

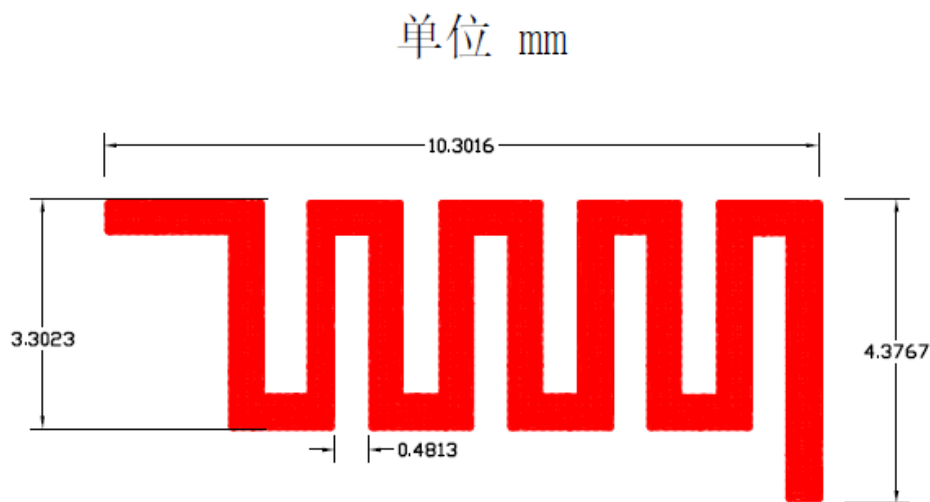
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# Antenna specification

## 1、Antenna introduction

The Bluetooth module antenna is directly used on the PCB.

## 2、Antenna shape



## 3、Antenna parameter

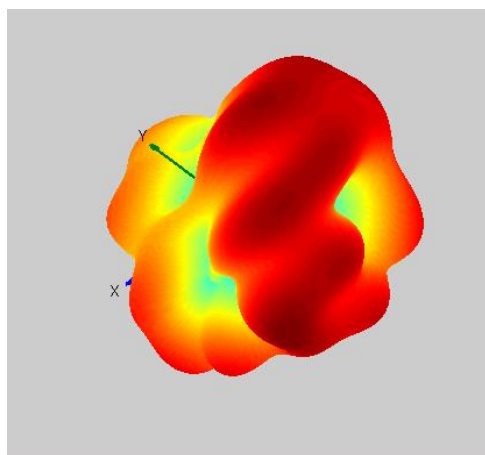
The Bluetooth antenna operates at 2402-2480 MHz and generates resonance in this band. The table below shows the main parameters of the antenna.

|                 |                 |
|-----------------|-----------------|
|                 |                 |
| Frequency (MHz) | 2402 ~ 2480 MHz |
| VSWR            | $\leq 2.0$      |
| Impedance       | 50 Ohm Nominal  |
| Gain (Peak)     | 2.1dBi          |

