



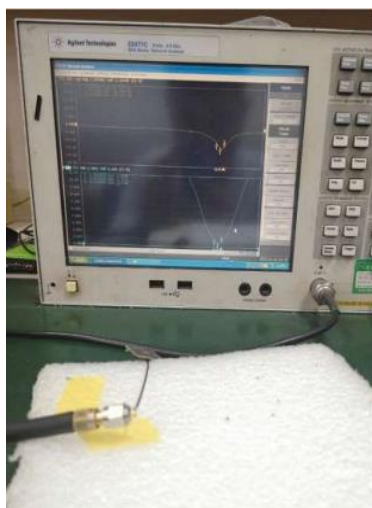
GEM

**Fingerprint  
combination lock  
Bluetooth antenna**

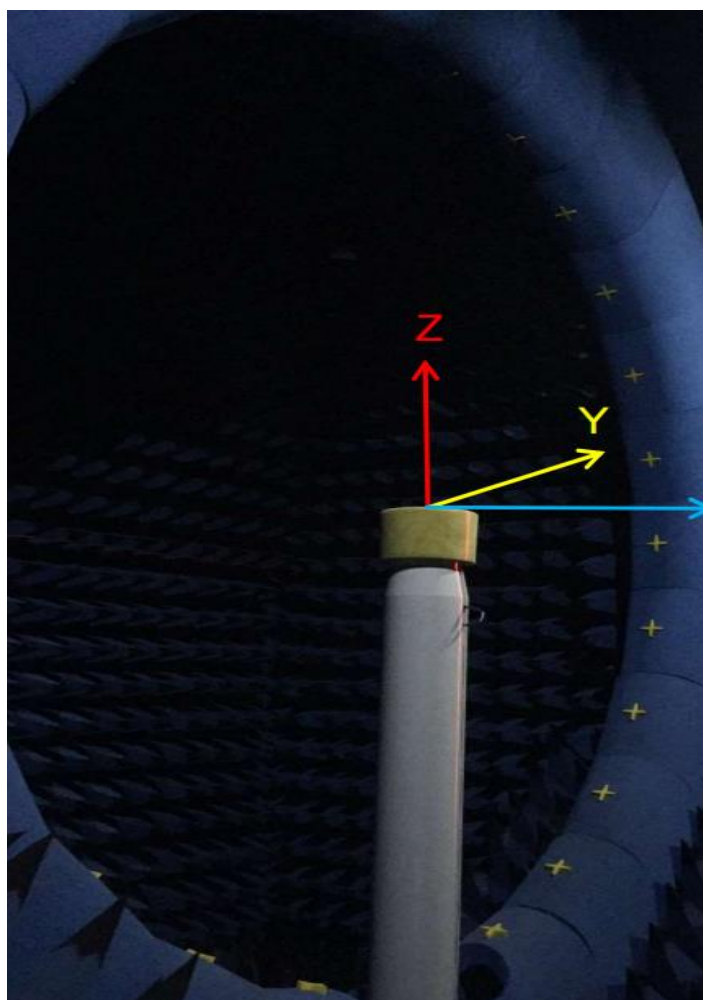
深圳市格尔曼科技有限公司

**Shenzhen Gelman Technology Co., LTD**

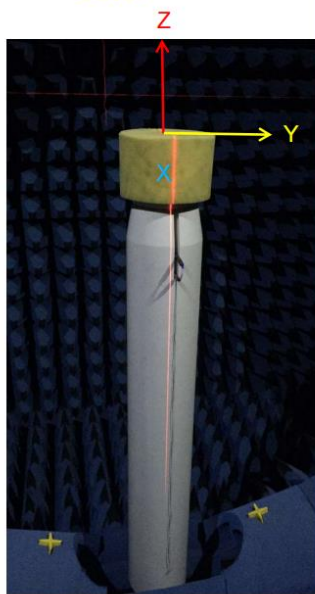
|         |                   |
|---------|-------------------|
| Company | Gelman Technology |
| Antenna | PCB antenna       |
| Editor  | 周应平               |
| Date    | 2022.12.6         |
| Version | V1.0              |



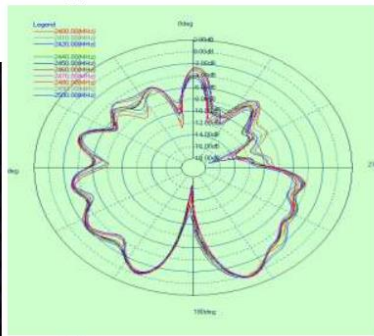
|                |       |        |        |
|----------------|-------|--------|--------|
| Frequency(MHz) | 2400  | 2450   | 2500   |
| Return Loss    | -8.73 | -11.76 | -11.21 |
| VSWR           | 2.16  | 1.71   | 1.77   |



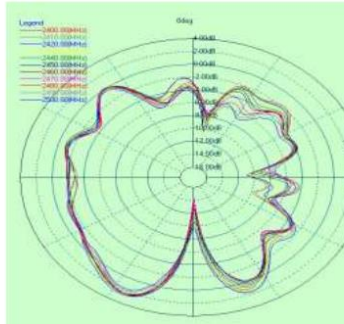
# 2D



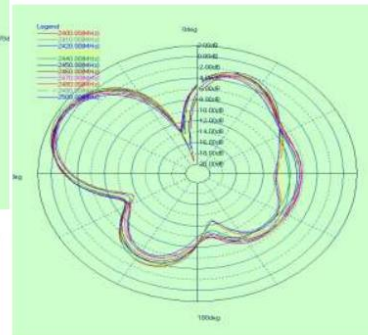
## XY



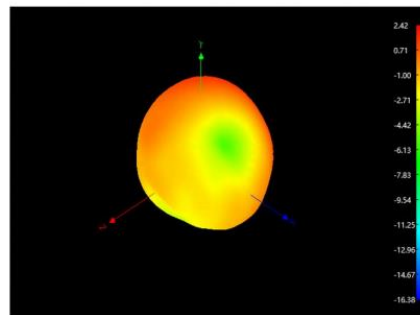
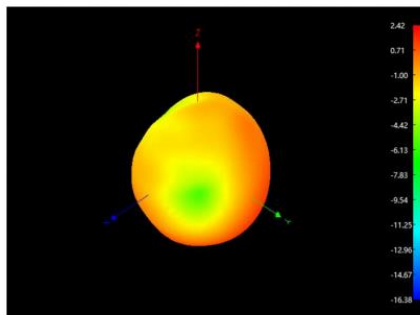
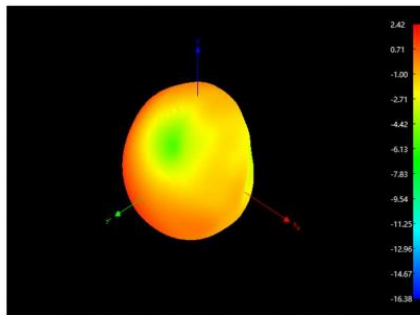
## YZ



## XZ



# 3D



| Freq. (MHz) | Effi (%) | Gain (dBi) |
|-------------|----------|------------|
| 2400        | 52.29    | 1.62       |
| 2410        | 52.17    | 1.71       |
| 2420        | 53.14    | 1.93       |
| 2430        | 54.16    | 1.98       |
| 2440        | 57.62    | 2.00       |
| 2450        | 59.64    | 2.17       |
| 2460        | 61.55    | 2.45       |
| 2470        | 60.64    | 2.38       |
| 2480        | 62.86    | 2.54       |
| 2490        | 59.85    | 2.30       |
| 2500        | 60.41    | 2.49       |

## Antenna Dimensions

