

# Bluetooth and WIFI antenna specification

## 1, Index

| Item | Content                        | Page | Remark |
|------|--------------------------------|------|--------|
| 1    | Index                          | 1    |        |
| 2    | Spec Drawing                   | 2-3  |        |
| 3    | Specification                  | 4    |        |
| 4    | Antenna On Test Board          | 5    |        |
| 5    | Return Loss                    | 5    |        |
| 6    | Radiation Pattern              | 6    |        |
| 7    | Gain and Efficiency            | 6    |        |
| 8    | Bluetooth 2D Radiation Pattern | 7    |        |
| 9    | WIFI 2D Radiation Pattern      | 8    |        |

Document Type: 2.4GHZ & 5.8GHZ PCB antenna  
Document Version: V1.0  
Release Date: 2019-12-11

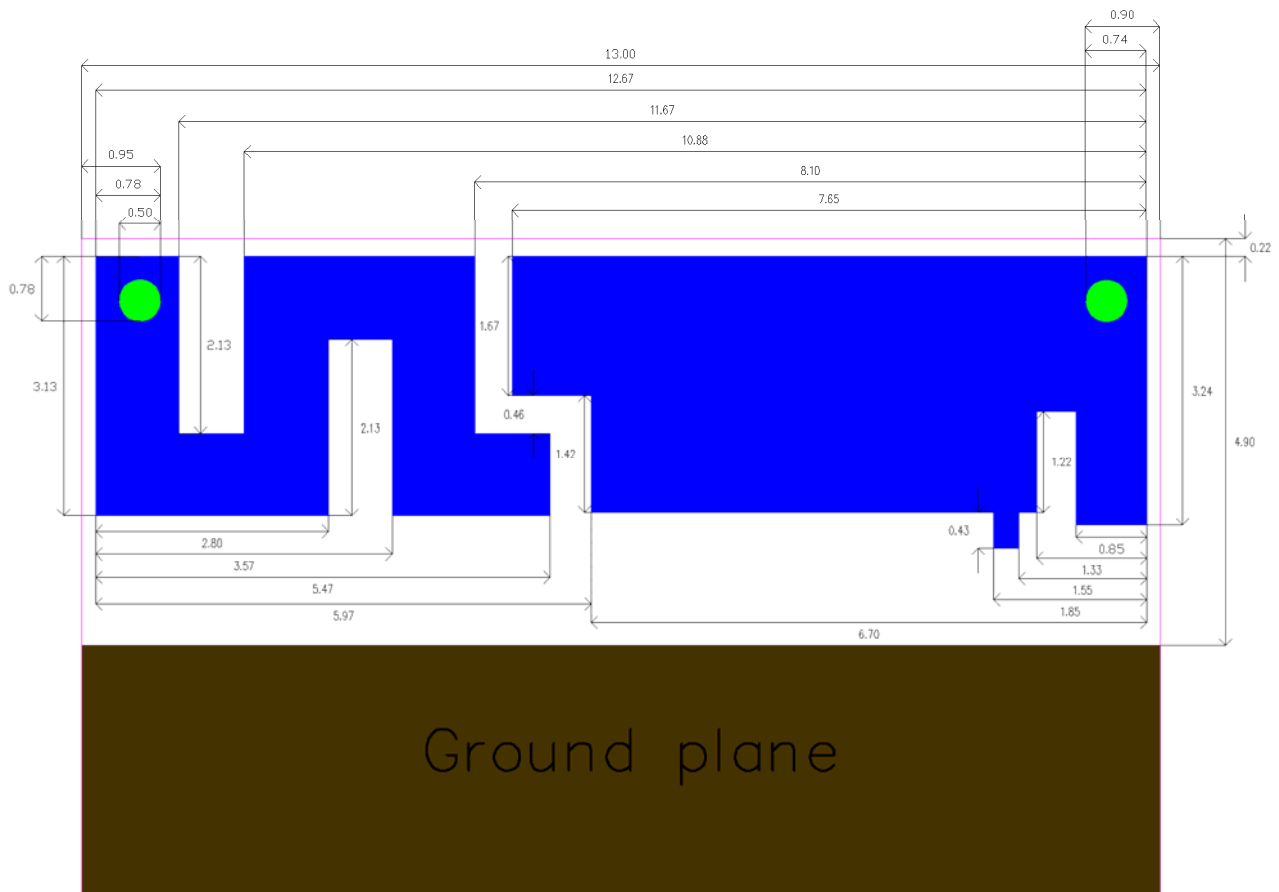
ShenZhen Feasycom Technology Co.,Ltd  
Room 2004A,20th Floor,Huichao Technology Building,JinhaiRoad,Xixiang,Baoan District,Shenzhen,China 518102  
Telephone: 86-755-27924639  
[www.feasycom.com](http://www.feasycom.com)

