.81  | -12.29  | -7.84   | -9.19   | -6.02   | -3.09   | -6.15   | -4.7    | -10.3   | -4.9    | -5.91   | -3.98   |
| Θ(120°)  | -8.17  | -5.87  | -6.25  | -2.69  | -4.93  | -3.25  | -1.58  | -2.38   | -7.15   | -11.67  | -15.43  | -26.73  | -18.39  | -11.85  | -20.51  | -23.31  | -7.49   | -5.21   | -8.45   | -11.97  | -15.94  | -8.83   | -11.93  |         |
| Θ(135°)  | -11.07 | -11.27 | -7.22  | -6.94  | -6.28  | -4.44  | -4.69  | -6.1    | -6.41   | -7.1    | -10.84  | -21.17  | -14.01  | -16.54  | -8.67   | -8.5    | -18.21  | -20.36  | -11.02  | -13.01  | -18.66  | -27.92  | -12.92  | -21.92  |
| Θ(150°)  | -24.16 | -17.2  | -15.6  | -9.4   | -6.95  | -7.72  | -6.09  | -6.72   | -9.94   | -15.45  | -12.83  | -18.41  | -19.17  | -22.26  | -20.26  | -14.28  | -13.55  | -13.35  | -14.4   | -22.97  | -10.25  | -12.14  | -15.79  | -20.33  |
| Θ(165°)  | -26.97 | -15.62 | -12.05 | -9.67  | -9.46  | -10.32 | -9.5   | -9.14   | -12.66  | -9.4    | -12.34  | -14.14  | -14.48  | -11.76  | -17.09  | -16.69  | -14.29  | -12.14  | -12.26  | -10.08  | -12.84  | -16.67  | -13.32  | -15.77  |
| Θ(180°)  | -28.24 | -27.44 | -18.75 | -16.8  | -14.78 | -12.36 | -10.93 | -11.4   | -13.44  | -16.68  | -15.13  | -19.5   | -28.15  | -26.19  | -21.41  | -13.1   | -12.89  | -13.28  | -11.69  | -12.78  | -12.94  | -13.62  | -17.5   | -21.89  |
| Freq(Hz) | 5.3G   | Pol.   | Phi    | Ant. 2 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -8.53  | -7.06  | -7.98  | -6.92  | -7.75  | -9.99  | -12.66 | -16.2   | -27.43  | -15.92  | -11.47  | -8.29   | -8.26   | -6.43   | -7.07   | -7.23   | -9.56   | -9.11   | -15.56  | -17.68  | -26.46  | -22.94  | -12.2   | -11.21  |
| Θ(15°)   | -7.35  | -6.92  | -8.16  | -11.22 | -11.28 | -13.45 | -13.83 | -12.91  | -13.59  | -16.32  | -23.11  | -10.86  | -12.45  | -13.15  | -10.54  | -7.16   | -8.74   | -9.76   | -10.4   | -15.95  | -28.08  | -13.47  | -10.66  | -8.77   |
| Θ(30°)   | -11.77 | -14.59 | -11.67 | -11.17 | -10.29 | -10.35 | -7.4   | -6.77   | -9.11   | -12.47  | -13.27  | -12.75  | -14.27  | -6.78   | -9.2    | -8.01   | -6.74   | -8.47   | -11.08  | -24.36  | -14.93  | -17.62  | -9.75   | -10.23  |
| Θ(45°)   | -13.07 | -10.46 | -9.84  | -15.85 | -20.19 | -8.03  | -6.74  | -8.9    | -7.53   | -5.92   | -8.65   | -15.15  | -7.24   | -7.91   | -4.7    | -14.65  | -9.56   | -19.67  | -18.46  | -13.81  | -19.43  | -12.85  | -11.45  | -9.23   |
| Θ(60°)   | -14.17 | -10.86 | -15.51 | -16.99 | -17.45 | -20.47 | -12.62 | -11.35  | -4.77   | -4.98   | -11.34  | -10.5   | -5.87   | -5.64   | -5.99   | -17.5   | -8.24   | -21.8   | -9.41   | -13.46  | -11.21  | -9.58   | -8.21   | -6.87   |
| Θ(75°)   | -11.86 | -9.26  | -13.3  | -10.44 | -16    | -20.88 | -17.31 | -13.79  | -5.31   | -4.47   | -6.39   | -5.95   | -5.93   | -5.59   | -15.09  | -16.7   | -5.7    | -11.49  | -16.58  | -11.54  | -21.71  | -12.05  | -8.76   | -8.22   |
| Θ(90°)   | -10.23 | -10.91 | -9.79  | -10.05 | -19.23 | -28.08 | -22.49 | -12.01  | -6.76   | -4.68   | -4.61   | -5.96   | -3.45   | -8.37   | -6.71   | -9.3    | -12.3   | -8.91   | -10.77  | -7.83   | -10.79  | -10.98  | -8.13   | -11.22  |
| Θ(105°)  | -7.76  | -9.2   | -6.69  | -9.24  | -13.13 | -26.87 | -18.32 | -15.01  | -7.81   | -5.61   | -3.67   | -5.11   | -6.58   | -3.7    | -7.9    | -9.82   | -14.07  | -17.58  | -7.97   | -9.86   | -8.64   | -12.41  | -9.35   | -9.07   |
| Θ(120°)  | -7.19  | -7.11  | -7.37  | -8.59  | -12.57 | -23.67 | -16.12 | -19.24  | -12.59  | -8.32   | -6.56   | -4.56   | -7.83   | -7.98   | -12.34  | -10.85  | -13.75  | -18.86  | -27.52  | -20.63  | -14.43  | -6.32   | -6.16   | -7.53   |
| Θ(135°)  | -8.32  | -6.38  | -7.2   | -9.53  | -14.9  | -14.32 | -24.88 | -17.27  | -14.03  | -7      | -10.54  | -9.07   | -11.43  | -15.83  | -14.55  | -13.92  | -17.45  | -12.11  | -13.24  | -16.08  | -11.55  | -7.74   | -8.25   | -8.46   |
| Θ(150°)  | -9.55  | -7.64  | -11.47 | -11.92 | -14.02 | -19.92 | -24.56 | -17.32  | -10.13  | -11.82  | -9.73   | -8.67   | -7.84   | -13.52  | -16.21  | -27.58  | -18.6   | -23.41  | -13.97  | -23.61  | -25.35  | -12.49  | -13.59  | -9.41   |
| Θ(165°)  | -7.07  | -8.82  | -11.24 | -19.25 | -28.23 | -24.92 | -26.87 | -19.92  | -16.3   | -9.13   | -7.52   | -11.8   | -22.08  | -15.36  | -28.14  | -17.47  | -18.91  | -19.37  | -24.74  | -19.95  | -16.2   | -16.94  | -11.75  | -8.65   |
| Θ(180°)  | -12.33 | -11.57 | -12.8  | -14.85 | -18    | -22.22 | -25.04 | -19.91  | -15.79  | -18.07  | -16.53  | -14.37  | -17.17  | -20.97  | -15.05  | -14.49  | -18.63  | -19.45  | -22.02  | -17.09  | -13.6   | -13.15  | -11.91  | -12.07  |
| Freq(Hz) | 5.3G   | Pol.   | Theta  | Ant. 2 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -12.59 | -15.81 | -27.06 | -25.95 | -13.01 | -10.88 | -9.19  | -7.12   | -6.83   | -7.14   | -8.31   | -10.58  | -14.16  | -26.44  | -23.44  | -14.23  | -10.85  | -9.02   | -9.83   | -7.94   | -6.98   | -7.73   | -8.16   | -10.28  |
| Θ(15°)   | -14.34 | -9.9   | -9.06  | -6.31  | -6.48  | -6.02  | -5.22  | -5.57   | -6.16   | -4.63   | -5.19   | -7.58   | -9.76   | -9.78   | -12.49  | -14.9   | -19.6   | -14.72  | -10.12  | -10.02  | -11.11  | -11.9   | -12.64  | -15.77  |
| Θ(30°)   | -9.67  | -8.68  | -5.09  | -5.68  | -6.09  | -6.14  | -3.99  | -4.12   | -3.51   | -2.58   | -1.6    | -2.34   | -3.12   | -5.56   | -7.79   | -6.44   | -9.23   | -11.74  | -18.74  | -17.03  | -14.93  | -11.16  | -14.72  | -12.07  |
| Θ(45°)   | -4.59  | -0.71  | -3.08  | -1.39  | -4.61  | -2.85  | -3.73  | -5.85   | -3.16   | 1.25    | 0.45    | -0.15   | -2.06   | -3.52   | -2.12   | -5.45   | -2.38   | -3.29   | -4.39   | -8.31   | -7.27   | -11.04  | -10.52  | -6.39   |
| Θ(60°)   | -2.03  | -2.8   | -1.47  | -2.32  | -1.88  | 0.15   | -2.83  | -5.42   | -2.38   | -0.81   | 1.62    | 0.4     | -1.32   | -2.75   | -2.2    | -1.69   | -1.97   | -8.56   | -4.68   | -5.1    | -3.06   | -6.39   | -2.87   | -1.74   |
| Θ(75°)   | -2.79  | 0.55   | -1.67  | -0.39  | -1.91  | -0.47  | -1.16  | -0.64   | -1.14   | -0.92   | 2.27    | 0.14    | -0.56   | -2.23   | -7.43   | -3.04   | -1.53   | -1.16   | -2.18   | 0.1     | -7.64   | -8.28   | -1.51   | 0.5     |
| Θ(90°)   | -3.74  | -0.29  | -3.17  | -1.03  | -3.09  | -2.46  | -1.35  | -1.36   | -1.93   | -2.48   | -1.02   | -0.8    | -3.61   | -3.19   | -3.97   | -10.44  | -4.03   | -3.77   | -0.69   | -4.77   | -16.86  | -3.72   | -0.47   | -0.21   |
| Θ(105°)  | -5.51  | -3.21  | -4.17  | -1.85  | -3.06  | -1.17  | -2.28  | -2.27   | -3.47   | -3.51   | -3.92   | -4.19   | -12.2   | -10.63  | -5.69   | -6      | -7.11   | -3.15   | -7.81   | -5.39   | -12.38  | -5.66   | -5.08   | -3.35   |
| Θ(120°)  | -8.97  | -6.18  | -7.21  | -2.71  | -4.44  | -3.73  | -3.66  | -3.45   | -5.21   | -7.4    | -8.98   | -14.96  | -27.76  | -20.44  | -13.2   | -21     | -17.49  | -9.46   | -8.09   | -10.19  | -10.39  | -28.1   | -7.72   | -9.48   |
| Θ(135°)  | -13.3  | -13.94 | -9.49  | -6.9   | -4.59  | -4.66  | -4.65  | -4.44   | -6.04   | -8.48   | -9.71   | -18.34  | -13.9   | -15.15  | -8.55   | -7.77   | -27.1   | -20.79  | -11.19  | -19.06  | -17.85  | -24.67  | -13.99  | -24.78  |
| Θ(150°)  | -22.65 | -15.11 | -15.14 | -7.97  | -7.96  | -7.13  | -6.34  | -8.17   | -10.76  | -11.63  | -14.93  | -13.68  | -19.36  | -20.44  | -19.93  | -14.7   | -10.49  | -12.94  | -19.44  | -28.1   | -12.51  | -12.8   | -14.23  | -28.52  |
| Θ(165°)  | -26.41 | -17.04 | -11.69 | -12.11 | -12.88 | -9.33  | -12.39 | -11.6   | -11.1   | -10.34  | -11.92  | -16.68  | -17.58  | -15.57  | -19.91  | -16.32  | -18.52  | -12.76  | -10.2   | -10.04  | -14.08  | -14.37  | -14.62  | -17.06  |
| Θ(180°)  | -23.7  | -27.75 | -17.73 | -15.55 | -13.57 | -13.59 | -10.89 | -12.32  | -15.13  | -22.9   | -21.56  | -24.17  | -27.48  | -24.83  | -18.22  | -13.39  | -12.47  | -11.99  | -12.45  | -13.22  | -12.91  | -12.97  | -17.91  | -24.79  |
| Freq(Hz) | 5.6G   | Pol.   | Phi    | Ant. 2 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -9.35  | -10.33 | -7.71  | -7.63  | -6.53  | -6.89  | -8.29  | -8.87   | -12.76  | -17.96  | -12.58  | -10.09  | -8.52   | -7.12   | -9.01   | -6.58   | -6.86   | -8.65   | -9.09   | -10.92  | -11.92  | -12.23  | -11.8   | -10.57  |
| Θ(15°)   | -6.84  | -8.87  | -8.81  | -7.97  | -7.58  | -9.12  | -10.75 | -12.37  | -10.67  | -13.49  | -20.28  | -13.22  | -8.25   | -9.46   | -10.83  | -8.74   | -9.54   | -8.74   | -10.08  | -13.44  | -14.18  | -11.63  | -8.53   | -7.01   |
| Θ(30°)   | -11.71 | -8.17  | -10.97 | -21.46 | -17.87 | -10.56 | -7.46  | -7.74   | -7.63   | -12.05  | -9.62   | -11.35  | -14.43  | -7.25   | -9.37   | -8.13   | -8.29   | -9.13   | -13.65  | -16.63  | -15.41  | -14.52  | -8.19   | -8.21   |
| Θ(45°)   | -9.12  | -13.33 | -9.08  | -21.82 | -25.44 | -12.26 | -9.62  | -7.61   | -5.49   | -6.26   | -10.47  | -12.44  | -7.99   | -6.72   | -7.27   | -14.12  | -9.27   | -14.66  | -11.58  | -11.46  | -22.19  | -12.05  | -7.89   | -9.46   |
