

## SPECIFICATION

|              |   |                                                                             |
|--------------|---|-----------------------------------------------------------------------------|
| Part No.     | : | <b>GW.71.5153</b>                                                           |
| Product Name | : | 2.4GHz/5.8GHz Dipole Antenna for ISM Band<br>and WLAN<br>IEEE 802.11a/b/g/h |
| Feature      | : | 5dBi High Performance Antenna<br>RP-SMA(M) Hinged Antenna<br>RoHS Compliant |

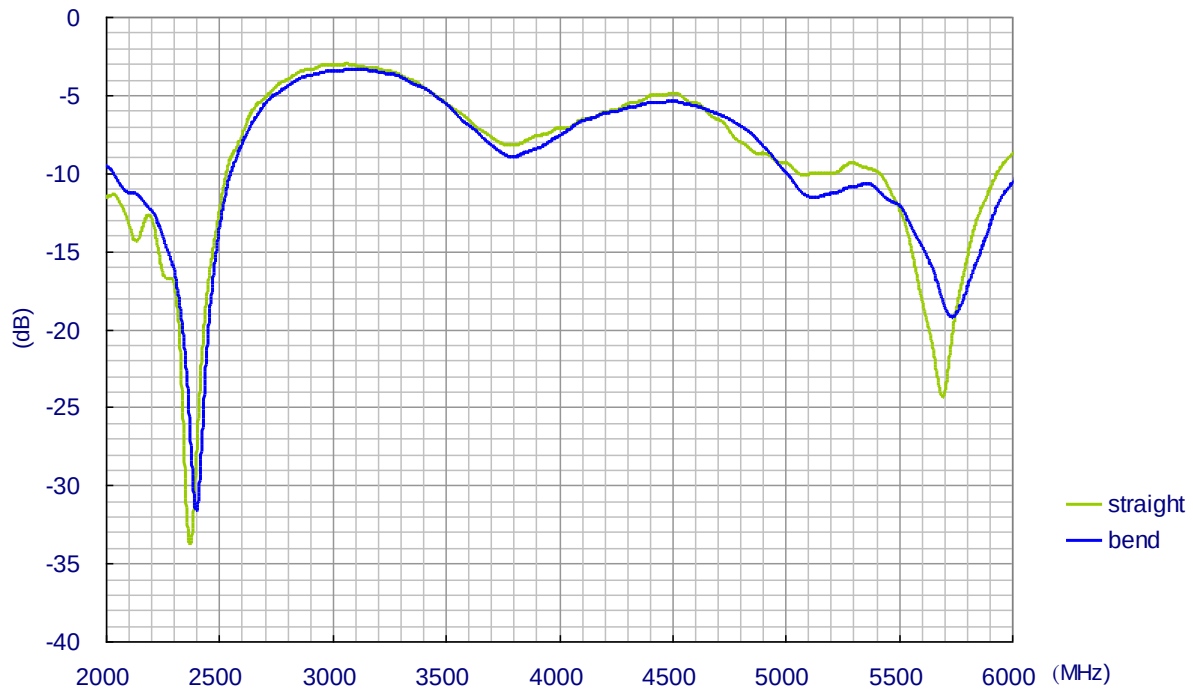


## 1. Specification

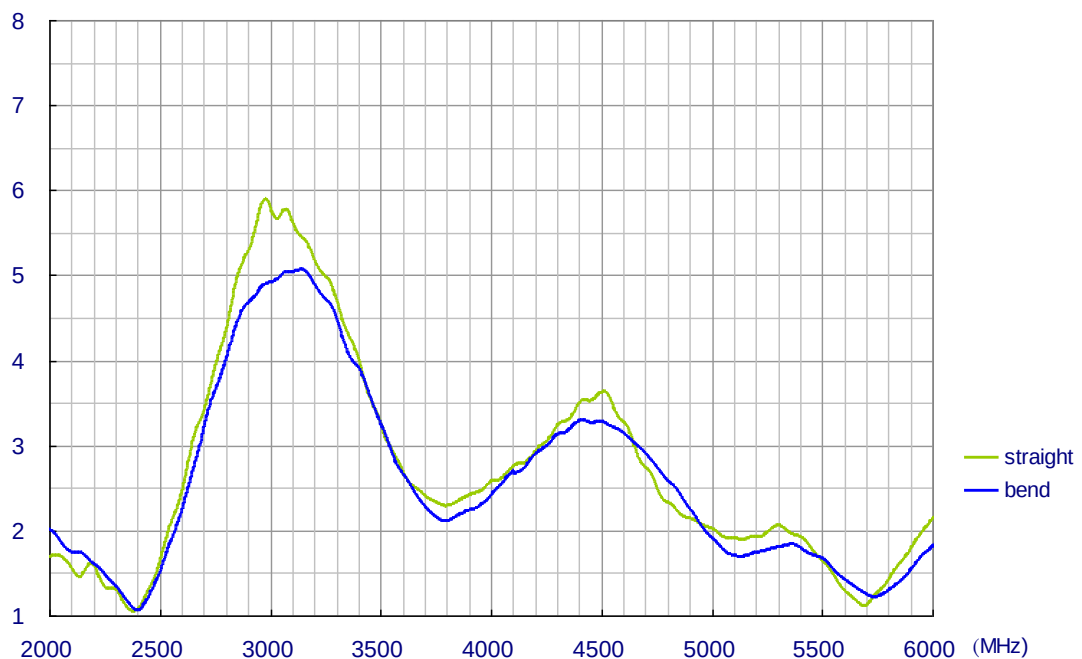
| ELECTRICAL              |                            |              |
|-------------------------|----------------------------|--------------|
| Frequency               | 2.4 ~ 2.5GHz,              | 4.9 ~ 5.8GHz |
| VSWR                    | <2                         | <2.1         |
| Peak Gain (straight)    | 3.3dBi                     | 4.9dBi       |
| Peak Gain (bend)        | 3.8dBi                     | 5.5dBi       |
| Average Gain (straight) | -0.9dBi                    | -1.5dBi      |
| Average Gain (bend)     | -0.7dBi                    | -0.0dBi      |
| Efficiency (straight)   | 80%                        | 71%          |
| Efficiency (bend)       | 86%                        | 83%          |
| Polarization            | Linear                     |              |
| Impedance               | 50 Ohms                    |              |
| Radiation Pattern       | Omni                       |              |
| Input Power             | 2W max.                    |              |
| MECHANICAL              |                            |              |
| Antenna Length          | 194mm                      |              |
| Antenna Diameter        | 12.8mm                     |              |
| Antenna Body Material   | TPU                        |              |
| ENVIRONMENTAL           |                            |              |
| Temperature Range       | -40°C to 85°C              |              |
| Humidity                | Non-condensing 65°C 95% RH |              |

## 2. Antenna S11 Property

### 2.1. Return Loss

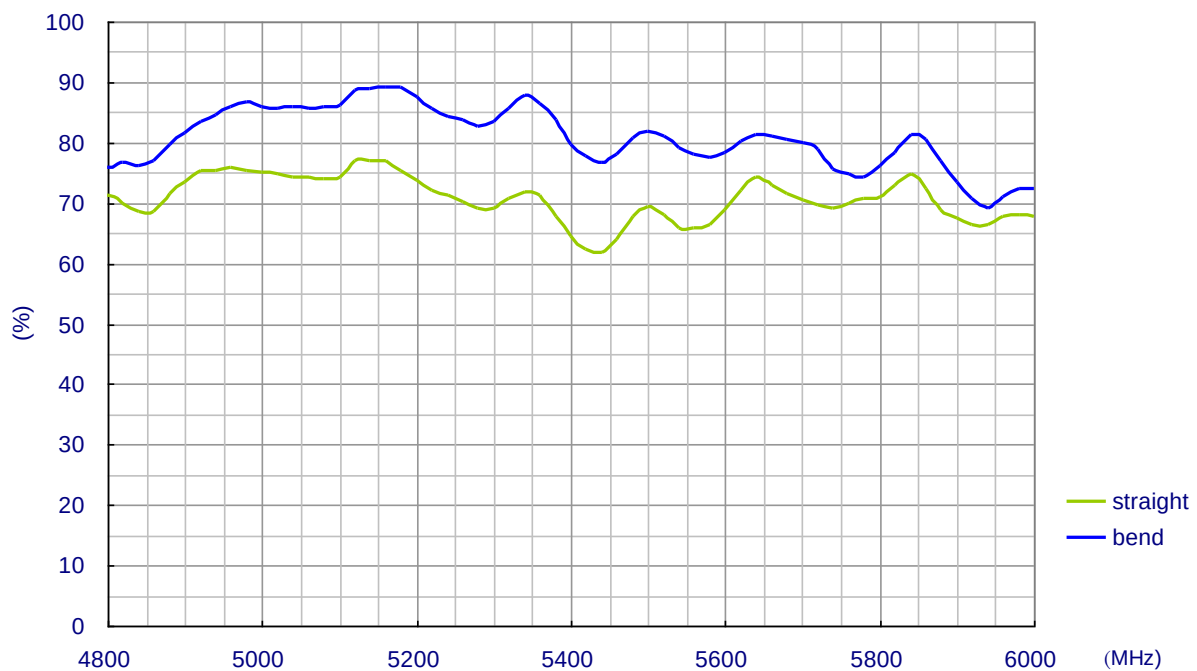
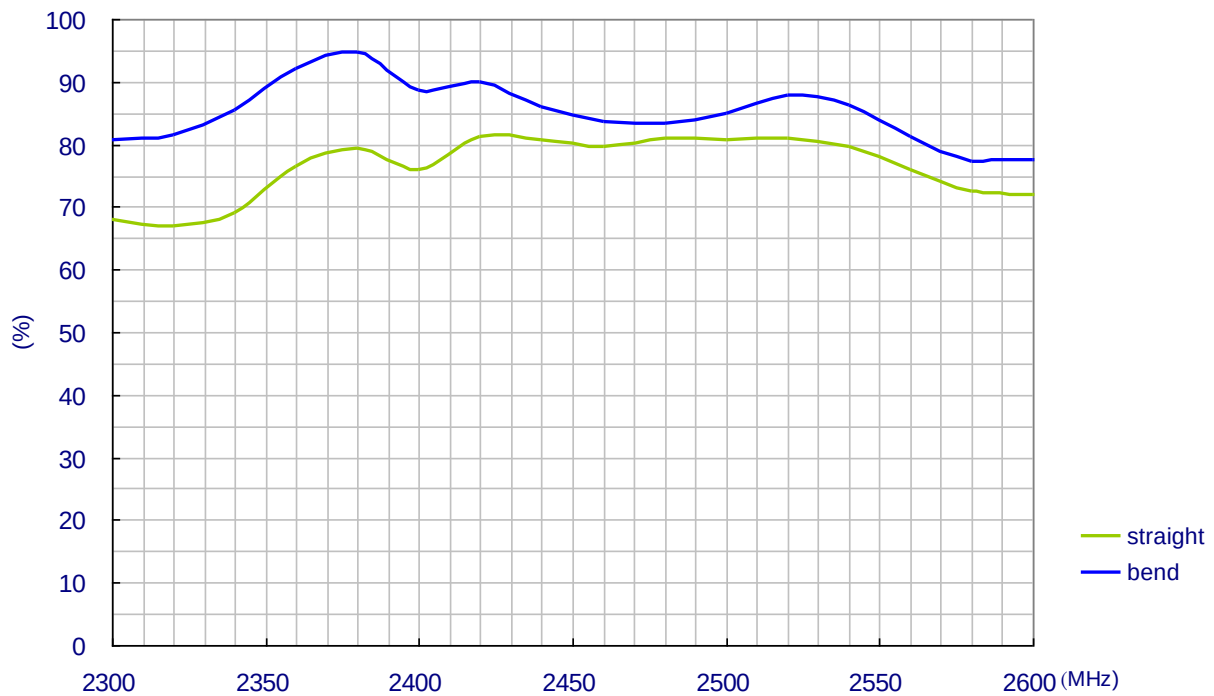