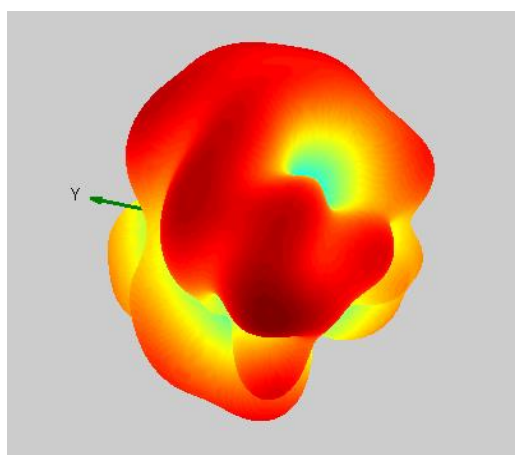
#### 4、Antenna gain report

| Gain&Efficiency |       |         |            |            |                 |       |              |
|-----------------|-------|---------|------------|------------|-----------------|-------|--------------|
| frequency       | gain  | mingain | efficiency | efficiency | lowerhemisphere | Upper |              |
| (MHz)           | (dBi) | (dBi)   | (dBi)      | (%)        | gain            | Avg   | Theta0°~180° |
| 2400            | -0.23 | -24.73  | -5.85      | 25.98      | -0.23           | -7.05 | -6.71        |
| 2410            | 0.21  | -24.63  | -5.52      | 28.03      | 0.21            | -6.75 | -6.36        |
| 2420            | 0.3   | -25.53  | -5.62      | 27.40      | 0.3             | -6.84 | -6.41        |
| 2430            | 1.33  | -25     | -5.09      | 30.94      | 1.33            | -6.58 | -5.87        |
| 2440            | 2     | -23.22  | -4.45      | 35.92      | 2               | -5.82 | -5.19        |
| 2450            | 2.1   | -20.76  | -4.2       | 38.02      | 2.1             | -5.48 | -4.94        |
| 2460            | 1.76  | -21.85  | -4.39      | 36.35      | 1.76            | -5.53 | -5.1         |
| 2470            | 1.66  | -21.72  | -4.29      | 37.25      | 1.66            | -5.33 | -4.96        |
| 2480            | 1.11  | -25.08  | -4.62      | 34.55      | 1.11            | -5.61 | -5.27        |
| 2490            | 1.04  | -29.25  | -4.52      | 35.30      | 1.04            | -5.52 | -5.17        |
| 2500            | 0.74  | -31.22  | -4.78      | 33.30      | 0.74            | -5.81 | -5.41        |