| Θ(60°)   | -14.05 | -14.57 | -14.18 | -10.25 | -26.16 | -14.59 | -12.6  | -13.65  | -6.95   | -10.92  | -8.28   | -8.17   | -6.63   | -6.83   | -7.07   | -10.29  | -6.84   | -19.71  | -7.78   | -27.91  | -12.88  | -6.76   | -7.74   | -8.13   |
| Θ(75°)   | -10.7  | -15.59 | -14.97 | -11.18 | -12.85 | -14.67 | -13.93 | -12.37  | -8.55   | -8.16   | -7.87   | -5.33   | -5.9    | -6.03   | -9.71   | -15.77  | -6.07   | -11.14  | -27.4   | -9.15   | -27.24  | -9.68   | -6.62   | -8.27   |
| Θ(90°)   | -8.78  | -11.52 | -11.03 | -10.45 | -12.84 | -15.21 | -19.45 | -18.69  | -7.9    | -6.33   | -7.61   | -5.62   | -6.42   | -7.22   | -8.57   | -18.63  | -8.77   | -9.65   | -8.16   | -9.31   | -12.28  | -10.05  | -9.44   | -9.84   |
| Θ(105°)  | -8.81  | -8.59  | -9.8   | -8.88  | -12.21 | -14.68 | -26.81 | -15.94  | -9.36   | -6.81   | -6.1    | -7.11   | -4.44   | -6.84   | -10.2   | -12.11  | -14.62  | -20.73  | -7.66   | -11.34  | -8.43   | -8.6    | -9.79   | -9.92   |
| Θ(120°)  | -9.59  | -9.38  | -7.87  | -8.68  | -16.44 | -17.96 | -16.48 | -17.51  | -10.94  | -10.47  | -6.13   | -8.31   | -8.86   | -9.99   | -16.87  | -10.88  | -11.55  | -28.4   | -24.83  | -21.18  | -16.43  | -9.38   | -8.79   | -8.61   |
| Θ(135°)  | -9.54  | -6.89  | -9.01  | -9.99  | -14.76 | -20.7  | -27.27 | -17.66  | -12.29  | -8.28   | -11.15  | -9.23   | -12.65  | -11.94  | -16.26  | -14.23  | -19.54  | -17.24  | -14.48  | -26.01  | -10.75  | -15.35  | -10.13  | -8.78   |
| Θ(150°)  | -11.51 | -9.52  | -9.97  | -12.99 | -16.37 | -22.04 | -26.22 | -18.86  | -15.99  | -9.35   | -13.68  | -11.14  | -7.38   | -10.59  | -27.11  | -19.1   | -19.55  | -26.84  | -20.33  | -27.39  | -27.75  | -16.65  | -12.89  | -9.01   |
| Θ(165°)  | -10.32 | -12.47 | -15.39 | -13.39 | -19.84 | -24.08 | -22.4  | -17.23  | -19.88  | -11.24  | -7.66   | -9.93   | -28.52  | -12.16  | -25.66  | -24.57  | -17.88  | -22.51  | -27.69  | -26.78  | -26.25  | -17.65  | -13.41  | -9.72   |
| Θ(180°)  | -12.5  | -11.4  | -14.37 | -16.31 | -19.1  | -27.25 | -28.11 | -15.7   | -15.06  | -13.88  | -18.67  | -19.95  | -19.03  | -20.54  | -13.59  | -16.7   | -16.38  | -26     |         |         |         |         |         |         |



|          |        |        |        |        |        |        |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
|----------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Θ(45°)   | -6.73  | -8.21  | -9.94  | -12.69 | -13.24 | -5.97  | -4.58  | -6.27   | -5.62   | -4.92   | -5.65   | -4.01   | -3.51   | -5.49   | -18.45  | -10.56  | -13.14  | -8.03   | -6.36   | -4.33   | -3.26   | -3.19   | -3.96   | -5.21   |
| Θ(60°)   | -6.64  | -7.87  | -11.44 | -7.52  | -6.07  | -5.33  | -4.62  | -3.79   | -5.07   | -5.87   | -10.17  | -5.12   | -6.34   | -8.92   | -11.83  | -7.29   | -8.39   | -8.38   | -7.64   | -3.63   | -3.9    | -5.48   | -6.71   | -7.88   |
| Θ(75°)   | -10.24 | -11.78 | -8.95  | -4.51  | -5.68  | -5.02  | -4.03  | -4.2    | -3.01   | -4.37   | -13.81  | -12.3   | -7.6    | -12.08  | -9.46   | -4.47   | -6.87   | -7.91   | -7.77   | -3.49   | -7.18   | -8.56   | -7.39   | -9.82   |
| Θ(90°)   | -13.59 | -13.37 | -9.67  | -4.65  | -4.28  | -4.38  | -4.9   | -6.2    | -4.45   | -7.37   | -5.31   | -19.99  | -6.46   | -20.53  | -9.95   | -4.88   | -4.61   | -6.02   | -6.86   | -3.76   | -8.12   | -10.41  | -11.63  | -12.88  |
| Θ(105°)  | -12.24 | -12.77 | -11.01 | -4.43  | -3.75  | -5.72  | -6.67  | -5.2    | -5.02   | -7.07   | -3.76   | -15.65  | -8.73   | -16.97  | -4.12   | -5.09   | -4.84   | -9.24   | -8.17   | -5.44   | -11.91  | -11.19  | -10.74  | -15.31  |
| Θ(120°)  | -18.35 | -16.72 | -12.92 | -8.23  | -3.49  | -2.63  | -6.91  | -7.88   | -4.97   | -5.61   | -5.95   | -12.41  | -6.57   | -10.92  | -2.97   | -3.95   | -4.41   | -5.89   | -5.32   | -6.66   | -10.38  | -15.03  | -18.01  | -17.72  |
| Θ(135°)  | -20.86 | -18.99 | -10.46 | -8.54  | -8.6   | -7.44  | -6.04  | -6.18   | -11.02  | -10.25  | -12.79  | -10.56  | -7.82   | -7.94   | -5.18   | -3.66   | -3.92   | -8.16   | -6.76   | -5.31   | -7.04   | -12.49  | -18.81  | -25.56  |
| Θ(150°)  | -13.29 | -12.71 | -14.62 | -10.26 | -5.23  | -4.97  | -7.2   | -13.92  | -15.56  | -7.86   | -13.19  | -12.99  | -8.06   | -11.92  | -11.41  | -10.59  | -8.96   | -6.1    | -4.67   | -6.17   | -10.11  | -13.64  | -16.86  | -16.49  |
| Θ(165°)  | -26.22 | -12.41 | -9.84  | -9.85  | -11.69 | -15.1  | -18.85 | -22.51  | -20.11  | -19.32  | -27.08  | -21.73  | -19.35  | -25.6   | -18.01  | -13.4   | -11.07  | -9.27   | -7.46   | -6      | -5.49   | -6.64   | -8.83   | -14.29  |
| Θ(180°)  | -16.43 | -14.98 | -20.18 | -15.62 | -12.41 | -10.47 | -9.27  | -10.45  | -12.42  | -15.24  | -17.93  | -19.67  | -27.71  | -16.45  | -12.19  | -12.02  | -10.14  | -8.96   | -8.8    | -8.85   | -10.73  | -12.83  | -16.48  | -28.38  |
| Freq(Hz) | 2.45G  | Pol.   | Theta  | Ant. 3 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -6.39  | -3.4   | -2.16  | -2.12  | -2.42  | -2.92  | -3.99  | -6.22   | -10.96  | -12.89  | -10.41  | -10.83  | -7.28   | -3.95   | -3.09   | -2.57   | -2.73   | -3.57   | -4.66   | -7.64   | -12.22  | -16.34  | -14.16  | -9.6    |
| Θ(15°)   | -4.63  | -3.18  | -2.39  | -1.8   | -2.06  | -3.12  | -5.46  | -9.25   | -10.61  | -7.83   | -6.51   | -5.37   | -3.6    | -1.79   | -0.83   | -1.83   | -1.82   | -1.88   | -2.52   | -3.42   | -6.61   | -11.12  | -12.36  | -7.87   |
| Θ(30°)   | -1.39  | -0.56  | -0.99  | -1.28  | -2.06  | -3.19  | -4.92  | -4.53   | -2.61   | -1.98   | -3.3    | -6.06   | -5.97   | -3.13   | -1.2    | -0.58   | 0.5     | 0.23    | -1.09   | -2.01   | -4.4    | -7.75   | -4.66   | -2.78   |
| Θ(45°)   | -1.63  | -0.92  | -1.67  | -2.29  | -0.57  | 1.31   | 1.06   | 0.21    | -0.13   | -1.36   | -2.83   | -5.87   | -6.18   | -5.17   | -3.6    | -0.72   | 1.11    | 0.91    | 0.26    | -2.17   | -5.08   | -3.91   | -1.63   | -1.76   |
| Θ(60°)   | -3.01  | -1.85  | -1.84  | -2.86  | 0.31   | 3.37   | 3.74   | 2.58    | 2.2     | -0.36   | -1.55   | -5.72   | -6.63   | -9.17   | -3.51   | 0.02    | 1.71    | 0.85    | 1.35    | -0.39   | -3.11   | -0.7    | -0.25   | -1.3    |
| Θ(75°)   | -1.04  | -1.07  | -1.82  | -2.35  | 0.14   | 2.55   | 2.41   | 1.52    | 3.18    | -0.86   | -1.97   | -6.06   | -2.75   | -4.28   | -1.54   | 1.02    | 1.66    | 0.31    | 2.06    | -0.53   | -2.4    | 0.71    | 1.23    | 0.11    |
| Θ(90°)   | -1.41  | -0.41  | -2.56  | -3.53  | -1.42  | -0.13  | -1.03  | -0.89   | 2.26    | -2.25   | -1.19   | -5.21   | -3.01   | -3.43   | -0.96   | -0.5    | 0.96    | 0.31    | 1.15    | -1.6    | -3.03   | -0.01   | 0.34    | -1.5    |
| Θ(105°)  | -1.95  | -2.2   | -2.84  | -2.82  | -5.12  | -2.88  | -1.2   | -1.75   | -0.47   | -5.36   | -1.99   | -1.98   | -5.06   | -6.96   | -1.86   | -2.43   | -2.18   | -2.79   | 0.33    | -1.36   | -4.38   | -1.12   | 0.43    | -0.43   |
| Θ(120°)  | -4.68  | -3.83  | -5.94  | -10.56 | -8.08  | -3.04  | -4.36  | -8.3    | -11.74  | -18.38  | -9.57   | -4.25   | -9.58   | -7.63   | -6.99   | -13.99  | -8.91   | -7.56   | -3.51   | -3.97   | -4.36   | -2.6    | 0.65    | -0.69   |
| Θ(135°)  | -6.23  | -3.81  | -3.64  | -11.4  | -21.47 | -12.29 | -15.22 | -20.38  | -9.97   | -8.4    | -17.36  | -27.16  | -9.82   | -6.98   | -16     | -17.92  | -15.14  | -13.15  | -7.28   | -7.96   | -6.18   | -5.61   | -1.64   | -2.9    |
| Θ(150°)  | -9.99  | -11.23 | -13.06 | -18.14 | -16.01 | -24.81 | -12.61 | -7.85   | -8      | -12.96  | -7.71   | -3.74   | -5.29   | -8.71   | -16.28  | -12.51  | -8.73   | -14.94  | -16.68  | -9.88   | -9.74   | -12.18  | -15.09  | -15.48  |
| Θ(165°)  | -3.69  | -5.62  | -8.06  | -10.91 | -13.63 | -12.86 | -11.49 | -10.88  | -13.84  | -15.29  | -9.87   | -8.18   | -12.21  | -17.04  | -14.5   | -25.52  | -12.52  | -14.13  | -21.09  | -16.85  | -8.58   | -5.39   | -3.39   | -2.7    |
| Θ(180°)  | -13.63 | -15.08 | -14.7  | -16.3  | -19.34 | -26.2  | -23.16 | -16.31  | -13.32  | -12.29  | -13.23  | -11.93  | -10.65  | -11.57  | -12.77  | -12.65  | -16.72  | -21.68  | -17.83  | -11.93  | -9.95   | -9.68   | -10.87  | -       |
| Freq(Hz) | 5.2G   | Pol.   | Phi    | Ant. 3 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -19.96 | -11.19 | -10.24 | -6.68  | -5.17  | -4.72  | -5.3   | -5.89   | -6.63   | -8.75   | -14.66  | -19.89  | -16.01  | -10.65  | -8.07   | -6.11   | -4.7    | -5.89   | -5.66   | -5.58   | -6.81   | -7.75   | -14.06  | -19.65  |
| Θ(15°)   | -12.42 | -8.88  | -7.99  | -8.22  | -10.66 | -9.13  | -9.58  | -14.98  | -17.47  | -16.35  | -16.23  | -27.43  | -17     | -11.39  | -4.74   | -4.83   | -6.81   | -5.34   | -5.46   | -8.57   | -11.81  | -11.72  | -12.32  | -15.39  |
| Θ(30°)   | -19.8  | -21.47 | -15.25 | -8.65  | -6.29  | -5.77  | -9.18  | -12.09  | -10.42  | -27.22  | -12.61  | -12     | -18.09  | -13.52  | -11.06  | -10.45  | -7.36   | -5.04   | -8.41   | -5.58   | -10.13  | -20.4   | -15.49  | -14.39  |