### 2.2. VSWR

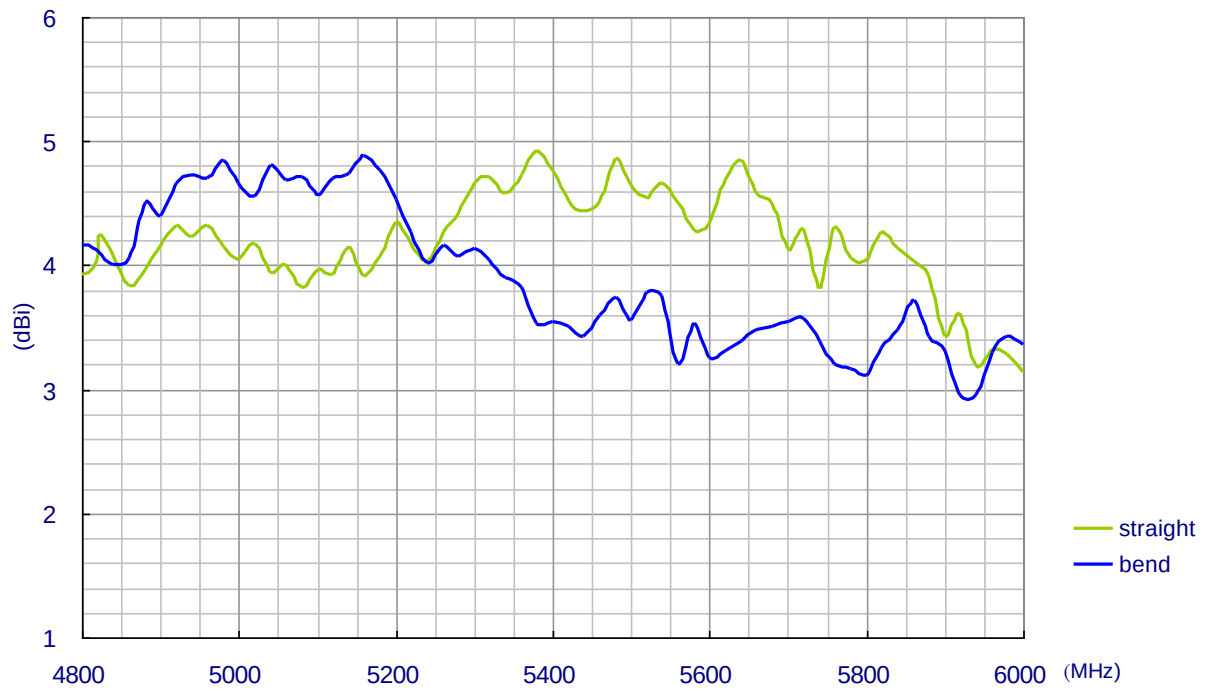
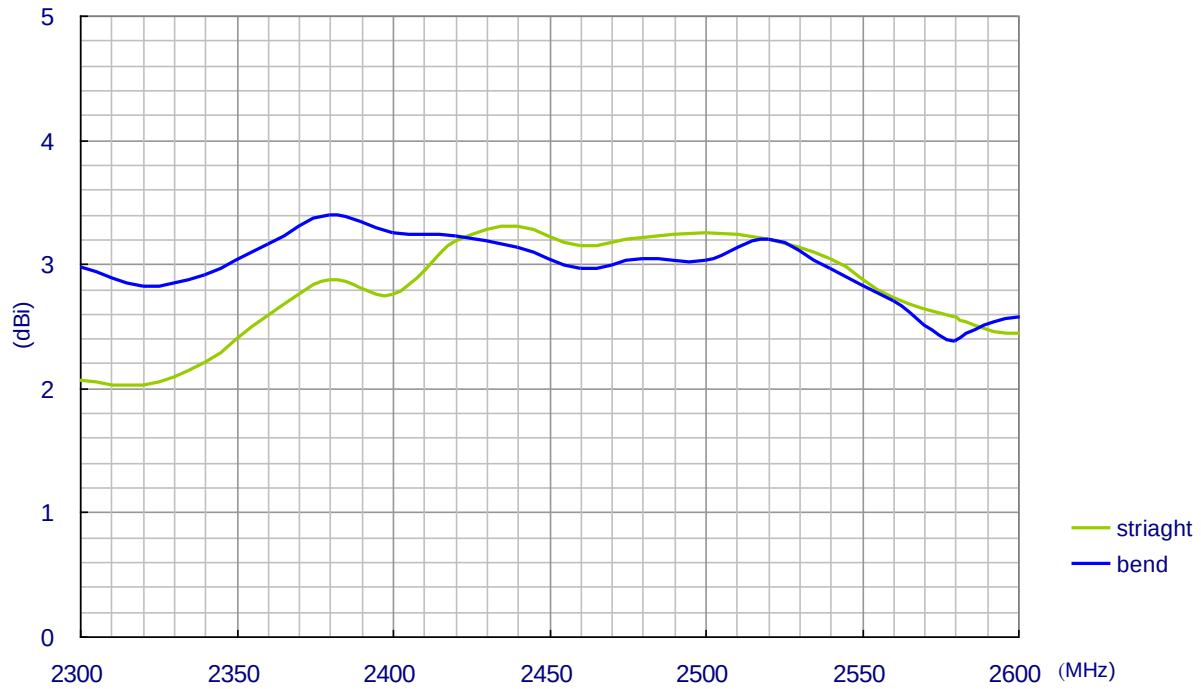


## 3. 3D Radiation Property

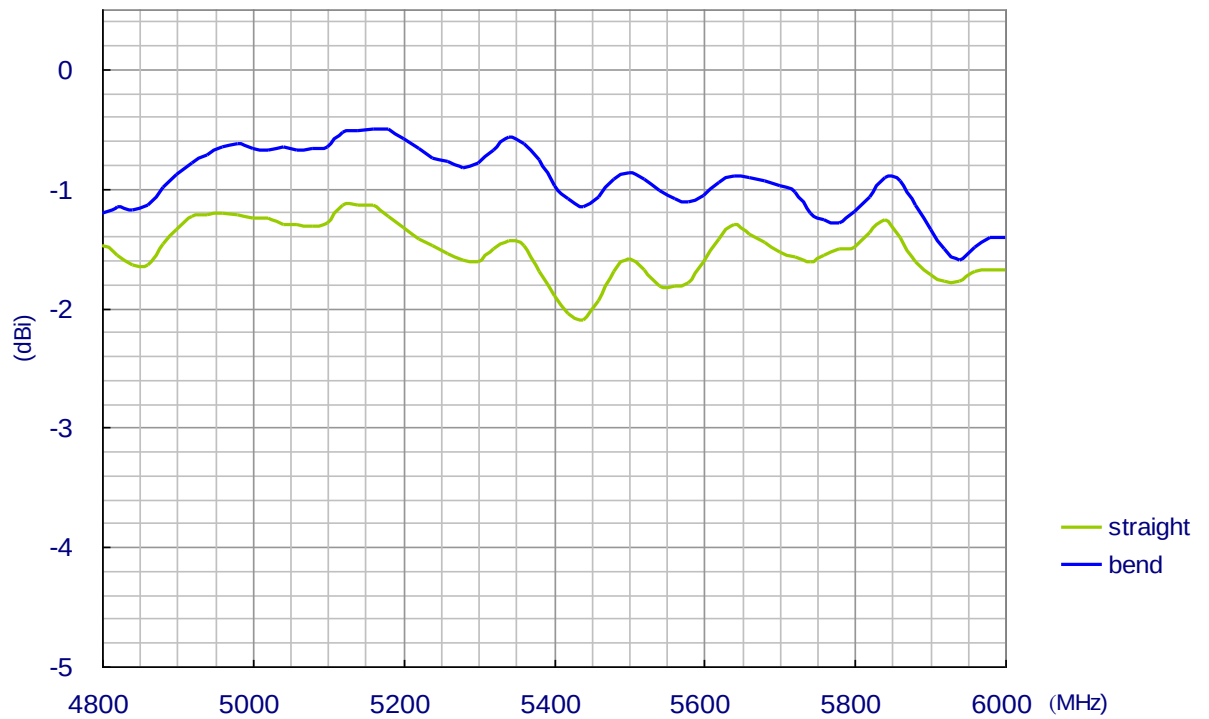
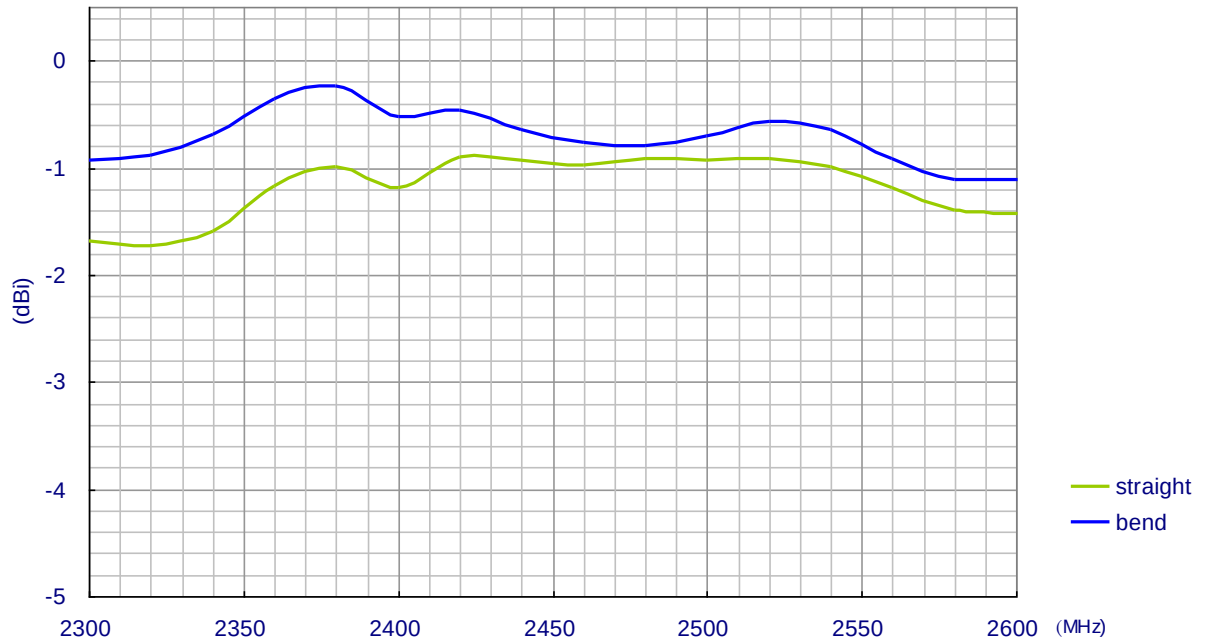
### 3.1. Radiation Efficiency



