Bluetooth antenna of PCB on-board specification

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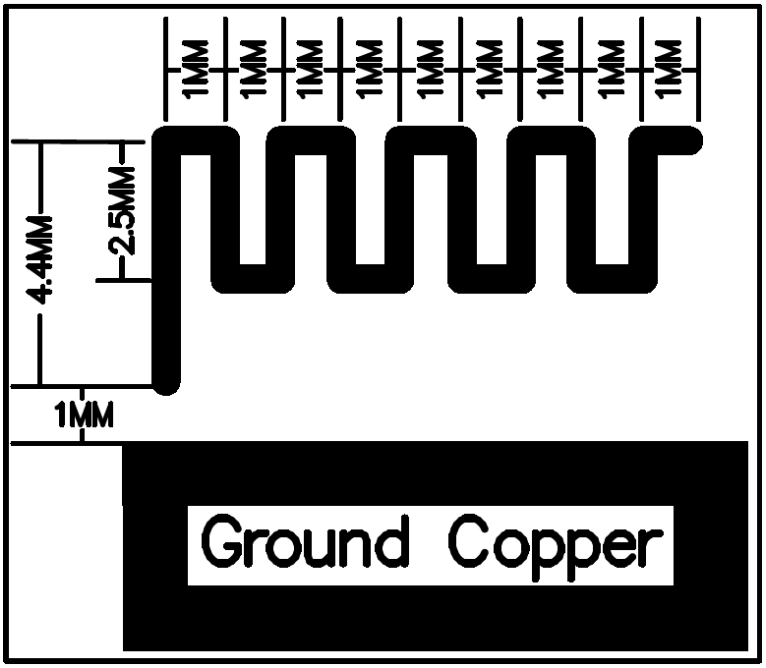
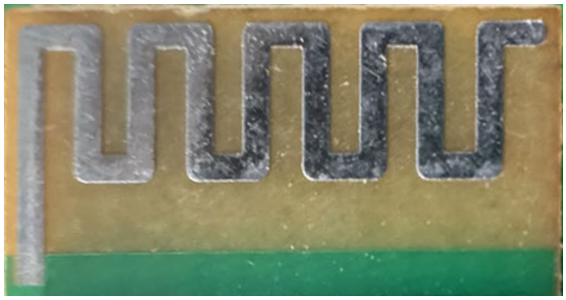
2，Spec Drawing



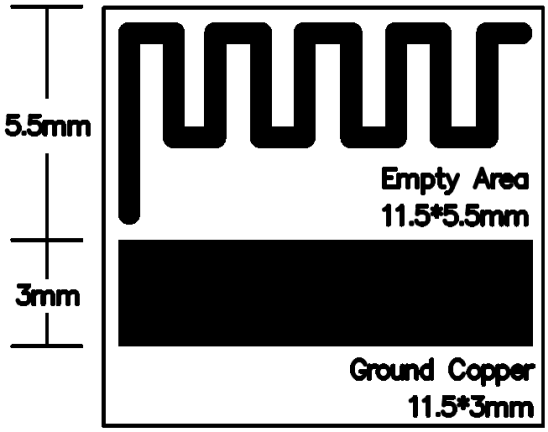
3，Specification

Product Number: 2.4GHZ PCB antenna
Sample Photo:



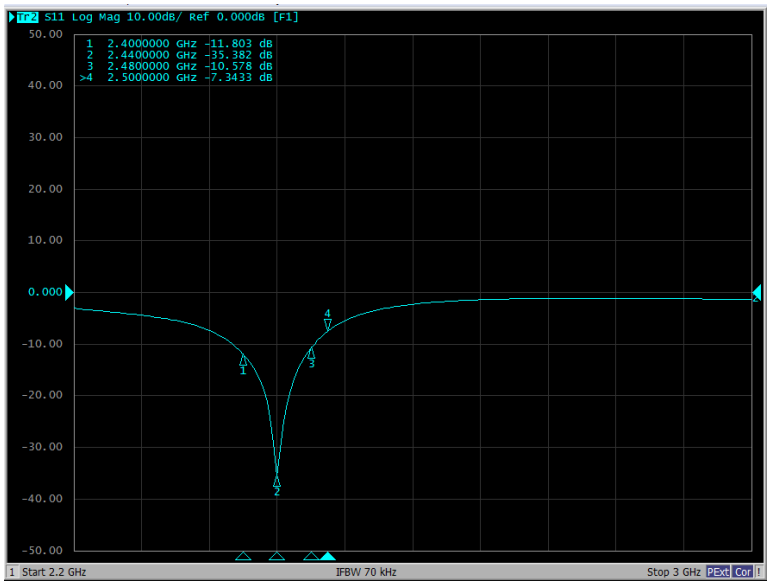
A. Electrical Characteristics	
Frequency	2400 ~ 2500 MHz
S.W.R.	<=2.0
Gain	-1.36 dBi
Efficiency	~ 50%
Polarization	Linear
Impedance	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator	Gold-plated copper
C. Environmental	
Operation Temperature	- 40℃ ~ + 85℃
Storage Temperature	- 40℃ ~ + 105℃