| Θ(45°)   | -17.85 | -16.56 | -14.15 | -12.33 | -9.56  | -5.67  | -10.07 | -9.21   | -11.63  | -10.03  | -18.33  | -6.65   | -10.76  | -12.02  | -4.91   | -8.68   | -4.44   | -5.23   | -10.34  | -4.94   | -17.57  | -10.45  | -19.5   | -14.3   |
| Θ(60°)   | -15.44 | -16.88 | -18.09 | -6.03  | -8.95  | -7.66  | -5.87  | -7.62   | -16.34  | -15.89  | -23.83  | -11.39  | -13.11  | -5.96   | -5.43   | -9.97   | -7.61   | -6.78   | -10.88  | -5.84   | -23.27  | -22.66  | -14.42  | -12.64  |
| Θ(75°)   | -18.81 | -19.39 | -16.07 | -9.89  | -8.53  | -6.69  | -5.5   | -6.48   | -10.27  | -12.17  | -11.1   | -20.25  | -10.64  | -11.22  | -10.78  | -7.11   | -10.45  | -5.61   | -9.39   | -7.63   | -18.95  | -15.43  | -26.85  | -17.16  |
| Θ(90°)   | -22.66 | -17.13 | -13.49 | -10.18 | -10.43 | -6.45  | -7.84  | -8.58   | -12.54  | -13.6   | -10.62  | -16.25  | -21.28  | -18.68  | -21.57  | -9.3    | -10.69  | -10.49  | -10.56  | -11.15  | -14.83  | -9.58   | -20.78  | -27.78  |
| Θ(105°)  | -22.91 | -27.32 | -14.3  | -11.77 | -9.54  | -8.62  | -7.87  | -9.34   | -9.4    | -9.57   | -9.17   | -11.44  | -19.49  | -16.08  | -22.46  | -12.23  | -11.84  | -20.62  | -6.93   | -13.1   | -14.02  | -10.51  | -20.65  | -22.5   |
| Θ(120°)  | -23.9  | -24.54 | -12.97 | -13.66 | -8.43  | -11.49 | -7.14  | -11.98  | -11.22  | -12.92  | -10.51  | -13.62  | -23.37  | -19.01  | -14.56  | -12.86  | -10.43  | -12.93  | -7.81   | -10.93  | -15.05  | -17.25  | -21.43  | -19.7   |
| Θ(135°)  | -18.43 | -20.19 | -23.8  | -15    | -15.8  | -9.32  | -10.02 | -16.59  | -12.74  | -16.26  | -23.46  | -14.81  | -9.91   | -11.14  | -13.15  | -10.1   | -24.69  | -7.53   | -8.36   | -13.47  | -26.16  | -9.81   | -12.33  | -16.28  |
| Θ(150°)  | -15.57 | -22.86 | -16.18 | -13.68 | -12.07 | -21.4  | -8.9   | -16.24  | -13.23  | -12.28  | -13.71  | -14.62  | -13.56  | -11.42  | -18.5   | -27.74  | -9.57   | -8.59   | -13.27  | -17     | -13.69  | -13.68  | -19.39  | -19.03  |
| Θ(165°)  | -18.86 | -26.97 | -18.33 | -11.22 | -9.25  | -11.22 | -17.04 | -26.34  | -20.02  | -27.39  | -17.21  | -27.79  | -14.44  | -24.13  | -14.19  | -17.12  | -9.43   | -11.78  | -17.37  | -12.17  | -9.8    | -8.8    | -13.03  | -14.69  |
| Θ(180°)  | -16.98 | -23.69 | -17.59 | -11.69 | -10.96 | -12.74 | -15.42 | -15.52  | -14.61  | -13.21  | -16.89  | -18.35  | -18.14  | -22.75  | -23.12  | -15.11  | -11.06  | -8.76   | -6.69   | -6.66   | -8.77   | -10.14  | -11.2   | -12.22  |
| Freq(Hz) | 5.2G   | Pol.   | Theta  | Ant. 3 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -3.97  | -4.87  | -7.35  | -9.8   | -13.55 | -19.68 | -19.73 | -11.69  | -8.47   | -5.77   | -5.26   | -4.59   | -4.33   | -5.21   | -7.1    | -9.46   | -14.5   | -24.67  | -19.48  | -12.9   | -8.61   | -6.22   | -4.76   | -5.4    |
| Θ(15°)   | -2.09  | -2.01  | -3.01  | -4.3   | -6.43  | -10.56 | -17.49 | -27.19  | -18.01  | -14.94  | -18.55  | -17.45  | -18.08  | -11.89  | -10.92  | -10.55  | -8.8    | -8.78   | -6.72   | -4.54   | -2.13   | -2.1    | -2.32   | -2.5    |
| Θ(30°)   | -4.33  | -4.5   | -3.17  | -2.58  | -2.9   | -4.8   | -4.73  | -7.21   | -7.5    | -4.47   | -3.41   | -4.45   | -6.48   | -5.68   | -6.71   | -4.86   | -4.24   | -3.05   | -2.38   | -4.97   | -2.73   | -2.57   | -1.59   | -1.69   |
| Θ(45°)   | -1.21  | -3.66  | -2.31  | -1.07  | -1.02  | -3.65  | -3.17  | -1.04   | -2.29   | -1.52   | 0.87    | 2       | -0.22   | -1.49   | -4.71   | 0.04    | -0.52   | -2.2    | -2.79   | -1.29   | -0.96   | -0.06   | 2.51    | 1.48    |
| Θ(60°)   | -1.92  | -5.9   | -3.12  | -2.21  | -3.67  | -0.76  | -0.76  | 0.53    | -2.99   | 1       | -3.42   | -0.99   | 3.18    | 1.51    | -1.86   | -0.17   | -1.4    | -2.61   | -0.68   | 0.81    | -0.58   | 1.07    | 1.34    | 0.58    |
| Θ(75°)   | -3.58  | -7.48  | -5.64  | -0.46  | -4.12  | -1.27  | -1.65  | 0.33    | -4.41   | 4.38    | 2.7     | 2.71    | 2.19    | 4       | 0.31    | 1.16    | -0.6    | -1.12   | 0.56    | 0.65    | -2.8    | -0.9    | -1.36   | -0.77   |
| Θ(90°)   | -2.33  | -3.43  | -3.92  | -2.28  | -4.96  | -2.59  | -3.86  | -1.04   | -7      | 0.7     | 1.29    | -0.77   | 1.5     | 2.54    | -1.73   | -0.53   | -0.29   | -1.73   | -0.48   | -3.49   | -3.59   | -2.85   | -3.98   | -1.98   |
| Θ(105°)  | -4.9   | -3.15  | -5.33  | -4.38  | -10.2  | -5.33  | -4.08  | -4.25   | -4.02   | -1.64   | -2.88   | -2.96   | -3.43   | -1.01   | -12.04  | -3.98   | -6.11   | -7.24   | -3.95   | -9.31   | -5.11   | -5.28   | -6.52   | -3.75   |
| Θ(120°)  | -6.95  | -9.22  | -9.23  | -6.74  | -13.52 | -15.68 | -8.36  | -7.8    | -18.63  | -3.75   | -3.69   | -6.93   | -7.42   | -2.24   | -4.73   | -2.01   | -10.55  | -6.19   | -9.04   | -6.59   | -5.77   | -5.8    | -6.38   | -5.05   |
| Θ(135°)  | -7.02  | -8.95  | -13.02 | -10.96 | -12.25 | -17.74 | -18.28 | -12.08  | -20.18  | -10.83  | -11.29  | -7.06   | -16.42  | -21.63  | -13.06  | -12.19  | -9.6    | -8.65   | -10.32  | -10.54  | -8.56   | -3.34   | -9.68   | -9.24   |
| Θ(150°)  | -7.45  | -7.58  | -14.52 | -18.08 | -15.19 | -14.28 | -22.69 | -14.17  | -18.04  | -17.    |         |         |         |         |         |         |         |         |         |         |         |         |         |         |



Radiated Composite Gain of 2.4GHz 5GHz U-NII 1~U-NII 3 4TX

Appendix B

|          |        |        |        |        |        |        |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
|----------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Θ(0°)    | -15.97 | -18.89 | -22.08 | -26.53 | -27.14 | -16.61 | -13.4  | -12.66  | -11.4   | -12.36  | -13.7   | -15.15  | -18.08  | -24.75  | -27.04  | -27.97  | -17.91  | -16.34  | -13.96  | -13.61  | -12.72  | -10.74  | -13.01  | -11.74  |
| Θ(15°)   | -10.12 | -8.81  | -6.63  | -5.42  | -5.07  | -4.5   | -4.28  | -5.71   | -8.78   | -11.25  | -13.2   | -18.13  | -28.29  | -21.54  | -14.02  | -10.2   | -14.18  | -13.95  | -8.16   | -8.58   | -7.91   | -7.9    | -8.42   | -10.17  |
| Θ(30°)   | -4.92  | -6.56  | -5.43  | -4.64  | -4.8   | -2.35  | -3.06  | -5.18   | -4.11   | -6.04   | -5.77   | -4.9    | -3.69   | -5.67   | -11.03  | -7.77   | -5.57   | -3.21   | -4.26   | -5.62   | -5.33   | -5.2    | -2.34   | -3.06   |
| Θ(45°)   | -4.81  | -5.25  | -4.01  | -5.46  | -3.72  | -2.42  | -5.35  | -3.21   | -0.9    | -1.67   | -0.38   | -2.12   | -3.84   | -4.11   | -7.28   | -4.34   | -2.37   | -6.25   | -4.28   | -3.02   | -4.74   | -4.5    | -1.55   | -3.22   |
| Θ(60°)   | -5.67  | -7.18  | -7.37  | -3.23  | -2.76  | -1.95  | -1.05  | -4.2    | 0.26    | -0.07   | -0.23   | -2.81   | -0.78   | -0.18   | -2.12   | -2.91   | -2.63   | -6.73   | -3.39   | -3.8    | -1.77   | -3.64   | -4.9    | -5.81   |
| Θ(75°)   | -6.08  | -6.26  | -6.46  | -4.4   | -3.54  | -0.54  | -0.2   | -4.58   | -3.33   | 2.73    | 0.88    | -0.02   | 1.03    | 0.78    | 0.23    | -1.65   | -2.16   | -1.7    | -1.51   | -3.47   | -3.86   | -5.97   | -11.15  | -7.22   |
| Θ(90°)   | -9.26  | -7.22  | -8.17  | -7.18  | -5.61  | -2.66  | -0.87  | -5.63   | -7.36   | -0.58   | 0.14    | -1.46   | -0.38   | -0.18   | -2.11   | -0.72   | -1.41   | -2.23   | -2.39   | -4.62   | -3.7    | -4.63   | -10.73  | -6.94   |
| Θ(105°)  | -6.64  | -6.98  | -9.82  | -10.14 | -7.93  | -5.65  | -7     | -6.26   | -7.79   | -5.46   | -3.59   | -4.22   | -3.26   | -3.08   | -9.16   | -7.95   | -8.79   | -8.82   | -6.75   | -10.88  | -6.83   | -7.19   | -11.85  | -8.74   |
| Θ(120°)  | -11.09 | -7.12  | -8.23  | -15.17 | -10.59 | -10.65 | -8.65  | -12.93  | -13.89  | -5.34   | -6.42   | -8.04   | -11.79  | -5.56   | -7.95   | -5.19   | -10.82  | -6.04   | -9.17   | -14.63  | -14.56  | -9.05   | -9.14   | -9.66   |
| Θ(135°)  | -14.53 | -11.32 | -12.4  | -19.81 | -11.46 | -21.96 | -22.32 | -16.64  | -19.25  | -14.51  | -8.35   | -6.92   | -10.9   | -17.44  | -15.16  | -14.72  | -11.42  | -13.22  | -10.93  | -13.02  | -13.92  | -14.38  | -10.22  | -14.11  |
| Θ(150°)  | -18.13 | -12.64 | -12.99 | -27.34 | -19.7  | -15.57 | -22.93 | -27.63  | -27.97  | -18.23  | -16.53  | -8.87   | -12.96  | -24.3   | -17.93  | -15.79  | -10.26  | -20.86  | -17.2   | -22.11  | -19.76  | -18.84  | -20.76  | -13     |
| Θ(165°)  | -15.97 | -14.29 | -14.52 | -24.31 | -26.57 | -21.27 | -21.69 | -27.35  | -18.79  | -13.44  | -17.31  | -16.04  | -28.41  | -12.26  | -11.06  | -10.6   | -12.69  | -16.77  | -21.25  | -19.12  | -14.65  | -25.93  | -24.83  | -22.52  |
| Θ(180°)  | -8.18  | -7.01  | -8.62  | -10.72 | -12.9  | -15.98 | -24.62 | -27.41  | -21.76  | -13.78  | -10.56  | -8.45   | -7.55   | -7.94   | -8.13   | -9.73   | -10.79  | -13.54  | -18.97  | -20.41  | -16.19  | -13.19  | -12.65  | -12.03  |
| Freq(Hz) | 5.785G | Pol.   | Phi    | Ant. 3 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -9.55  | -9.33  | -8.93  | -11.76 | -12.04 | -13    | -16.31 | -16.27  | -13.08  | -8.6    | -8.8    | -6.71   | -7.65   | -7.3    | -8.31   | -8.53   | -11.11  | -15.33  | -17.65  | -18.89  | -15.1   | -12     | -11.74  | -12.65  |
