

Bluetooth antenna of PCB on-board specification

1, Index

Item	Content	Page	Remark
1	Index	1	
2	Spec Drawing	2	
3	Specification	2	
4	Antenna On Test Board	3	
5	Return Loss	3	
6	Radiation Pattern	3	

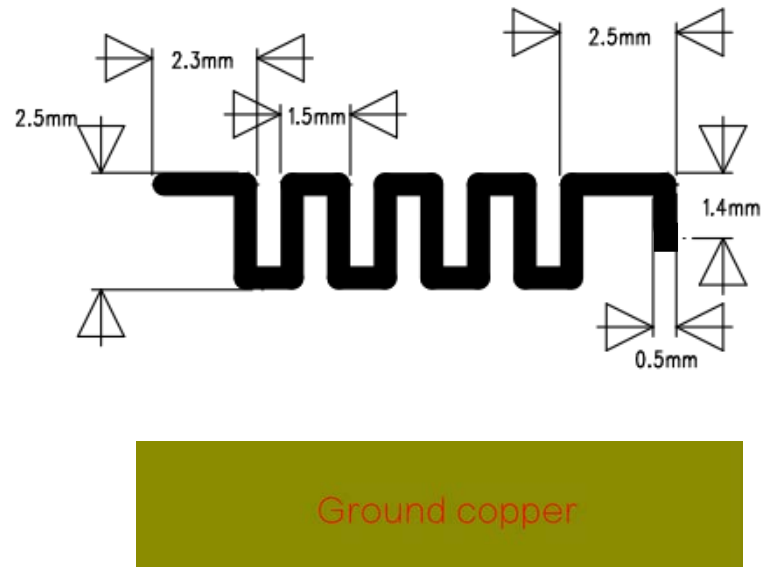
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2, Spec Drawing



3, Specification

Product Number: 2.4GHZ PCB antenna

Sample Photo:



A. Electrical Characteristics

Frequency	2400 ~ 2500 MHz
S.W.R.	≤ 2.0
Gain	2.0 dBi
Efficiency	~ 50%
Polarization	Linear
Impedance	50 Ohm

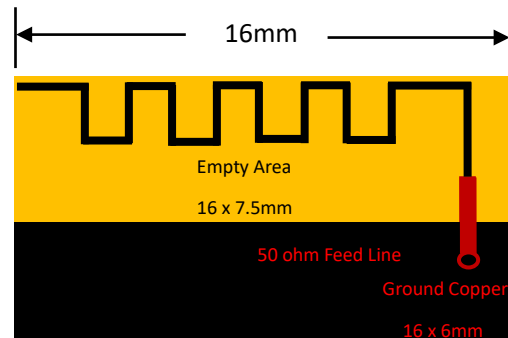
B. Material & Mechanical Characteristics

Material of Radiator	Gold-plated copper
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C. Environmental

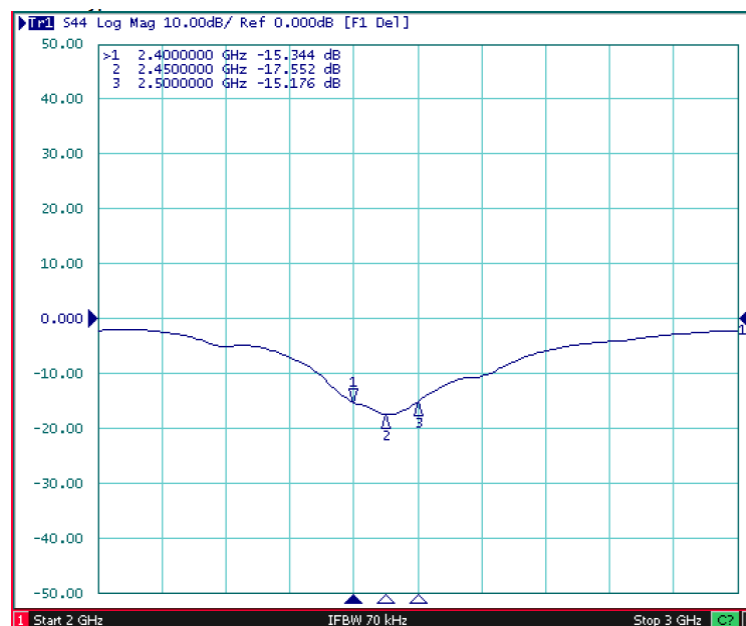
Operation Temperature	- 40°C ~ + 85°C
Storage Temperature	- 40°C ~ + 105°C