### 3.2. Peak Gain

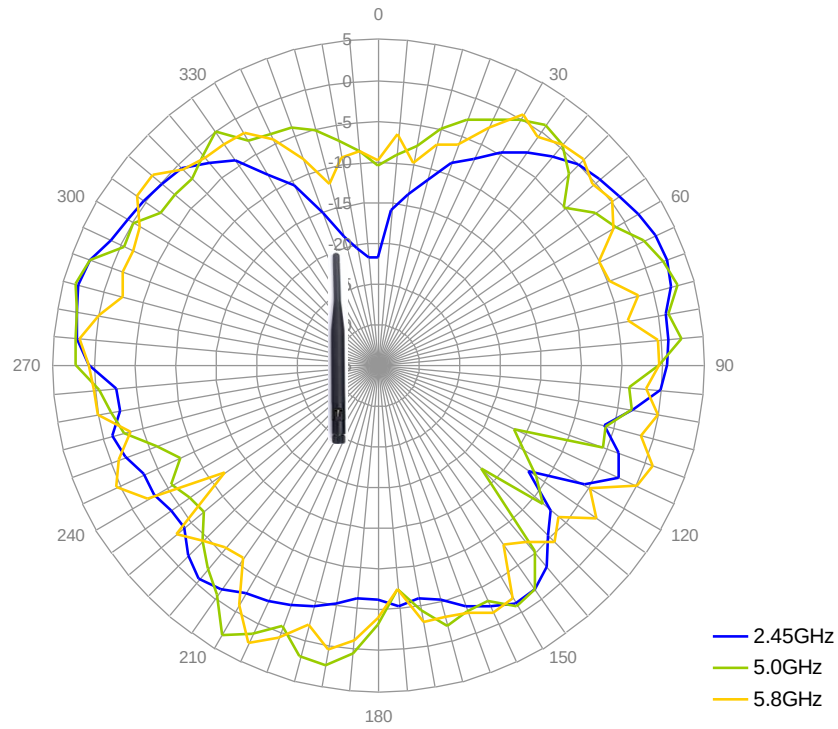


### 3.3. Average Gain

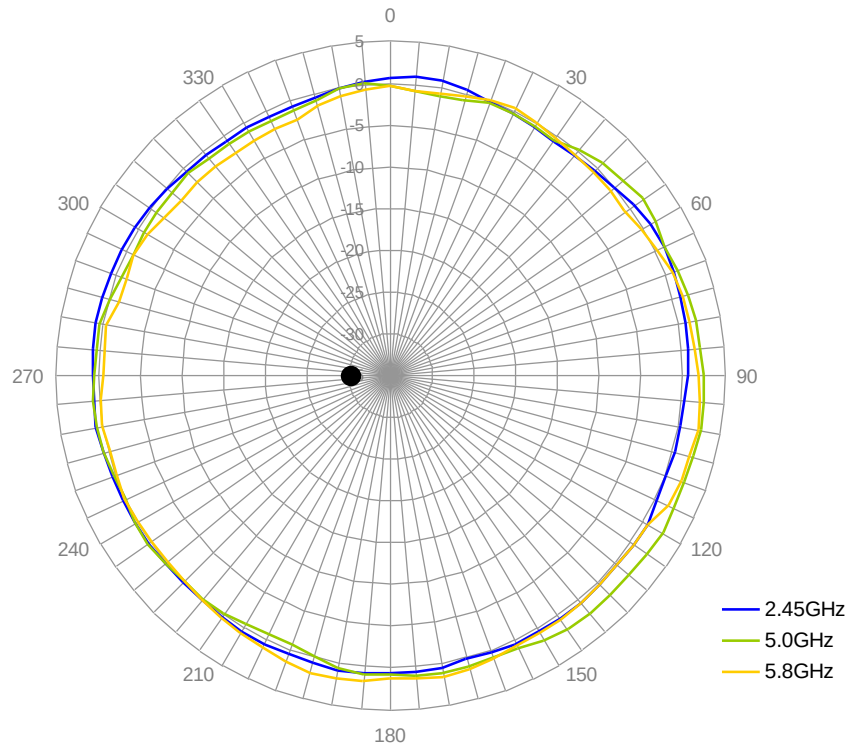


### 3.4. Radiation Pattern

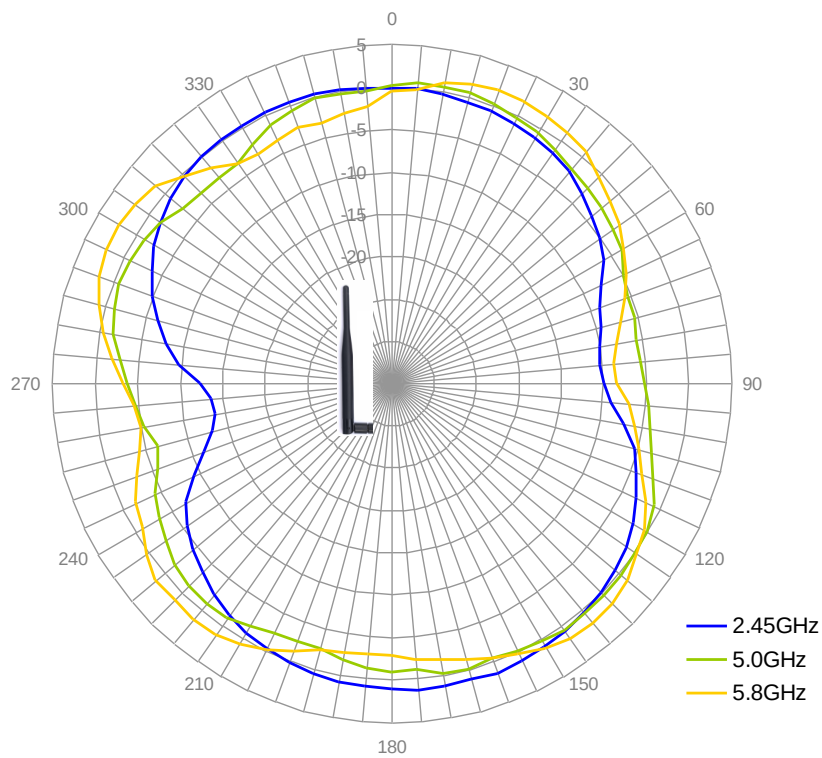
#### E-Plane Radiation of Straight Position



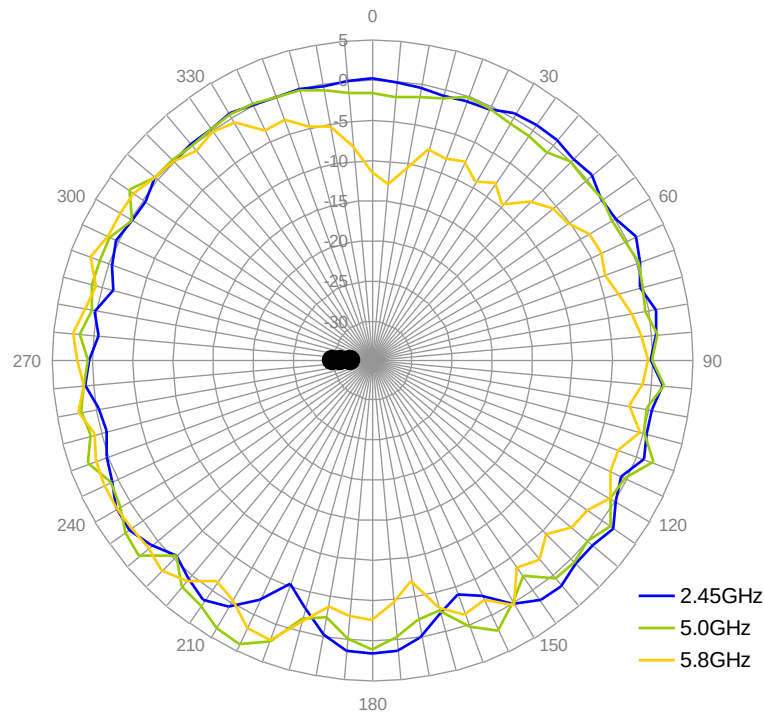
## H-Plane Radiation of Straight Position



## E-Plane Radiation of Bend Position



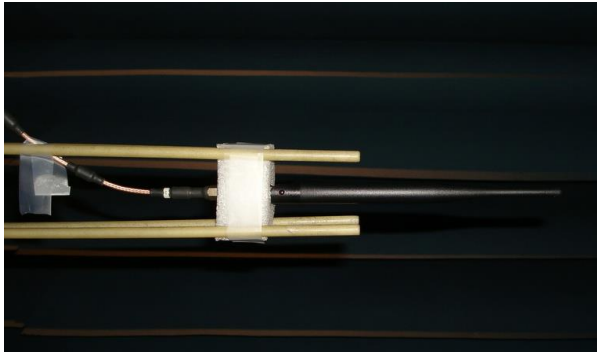
## H-Plane Radiation of Bend Position



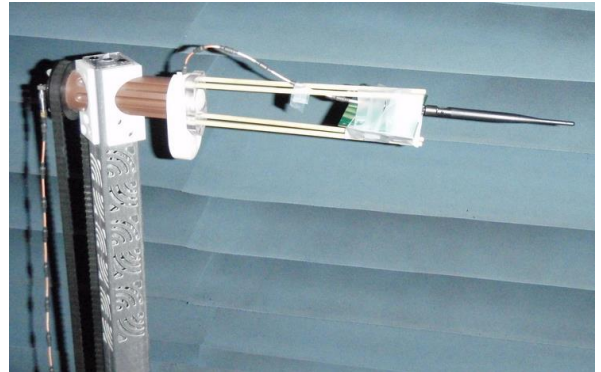
## 4. Ground Plane Effect

Three ground setups are used to see the affect of positioning GW.71 close to ground -

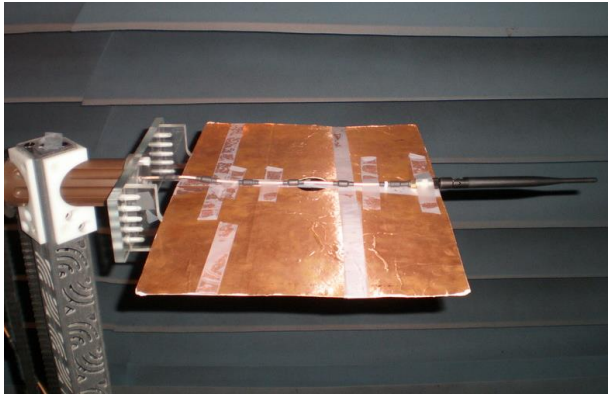
1. Small Ground (15 x 9cm) – common size of CPE devices. GW.71 is mounted at the longer edge for testing.
2. Big Ground Edge (45 x 30cm) – simulate the effect of mounting antenna on a base station device. GW.71 is mounted at the centre of the longer edge.
3. Big Ground Centre (45 x 30cm) – simulate the effect of mounting antenna in a centre of a big ground plane, such as vehicle top.



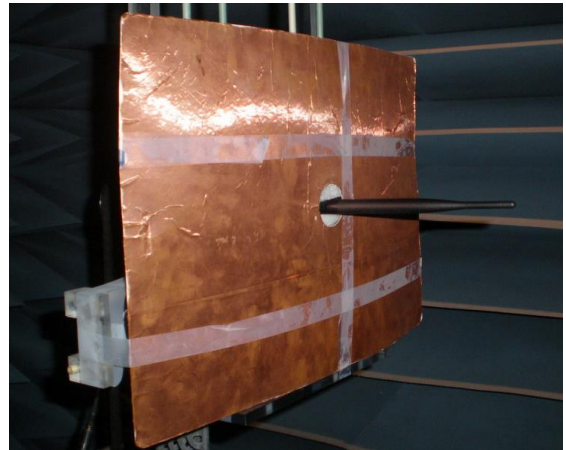
Free space



Small ground edge



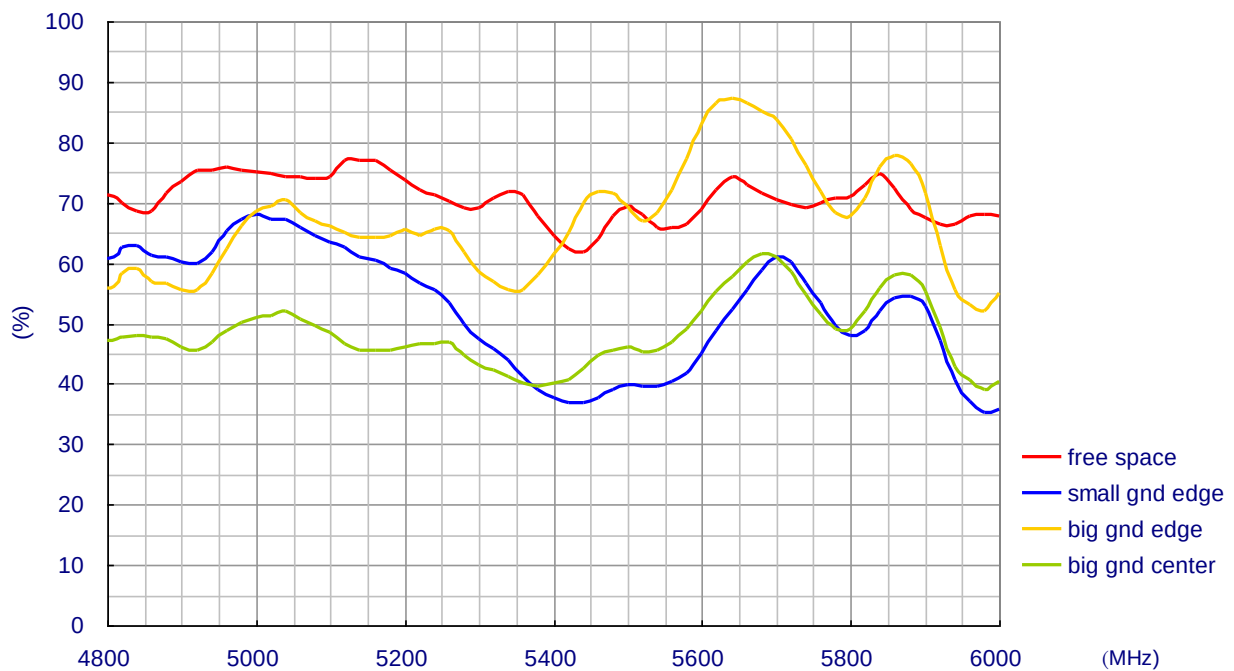
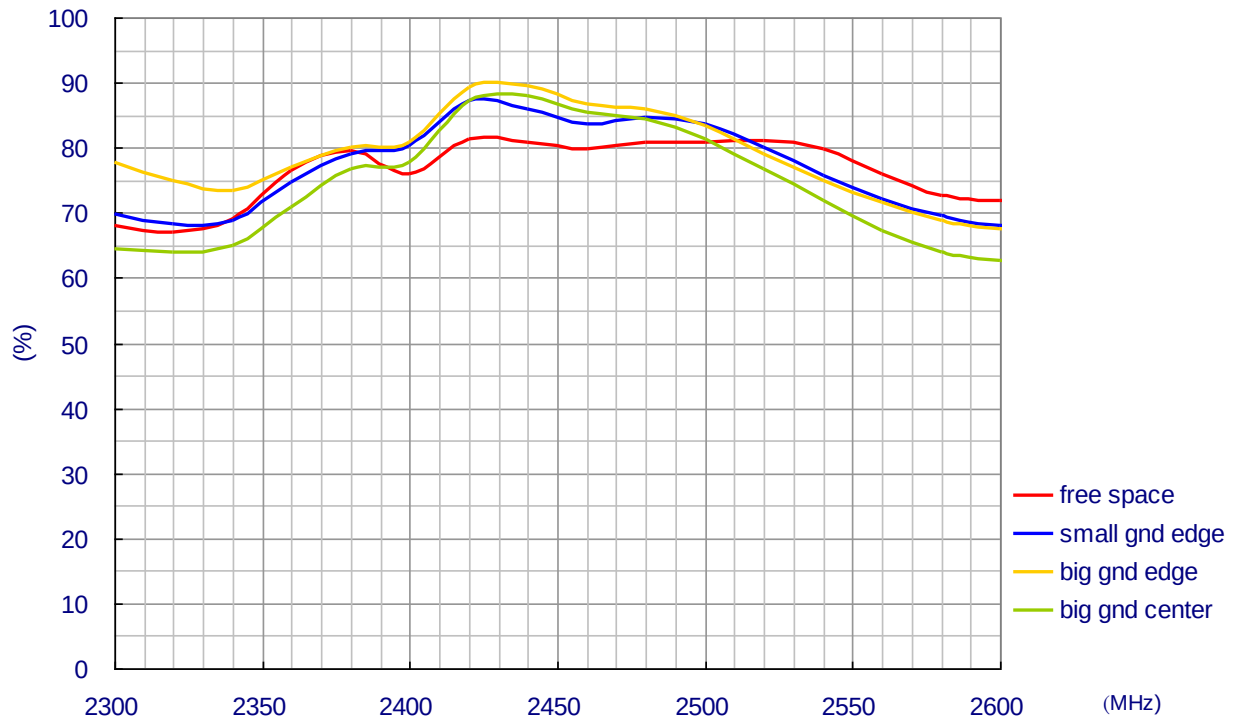
Big ground edge