| Θ(15°)   | -10.77 | -11.11 | -7.39  | -7.14  | -7.97  | -9.94  | -13.88 | -12.17  | -10.21  | -9.87   | -9.32   | -12.82  | -9.87   | -9.5    | -9.5    | -15.35  | -9.25   | -8.34   | -10.65  | -8.13   | -7.15   | -8.76   | -10.48  | -11.45  |
| Θ(30°)   | -8.19  | -9.7   | -15.05 | -18.55 | -15.14 | -12.74 | -8.45  | -10.67  | -11.34  | -10.62  | -6.44   | -6.51   | -12.4   | -4.64   | -11.73  | -9.74   | -11.44  | -9      | -12.87  | -11.47  | -7.81   | -7.22   | -13.45  | -11.29  |
| Θ(45°)   | -7.43  | -7.79  | -9.1   | -27.23 | -10.9  | -11.73 | -10.35 | -17.2   | -12.08  | -9.83   | -9      | -9.71   | -6.65   | -13.55  | -3.56   | -14.72  | -6.75   | -16.04  | -8.31   | -11.49  | -12.36  | -10.9   | -10.06  | -9.13   |
| Θ(60°)   | -11.28 | -12.12 | -8.21  | -17.43 | -6.15  | -9.94  | -8.15  | -14.47  | -13.59  | -9.62   | -18.07  | -7.8    | -12.07  | -4.87   | -6.07   | -14.66  | -11.87  | -9.91   | -13.48  | -15.36  | -12.95  | -21.03  | -16.75  | -8.84   |
| Θ(75°)   | -8.65  | -16.12 | -11.21 | -13.88 | -6.07  | -13.68 | -6.78  | -13.23  | -15.73  | -8.1    | -7.33   | -9.6    | -7.21   | -10.1   | -9.68   | -11.08  | -12.77  | -14.06  | -11.09  | -14.28  | -26.71  | -18.57  | -11.22  | -11.41  |
| Θ(90°)   | -11.54 | -16    | -12.86 | -14.9  | -8.44  | -19.86 | -7.69  | -12.91  | -13.97  | -24.88  | -7.65   | -13.12  | -19.84  | -19.84  | -27.07  | -14.46  | -12.01  | -24.26  | -12.67  | -18.98  | -19.25  | -22.2   | -12.19  | -14.63  |
| Θ(105°)  | -14.99 | -14.73 | -14.4  | -15.61 | -11.19 | -15.45 | -9.48  | -12.8   | -16.1   | -13.24  | -10.15  | -17.34  | -11.88  | -12.56  | -21.78  | -25.8   | -12.47  | -18.55  | -16.3   | -23.06  | -22.08  | -19.45  | -15.71  | -13.3   |
| Θ(120°)  | -15.84 | -20.95 | -14.8  | -15.42 | -16.09 | -10.02 | -10.99 | -10.36  | -15.89  | -16.81  | -15.11  | -14.47  | -17.05  | -14.45  | -11.96  | -16.31  | -13.59  | -14.86  | -18.03  | -18.66  | -17.19  | -14.73  | -20.96  | -15.95  |
| Θ(135°)  | -16.88 | -16.44 | -16.05 | -15.22 | -18.95 | -16.24 | -16.8  | -14.06  | -15.19  | -17.25  | -27.91  | -15.67  | -12.78  | -12.06  | -15.39  | -8.54   | -12.04  | -11.37  | -13.94  | -14.86  | -19.79  | -22.28  | -23.22  | -19.74  |
| Θ(150°)  | -26.49 | -19.67 | -25.73 | -20.12 | -16.07 | -19.1  | -19.85 | -15.33  | -25.55  | -12.88  | -14.44  | -20.02  | -14.55  | -12.65  | -19.09  | -18.61  | -15.51  | -21.05  | -23.6   | -15.65  | -18.28  | -28.45  | -27.35  | -17.24  |
| Θ(165°)  | -26.94 | -20.75 | -19.84 | -26.76 | -20.02 | -15.4  | -19.2  | -24.03  | -18.13  | -19.8   | -28.03  | -26.73  | -13.01  | -22.55  | -15.92  | -18.32  | -20.01  | -12.43  | -11.16  | -13.76  | -17.28  | -22.18  | -27.19  | -21.5   |
| Θ(180°)  | -27.81 | -27.63 | -20.67 | -17.5  | -16.19 | -14.43 | -12.41 | -13.48  | -13.32  | -13.26  | -15.81  | -20.96  | -26.17  | -27.78  | -17.98  | -18.47  | -17.77  | -13.75  | -12.4   | -14.29  | -15.3   | -13.82  | -16.31  | -20.11  |
| Freq(Hz) | 5.785G | Pol.   | Theta  | Ant. 3 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -15.41 | -17.34 | -15.64 | -12.84 | -9.9   | -8.71  | -7.43  | -7.99   | -8.34   | -9.24   | -10.71  | -12.65  | -12.88  | -13     | -13.55  | -11.04  | -9.22   | -8.82   | -8.37   | -9.2    | -10.18  | -11.38  | -14.26  | -16.14  |
| Θ(15°)   | -11.14 | -10.67 | -6.97  | -5.23  | -4.78  | -4.8   | -3.94  | -4.53   | -7.83   | -10.99  | -12.43  | -19.77  | -21.02  | -22.63  | -13.55  | -9.73   | -12.13  | -7.64   | -6.51   | -7.77   | -7.96   | -7.77   | -9.53   | -11.16  |
| Θ(30°)   | -4.8   | -7.32  | -6.19  | -4.32  | -4.3   | -2.86  | -3.73  | -3.67   | -2.75   | -5.16   | -5.58   | -5.3    | -4.3    | -7.59   | -7.62   | -7.73   | -6.21   | -3.63   | -6.47   | -7.42   | -5.95   | -4.83   | -3.28   | -4.31   |
| Θ(45°)   | -9.54  | -7.34  | -9.14  | -3.98  | -3.35  | -2.54  | -3.44  | -2.63   | -0.81   | -1.52   | -1.29   | -2.55   | -3.24   | -3.82   | -5.62   | -6.77   | -4.66   | -5.54   | -4.65   | -2.91   | -1.67   | -2.25   | -2.2    | -5.36   |
| Θ(60°)   | -6     | -7.7   | -8.56  | -1.76  | -2.53  | -1.83  | -1.14  | -8.13   | -0.57   | -1.4    | -1.07   | -5.41   | -2.39   | -1.59   | -3.34   | -6.42   | -4.09   | -4.98   | -3.65   | -5.82   | -3.25   | -6.67   | -9.57   | -9.15   |
| Θ(75°)   | -15.14 | -9.95  | -6.26  | -1.63  | -3.47  | 0.5    | 0.3    | -9.82   | -1.36   | 3.04    | 0.07    | -0.24   | 0.21    | -0.17   | -2.12   | -5.24   | -3.67   | -2.22   | -2.36   | -5.31   | -6.25   | -2.23   | -11.19  | -14.55  |
| Θ(90°)   | -21.32 | -9.15  | -6.97  | -4.73  | -5.79  | -0.91  | -1.03  | -6.71   | -9.3    | 1.12    | -1.01   | -1.48   | -1.81   | -0.61   | -2.6    | -2.66   | -1.98   | -1.43   | -4.31   | -3.07   | -7.18   | -4.06   | -17.21  | -8.92   |
| Θ(105°)  | -10.68 | -14.17 | -12.73 | -6.03  | -9.56  | -5.75  | -3.54  | -9.13   | -5.39   | -4.57   | -4.21   | -4.1    | -2.48   | -8.72   | -5.65   | -9.67   | -8.04   | -6.14   | -8.89   | -7.56   | -9.71   | -17.8   | -9.93   |         |
| Θ(120°)  | -11.71 | -11.51 | -11.06 | -13.6  | -7.66  | -9.31  | -7.69  | -12.05  | -11.33  | -5.54   | -6.45   | -8.98   | -12.52  | -4.94   | -6.62   | -8.67   | -11.59  | -6.79   | -8.72   | -22.22  | -14.3   | -8.52   | -11.05  | -11.41  |
| Θ(135°)  | -19.49 | -20.27 | -24.92 | -25.52 | -12.28 | -14.32 | -17.88 | -14.22  | -15.79  | -14.7   | -7.78   | -8.32   | -9.74   | -19.2   | -16.05  | -14.18  | -7.8    | -20.88  | -16.04  | -15.99  | -21.66  | -15.69  | -13.66  | -16.8   |
| Θ(150°)  | -20.19 | -21.12 | -17.12 | -26.07 | -23.94 | -16.18 | -17.1  | -23.53  | -17.68  | -22.14  | -13.62  | -10.34  | -17.84  | -19.19  | -26.1   | -13.36  | -14.67  | -19.85  | -19.41  | -25.66  | -19.55  | -20.9   | -24.03  | -9.97   |
| Θ(165°)  | -21.81 | -18.11 | -22.12 | -18.67 | -19.22 | -17.45 | -18.55 | -26.9   | -21.22  | -14.17  | -14.67  | -14.26  | -18.98  | -13.71  | -12.8   | -12.65  | -13.51  | -17.09  | -24.06  | -19.89  | -19.26  | -17.94  | -17.56  | -25.2   |
| Θ(180°)  | -12.23 | -10.94 | -11.29 | -14.19 | -15.76 | -17.4  | -22.83 | -27.04  | -22.33  | -17.32  | -12.79  | -10.77  | -9.1    | -9.84   | -10.99  | -13.78  | -14.47  | -16.36  | -25.99  | -25.83  | -22.72  | -19.59  | -17.17  | -15.2   |
| Freq(Hz) | 2.45G  | Pol.   | Phi    | Ant. 4 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -3.26  | -2.53  | -1.98  | -2.39  | -3.72  | -5.29  | -7.67  | -10.68  | -20.13  | -15.93  | -9.52   | -6.14   | -3.88   | -2.65   | -2.56   | -2.58   | -3.52   | -5.33   | -7.82   | -12.5   | -28.19  | -14.36  | -7.65   | -4.77   |
| Θ(15°)   | -2.8   | -2.59  | -2.94  | -4.05  | -5.26  | -6.13  | -6.28  | -6.52   | -8.03   | -8.74   | -5.29   | -3.37   | -2.51   | -1.72   | -1.88   | -2.53   | -3.79   | -5.76   | -8.29   | -8.5    | -6.61   | -4.67   | -4.1    | -3.45   |
| Θ(30°)   | -0.69  | -1.87  | -3.47  | -6.23  | -8.07  | -8.23  | -6.44  | -5.57   | -6.09   | -5.81   | -2.99   | -1.2    | -1.15   | -1.1    | -1.01   | -1.41   | -2.37   | -3.62   | -6.18   | -9.34   | -6.07   | -2.4    | -0.67   | -0.2    |
| Θ(45°)   | 1.5    | -0.08  | -2.41  | -2.67  | -1.59  | -1.24  | -1.62  | -2.89   | -2.13   | -1.31   | 0.23    | 0.34    | -0.56   | -0.58   | -0.28   | -0.57   | -1.02   | -1.68   | -3.34   | -4.97   | -4.05   | -1.16   | 1.03    | 1.67    |
| Θ(60°)   | 1.6    | 0.09   | -4.08  | -2.91  | -1.07  | -0.43  | 0.06   | -0.99   | -0.48   | 0.18    | 0.95    | 0.85    | -0.22   | -0.21   | -0.48   | 0       | 0.22    | 0.24    | -0.59   | -2.02   | -1.86   | -0.16   | 1.33    | 1.52    |
| Θ(75°)   | -0.3   | -1.57  | -5.81  | -2.91  | -2.91  | -3.8   | -2.87  | -3.59   | -2.4    | -0.59   | -0.53   | -0.21   | -1.05   | -1.89   | -1.44   | 0.08    | 0.27    | 0.41    | -0.59   | -1.42   | -0.77   | -0.03   | 0.35    | -0.67   |
| Θ(90°)   | -2.28  | -4.97  | -10.73 | -4.62  | -4.78  | -9.39  | -8.05  | -6.15   | -3.13   | -2.32   | -1.77   | -0.68   | -2.02   | -3.87   | -2.56   | -0.16   | 0.11    | 0.35    | -1.63   | -2.43   | -0.86   | -0.23   | -0.34   | -2.22   |
| Θ(105°)  | -7.44  | -6     |        |        |        |        |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |



Radiated Composite Gain of 2.4GHz 5GHz U-NII 1~U-NII 3 4TX

Appendix B

|          |        |        |        |        |         |        |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
|----------|--------|--------|--------|--------|---------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Θ(180°)  | -13.72 | -27.93 | -24.7  | -21.28 | -15.11  | -10.66 | -9.34  | -7.76   | -7.03   | -7.66   | -9.61   | -11.29  | -13.57  | -16.1   | -19.17  | -26.87  | -13.09  | -7.94   | -7.43   | -7.63   | -7.16   | -6.68   | -8.9    | -11.23  |
| Freq(Hz) | 5.3G   | Pol.   | Phi    | Ant. 4 | -       | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°)  | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -8.93  | -9.32  | -11.21 | -11.49 | -9.4    | -7.59  | -6.06  | -6.04   | -4.96   | -5.25   | -5.39   | -7.29   | -7.79   | -9.51   | -11.35  | -8.83   | -8.25   | -7.5    | -7.34   | -5.4    | -6.27   | -5.95   | -7.25   | -7.43   |