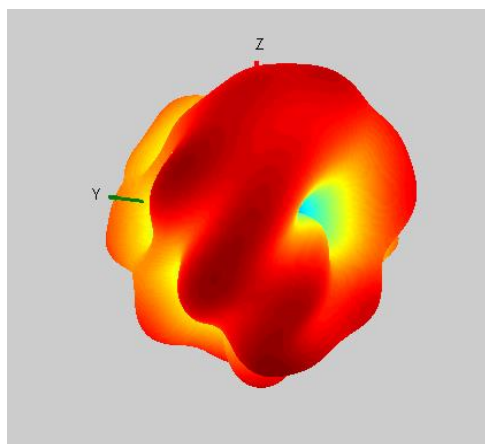
2.4G



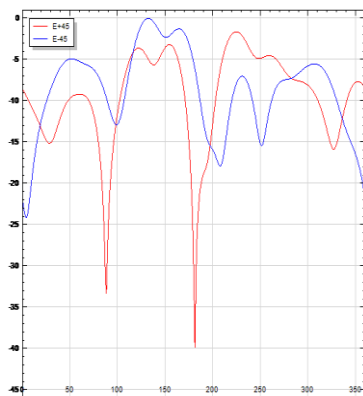
2.44G



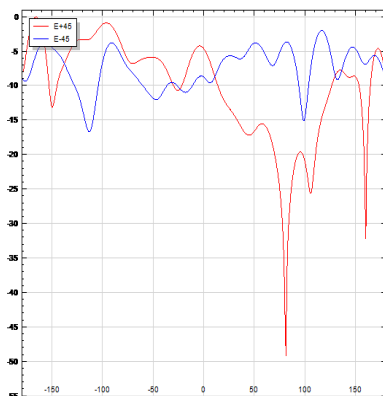
2.48G



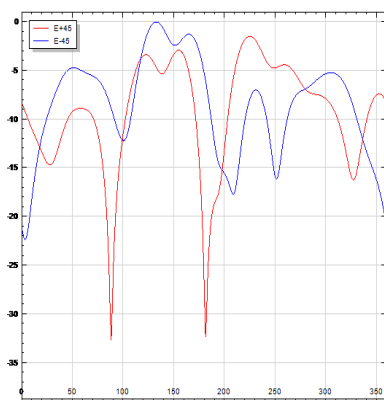
**H Theta=90 freq=2400MHz**



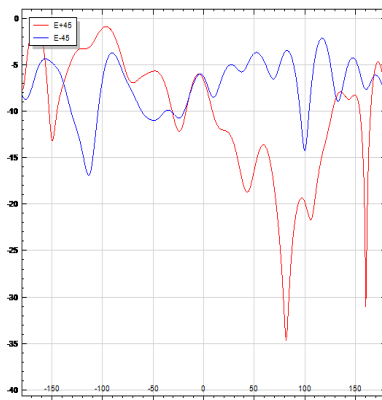
**V Phi=90 freq=2400MHz**



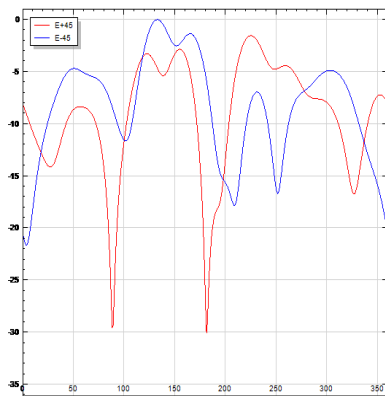
**H Theta=90 freq=2410MHz**



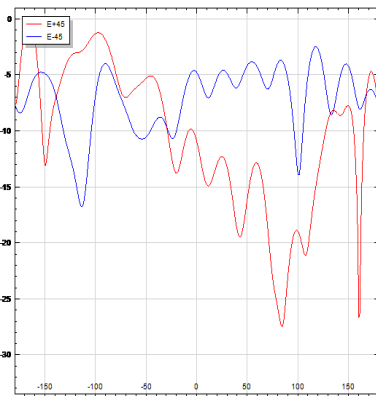
**V Phi=90 freq=2410MHz**



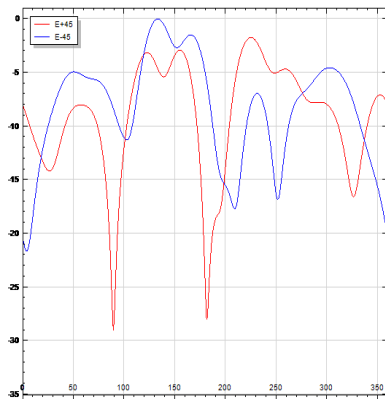
**H Theta=90 freq=2420MHz**



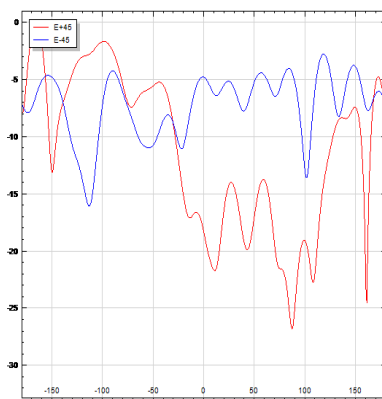
**V Phi=90 freq=2420MHz**



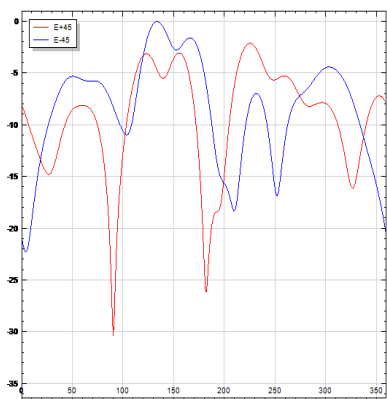
