

# Bluetooth antenna of PCB on-board specification

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Document Type: 2.4GHZ PCB antenna

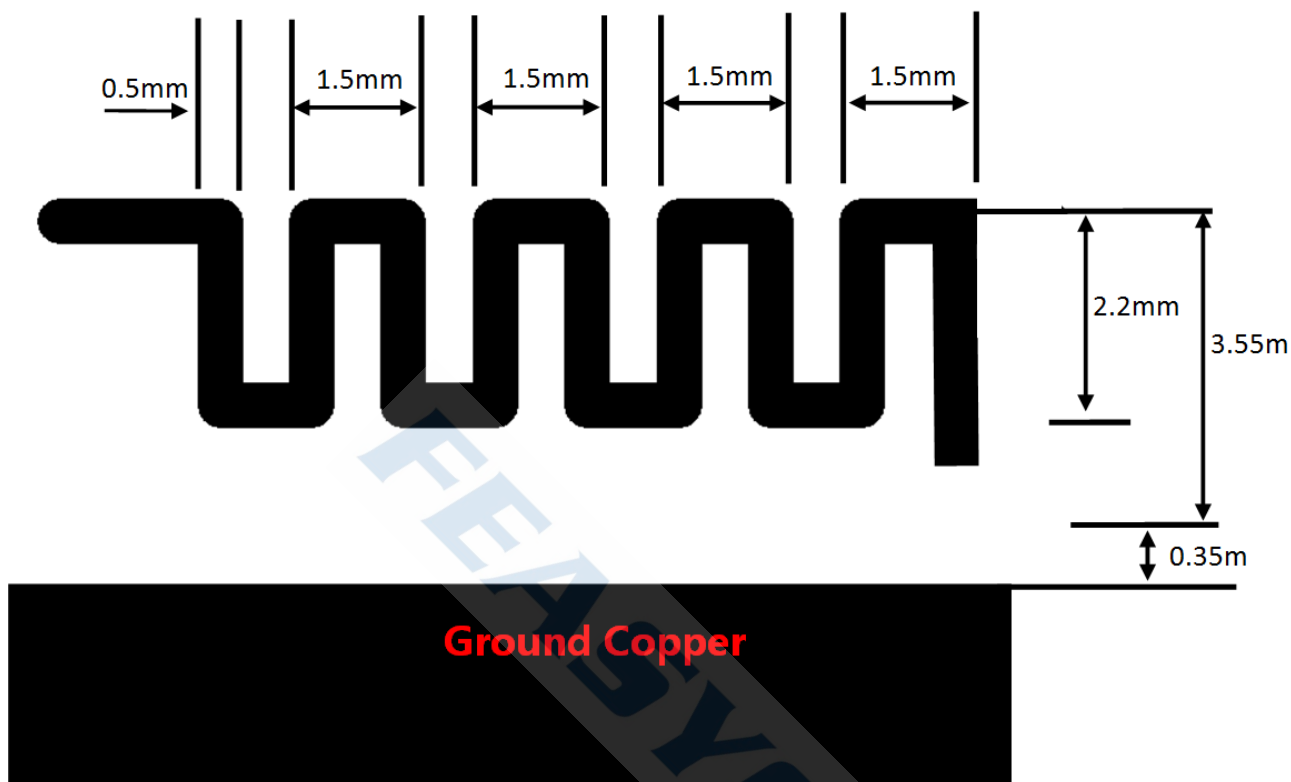
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## 2, Spec Drawing



## 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	~ 50%
Polarization	Linear
Impedance	50 Ohm

### B. Material & Mechanical Characteristics

Material of Radiator	Gold-plated copper
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## C. Environmental

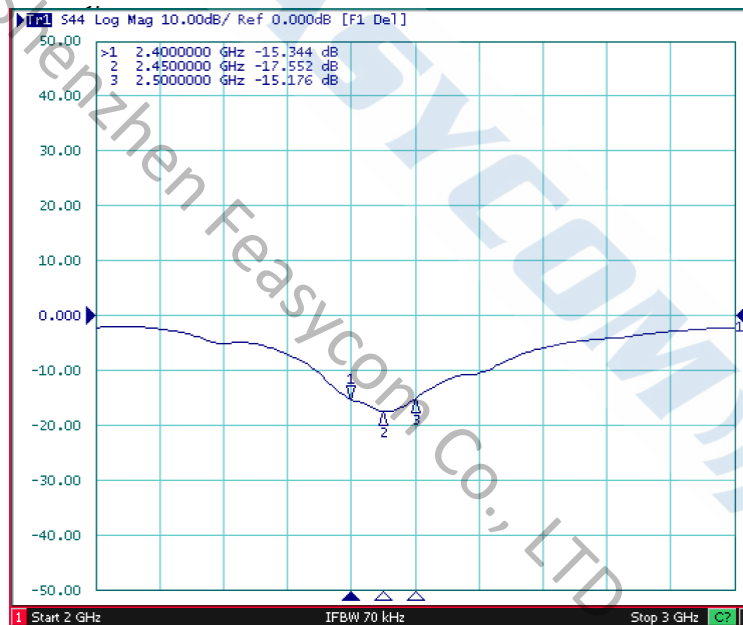
Operation Temperature	- 40°C ~ + 85°C
Storage Temperature	- 40°C ~ + 105°C