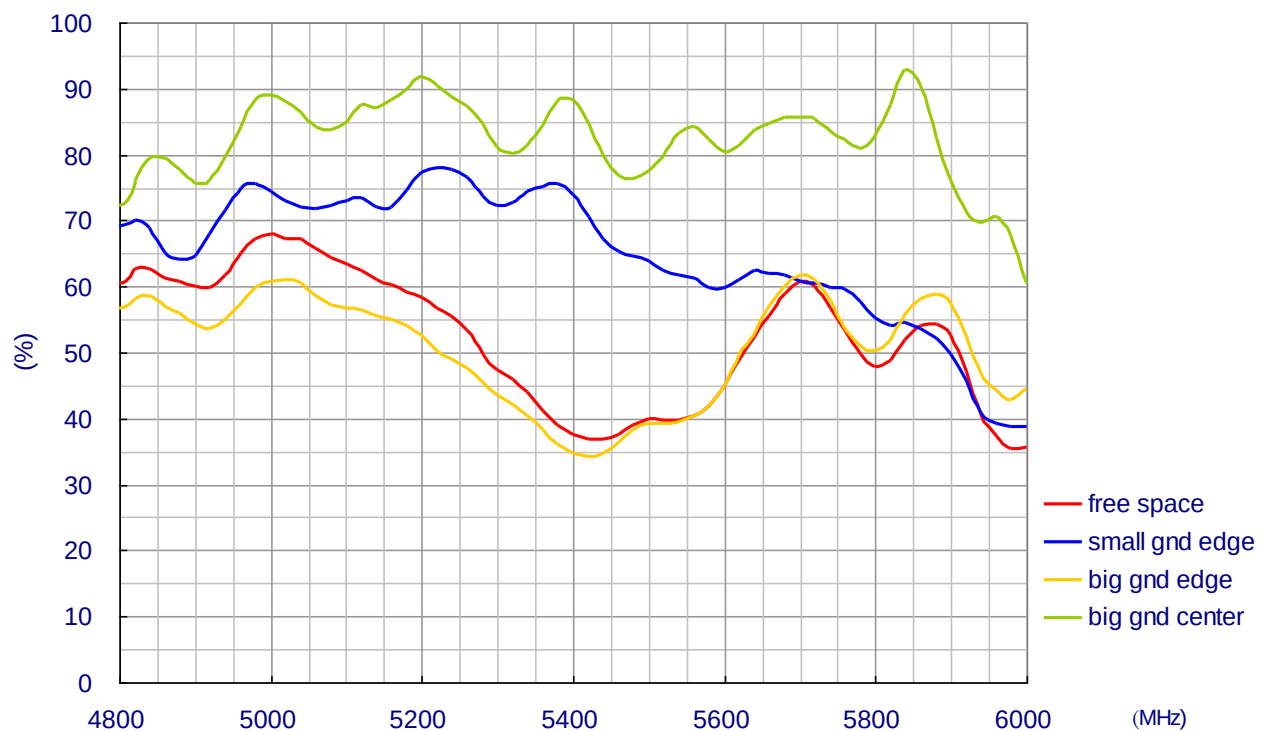
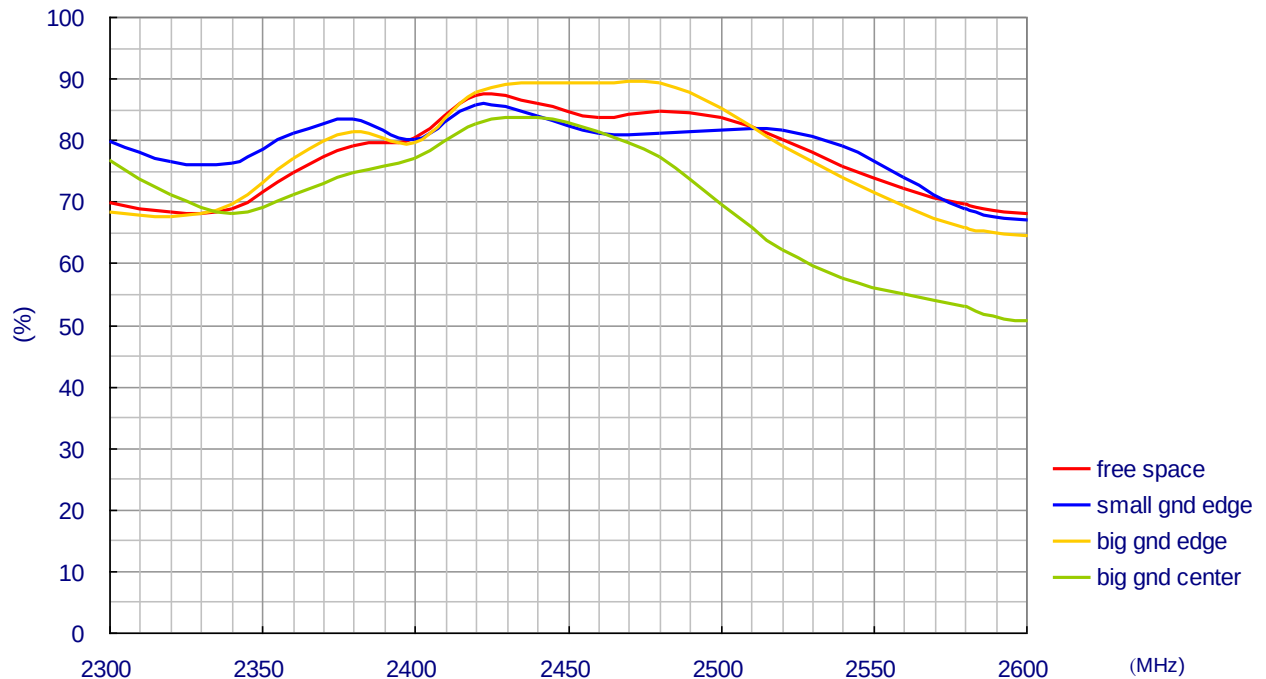
Big ground center

## 5. Radiation Property of GW.71 with Different Ground

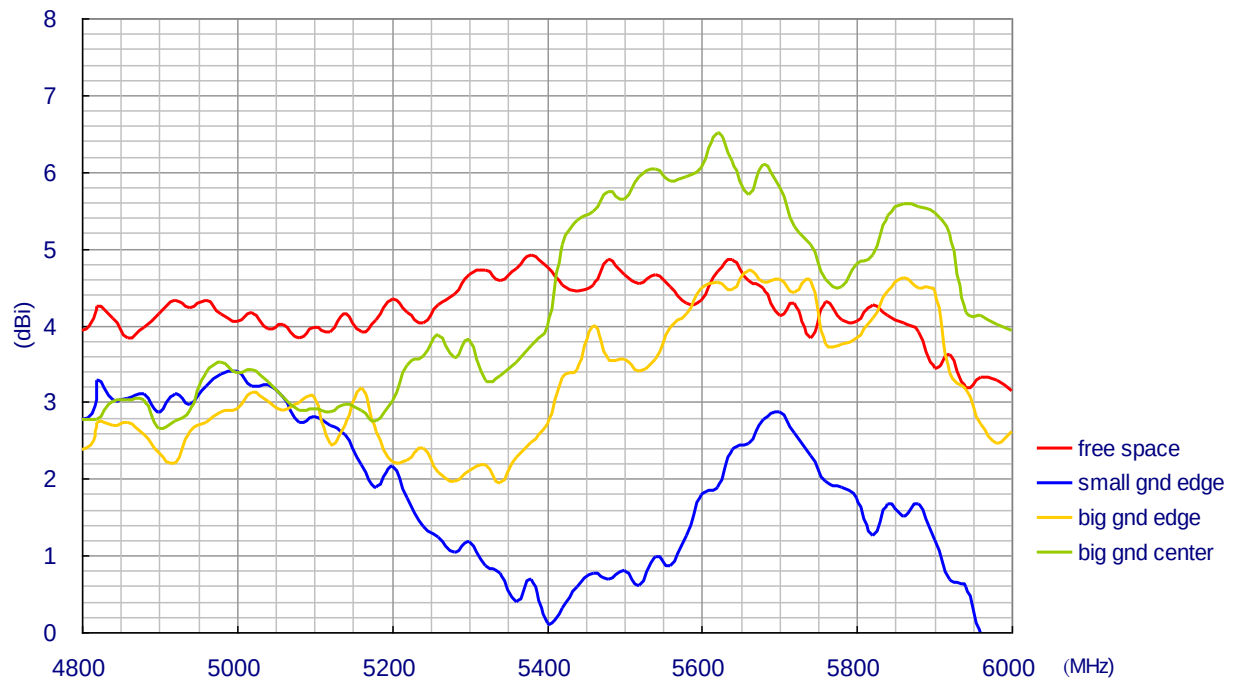
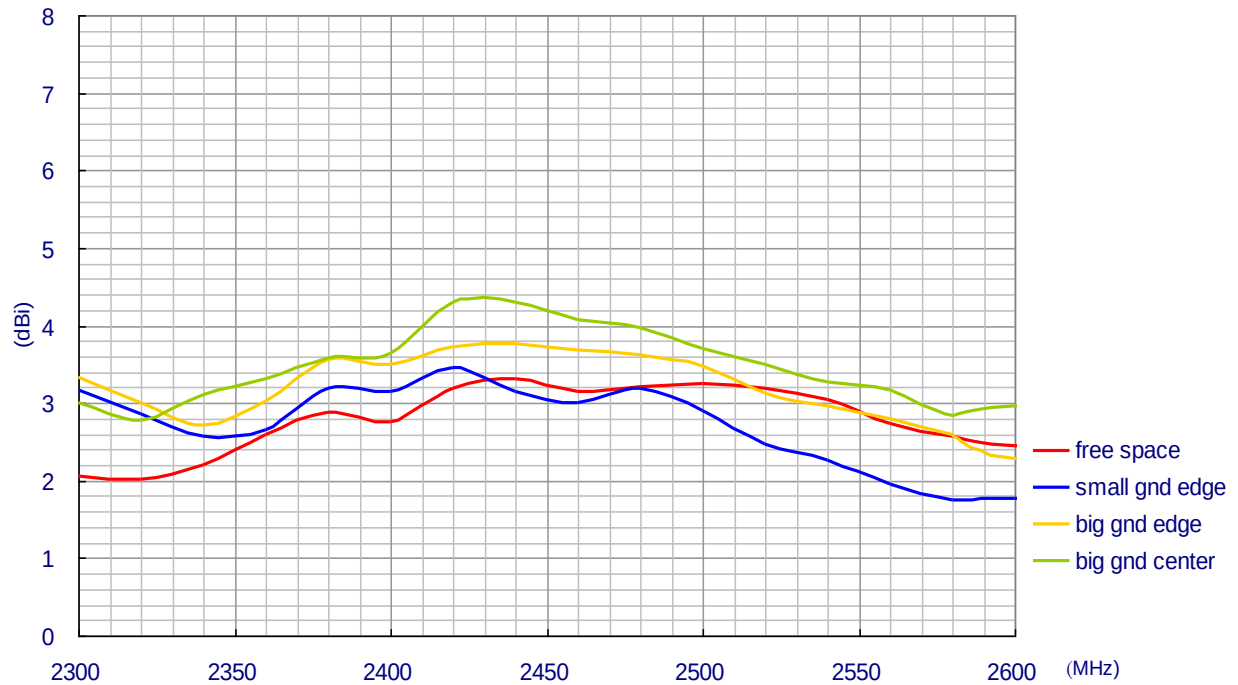
### 5.1. Radiation Efficiency of Straight GW.71