**H Theta=90 freq=2430MHz**



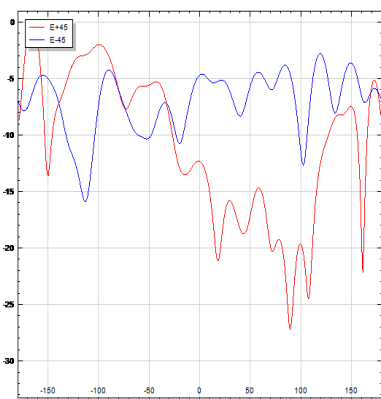
**V Phi=90 freq=2430MHz**



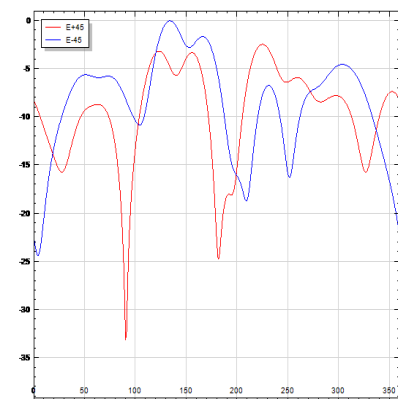
H Theta=90 freq=2440MHz



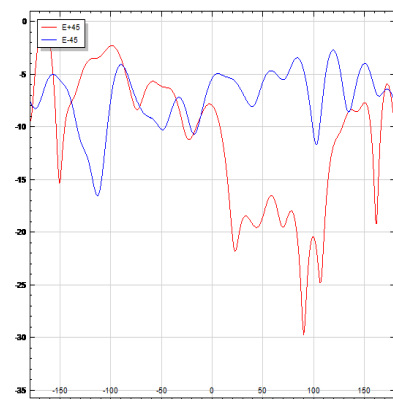
V Phi=90 freq=2440MHz



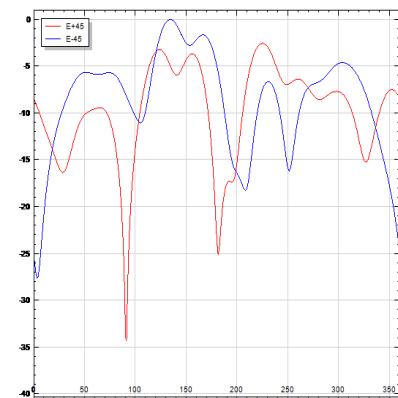
H Theta=90 freq=2450MHz



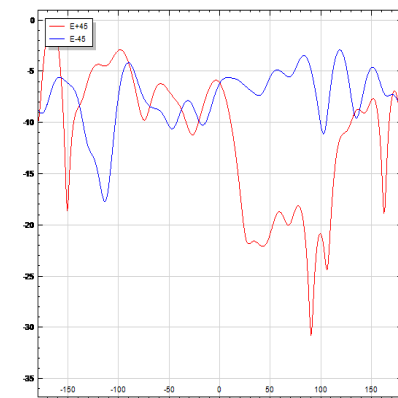
V Phi=90 freq=2450MHz



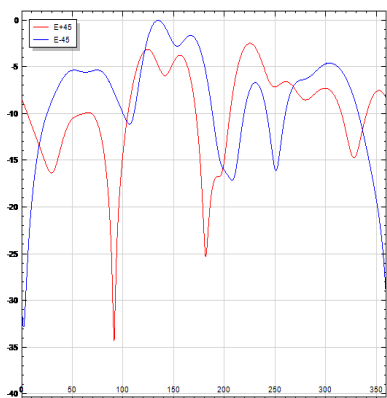
H Theta=90 freq=2460MHz



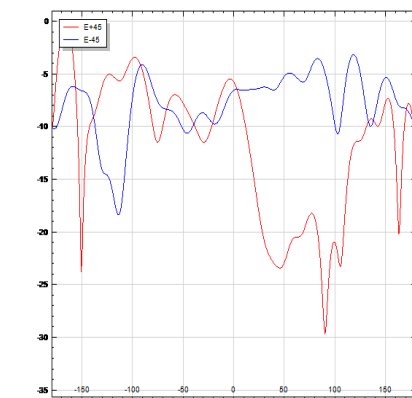
V Phi=90 freq=2460MHz



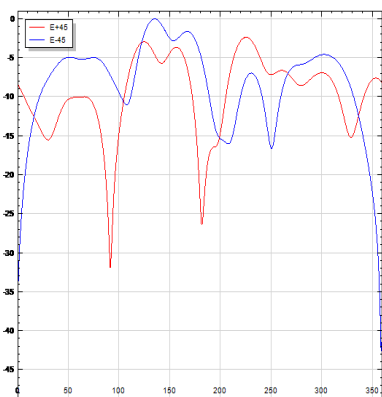
H Theta=90 freq=2470MHz



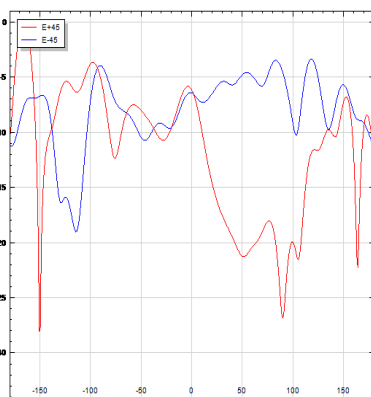