| Θ(15°)   | -11.68 | -9.89  | -8.94  | -10.17 | -22.22  | -11.6  | -7.59  | -4.25   | -5.31   | -6.48   | -9.47   | -11.6   | -10.58  | -7.86   | -5.29   | -3.76   | -3.56   | -4.36   | -6.19   | -6.03   | -5.2    | -7.43   | -8.41   | -9.06   |
| Θ(30°)   | -5.38  | -2.61  | -4.48  | -6.72  | -9.89   | -6.28  | -3.6   | -3.45   | -2.32   | -5.19   | -7.1    | -8.19   | -7.47   | -5.43   | -6.06   | 0.2     | 2.63    | 1.33    | -1.53   | -2.71   | -6.41   | -2.33   | 0.2     | -1.11   |
| Θ(45°)   | -1.77  | -2.5   | -2.84  | -6.75  | -5.27   | -1.09  | -2.5   | -4.82   | -3.18   | -6.46   | -7.38   | -3.02   | -2.16   | 0.55    | 1.09    | 0.36    | 0.3     | -0.83   | -2.92   | -4.09   | -4.51   | -1.79   | 0.02    | -0.3    |
| Θ(60°)   | 0.06   | -3.68  | 0.33   | -3.87  | -6.39   | -5.74  | -2.28  | -1.34   | -1.16   | -5.42   | -5.65   | -5.76   | -6.77   | 0.54    | 1.98    | -1.62   | 0.48    | 1.15    | 1.41    | 0.25    | -2.01   | -0.89   | -0.15   | -0.43   |
| Θ(75°)   | 0.07   | -2.77  | -2.13  | -2.11  | -3.26   | -4.19  | 0.78   | 1.29    | 1.36    | -1.99   | -3.1    | -4.48   | -8.46   | 1.18    | 1.02    | 2.82    | 3.02    | 0.07    | 0.95    | -1.29   | -0.52   | -1.9    | -3.26   | 1.34    |
| Θ(90°)   | -1.99  | -2.34  | -5.47  | -6.29  | -6.16   | -3.85  | -1.78  | 0.61    | -0.36   | -2.48   | -3.07   | -2.4    | -8.82   | -0.18   | -0.26   | 1.74    | 2.54    | -1.13   | 0.95    | -2.64   | -0.33   | -0.51   | -3.92   | -0.73   |
| Θ(105°)  | -12.91 | -5.19  | -10.22 | -9.11  | -8.46   | -3.83  | -6.76  | -6.82   | -4.58   | -8.82   | -4.62   | -1.93   | -10.23  | -0.48   | -2.08   | -1.55   | -1.04   | -4.62   | 0.67    | -7.16   | -2.1    | -3.42   | -6.93   | -2.75   |
| Θ(120°)  | -14.38 | -8.83  | -17.45 | -14.57 | -9.83   | -24.05 | -6.56  | -3.22   | -5.31   | -5.77   | -8.86   | -9.98   | -12.16  | -1.19   | -3.09   | -4.06   | -1.11   | -3.66   | -0.21   | -18.4   | -3.6    | -5.31   | -23.17  | -15.09  |
| Θ(135°)  | -26.72 | -10.11 | -11.27 | -11.58 | -14.09  | -7.22  | -10.17 | -10.68  | -17.26  | -9.26   | -8.78   | -15.15  | -19.37  | -6.6    | -10.6   | -5.93   | -0.79   | -7.26   | -0.2    | -6.8    | -7.49   | -9.71   | -13.67  | -17.49  |
| Θ(150°)  | -19.16 | -12.73 | -20.51 | -14.44 | -12.3   | -9.51  | -11.56 | -22.86  | -18.25  | -16.54  | -19.02  | -16.4   | -18.33  | -6.91   | -7.66   | -8.24   | -11.39  | -8.23   | -5.75   | -6.36   | -22.93  | -21.57  | -11.13  | -9.18   |
| Θ(165°)  | -13.19 | -27.65 | -21.49 | -17.58 | -16.91  | -20.99 | -25.25 | -22.77  | -20.43  | -14.52  | -15.28  | -16.71  | -15.29  | -11.69  | -10.07  | -11.06  | -11.23  | -8.6    | -6.04   | -6.16   | -4.87   | -6.61   | -11.09  | -19.53  |
| Θ(180°)  | -11.48 | -21.58 | -19.92 | -13.21 | -10.8   | -9.99  | -7.99  | -6.72   | -6.84   | -7.93   | -10.29  | -12.46  | -14.14  | -17.18  | -21.71  | -15.21  | -10.76  | -7.46   | -5.94   | -6.15   | -8.67   | -8.49   | -9.51   | -10.54  |
| Freq(Hz) | 5.3G   | Pol.   | Theta  | Ant. 4 | -       | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°)  | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -9.62  | -9.56  | -11.23 | -11.07 | -8.89   | -7.59  | -6.17  | -6.06   | -4.99   | -5.21   | -5.49   | -7.44   | -7.83   | -9.51   | -11.19  | -8.96   | -8.41   | -7.66   | -7.39   | -5.41   | -6.15   | -5.81   | -7.25   | -7.61   |
| Θ(15°)   | -11.67 | -9.98  | -9.1   | -10.14 | -21.01  | -11.78 | -7.56  | -4.32   | -5.4    | -6.53   | -9.51   | -11.53  | -10.28  | -7.93   | -5.36   | -3.79   | -3.57   | -4.64   | -6.35   | -6.28   | -5.67   | -7.38   | -8.28   | -9      |
| Θ(30°)   | -5.1   | -2.65  | -4.45  | -6.86  | -9.48   | -6.6   | -3.69  | -3.61   | -2.35   | -5.18   | -7.03   | -8.26   | -7.69   | -5.62   | -6.23   | 0.3     | 2.63    | 1.35    | -1.56   | -2.82   | -6.49   | -2.13   | 0.15    | -1.17   |
| Θ(45°)   | -1.88  | -2.49  | -2.8   | -6.7   | -5.28   | -1.06  | -2.38  | -4.71   | -3.23   | -6.28   | -7.36   | -2.99   | -2.12   | 0.55    | 1.1     | 0.34    | 0.24    | -0.7    | -2.69   | -4.13   | -5.08   | -1.63   | -0.03   | -0.32   |
| Θ(60°)   | 0.38   | -2.92  | 0.36   | -3.8   | -6.35   | -5.7   | -2.25  | -1.3    | -1.15   | -5.46   | -5.54   | -5.64   | -6.76   | 0.54    | 1.97    | -1.64   | 0.47    | 1.07    | 1.42    | 0.33    | -2.03   | -0.9    | 0.05    | -0.52   |
| Θ(75°)   | -0.35  | -2.47  | -2.23  | -1.94  | -3.12   | -4.21  | 0.69   | 1.58    | 1.35    | -1.96   | -3.13   | -4.65   | -8.55   | 1.26    | 1.08    | 2.81    | 2.98    | -0.06   | 0.97    | -1.24   | -0.57   | -1.9    | -3.28   | 1.38    |
| Θ(90°)   | -2.05  | -2.35  | -5.36  | -6.26  | -6.38   | -3.97  | -1.78  | 0.51    | -0.31   | -2.39   | -3.08   | -2.51   | -9.12   | -0.19   | -0.31   | 1.66    | 2.59    | -1.17   | 1       | -2.52   | -0.29   | -0.52   | -3.85   | -0.71   |
| Θ(105°)  | -12.38 | -5.26  | -10.57 | -9.25  | -8.21   | -3.79  | -6.85  | -6.89   | -4.54   | -8.78   | -4.63   | -1.93   | -10.37  | -0.54   | -2.13   | -1.49   | -1.01   | -4.64   | 0.68    | -7.06   | -2.03   | -3.3    | -6.93   | -2.83   |
| Θ(120°)  | -14.81 | -8.86  | -16.9  | -15.15 | -9.83   | -24.8  | -6.56  | -3.23   | -5.28   | -5.65   | -8.91   | -9.95   | -12.1   | -1.18   | -3.05   | -4.26   | -1.05   | -3.56   | -0.15   | -17.55  | -3.65   | -5.28   | -23.1   | -15.02  |
| Θ(135°)  | -27.91 | -10.13 | -10.94 | -11.72 | -14.04  | -7     | -10.03 | -10.12  | -17.03  | -9.39   | -8.68   | -15.57  | -19.23  | -6.62   | -11.04  | -5.99   | -0.7    | -7.15   | -0.26   | -6.74   | -7.58   | -9.66   | -13.45  | -17.18  |
| Θ(150°)  | -19.06 | -12.99 | -21.26 | -14.47 | -12.58  | -9.63  | -11.37 | -23.12  | -17.85  | -16.46  | -18.86  | -16.35  | -18.03  | -6.98   | -7.65   | -8.33   | -11.42  | -7.95   | -5.7    | -6.47   | -23.02  | -21.13  | -11.38  | -9.38   |
| Θ(165°)  | -12.94 | -27.86 | -21.29 | -18.14 | -17.14  | -22.3  | -26.07 | -22.89  | -19.63  | -14.66  | -15.75  | -16.44  | -15.28  | -11.61  | -10.11  | -10.91  | -11.03  | -8.48   | -6.02   | -6.12   | -4.84   | -6.64   | -11.07  | -18.89  |
| Θ(180°)  | -11.37 | -21.36 | -19.62 | -13.25 | -10.37  | -9.69  | -8.35  | -6.69   | -6.84   | -7.96   | -10.47  | -12.74  | -14.29  | -16.99  | -21.93  | -15.03  | -10.41  | -7.36   | -5.99   | -6.46   | -8.55   | -8.6    | -9.52   | -10.74  |
| Freq(Hz) | 5.6G   | Pol.   | Phi    | Ant. 4 | -       | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°)  | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -7.07  | -8.6   | -9.88  | -10.86 | -11.22  | -10.15 | -7.2   | -6.7    | -5.93   | -5.2    | -4.92   | -5.83   | -6.7    | -8.62   | -10.27  | -11.27  | -10.75  | -9.51   | -8.43   | -6.61   | -6.21   | -4.91   | -5.36   | -6      |
| Θ(15°)   | -9.3   | -14.6  | -12.86 | -15.89 | -22.64  | -14.88 | -10.41 | -8.69   | -9.33   | -9.04   | -8.9    | -6.2    | -5.42   | -6.47   | -5.7    | -3.91   | -3.37   | -3.95   | -5.62   | -7.91   | -9.92   | -10.71  | -9.52   | -8.4    |
| Θ(30°)   | -6.05  | -6.11  | -8.79  | -11.44 | -19.6   | -10.66 | -7.23  | -3.41   | -4.67   | -12.26  | -10.05  | -10.64  | -4.28   | -6.85   | -3.23   | -0.1    | 0.03    | -0.54   | -2.37   | -2.82   | -4.89   | -6.64   | -5.73   | -3.94   |
| Θ(45°)   | -6.68  | -4.73  | -9.09  | -4.05  | -6.62   | -3     | -3.14  | -6.02   | -5.81   | -5.6    | -7.14   | -3.7    | -3.13   | 0.37    | -0.56   | -2.82   | -0.57   | -1.08   | -1.51   | -3.88   | -7.46   | -7.14   | -1.43   | -1.37   |
| Θ(60°)   | -10.24 | -6.38  | -4.56  | -4.68  | -7.02   | -5.85  | -4.12  | -4.34   | -3.29   | -3.44   | -8.53   | -6.4    | -11.67  | 0.04    | -0.09   | -0.77   | -1.03   | -2.1    | -2.22   | -2.46   | -3.55   | -6.33   | -2.34   | 0.2     |
| Θ(75°)   | -7.37  | -4.62  | -4.89  | 0.03   | -5.69   | -2.78  | -1.08  | -2.71   | -1.74   | -1.55   | -2.33   | -7.64   | -12     | -0.1    | -0.84   | 1.59    | -0.78   | -0.97   | 2.07    | -1.97   | -0.38   | -0.13   | -2.37   | -0.71   |
| Θ(90°)   | -8.97  | -3.43  | -10.07 | -3.22  | -6.01   | -11.63 | -3.61  | -3.55   | -1.7    | -1.84   | -4.13   | -5.7    | -11.67  | -1.39   | -2.5    | 0.96    | 0.2     | -4.64   | 0.74    | -0.4    | -1.15   | -0.16   | -4.3    | -1.97   |
| Θ(105°)  | -9.58  | -8.91  | -9.95  | -7.18  | -11.13  | -4.67  | -9.92  | -8.07   | -6.75   | -8.59   | -6.58   | -5.52   | -6.07   | -0.91   | -2.31   | -0.49   | -3.09   | -6.54   | -0.08   | -3.39   | -3.42   | -2.63   | -6.97   | -2.49   |
| Θ(120°)  | -10.03 | -11.36 | -19.37 | -8.65  | -11.26  | -17.41 | -5.94  | -6.31   | -9.14   | -10.65  | -6.84   | -12.64  | -10.36  | -2.26   | -6.83   | -9.81   | -8.24   | -6.1    | -1.71   | -13.38  | -4.22   | -3.75   | -12.45  | -10.6   |