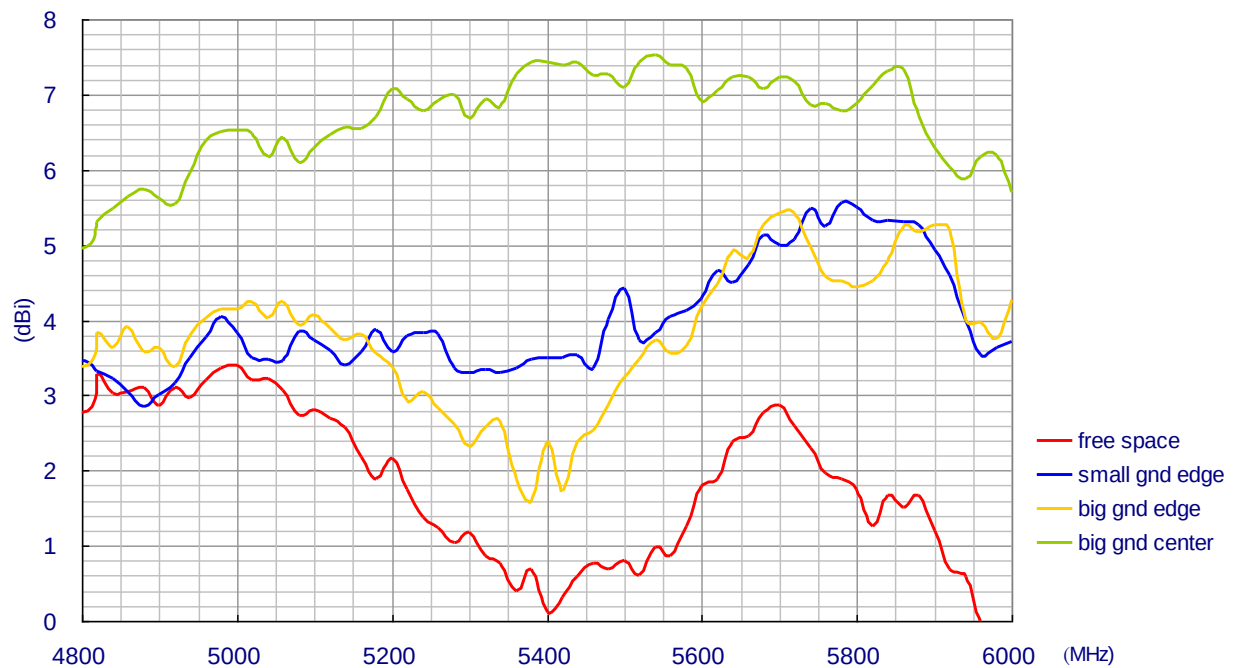
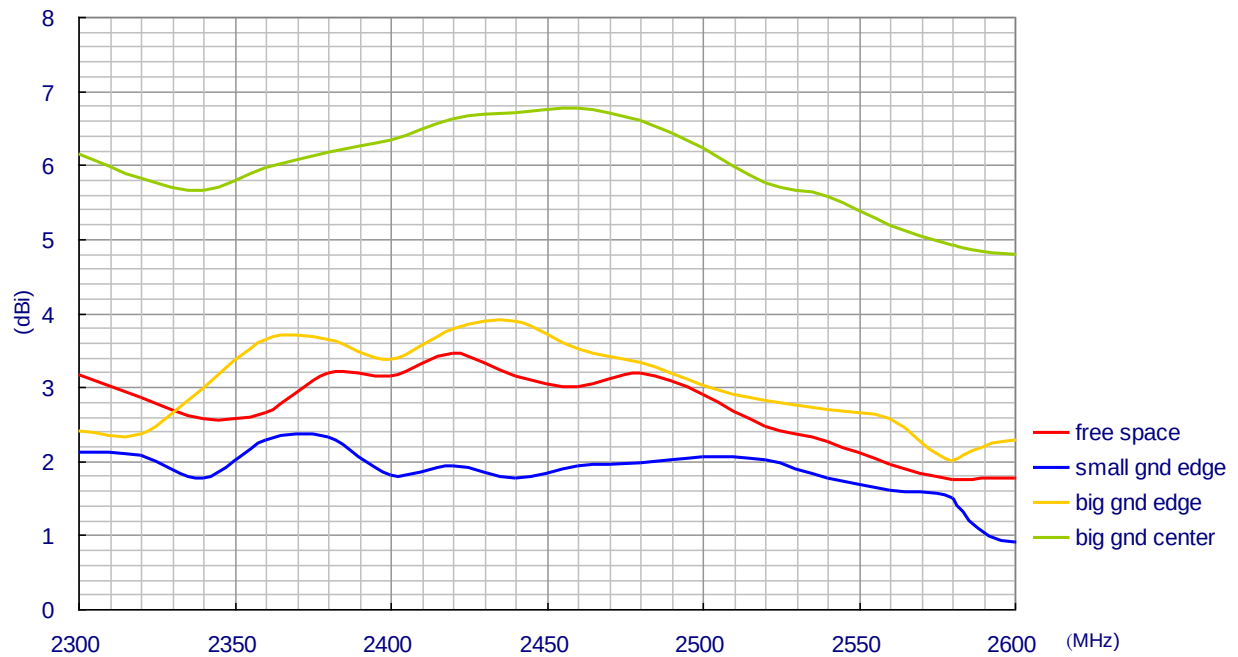
## 5.2. Radiation Efficiency of Bend GW.71



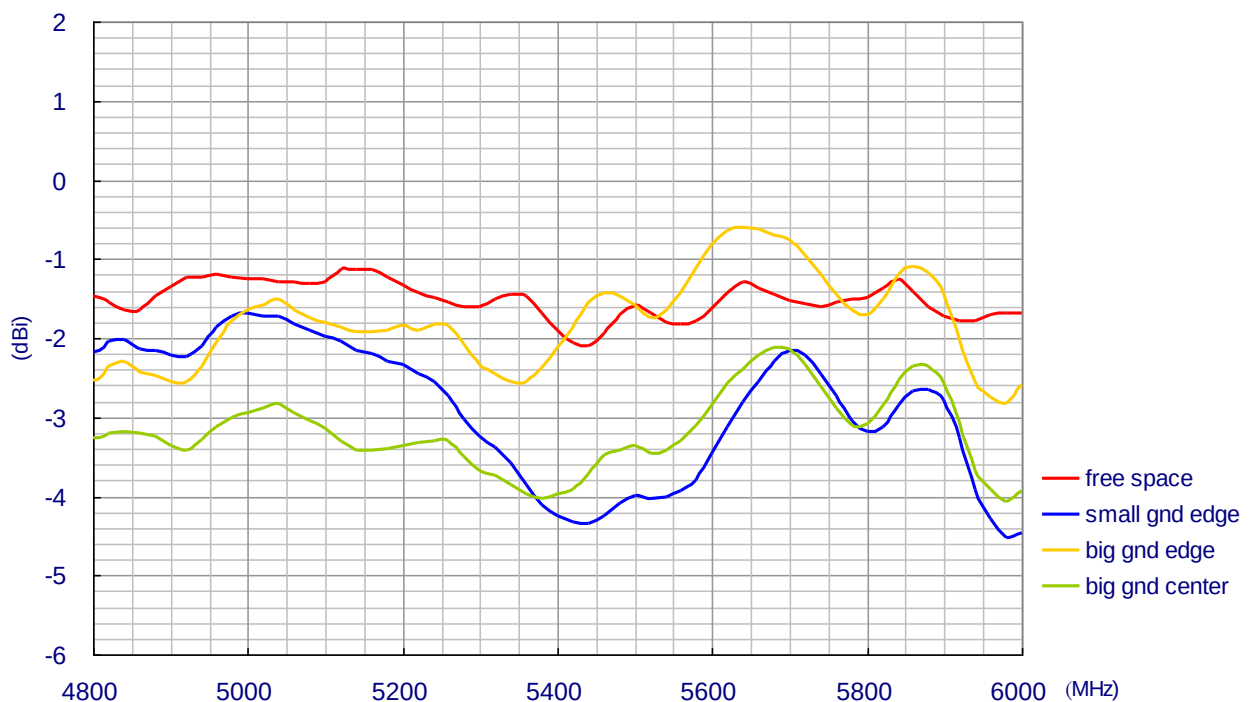
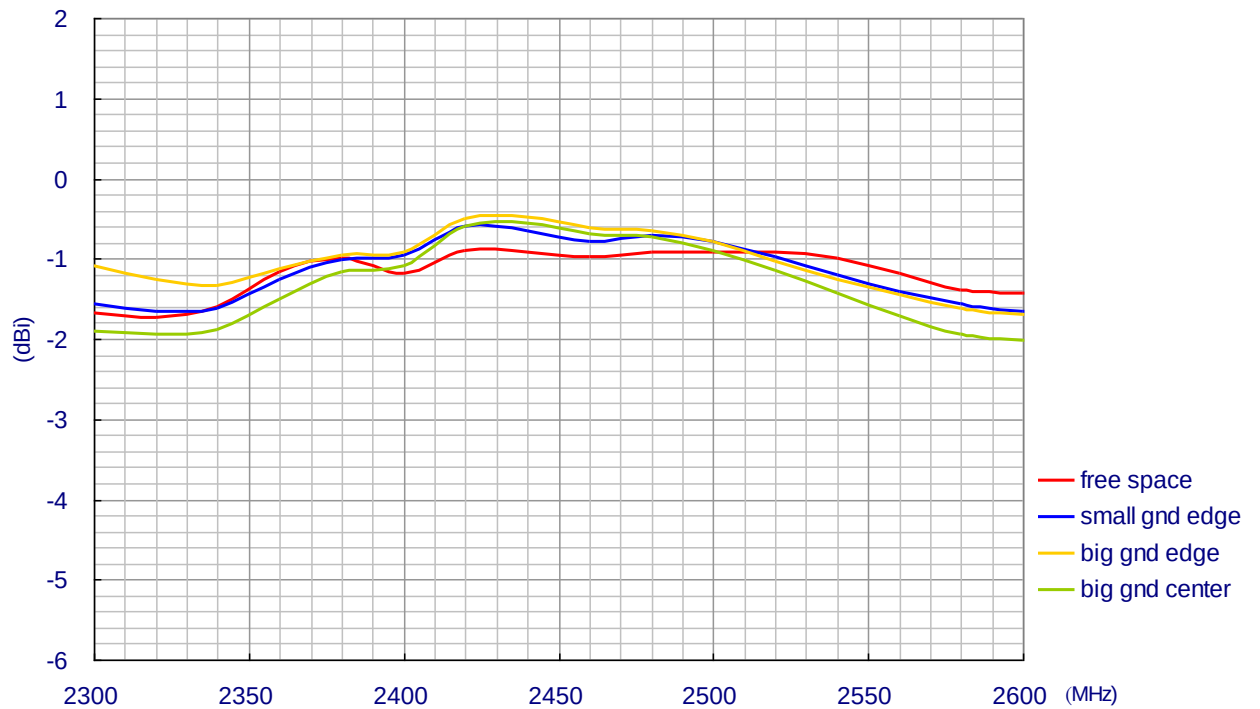
### 5.3. Peak Gain of Straight GW.71



