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# Antenna specification

## 1、 Antenna introduction

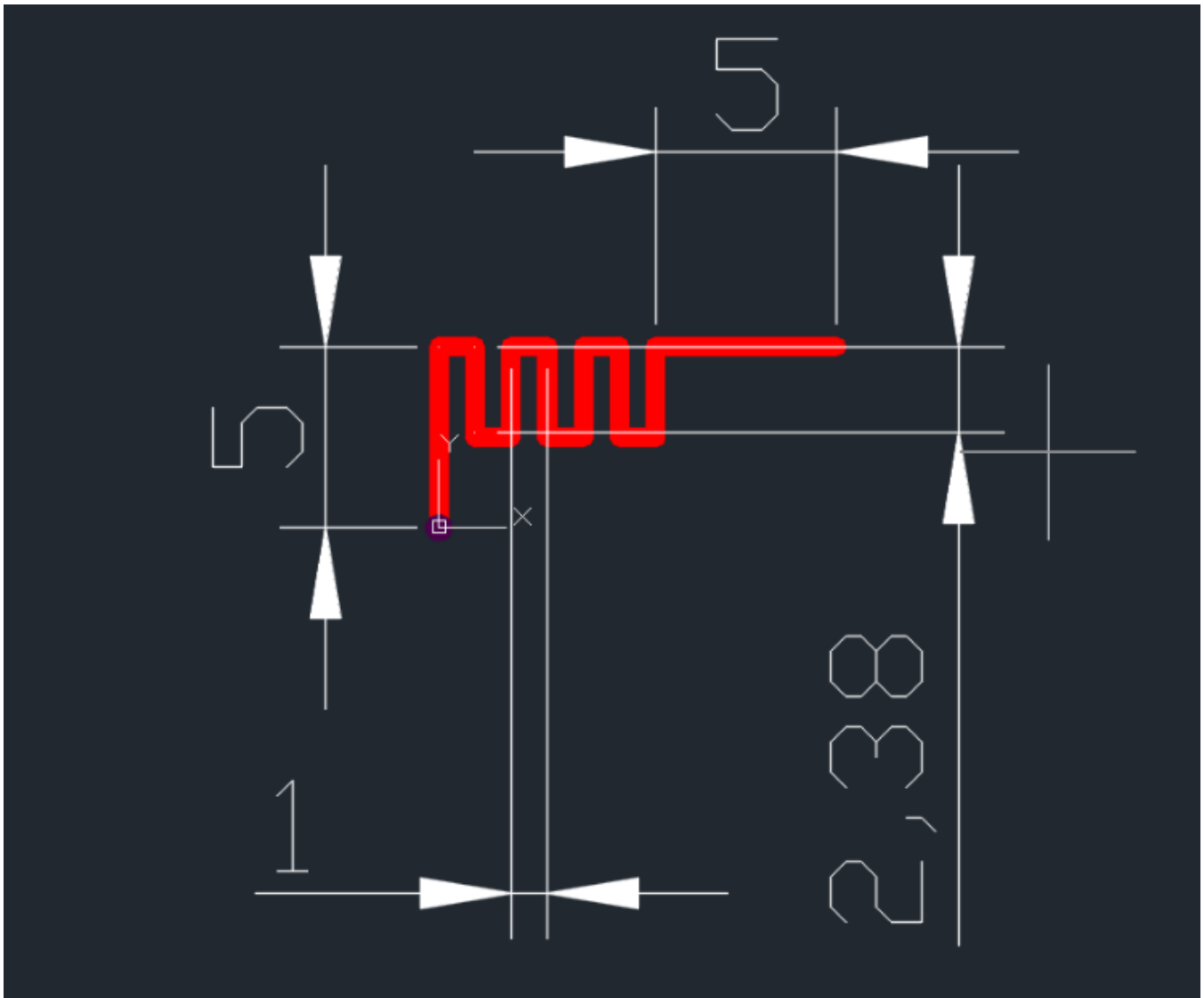
The Bluetooth module antenna is directly used on the PCB.