| Θ(135°)  | -12.82 | -16.75 | -16.5  | -14.43 | -12.24  | -10.47 | -12.95 | -17     | -22.58  | -11.02  | -9.96   | -19.7   | -22     | -6.84   | -10.07  | -7.76   | -4.81   | -12.3   | -0.97   | -12.35  | -7.97   | -24.31  | -18.43  | -21.3   |
| Θ(150°)  | -26.76 | -11.38 | -14.68 | -13.48 | -16.44  | -9.89  | -10.35 | -20.84  | -19.47  | -16.72  | -20.38  | -21.88  | -20.48  | -11.66  | -10.1   | -9.11   | -11.66  | -10.61  | -6.38   | -13.33  | -14.42  | -13.76  | -27.77  | -11.65  |
| Θ(165°)  | -15.34 | -26.66 | -17.58 | -16.17 | -15.17  | -12.33 | -12.76 | -20.42  | -21.49  | -17.3   | -20.73  | -25.91  | -20.3   | -13.36  | -9.7    | -9.64   | -11.79  | -11.33  | -8.32   | -9.45   | -9.45   | -9.11   | -10.29  | -17.42  |
| Θ(180°)  | -22.68 | -21.6  | -15.56 | -11.76 | -11.61  | -10.49 | -9.05  | -9.22   | -9.62   | -10.66  | -13.53  | -19.56  | -27.55  | -27.27  | -23.49  | -17.05  | -11.38  | -8.63   | -8.55   | -8.99   | -11.03  | -10.49  | -12.59  | -14.51  |
| Freq(Hz) | 5.6G   | Pol.   | Theta  | Ant. 4 | -       | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°)  | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -7.25  | -8.59  | -10.26 | -11.24 | -11.2   | -10.33 | -7.2   | -6.56   | -5.96   | -5.36   | -5.01   | -5.83   | -6.74   | -8.77   | -10.16  | -11.27  | -10.6   | -9.29   | -8.49   | -6.68   | -6.4    | -4.91   | -5.34   | -6.11   |
| Θ(15°)   | -9.22  | -14.47 | -13.07 | -15.87 | -21.69  | -14.88 | -10.51 | -8.62   | -9.28   | -9.04   | -8.73   | -6.3    | -5.48   | -6.48   | -5.53   | -3.8    | -3.37   | -4.09   | -5.83   | -8.02   | -9.44   | -10.7   | -9.34   | -8.3    |
| Θ(30°)   | -5.98  | -6.1   | -8.65  | -11.49 | -19.39  | -10.84 | -7.16  | -3.53   | -4.93   | -12.25  | -10     | -10.76  | -4.34   | -7.08   | -3.27   | -0.02   | -0.01   | -0.56   | -2.36   | -2.84   | -4.8    | -6.29   | -5.72   | -3.88   |
| Θ(45°)   | -6.56  | -4.65  | -9.47  | -4.01  | -6.78   | -3.05  | -3.14  | -6.05   | -5.82   | -5.48   | -7.15   | -3.7    | -3.16   | 0.4     | -0.6    | -2.84   | -0.62   | -1.07   | -1.56   | -3.78   | -7.79   | -7.17   | -1.28   | -1.38   |
| Θ(60°)   | -9.81  | -5.24  | -4.66  | -4.72  | -7.02   | -5.85  | -4.21  | -4.28   | -3.34   | -3.44   | -8.66   | -6.44   | -11.78  | 0.01    | -0.13   | -0.79   | -1.02   | -1.99   | -2.31   | -2.56   | -3.46   | -6.15   | -2.06   | 0.26    |
| Θ(75°)   | -7.62  | -3.76  | -4.95  | 0.1    | -5.76</ |        |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |



Total Gain Data

| Freq(Hz) | 2.45G  | Pol.   | Total  | Ant. 1 | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |         |
|----------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°)  | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -3.21  | -2.66  | -2.20  | -2.39  | -2.50  | -2.69  | -2.71   | -2.03   | -1.67   | -2.61   | -2.40   | -2.12   | -2.65   | -1.98   | -1.55   | -1.61   | -1.90   | -2.01   | -2.33   | -2.81   | -2.93   | -1.72   | -1.37   | -2.62   |
| Θ(15°)   | -3.87  | -4.20  | -3.31  | -2.50  | -2.39  | -2.25  | -1.64   | -1.27   | -0.73   | -0.22   | -0.66   | -1.00   | -1.48   | -1.90   | -1.41   | -0.70   | -0.52   | -0.10   | -0.28   | -1.46   | -2.53   | -2.48   | -2.54   | -2.94   |
| Θ(30°)   | -6.75  | -5.67  | -3.64  | -1.02  | -0.05  | 0.05   | 0.46    | 1.20    | 1.23    | 0.90    | 1.22    | 1.76    | 0.71    | -0.22   | -0.34   | 0.64    | 2.13    | 2.89    | 1.59    | -0.43   | -1.67   | -3.44   | -5.38   | -6.80   |
| Θ(45°)   | -2.62  | -3.28  | -0.83  | 1.68   | 2.21   | 1.75   | 1.21    | 0.96    | 0.66    | 0.79    | 0.52    | 0.96    | 1.25    | 0.34    | 0.43    | 1.24    | 1.60    | 2.15    | 0.91    | -0.50   | -1.15   | -2.61   | -3.43   | -3.07   |
| Θ(60°)   | -2.11  | -0.32  | 0.46   | 2.22   | 2.89   | 1.78   | 0.31    | 0.11    | 0.09    | 0.34    | -0.45   | -0.02   | 0.86    | -0.33   | 0.43    | 0.47    | 0.96    | 2.25    | 1.32    | 0.04    | -1.18   | -3.27   | -1.89   | -2.14   |
| Θ(75°)   | -3.34  | -2.42  | -0.04  | 2.11   | 1.88   | -0.60  | -0.76   | -1.07   | -0.59   | -0.81   | -0.81   | -0.80   | 0.26    | -0.74   | 0.07    | 0.20    | -0.51   | 1.26    | 0.98    | 0.63    | -0.42   | -3.02   | -4.67   | -4.56   |
| Θ(90°)   | -5.46  | -2.53  | -0.82  | -0.01  | 0.04   | -3.93  | -1.93   | -1.94   | -1.64   | -2.49   | -2.46   | -1.14   | -1.35   | -1.39   | -1.20   | -2.52   | -2.67   | -0.08   | 0.91    | 0.79    | -0.73   | -3.58   | -9.34   | -5.82   |
| Θ(105°)  | -4.05  | -3.48  | -2.26  | -1.70  | -0.62  | -6.91  | -6.46   | -5.39   | -3.12   | -1.13   | -1.68   | -3.54   | -0.89   | -2.33   | -4.05   | -4.01   | -3.65   | -1.14   | -2.25   | -0.51   | -2.00   | -3.35   | -10.29  | -3.27   |
| Θ(120°)  | -5.96  | -4.11  | -6.25  | -3.09  | -2.05  | -3.36  | -4.38   | -3.20   | -3.76   | -4.03   | -3.38   | -3.29   | -3.62   | -6.39   | -3.09   | -4.55   | -8.67   | -5.34   | -6.30   | -4.57   | -7.52   | -5.45   | -6.75   | -4.03   |
| Θ(135°)  | -8.07  | -8.08  | -8.84  | -5.71  | -5.91  | -4.55  | -4.73   | -5.03   | -5.27   | -5.77   | -6.80   | -5.42   | -4.51   | -7.09   | -5.65   | -6.09   | -6.18   | -6.40   | -10.79  | -7.18   | -6.36   | -7.35   | -12.18  | -11.28  |
| Θ(150°)  | -8.28  | -9.26  | -7.97  | -5.49  | -6.49  | -7.44  | -8.78   | -9.68   | -9.29   | -8.66   | -6.49   | -6.81   | -9.89   | -7.44   | -6.07   | -7.74   | -8.32   | -9.98   | -17.44  | -12.59  | -10.35  | -9.83   | -8.84   | -8.79   |
| Θ(165°)  | -11.44 | -13.89 | -11.43 | -9.28  | -7.89  | -7.70  | -7.55   | -6.32   | -4.81   | -4.24   | -5.10   | -5.56   | -6.41   | -7.37   | -8.62   | -9.59   | -9.99   | -11.34  | -15.25  | -12.62  | -10.23  | -9.96   | -11.57  | -10.48  |
| Θ(180°)  | -9.53  | -8.76  | -8.51  | -8.99  | -9.98  | -10.33 | -10.26  | -9.56   | -9.27   | -9.58   | -12.05  | -14.56  | -15.44  | -13.60  | -11.98  | -11.84  | -11.44  | -11.99  | -11.98  | -10.83  | -9.69   | -9.72   | -10.53  | -9.91   |
| Freq(Hz) | 5.2G   | Pol.   | Total  | Ant. 1 | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°)  | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -5.39  | -5.76  | -6.52  | -6.20  | -6.82  | -6.19  | -5.55   | -6.44   | -5.73   | -6.16   | -6.09   | -6.13   | -5.57   | -6.11   | -5.20   | -5.10   | -5.07   | -5.49   | -6.55   | -5.94   | -5.59   | -5.08   | -5.04   | -6.59   |
| Θ(15°)   | -9.87  | -12.21 | -13.42 | -8.70  | -5.97  | -4.82  | -6.95   | -6.29   | -5.02   | -3.60   | -2.51   | -1.30   | -0.85   | 0.06    | -0.70   | -3.43   | -4.06   | -2.47   | -2.66   | -4.09   | -4.50   | -4.11   | -3.77   | -5.21   |
| Θ(30°)   | -3.84  | -3.78  | -7.55  | -8.14  | -8.18  | -4.95  | -4.49   | -1.30   | -2.10   | -3.62   | -1.29   | 0.05    | -0.06   | -1.04   | -3.52   | 1.26    | -0.11   | -1.38   | -1.03   | -3.07   | -2.83   | -5.42   | -5.16   | -3.38   |
| Θ(45°)   | -0.83  | -4.06  | -6.11  | -7.26  | -2.51  | -3.56  | -1.16   | -1.08   | -1.21   | -2.76   | -0.95   | 0.22    | 1.16    | -0.24   | 0.52    | -1.46   | 0.49    | -1.33   | -1.38   | -2.28   | -2.44   | -1.70   | 0.64    | -1.11   |
| Θ(60°)   | 2.00   | -1.80  | -1.78  | -3.74  | -1.64  | -2.56  | -2.41   | -2.83   | -1.21   | -1.02   | -0.51   | -1.29   | 0.83    | -0.90   | 0.04    | -1.21   | -0.69   | -1.59   | -0.41   | -3.68   | -4.19   | -1.48   | -3.37   | 0.99    |
| Θ(75°)   | 4.08   | -0.55  | -1.88  | -1.24  | -3.04  | -0.96  | -0.91   | -2.24   | -0.03   | -1.83   | -2.84   | -1.85   | -1.48   | -2.07   | -0.06   | -0.70   | -2.64   | -0.59   | 1.11    | -5.57   | -5.56   | -0.67   | -1.18   | 2.65    |
| Θ(90°)   | 2.12   | -2.92  | -5.99  | -4.37  | -4.78  | -1.68  | -2.56   | -3.59   | -0.50   | -1.92   | -3.05   | -1.80   | -2.53   | -1.36   | -1.51   | -0.99   | -6.10   | -0.07   | 1.40    | -2.88   | -3.86   | -2.43   | -2.53   | 1.73    |
| Θ(105°)  | -4.00  | -5.93  | -5.60  | -4.51  | -7.21  | -3.79  | -3.96   | -2.99   | -1.77   | -3.56   | -3.53   | -2.52   | -3.65   | -3.35   | -3.24   | -3.84   | -5.30   | -7.06   | -4.38   | -8.74   | -6.00   | -7.40   | -5.12   | -5.21   |
| Θ(120°)  | -2.54  | -6.07  | -7.80  | -7.98  | -5.93  | -5.30  | -5.16   | -5.93   | -3.14   | -4.78   | -6.08   | -9.73   | -5.16   | -5.49   | -5.00   | -5.19   | -7.94   | -9.74   | -5.79   | -9.97   | -8.79   | -7.56   | -5.42   | -4.38   |
| Θ(135°)  | -8.82  | -7.46  | -8.19  | -9.63  | -5.41  | -10.69 | -8.43   | -7.94   | -5.98   | -6.22   | -7.11   | -7.35   | -5.01   | -10.67  | -5.11   | -7.74   | -10.28  | -12.50  | -6.48   | -12.84  | -10.32  | -6.64   | -7.21   | -8.34   |
| Θ(150°)  | -17.30 | -13.33 | -8.10  | -13.27 | -11.65 | -9.43  | -8.35   | -9.74   | -9.63   | -9.35   | -9.90   | -7.66   | -8.89   | -10.26  | -9.29   | -12.21  | -9.92   | -9.31   | -14.69  | -11.57  | -12.93  | -16.36  | -8.76   | -13.44  |
| Θ(165°)  | -14.46 | -14.10 | -14.04 | -10.65 | -10.38 | -9.50  | -8.04   | -8.51   | -8.92   | -10.65  | -11.75  | -9.07   | -12.88  | -11.66  | -9.95   | -11.20  | -8.80   | -15.29  | -9.16   | -9.17   | -9.55   | -9.97   | -13.16  | -21.82  |