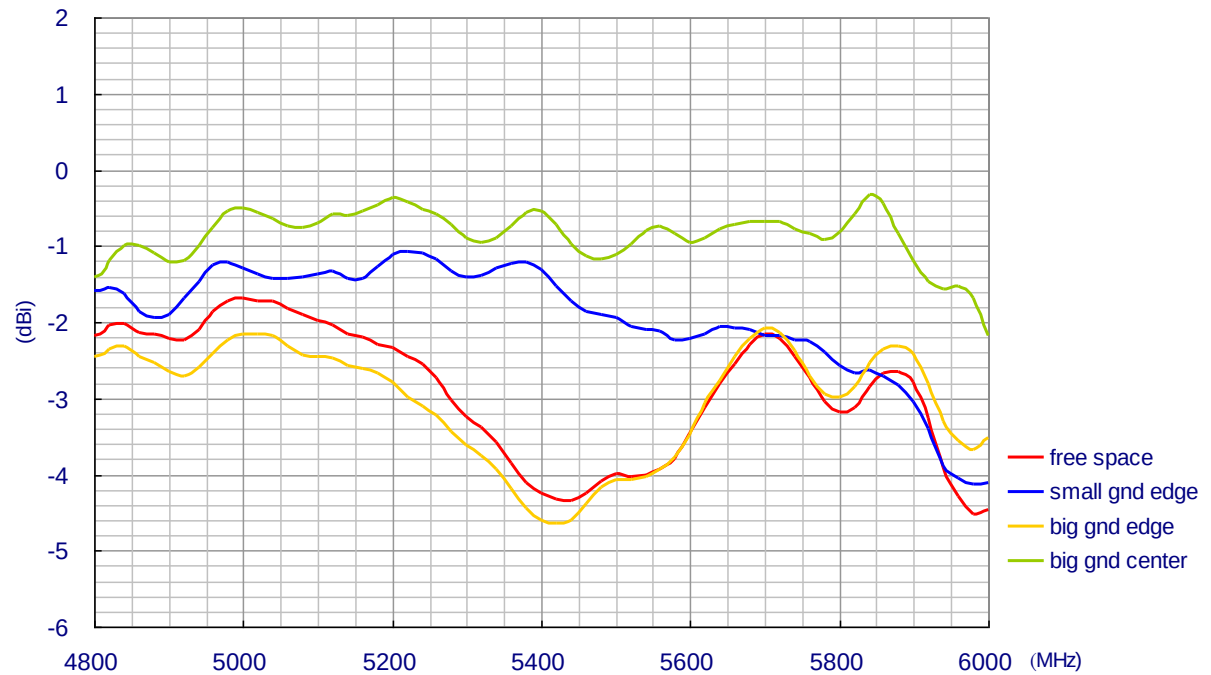
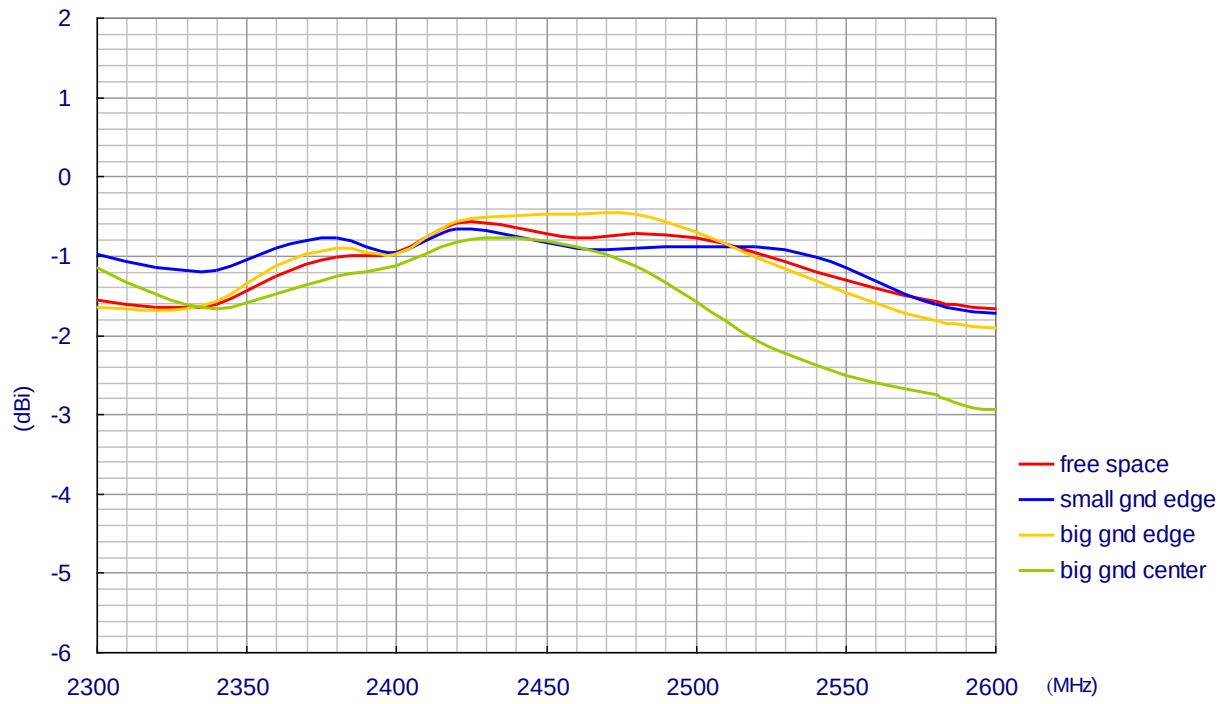
## 5.4. Peak Gain of Bend GW.71