4, Antenna On Test Board



FR4 Thickness 0.8mm

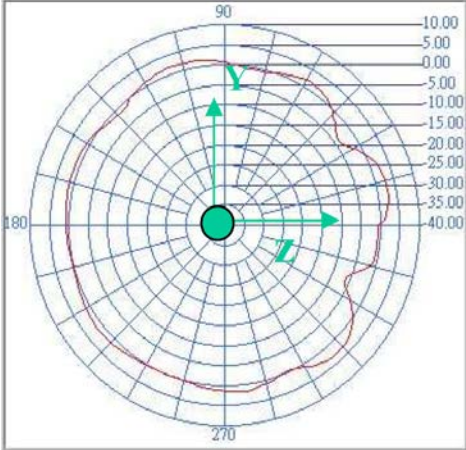
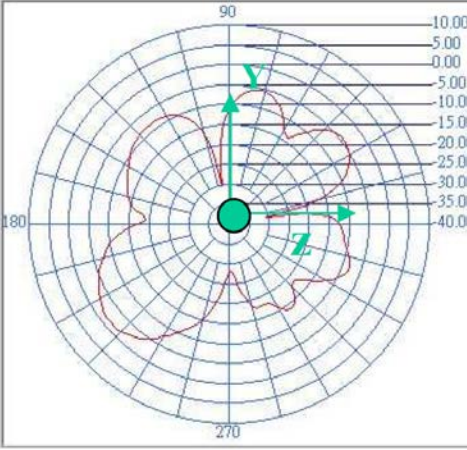
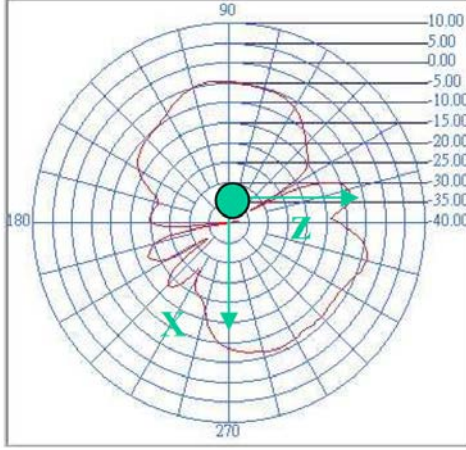
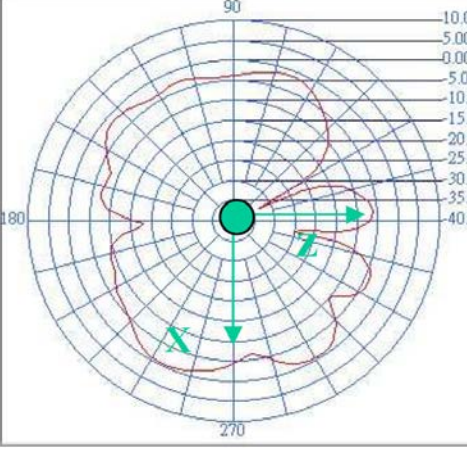
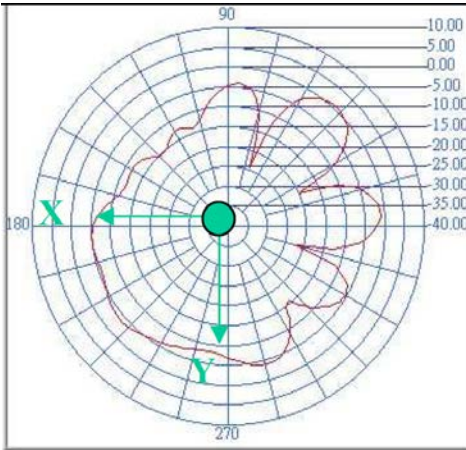
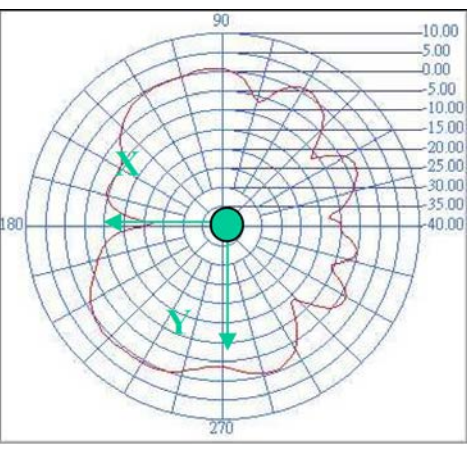
5, Return Loss



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
Y - Z Plane Average Gain=1.19 dBi		
	Peak Gain = 2.00 dBi Average Gain = 0.75 dBi	Peak Gain= -1.33 dBi Average Gain=-8.7 dBi
X - Z Plane Average Gain=-2.91dBi		
	Peak Gain= -3.71 dBi Average Gain= -8.76dBi	Peak Gain= -0.29 dBi Average Gain= -4.19dBi
X - Y Plane Average Gain=-0.95 dBi		
	Peak Gain= 0.77 dBi Average Gain= -5.86dBi	Peak Gain= 1.35 dBi Average Gain= -2.62 dBi

Test Result:

Frequency VNA	E Total. dB(dB)	Efficiency
2400MHz	0.693991	41.07%
2410MHz	1.14338	47.24%
2420MHz	0.223052	40.48%
2430MHz	-0.13659	33.93%
2440MHz	0.35326	37.82%
2450MHz	1.039894	42.77%
2460MHz	2.00801	50.67%
2470MHz	0.649809	41.93%
2480MHz	-0.215933	36.66%
2490MHz	-0.476639	34.62%
2500MHz	0.710741	40.22%