Manufacturer: Etman Lighting & Electronics (Changzhou) Co., Ltd

Address : No. 6 Miaoban Road, Lijia Town, Wujin District, Changzhou City, Jiangsu

Province

## 2、 Antenna shape (unit: mm)



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### 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	$\leq 1.95$
Impedance	50 Ohm Nominal
Return Loss	-15 dB Max
Radiation	Omni-directional
Gain (Peak)	1.08 dBi
Polarization	Linear, Vertical
Admitted Power	1MW
Connector	Tin

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#### 4、 Antenna gain report

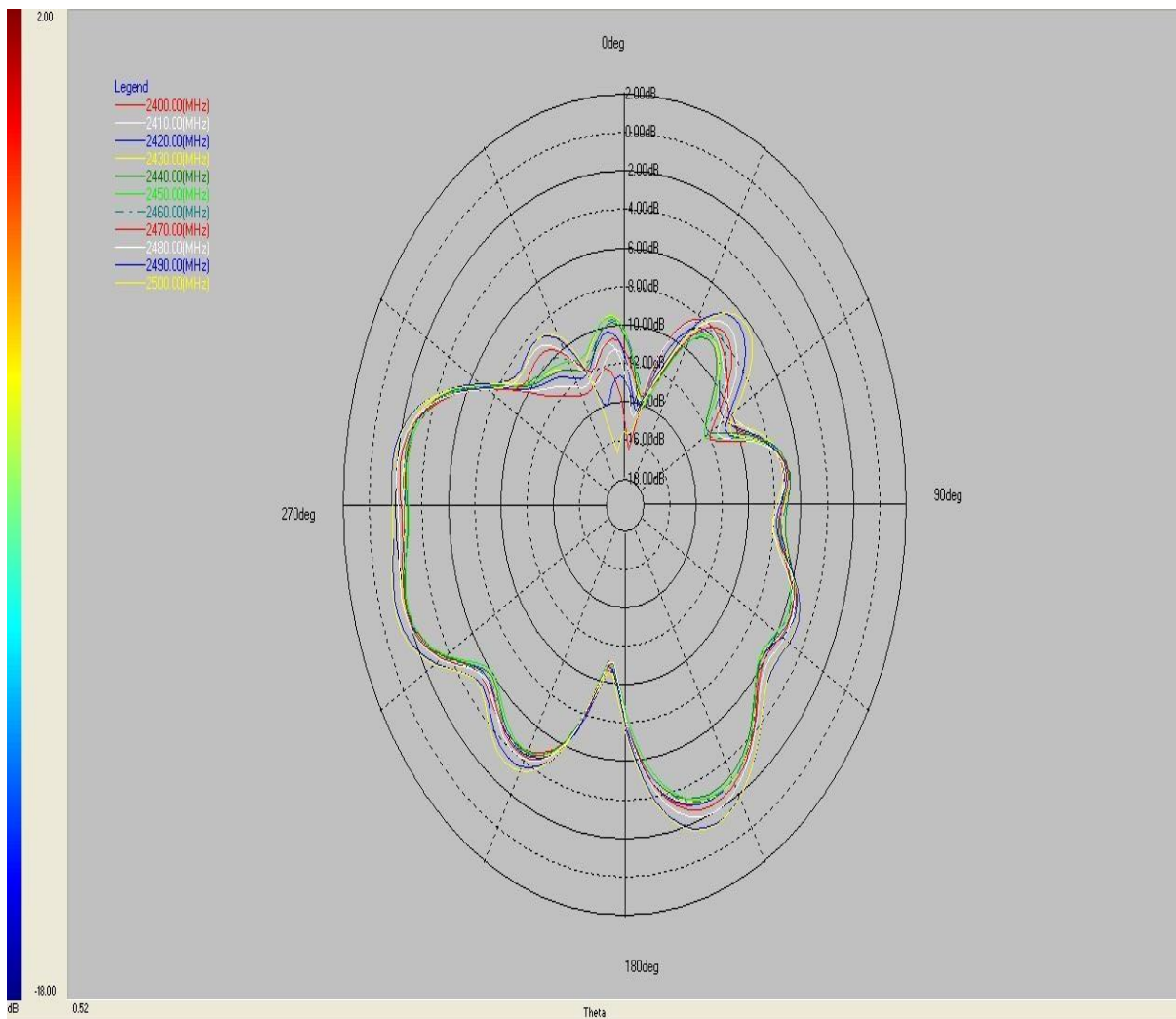
Spectrum Detector:  
Test By:  
Test Result:  
Modulation:

PK  
Mark  
PASS  
GFSK

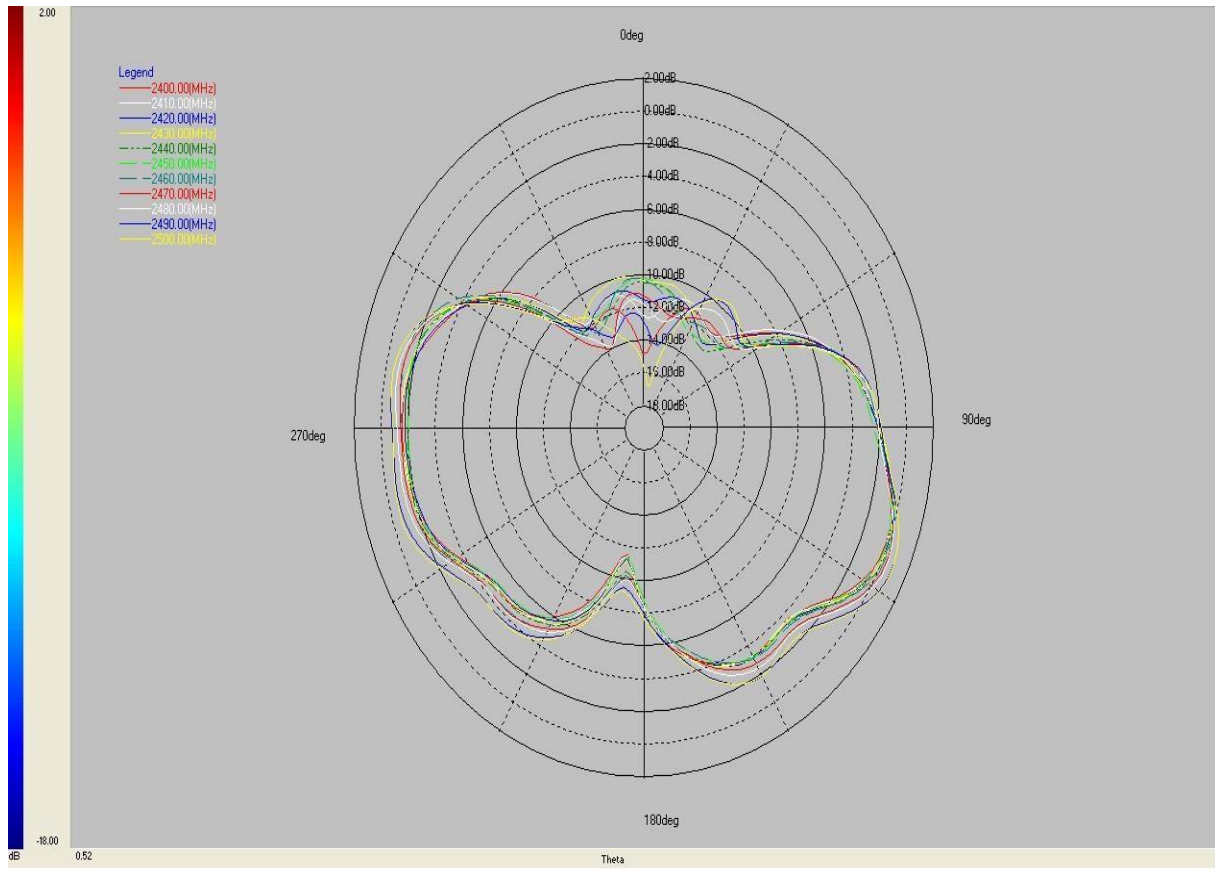
Test Date : Feb 18, 2022  
Temperature : 25°C  
Humidity : 52 %