## 5.5. Average Gain of Straight GW.71

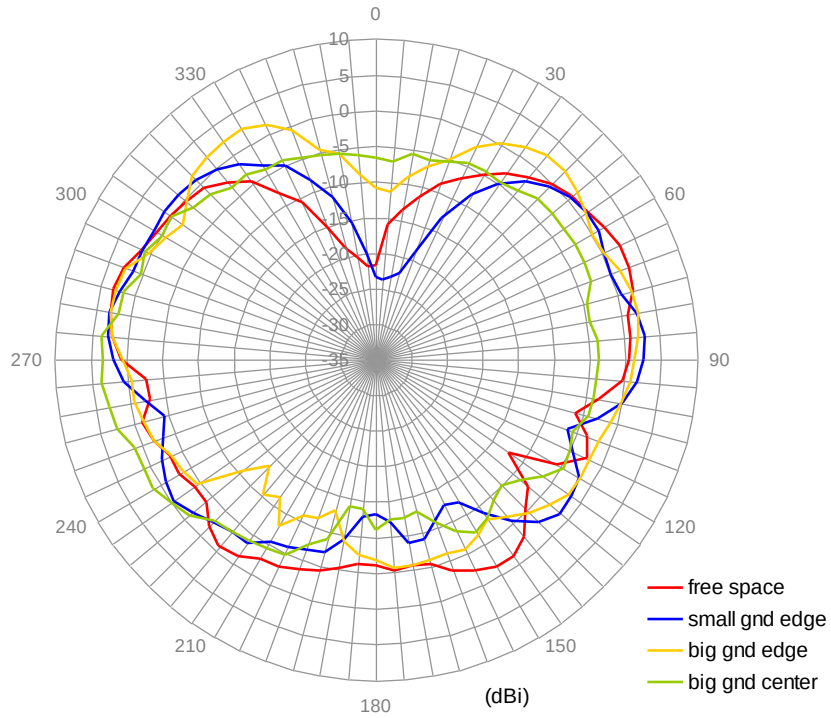


## 5.6. Average Gain of Bend GW.71

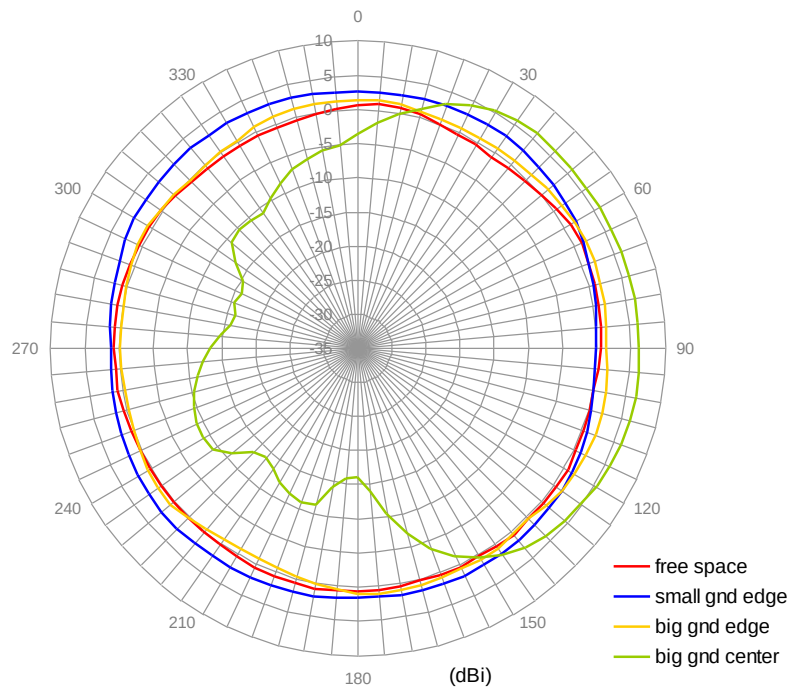


## 5.7. Radiation Pattern of Straight GW.71 at 2.45GHz

### E-Plane Radiation

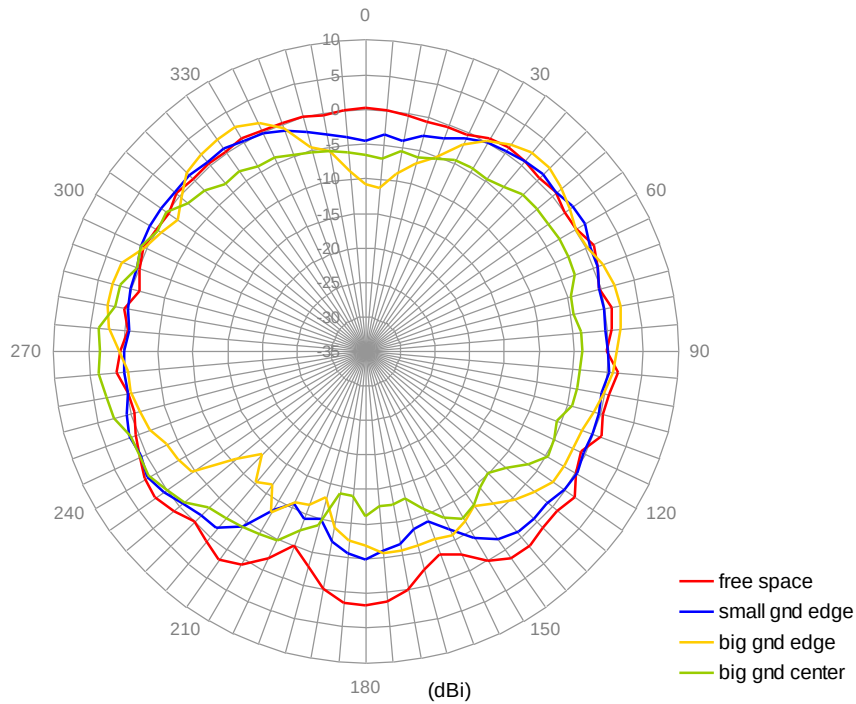


### H-Plane Radiation

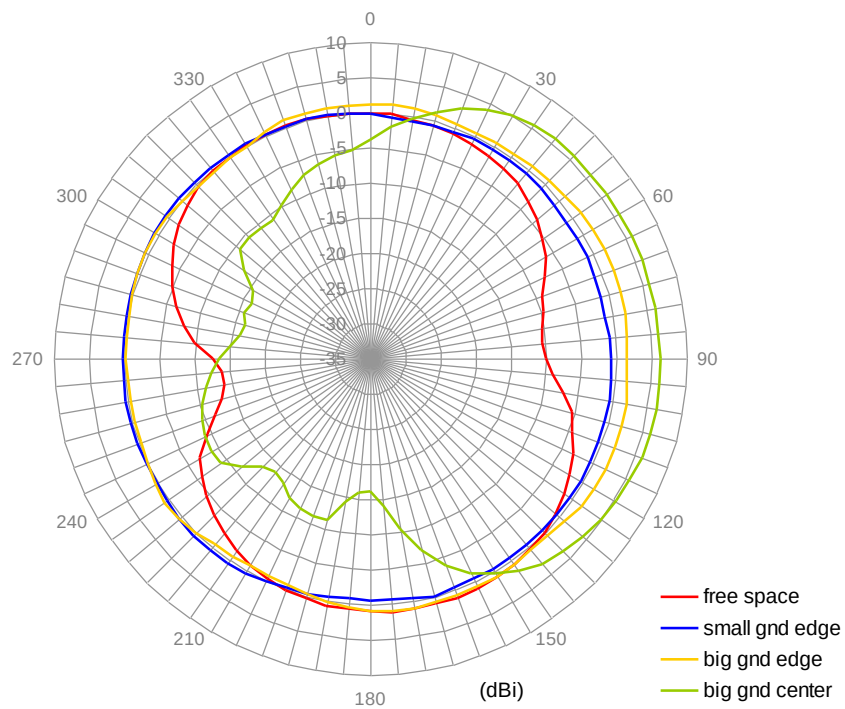


## 5.8. Radiation Pattern of Bend GW.71 at 2.45GHz

### E-Plane Radiation

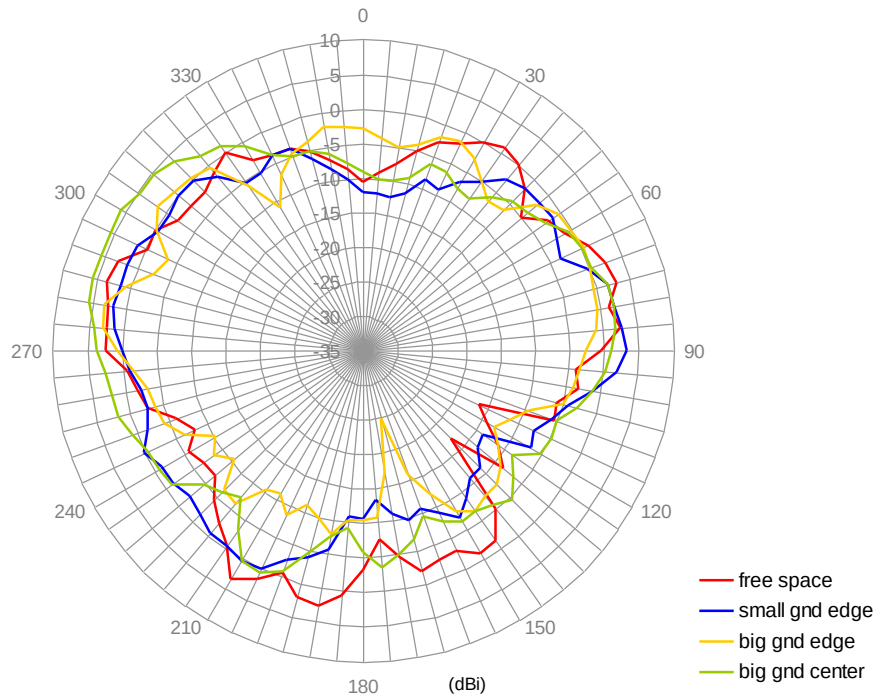


### H-Plane Radiation

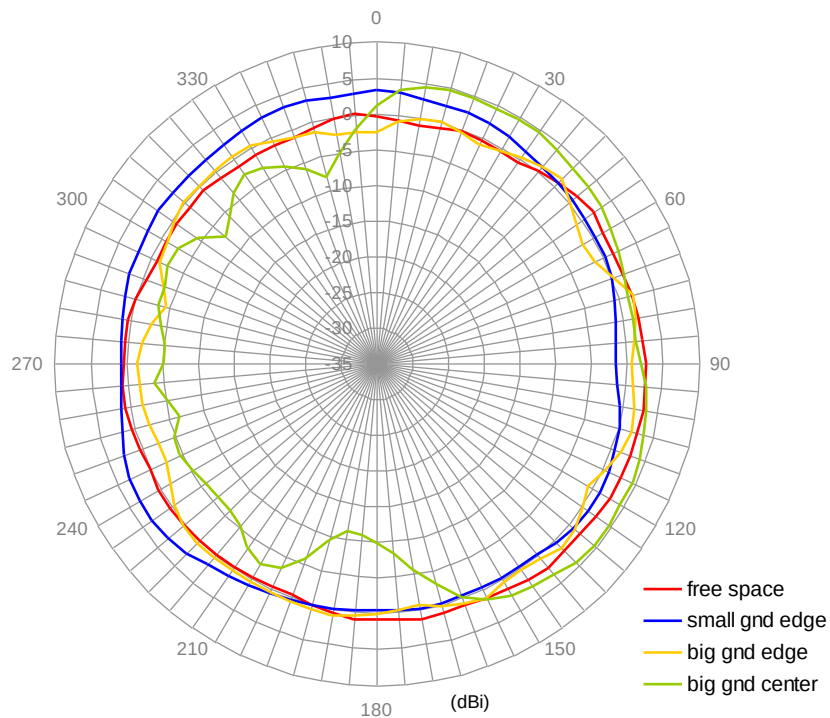


## 5.9. Radiation Pattern of Straight GW.71 at 5.0GHz

### E-Plane Radiation

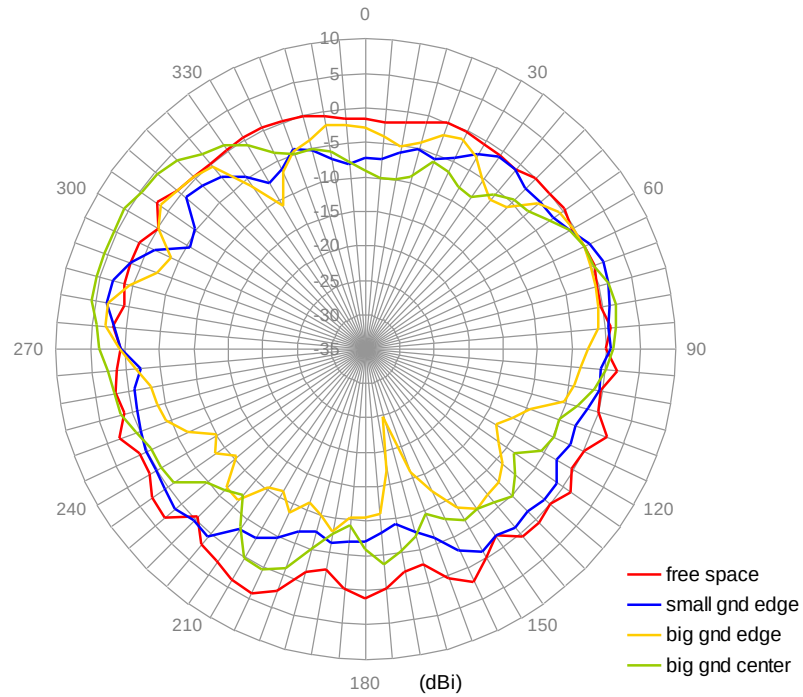


### H-Plane Radiation

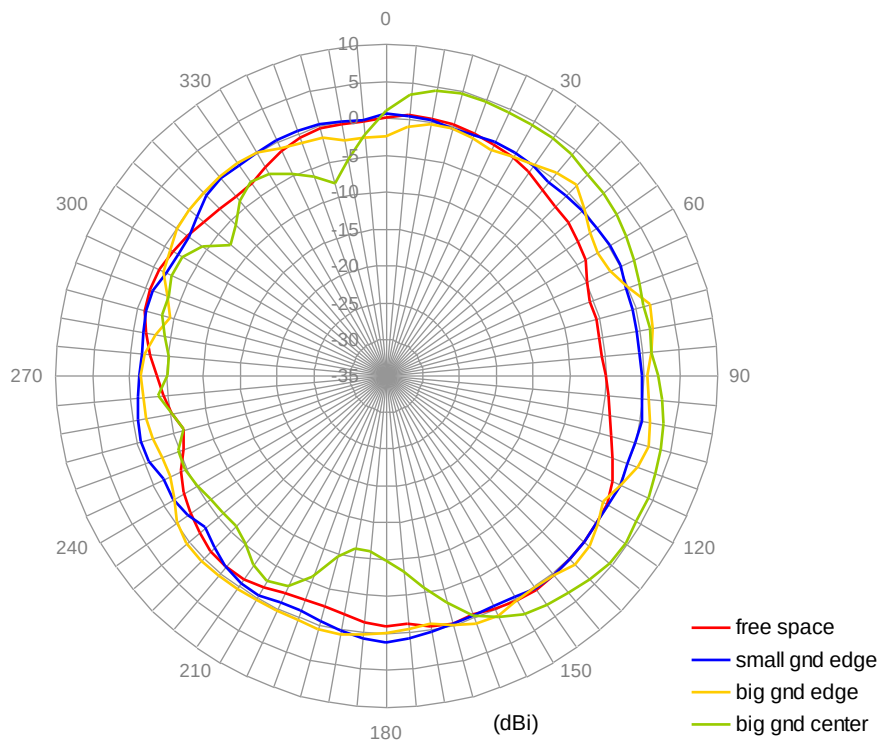


