

# Bluetooth antenna specification

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Document Type: 2.4GHZ PCB antenna  
Document Version: V1.0  
Release Date: 2020-05-08

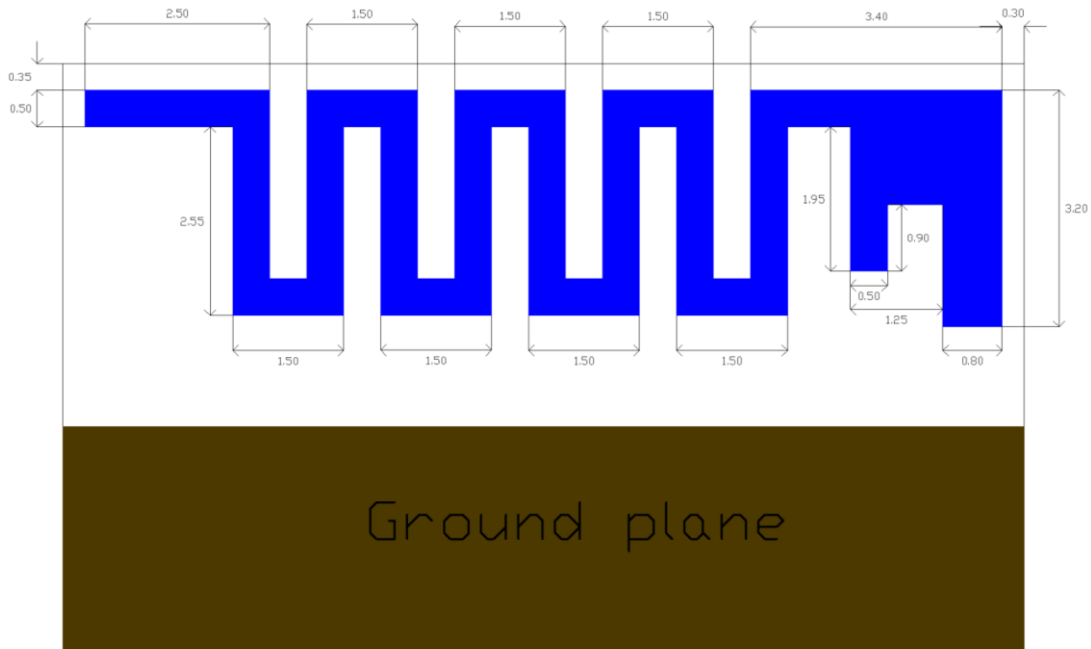
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## 2, Spec Drawing

Unit: mm



## 3, Specification

**Product Number: 2.4GHZ PCB antenna**

**Sample Photo:**



### A. Electrical Characteristics

|              |                 |
|--------------|-----------------|
| Frequency    | 2400 ~ 2500 MHz |
| S.W.R.       | $\leq 2.0$      |
| Gain         | 2.0 dBi         |
| Efficiency   | ~ 40%           |
| Polarization | Linear          |
| Impedance    | 50 Ohm          |

### B. Material & Mechanical Characteristics

|                      |        |
|----------------------|--------|
| Material of Radiator | copper |
|----------------------|--------|

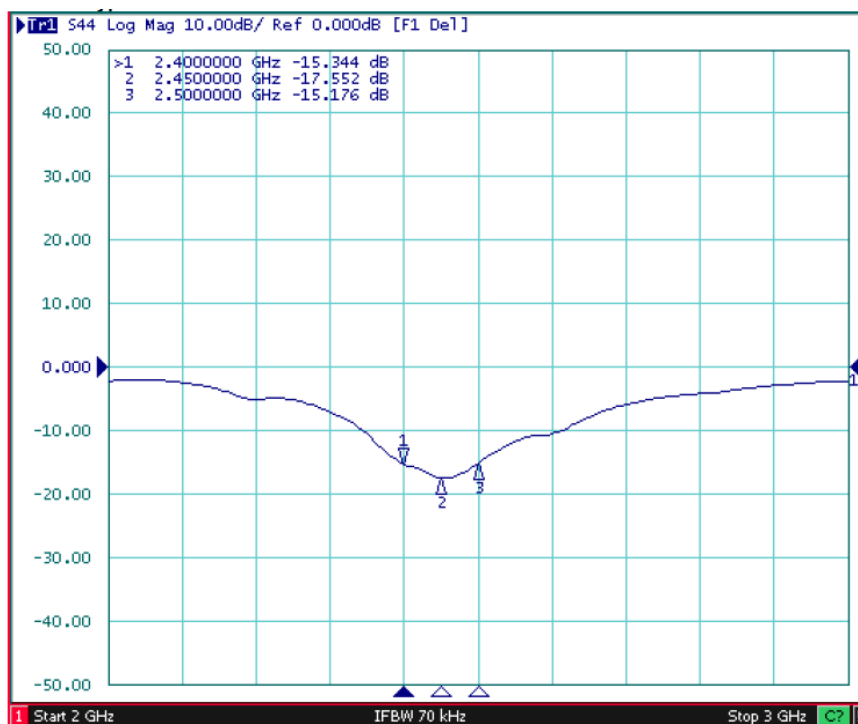
### C. Environmental

|                       |                  |
|-----------------------|------------------|
| Operation Temperature | - 40°C ~ + 85°C  |
| Storage Temperature   | - 40°C ~ + 105°C |