## 4, Antenna On Test Board



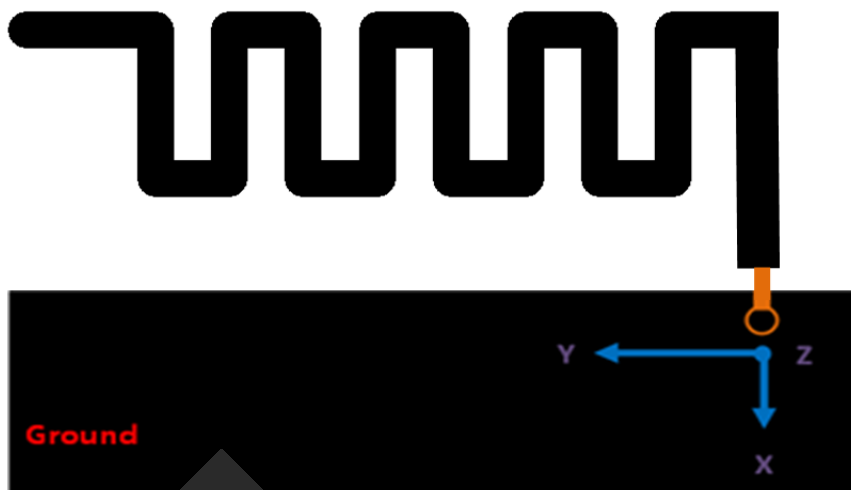
FR4 Thickness 0.8mm

## 5, Return Loss

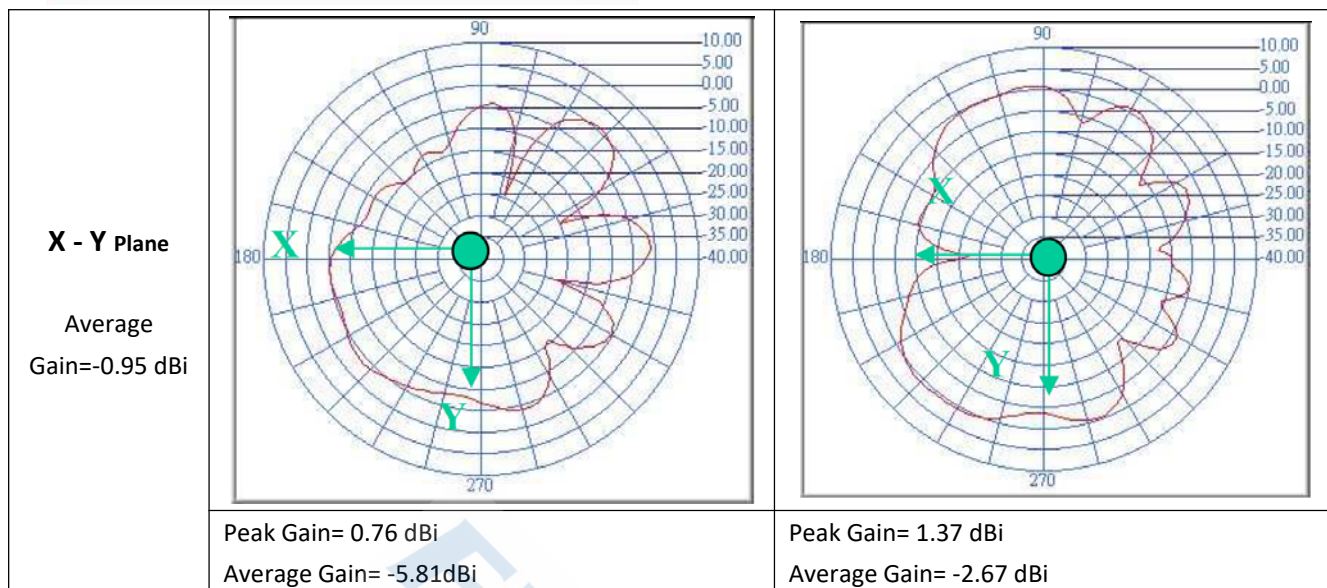


## 6, Radiation Pattern

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>  Average Gain=1.19 dBi		
	Peak Gain = 2.03 dBi Average Gain = 0.71 dBi	Peak Gain= -1.37 dBi Average Gain=-8.6 dBi
<b>X - Z Plane</b>  Average Gain=-2.91dBi		
	Peak Gain= -3.76 dBi Average Gain= -8.72dBi	Peak Gain= -0.25 dBi Average Gain= -4.24 dBi



**Test Result:**

Frequency VNA	E Total. dB(dB)	Efficiency
2400MHz	0.646765	40.28%
2410MHz	1.13986	47.12%
2420MHz	0.236575	40.99%
2430MHz	-0.12543	32.97%
2440MHz	0.35978	37.89%
2450MHz	1.038567	42.61%
2460MHz	2.00415	50.94%
2470MHz	0.627546	40.28%
2480MHz	-0.225765	36.87%
2490MHz	-0.467887	34.54%
2500MHz	0.709677	49.95%