## 5.10. Radiation Pattern of Bend GW.71 at 5.0GHz

### E-Plane Radiation

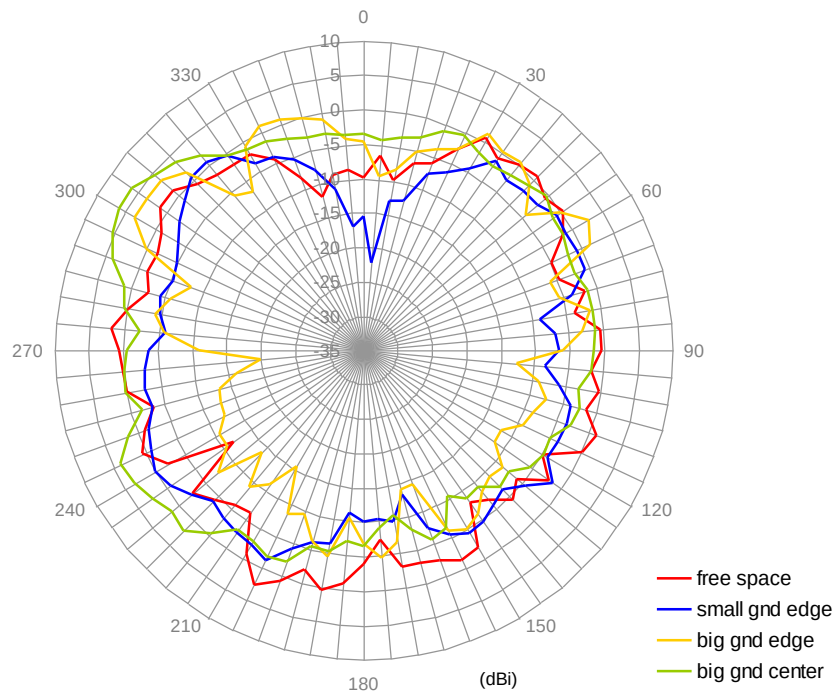


### H-Plane Radiation

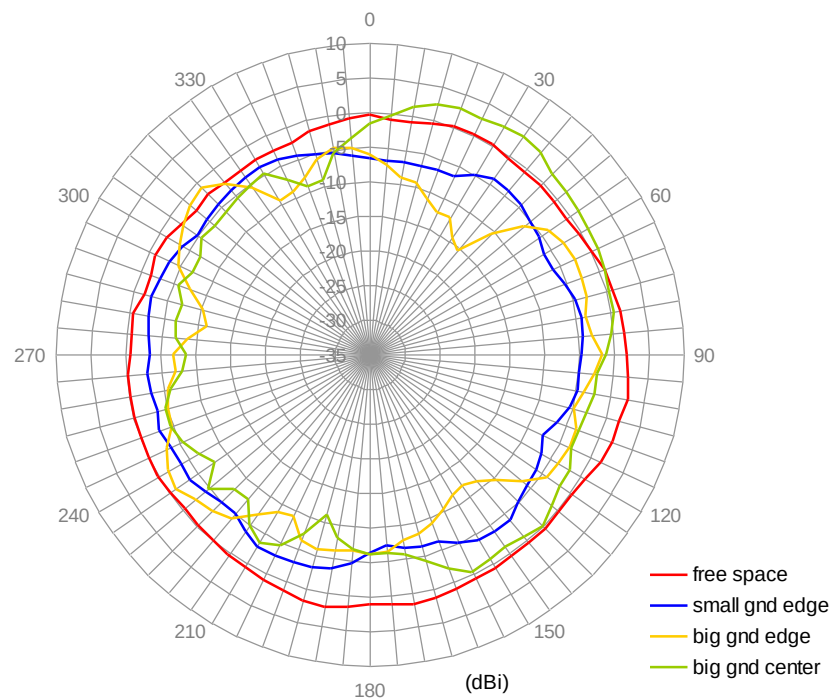


## 5.11. Radiation Pattern of Straight GW.71 at 5.8GHz

### E-Plane Radiation

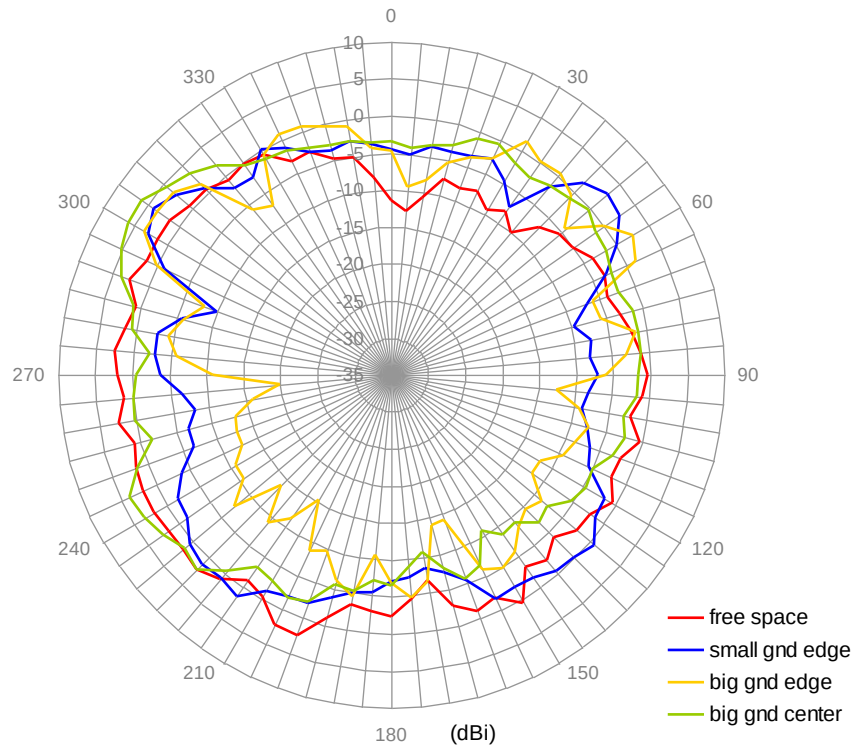


### H-Plane Radiation

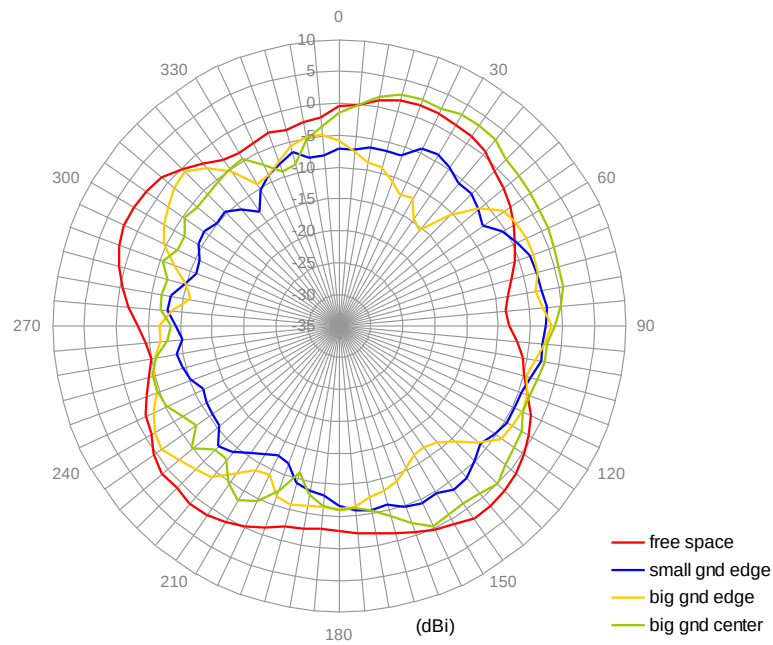


## 5.12. Radiation Pattern of Bend GW.71 at 5.8GHz

### E-Plane Radiation

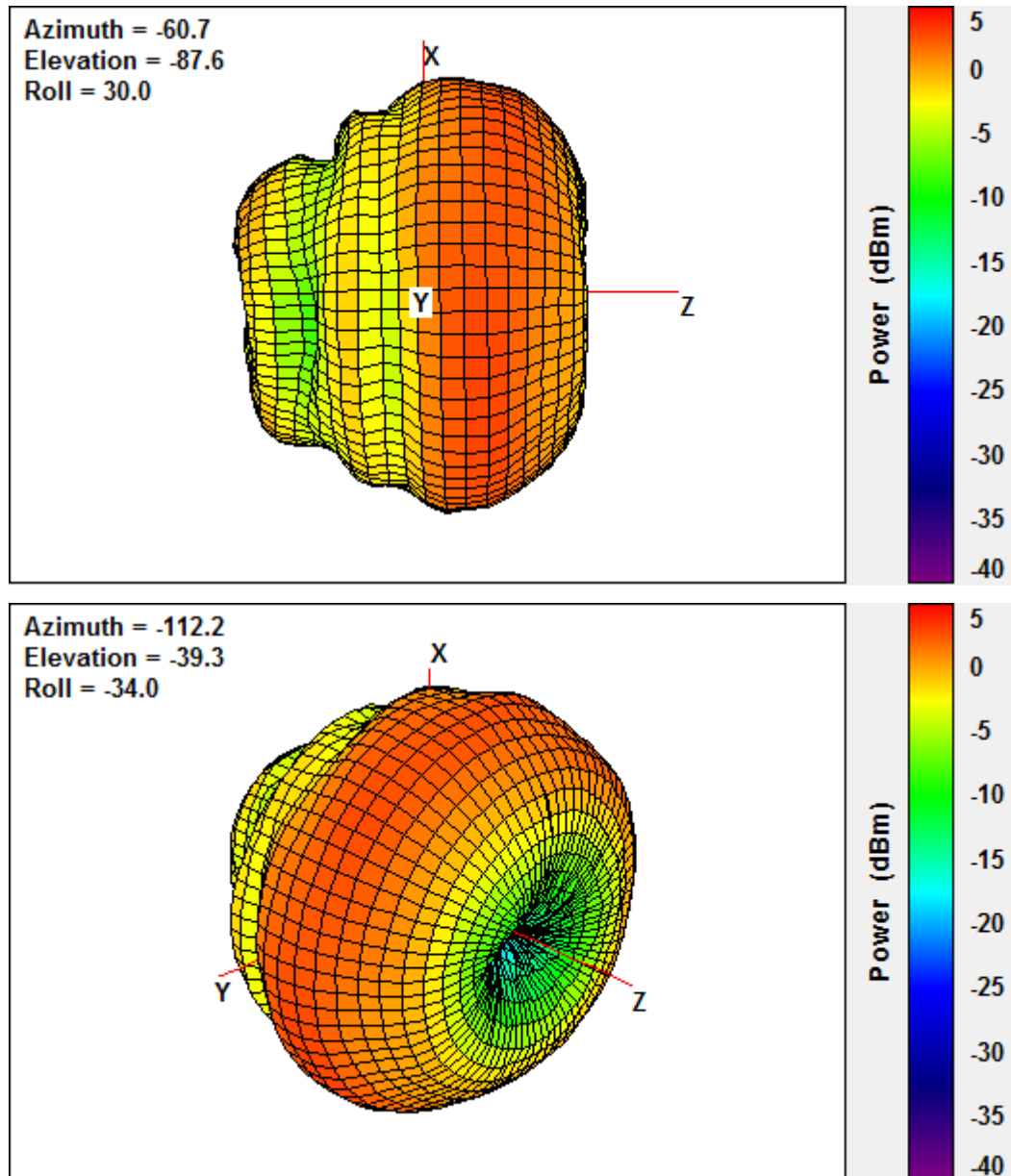


### H-Plane Radiation

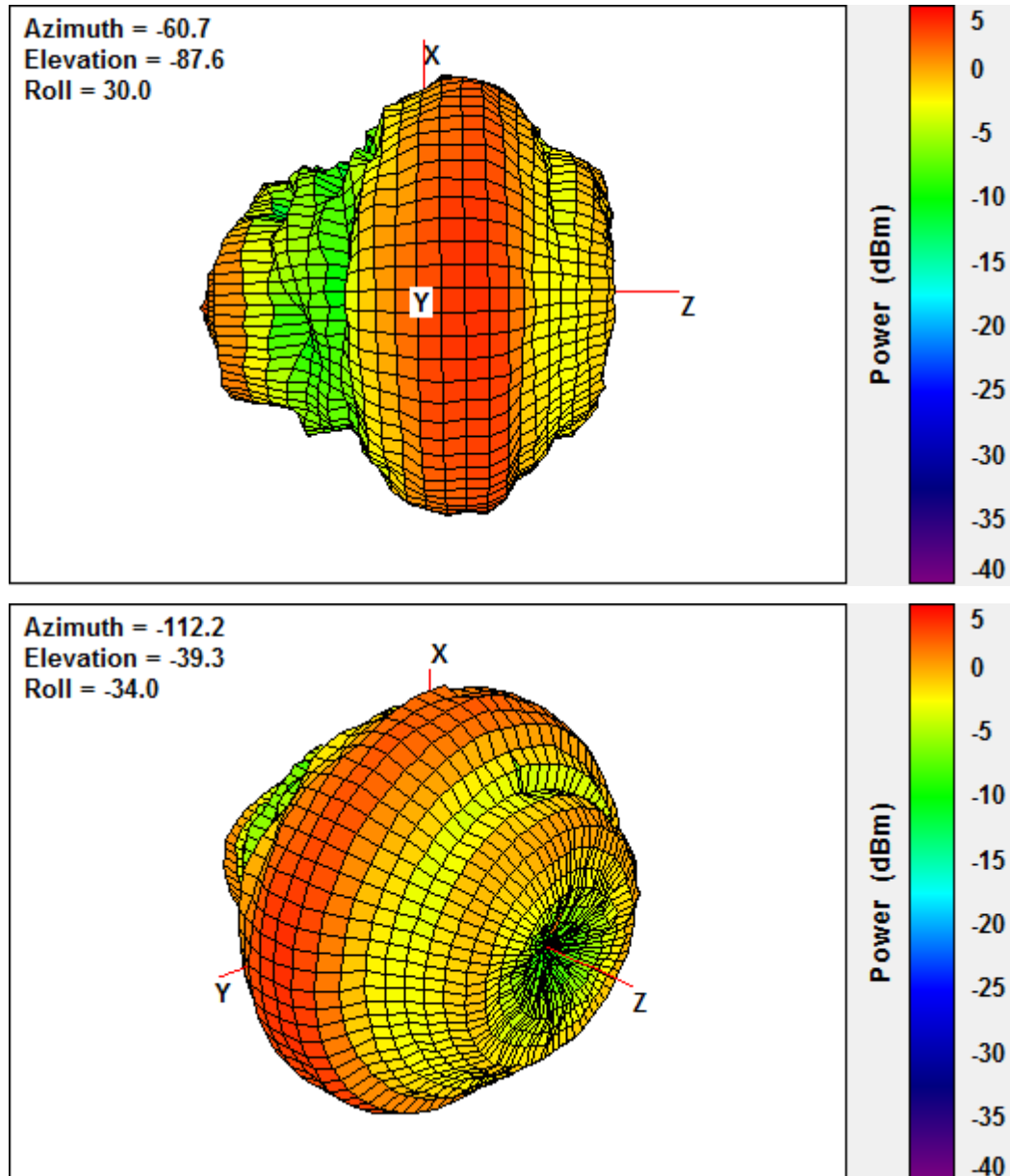


## 6. 3-D Radiation Patterns (Straight in free space)

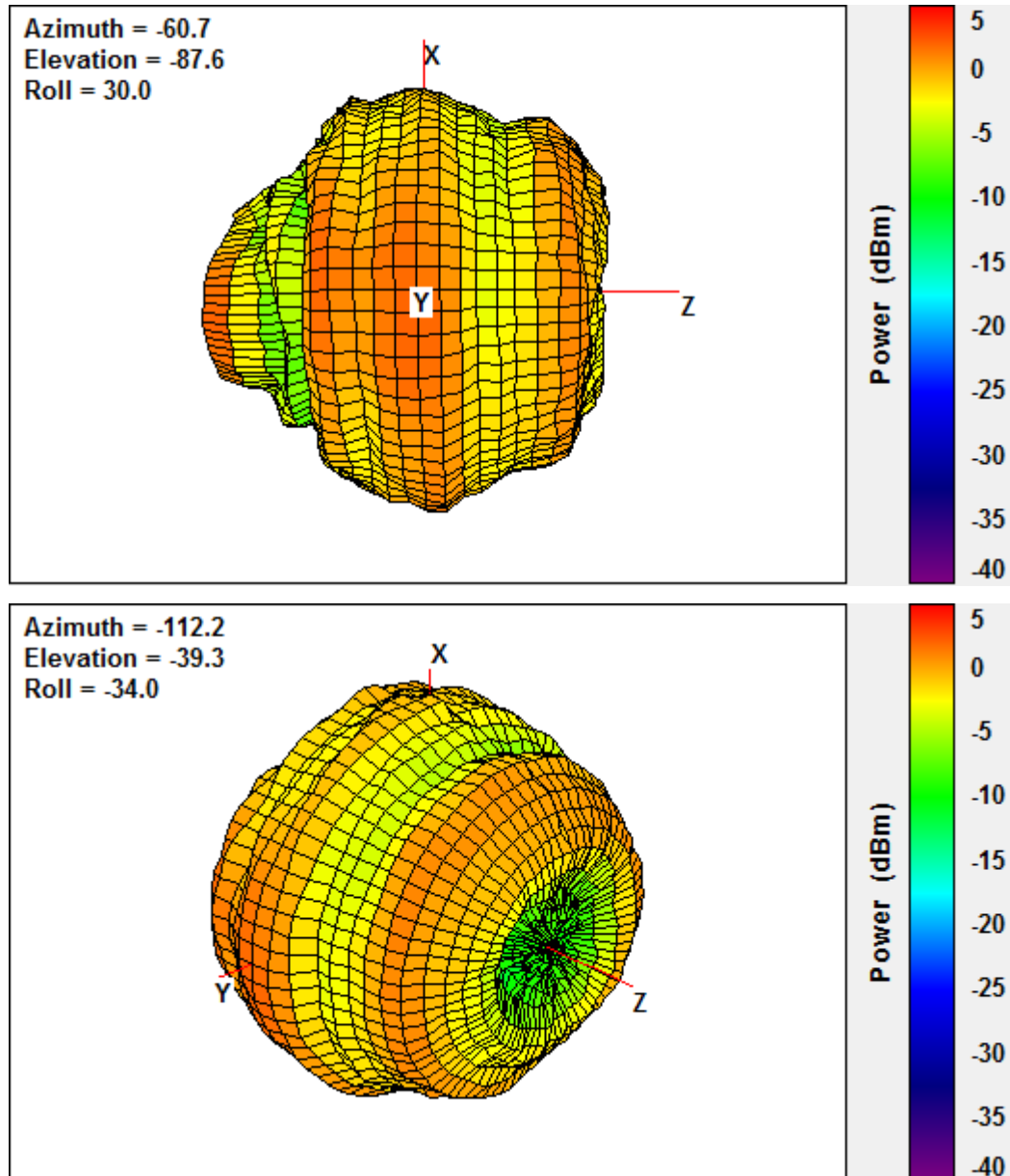
2450MHz



5000MHz



5800MHz



## 7. Antenna Drawing