## 4, Antenna On Test Board

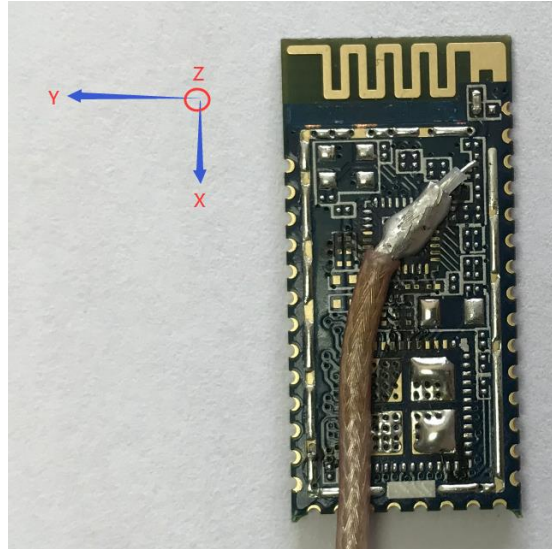


## 5, Return Loss

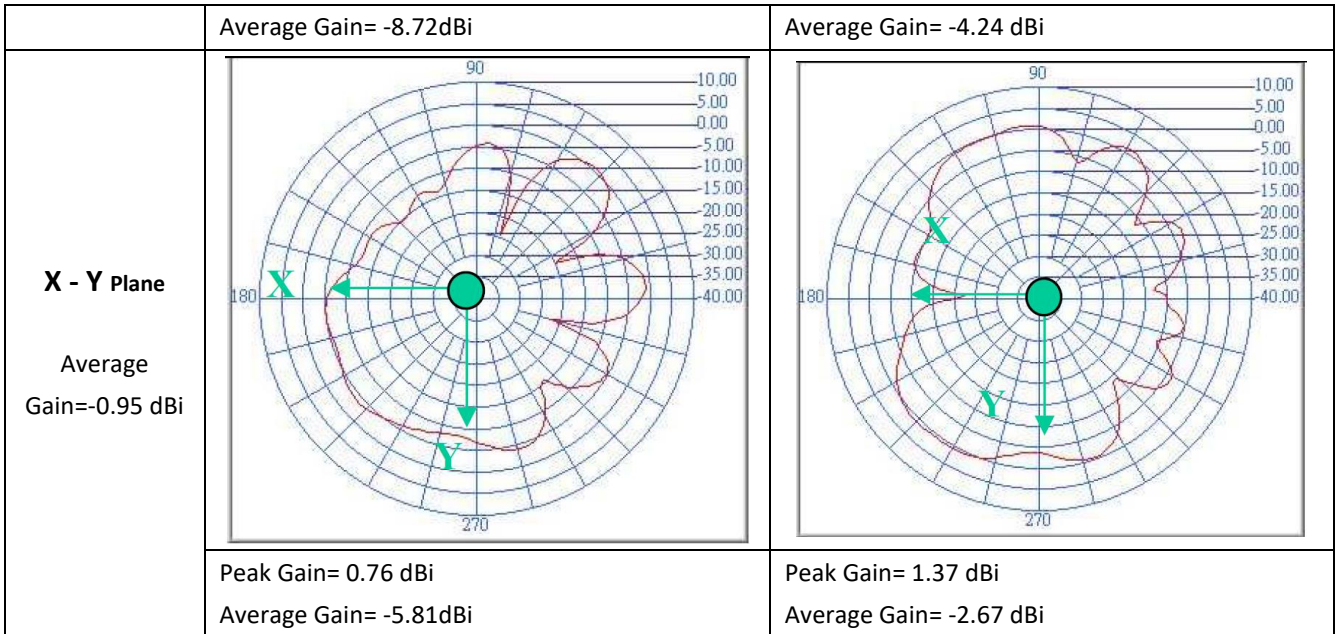


## 6, Radiation Pattern

Radiation Pattern and Gain were dependent on measurement board design. The specification of PCB antenna was measured based on the PCB size and installation position as shown in the below figure Test Board.



|   | Vertical  | Horizontal                                      |
|---|---|---|
| <b>Y - Z Plane</b><br><br>Average Gain=1.86 dBi |   |   |
|   | Peak Gain = 2.00 dBi<br>Average Gain = 0.71 dBi | Peak Gain= -1.37 dBi<br>Average Gain= - 4.6 dBi |
| <b>X - Z Plane</b><br><br>Average Gain=-2.91dBi |   |   |
|   | Peak Gain= -3.76 dBi                            | Peak Gain= -0.25 dBi                            |



**Test Result:**

| Frequency VNA | E Total. dB(dB) | Efficiency |
|---------------|-----------------|------------|
| 2400MHz       | 0.673644        | 39.76%     |
| 2410MHz       | 1.24355         | 49.12%     |
| 2420MHz       | 0.235654        | 41.22%     |
| 2430MHz       | -0.14259        | 34.11%     |
| 2440MHz       | 0.34127         | 37.16%     |
| 2450MHz       | 1.003269        | 41.39%     |
| 2460MHz       | 2.00305         | 50.08%     |
| 2470MHz       | 0.636894        | 40.92%     |
| 2480MHz       | -0.203466       | 35.56%     |
| 2490MHz       | -0.435345       | 33.52%     |
| 2500MHz       | 0.703435        | 39.25%     |