| Θ(180°)  | -11.69 | -10.99 | -9.77  | -10.81 | -13.43 | -12.40 | -14.45  | -12.26  | -9.37   | -10.85  | -10.22  | -10.22  | -9.06   | -12.79  | -14.48  | -14.26  | -14.47  | -15.01  | -12.99  | -11.49  | -10.57  | -10.46  | -12.38  | -11.65  |
| Freq(Hz) | 5.3G   | Pol.   | Total  | Ant. 1 | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°)  | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -5.14  | -6.26  | -6.46  | -5.82  | -6.20  | -6.22  | -6.45   | -5.62   | -5.84   | -5.67   | -5.88   | -6.66   | -5.89   | -6.18   | -6.11   | -5.54   | -5.35   | -5.47   | -6.68   | -6.14   | -6.89   | -4.79   | -6.24   | -6.48   |
| Θ(15°)   | -7.86  | -8.58  | -8.61  | -7.02  | -5.75  | -4.99  | -6.32   | -6.36   | -3.68   | -2.78   | -4.66   | -3.70   | -2.91   | -0.51   | 0.18    | -1.78   | -4.46   | -3.70   | -2.91   | -4.34   | -7.08   | -5.18   | -4.50   | -7.16   |
| Θ(30°)   | -3.94  | -3.64  | -7.51  | -6.64  | -6.43  | -6.05  | -3.20   | -0.52   | -2.71   | -2.84   | -0.64   | 0.63    | -0.48   | -1.05   | -1.31   | -0.47   | 0.84    | -1.62   | -0.89   | -4.68   | -3.51   | -4.99   | -3.52   | -2.66   |
| Θ(45°)   | -1.84  | -3.56  | -7.47  | -5.62  | -2.86  | -3.94  | 0.15    | -0.71   | -1.34   | 0.26    | -0.47   | -0.53   | 1.60    | -0.99   | 1.46    | -0.85   | 0.49    | -0.64   | -2.80   | -2.53   | -2.76   | -3.31   | 0.22    | -0.70   |
| Θ(60°)   | 1.73   | -1.83  | -4.59  | -3.57  | -2.99  | -2.00  | -2.46   | -2.83   | -1.35   | -1.83   | -1.05   | -1.80   | -0.82   | -1.84   | 1.04    | -0.45   | -0.64   | -1.10   | -1.30   | -3.33   | -3.75   | -2.12   | -1.90   | 1.44    |
| Θ(75°)   | 3.43   | -0.85  | -1.91  | -1.98  | -2.18  | -1.04  | -0.38   | -1.68   | -0.42   | -2.73   | -2.58   | -2.16   | -0.72   | -2.42   | -0.48   | -0.44   | -2.07   | -0.80   | 0.13    | -4.87   | -6.28   | -1.45   | 0.79    | 2.40    |
| Θ(90°)   | 0.81   | -2.02  | -5.58  | -3.58  | -4.51  | -1.04  | -1.45   | -2.24   | -1.31   | -3.68   | -2.47   | -0.55   | -2.62   | -2.20   | -0.88   | -1.39   | -5.93   | -0.60   | 0.17    | -1.99   | -4.34   | -1.51   | -2.15   | 0.88    |
| Θ(105°)  | -5.03  | -6.05  | -5.10  | -3.66  | -6.69  | -2.50  | -3.87   | -3.02   | -0.69   | -3.27   | -2.25   | -2.81   | -4.45   | -1.89   | -2.69   | -3.89   | -5.52   | -7.14   | -3.93   | -7.33   | -6.42   | -8.10   | -5.86   | -5.97   |
| Θ(120°)  | -2.80  | -4.08  | -7.51  | -7.42  | -6.99  | -5.21  | -4.18   | -6.60   | -3.49   | -5.39   | -5.92   | -2.80   | -4.52   | -6.86   | -4.61   | -5.97   | -5.85   | -10.07  | -3.67   | -11.60  | -9.13   | -5.37   | -5.08   | -3.88   |
| Θ(135°)  | -9.47  | -8.04  | -9.50  | -7.86  | -8.96  | -8.31  | -6.99   | -6.07   | -6.95   | -6.44   | -6.66   | -6.31   | -3.81   | -9.38   | -4.86   | -8.45   | -11.11  | -11.41  | -8.57   | -12.26  | -10.07  | -5.36   | -6.79   | -10.38  |
| Θ(150°)  | -17.08 | -13.44 | -8.55  | -11.42 | -11.70 | -9.75  | -8.85   | -8.83   | -11.01  | -9.74   | -9.63   | -9.26   | -8.37   | -10.63  | -8.97   | -9.89   | -10.39  | -9.27   | -12.94  | -12.97  | -13.97  | -15.23  | -9.21   | -12.60  |
| Θ(165°)  | -15.72 | -18.10 | -15.97 | -9.66  | -9.45  | -8.85  | -8.21   | -9.26   | -9.04   | -10.22  | -10.60  | -11.04  | -10.04  | -13.46  | -9.42   | -13.14  | -8.92   | -11.90  | -9.61   | -7.95   | -9.28   | -10.32  | -14.51  | -19.52  |
| Θ(180°)  | -12.06 | -12.33 | -12.35 | -13.14 | -13.95 | -15.69 | -13.70  | -12.19  | -10.27  | -10.55  | -11.29  | -10.04  | -9.85   | -12.04  | -13.31  | -13.46  | -13.97  | -14.66  | -11.86  | -10.84  | -9.28   | -10.83  | -11.66  | -11.99  |
| Freq(Hz) | 5.6G   | Pol.   | Total  | Ant. 1 | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°)  | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |
| Θ(0°)    | -7.36  | -7.53  | -7.61  | -7.36  | -7.42  | -7.30  | -5.98   | -6.38   | -5.82   | -6.04   | -6.71   | -6.27   | -6.46   | -6.95   | -6.89   | -7.50   | -8.28   | -8.42   | -7.30   | -9.39   | -7.30   | -7.98   | -6.69   | -7.59   |
| Θ(15°)   | -7.53  | -8.71  | -6.18  | -4.92  | -4.93  | -5.96  | -4.49   | -2.97   | -2.28   | -2.29   | -1.95   | -1.95   | -2.37   | -3.51   | -2.17   | -1.27   | -2.82   | -5.54   | -4.04   | -4.06   | -6.35   | -9.48   | -9.50   | -10.14  |
| Θ(30°)   | -3.95  | -6.18  | -4.23  | -8.09  | -6.43  | -3.93  | -1.00   | -1.52   | -1.37   | -0.75   | -0.27   | -0.62   | -0.19   | -0.64   | -0.20   | -2.84   | -1.27   | -2.60   | -2.65   | -4.07   | -10.10  | -5.69   | -5.86   | -5.05   |
| Θ(45°)   | -2.49  | -5.08  | -4.67  | -6.70  | -3.03  | -2.66  | -2.32   | -1.37   | -2.18   | -0.39   | 0.08    | -1.49   | -0.27   | -0.85   | -1.40   | -0.10   | -3.98   | -0.87   | -2.77   | -3.99   | -3.51   | -3.59   | -1.34   | -3.28   |
| Θ(60°)   | -0.08  | -3.33  | -5.05  | -5.82  | -3.96  | -1.80  | -1.60   | -1.73   | -1.51   | -1.52   | -1.91   | -1.81   | -1.21   | -1.25   | -1.57   | -2.14   | -2.83   | -1.51   | -4.00   | -5.12   | -4.11   | -3.44   | -1.23   | -0.06   |
| Θ(75°)   | 3.07   | -1.79  | -3.44  | -5.11  | -4.14  | -2.18  | -2.05   | -2.00   | -1.31   | -0.95   | -0.97   | -0.74   | -3.28   | -0.64   | -1.74   | -2.27   | -3.85   | -2.98   | -1.84   | -5.16   | -4.87   | -1.96   | -3.03   | 1.38    |
| Θ(90°)   | 1.51   | -5.12  | -7.11  | -6.97  | -5.71  | -3.60  | -4.50</ |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |



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

Appendix C

|          |        |        |        |        |        |        |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |   |
|----------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|
| Θ(135°)  | -6.52  | -6.44  | -3.90  | -4.96  | -5.67  | -4.09  | -4.67  | -5.81   | -4.78   | -5.53   | -7.85   | -5.54   | -10.48  | -11.56  | -7.00   | -7.53   | -17.31  | -15.09  | -9.17   | -11.70  | -10.45  | -7.09   | -7.13   | -8.53   |   |
| Θ(150°)  | -8.59  | -7.04  | -9.25  | -8.10  | -6.61  | -7.60  | -6.00  | -5.88   | -7.08   | -9.31   | -8.02   | -9.41   | -6.30   | -12.96  | -16.10  | -14.10  | -11.19  | -12.81  | -13.21  | -21.58  | -10.19  | -10.10  | -10.22  | -8.45   |   |
| Θ(165°)  | -8.11  | -8.38  | -8.53  | -8.51  | -9.23  | -10.09 | -9.36  | -8.47   | -9.48   | -5.97   | -6.69   | -11.77  | -10.98  | -11.04  | -14.66  | -13.30  | -13.17  | -11.87  | -10.89  | -9.09   | -10.99  | -12.12  | -11.50  | -8.13   |   |
| Θ(180°)  | -11.18 | -12.26 | -11.56 | -12.08 | -11.37 | -11.67 | -10.54 | -10.87  | -11.78  | -13.87  | -12.92  | -12.08  | -12.03  | -18.85  | -14.26  | -10.87  | -11.59  | -12.94  | -11.51  | -11.85  | -10.84  | -9.34   | -9.92   | -11.64  |   |
| Freq(Hz) | 5.3G   | Pol.   | Total  | Ant. 2 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |   |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |   |
| Θ(0°)    | -7.09  | -6.52  | -7.93  | -6.87  | -6.62  | -7.40  | -7.58  | -6.61   | -6.79   | -6.60   | -6.60   | -6.28   | -7.27   | -6.39   | -6.97   | -6.44   | -7.15   | -6.05   | -8.80   | -7.50   | -6.93   | -7.60   | -6.72   | -7.71   |   |
| Θ(15°)   | -6.56  | -5.15  | -5.58  | -5.09  | -5.24  | -5.30  | -4.66  | -4.83   | -5.44   | -4.35   | -5.12   | -5.91   | -7.89   | -8.14   | -8.40   | -6.48   | -8.40   | -8.56   | -7.25   | -9.03   | -11.02  | -9.60   | -8.53   | -7.98   |   |
| Θ(30°)   | -7.58  | -7.69  | -4.23  | -4.60  | -4.69  | -4.74  | -2.36  | -2.24   | -2.45   | -2.16   | -1.31   | -1.96   | -2.80   | -3.12   | -5.43   | -4.14   | -4.80   | -6.79   | -10.39  | -16.29  | -11.92  | -10.28  | -8.55   | -8.04   |   |
| Θ(45°)   | -4.01  | -0.27  | -2.25  | -1.24  | -4.49  | -1.70  | -1.97  | -4.10   | -1.81   | 2.01    | 0.95    | -0.01   | -0.91   | -2.17   | -0.21   | -4.96   | -1.62   | -3.19   | -4.22   | -7.23   | -7.01   | -8.84   | -7.95   | -4.57   |   |
| Θ(60°)   | -1.77  | -2.17  | -1.30  | -2.17  | -1.76  | 0.19   | -2.40  | -4.43   | -0.40   | 0.60    | 1.83    | 0.74    | -0.01   | -0.95   | -0.68   | -1.58   | -1.05   | -8.36   | -3.42   | -4.51   | -2.44   | -4.69   | -1.76   | -0.58   |   |
| Θ(75°)   | -2.28  | 0.98   | -1.38  | 0.02   | -1.74  | -0.43  | -1.06  | -0.43   | 0.27    | 0.67    | 2.82    | 1.10    | 0.55    | -0.58   | -6.74   | -2.86   | -0.12   | -0.78   | -2.03   | 0.39    | -7.47   | -6.76   | -0.76   | 1.05    |   |
| Θ(90°)   | -2.86  | 0.07   | -2.31  | -0.52  | -2.99  | -2.45  | -1.32  | -1.00   | -0.70   | -0.43   | 0.56    | 0.36    | -0.52   | -2.04   | -2.12   | -6.82   | -3.43   | -2.61   | -0.28   | -3.03   | -9.83   | -2.97   | 0.22    | 0.12    |   |
| Θ(105°)  | -3.48  | -2.23  | -2.24  | -1.12  | -2.65  | -1.16  | -2.17  | -2.04   | -2.11   | -1.42   | -0.78   | -1.62   | -5.53   | -2.90   | -3.65   | -4.49   | -6.31   | -3.00   | -4.88   | -4.06   | -7.11   | -4.83   | -3.70   | -2.32   |   |
| Θ(120°)  | -4.98  | -3.61  | -4.28  | -1.71  | -3.82  | -3.69  | -3.42  | -3.34   | -4.48   | -4.83   | -4.59   | -4.18   | -7.79   | -7.74   | -9.74   | -10.45  | -12.22  | -8.99   | -8.04   | -9.81   | -8.95   | -6.29   | -3.86   | -5.39   |   |