Frequency VNA (MHz)	E Total. dB(dB)
2400MHz	0.0403503
2410MHz	0.0886264
2420MHz	0.267381
2430MHz	0.193012
2440MHz	0.26366
2450MHz	0.0723139
2460MHz	0.36895
2470MHz	0.551525
2480MHz	0.640702
2490MHz	1.05232
2500MHz	1.08

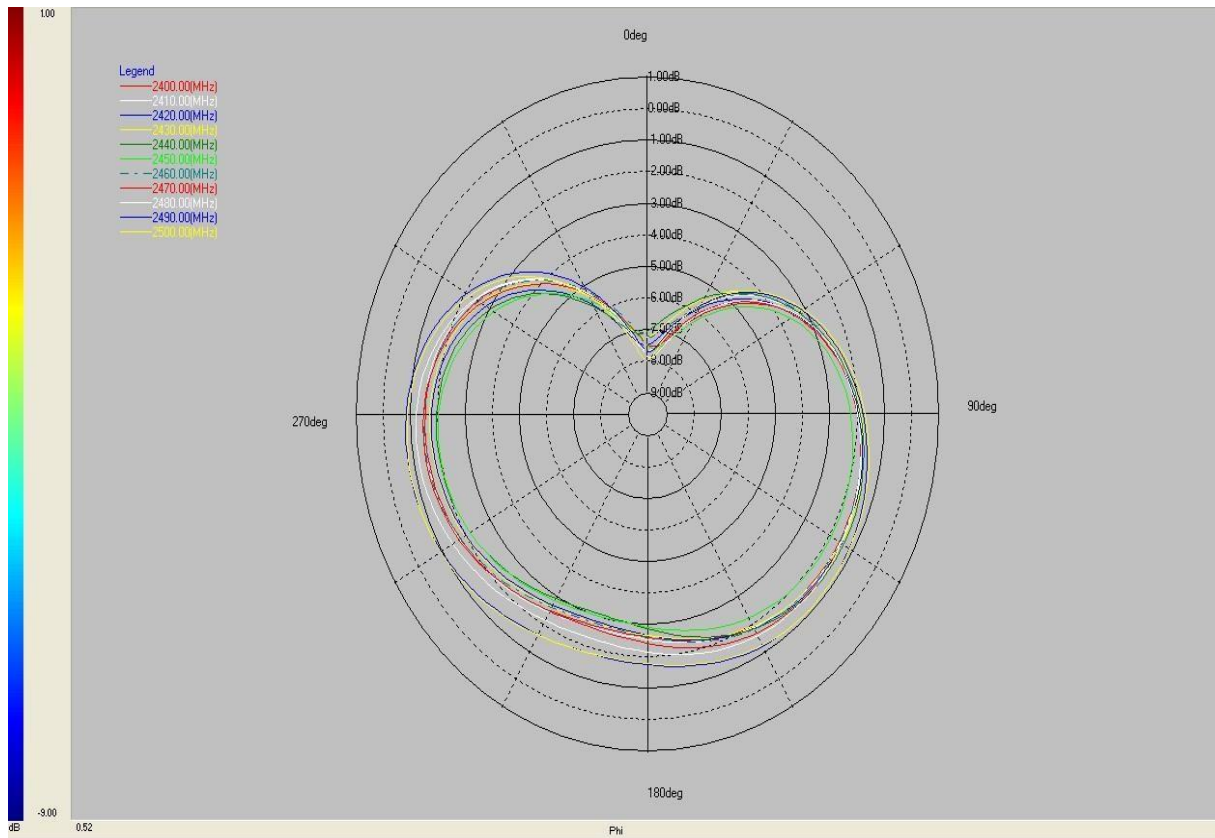
# Direction map:



PHI 0°



PHI 90°



THETA 90°