4，Antenna On Test Board



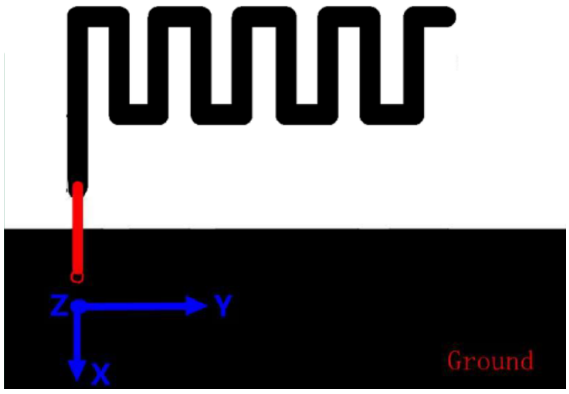
FR4 Thickness 0.8mm

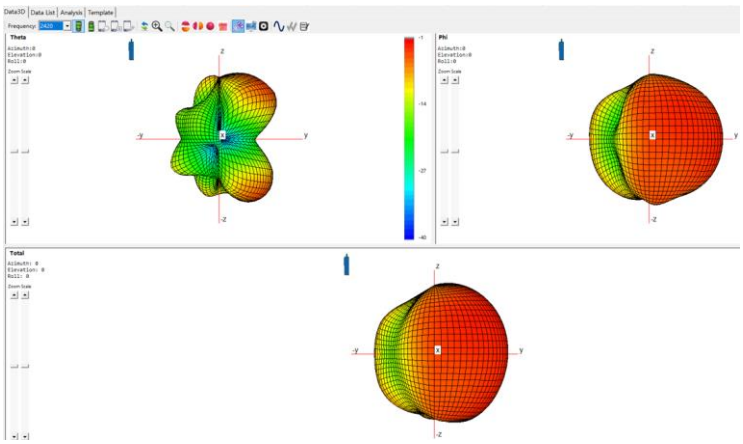
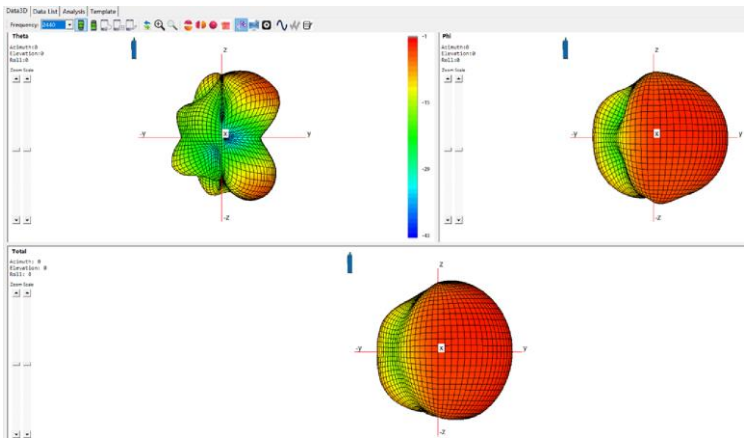
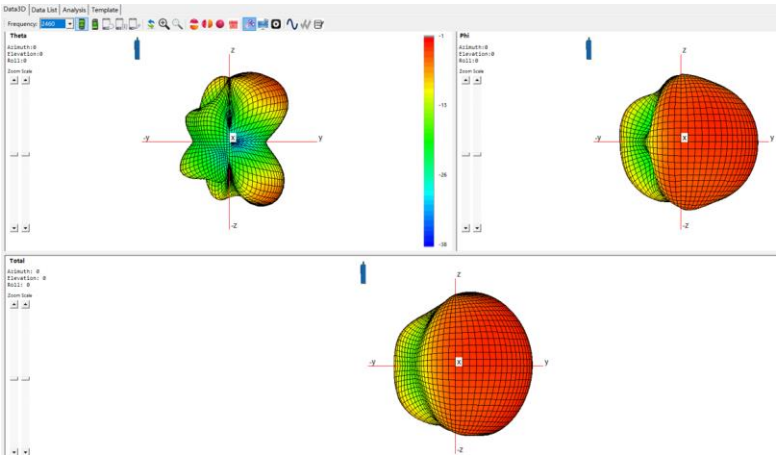
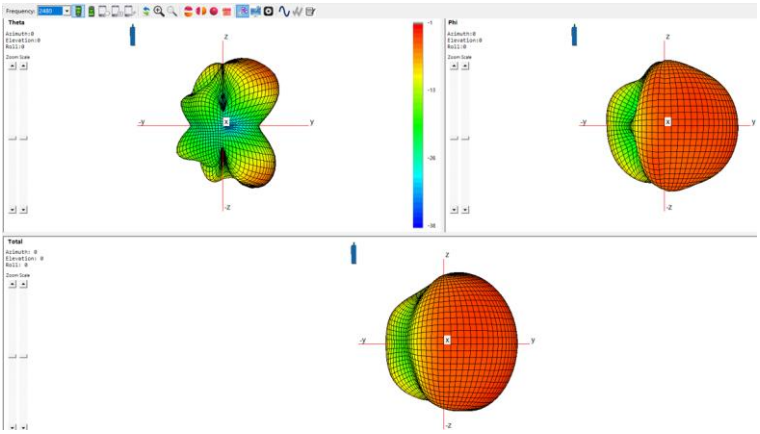
5， Return Loss



6，Radiation Pattern

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



	
2420 MHz Gain = -1.52 dBi	2440 MHz Gain= -1.49 dBi
	
2460 MHz Gain= -1.53 dBi	2480 MHz Gain= -1.86 dBi

Test Result:

Frequency VNA	Gain (dB)	Efficiency_dB	Efficiency_Pcent
2400MHz	-1.45	-5.30	29.46
2410MHz	-1.39	-4.93	32.09
2420MHz	-1.52	-4.94	32.01
2430MHz	-1.57	-5.00	31.60
2440MHz	-1.49	-4.94	32.05
2450MHz	-1.36	-4.87	32.53
2460MHz	-1.53	-5.09	30.95
2470MHz	-1.62	-5.31	29.39
2480MHz	-1.86	-5.66	27.11
2490MHz	-2.01	-6.00	25.11
2500MHz	-2.00	-6.17	24.14