| Θ(135°)  | -7.12  | -5.68  | -5.19  | -5.01  | -4.20  | -4.21  | -4.61  | -4.22   | -5.40   | -4.67   | -7.09   | -8.58   | -9.48   | -12.47  | -7.58   | -6.83   | -17.00  | -11.56  | -9.08   | -14.31  | -10.64  | -7.65   | -7.22   | -8.36   |   |
| Θ(150°)  | -9.34  | -6.92  | -9.92  | -6.50  | -7.00  | -6.91  | -6.28  | -7.67   | -7.42   | -8.71   | -8.58   | -7.48   | -7.54   | -12.72  | -14.67  | -14.48  | -9.87   | -12.57  | -12.89  | -22.29  | -12.29  | -9.63   | -10.89  | -9.36   |   |
| Θ(165°)  | -7.02  | -8.21  | -8.45  | -11.34 | -12.76 | -9.21  | -12.24 | -11.00  | -9.95   | -6.68   | -6.17   | -10.58  | -16.26  | -12.45  | -19.30  | -13.85  | -15.70  | -11.90  | -10.05  | -9.62   | -12.00  | -12.46  | -9.94   | -8.06   |   |
| Θ(180°)  | -12.02 | -11.47 | -11.59 | -12.18 | -12.23 | -13.03 | -10.73 | -11.62  | -12.44  | -16.84  | -15.34  | -13.94  | -16.78  | -19.47  | -13.34  | -10.89  | -11.53  | -11.27  | -12.00  | -11.73  | -10.23  | -10.05  | -10.94  | -11.84  |   |
| Freq(Hz) | 5.6G   | Pol.   | Total  | Ant. 2 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |   |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |   |
| Θ(0°)    | -6.43  | -7.14  | -6.35  | -6.66  | -6.11  | -5.87  | -5.84  | -5.24   | -6.54   | -6.27   | -6.09   | -5.42   | -5.49   | -5.67   | -8.14   | -6.01   | -6.20   | -6.70   | -7.09   | -7.35   | -6.82   | -6.14   | -5.83   | -6.27   |   |
| Θ(15°)   | -4.63  | -4.97  | -4.20  | -3.60  | -3.11  | -3.96  | -6.06  | -8.23   | -6.18   | -5.89   | -6.39   | -8.19   | -6.33   | -7.05   | -8.91   | -8.31   | -9.11   | -7.88   | -7.47   | -7.91   | -8.62   | -7.45   | -6.47   | -5.38   |   |
| Θ(30°)   | -5.87  | -2.71  | -3.42  | -3.11  | -1.78  | -2.70  | -2.74  | -3.67   | -3.04   | -1.64   | -1.42   | -1.50   | -4.22   | -1.91   | -5.91   | -7.15   | -6.33   | -5.77   | -8.74   | -11.29  | -11.02  | -14.30  | -5.94   | -6.12   |   |
| Θ(45°)   | -1.60  | -1.48  | 0.11   | -1.40  | -0.47  | -2.16  | -1.43  | -2.00   | -0.83   | -0.09   | 0.23    | -0.75   | -2.09   | -2.96   | -3.47   | -4.42   | -1.33   | -2.22   | -5.16   | -6.10   | -8.92   | -7.41   | -5.18   | -3.57   |   |
| Θ(60°)   | -3.05  | -1.50  | -2.50  | -0.36  | -1.85  | -1.83  | -1.26  | -2.62   | -2.05   | -0.86   | 0.62    | -1.58   | -0.33   | -4.50   | -2.37   | -1.59   | -1.12   | -7.21   | -2.27   | -6.14   | -4.52   | -3.69   | -4.87   | -2.01   |   |
| Θ(75°)   | -2.37  | -2.00  | -0.99  | -0.91  | -0.92  | -2.05  | -0.51  | 1.27    | -1.68   | -1.08   | -0.60   | -0.33   | 0.38    | -3.23   | -8.74   | -3.13   | 0.12    | -0.62   | -3.81   | -0.06   | -5.97   | -6.16   | -2.97   | -1.27   |   |
| Θ(90°)   | -1.73  | -3.11  | -1.01  | -3.24  | -1.95  | -2.12  | -1.79  | -2.21   | -2.89   | -2.17   | -2.69   | -1.24   | -1.36   | -3.42   | -5.29   | -13.20  | -1.16   | -3.21   | -0.59   | -1.12   | -9.83   | -5.34   | -4.03   | -1.52   |   |
| Θ(105°)  | -2.46  | -3.38  | -2.94  | -2.82  | -1.32  | -1.90  | -1.29  | -2.76   | -2.24   | -1.86   | -2.99   | -4.82   | -2.98   | -5.11   | -6.85   | -4.39   | -6.71   | -5.28   | -4.24   | -5.22   | -5.75   | -4.85   | -4.58   | -5.36   |   |
| Θ(120°)  | -7.06  | -5.72  | -4.42  | -3.71  | -4.65  | -2.78  | -2.65  | -2.77   | -4.85   | -4.28   | -4.51   | -7.16   | -9.96   | -9.76   | -12.64  | -10.34  | -10.05  | -8.22   | -6.86   | -8.10   | -10.95  | -8.54   | -7.09   | -6.17   |   |
| Θ(135°)  | -8.11  | -6.32  | -6.67  | -5.09  | -5.45  | -4.84  | -3.16  | -4.60   | -6.37   | -5.47   | -7.72   | -8.02   | -12.18  | -9.96   | -10.01  | -8.19   | -18.92  | -16.81  | -8.72   | -11.25  | -8.76   | -13.00  | -9.44   | -8.72   |   |
| Θ(150°)  | -11.15 | -8.83  | -8.34  | -7.73  | -6.46  | -6.74  | -6.77  | -7.07   | -7.66   | -7.52   | -10.58  | -10.78  | -7.33   | -10.00  | -16.20  | -14.45  | -15.79  | -13.44  | -18.15  | -18.51  | -13.72  | -11.79  | -12.49  | -7.99   |   |
| Θ(165°)  | -10.07 | -11.77 | -12.50 | -11.20 | -10.86 | -9.92  | -9.66  | -8.70   | -10.74  | -9.08   | -7.17   | -9.74   | -25.28  | -11.22  | -14.20  | -17.26  | -15.06  | -12.90  | -11.47  | -13.92  | -15.33  | -12.29  | -11.84  | -9.24   |   |
| Θ(180°)  | -12.38 | -10.30 | -10.51 | -10.06 | -10.74 | -11.17 | -10.14 | -10.27  | -11.27  | -13.16  | -16.24  | -18.78  | -17.90  | -17.55  | -11.80  | -10.62  | -9.33   | -10.11  | -9.34   | -10.17  | -9.87   | -10.60  | -10.69  | -10.96  |   |
| Freq(Hz) | 5.785G | Pol.   | Total  | Ant. 2 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |   |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |   |
| Θ(0°)    | -6.31  | -6.23  | -5.78  | -6.58  | -6.75  | -6.17  | -6.66  | -5.46   | -6.34   | -7.10   | -6.65   | -6.76   | -6.98   | -5.39   | -7.40   | -5.42   | -6.74   | -5.82   | -7.33   | -7.39   | -6.89   | -6.12   | -6.00   | -7.29   |   |
| Θ(15°)   | -3.26  | -4.29  | -4.29  | -3.94  | -3.37  | -3.93  | -4.80  | -5.54   | -8.12   | -5.12   | -5.03   | -6.69   | -7.97   | -7.03   | -7.49   | -7.64   | -7.00   | -5.78   | -4.90   | -5.26   | -7.74   | -6.83   | -6.54   | -5.14   |   |
| Θ(30°)   | -3.58  | -0.61  | -1.76  | -1.26  | -1.85  | -4.08  | -3.67  | -3.14   | -3.10   | -1.96   | -2.01   | -1.03   | -4.81   | -2.78   | -6.28   | -7.57   | -4.73   | -5.64   | -6.63   | -7.08   | -9.87   | -7.98   | -3.82   | -5.63   |   |
| Θ(45°)   | -2.51  | -1.52  | -0.82  | -0.55  | 0.20   | 0.15   | -0.65  | -0.77   | -1.27   | -0.42   | 1.57    | -1.74   | -1.04   | -2.69   | -2.01   | -4.93   | -2.18   | -1.89   | -5.50   | -6.12   | -7.27   | -5.17   | -4.02   | -4.89   |   |
| Θ(60°)   | -3.13  | -1.50  | -3.54  | -1.17  | -0.55  | -0.88  | -0.62  | -0.97   | -2.28   | -2.00   | 0.18    | -1.44   | -3.34   | -5.27   | -1.24   | -1.73   | -2.87   | -5.42   | -1.95   | -7.27   | -3.35   | -4.20   | -4.57   | -4.03   |   |
| Θ(75°)   | -1.96  | -2.22  | -0.51  | -3.60  | 0.37   | 0.19   | -0.25  | -0.27   | -1.41   | -0.12   | -0.30   | -1.41   | -4.96   | -4.09   | -8.56   | -2.30   | -1.28   | -0.61   | -4.23   | -0.98   | -5.14   | -6.87   | -4.29   | -2.26   |   |
| Θ(90°)   | -2.86  | -2.04  | -1.80  | -4.67  | -2.14  | -0.81  | -0.72  | -2.60   | -2.46   | -1.07   | -2.65   | -3.01   | -4.93   | -4.45   | -6.64   | -7.54   | -2.71   | -1.18   | -0.91   | -1.90   | -11.37  | -6.59   | -4.85   | -2.97   |   |
| Θ(105°)  | -4.26  | -2.48  | -2.76  | -3.01  | -1.23  | -1.35  | -1.89  | -1.97   | -3.03   | -2.11   | -4.08   | -5.07   | -5.17   | -8.40   | -7.05   | -3.80   | -7.43   | -3.43   | -3.08   | -6.89   | -5.47   | -8.66   | -5.56   | -5.42   |   |
| Θ(120°)  | -7.47  | -4.91  | -5.56  | -4.88  | -3.76  | -4.56  | -3.25  | -1.51   | -5.28   | -4.59   | -5.39   | -7.05   | -10.68  | -7.52   | -15.15  | -11.51  | -10.65  | -6.84   | -6.00   | -9.41   | -8.11   | -9.38   | -6.78   | -6.46   |   |
| Θ(135°)  | -9.71  | -8.70  | -7.69  | -4.94  | -4.25  | -4.93  | -3.57  | -2.75   | -4.68   | -7.26   | -7.67   | -7.71   | -10.45  | -9.76   | -12.97  | -8.38   | -14.12  | -17.00  | -10.00  | -11.77  | -12.37  | -12.21  | -9.50   | -8.67   |   |
| Θ(150°)  | -10.44 | -9.39  | -7.42  | -7.74  | -6.99  | -7.02  | -7.73  | -5.85   | -8.14   | -6.82   | -11.69  | -10.15  | -8.23   | -10.27  | -18.25  | -13.79  | -16.88  | -14.14  | -20.03  | -15.52  | -13.67  | -12.31  | -12.35  | -9.40   |   |
| Θ(165°)  | -12.70 | -12.34 | -10.48 | -8.24  | -8.27  | -7.74  | -8.39  | -7.42   | -8.02   | -9.57   | -8.71   | -7.90   | -14.40  | -13.86  | -11.56  | -13.53  | -18.01  | -17.39  | -15.96  | -15.22  | -11.10  | -10.02  | -9.22   | -       |   |
| Θ(180°)  | -11.16 | -10.23 | -9.10  | -9.15  | -10.58 | -11.71 | -11.51 | -11.55  | -10.91  | -14.05  | -17.78  | -24.05  | -20.17  | -14.08  | -11.80  | -9.67   | -8.74   | -8.95   | -9.15   | -9.31   | -9.52   | -9.05   | -11.86  | -11.69  | - |
| Freq(Hz) | 2.45G  | Pol.   | Total  | Ant. 3 | -      | -      | -      | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |   |
| Gain     | Φ(0°)  | Φ(15°) | Φ(30°) | Φ(45°) | Φ(60°) | Φ(75°) | Φ(90°) | Φ(105°) | Φ(120°) | Φ(135°) | Φ(150°) | Φ(165°) | Φ(180°) | Φ(195°) | Φ(210°) | Φ(225°) | Φ(240°) | Φ(255°) | Φ(270°) | Φ(285°) | Φ(300°) | Φ(315°) | Φ(330°) | Φ(345°) |   |
| Θ(0°)    | -3.07  | -2.07  | -1.64  | -1.96  | -2.19  | -2.15  | -2.23  | -2.46   | -2.77   | -3.01   | -2.49   | -2.30   | -2.44   | -2.35   | -2.25   | -2.19   | -2.32   | -2.53   | -2.72   | -2.88   | -2.66   | -1.82   | -1.81   | -2.46   |   |
| Θ(15°)   | -1.54  | -1.89  | -1.85  | -1.71  | -1.99  | -2.19  | -2.53  | -2.60   | -1.93   | -1.02   | -0.82   | -1.53   | -1.78   | -1.20   | -0.77   | -1.21   | -0.69   | -0.57   | -1.09   | -1.36   | -1.85   | -1.75   | -1.26   | -1.09   |   |
| Θ(       |        |        |        |        |        |        |        |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |   |



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