V Phi=90 freq=2470MHz



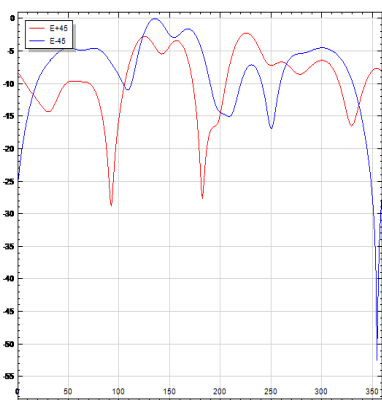
H Theta=90 freq=2480MHz



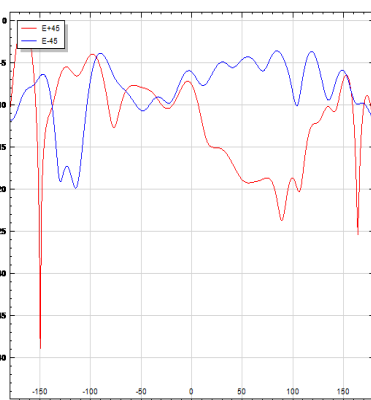
V Phi=90 freq=2480MHz



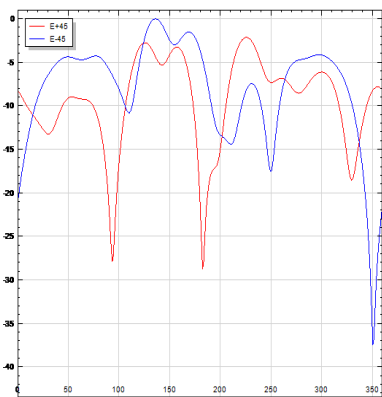
H Theta=90 freq=2490MHz



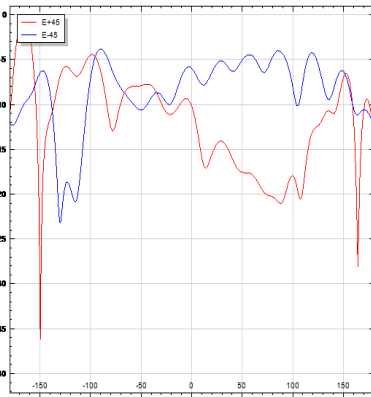
V Phi=90 freq=2490MHz



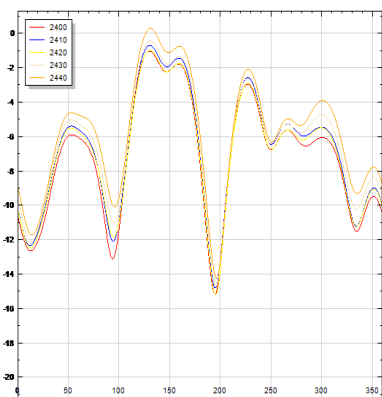
H Theta=90 freq=2500MHz



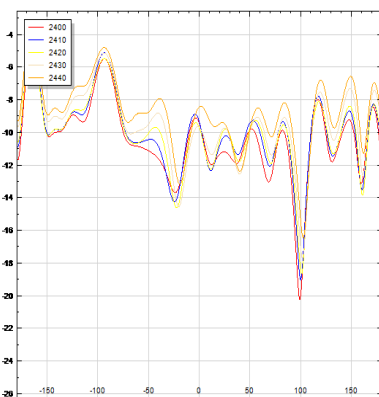
V Phi=90 freq=2500MHz



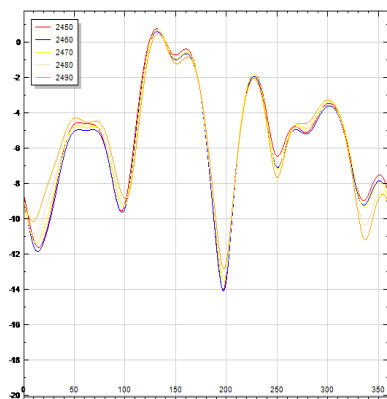
H Theta=90



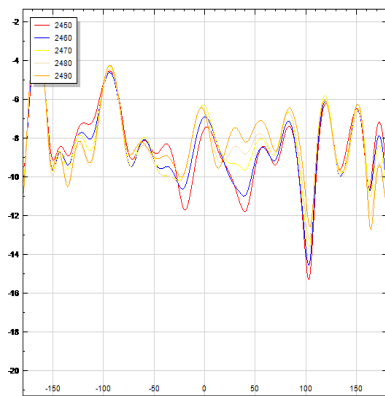
V Phi=90



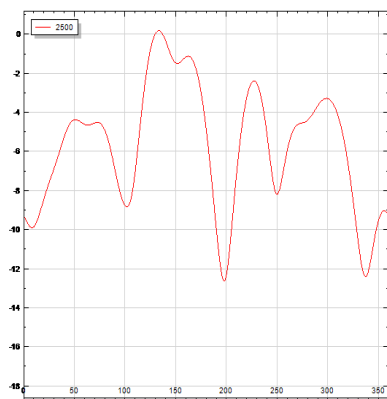
H Theta=90



V Phi=90



H Theta=90



V Phi=90