## 2, Spec Drawing

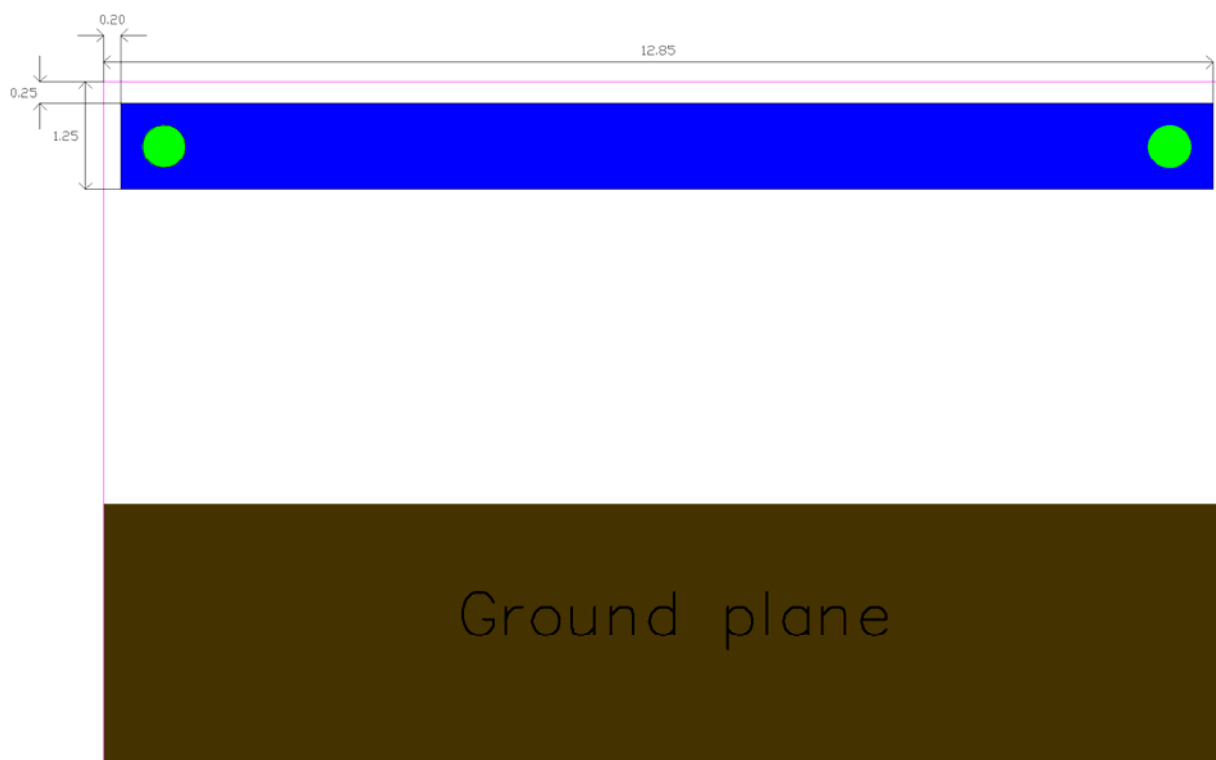
Unit: mm

RF4 sheet thickness: 0.8mm

Top view



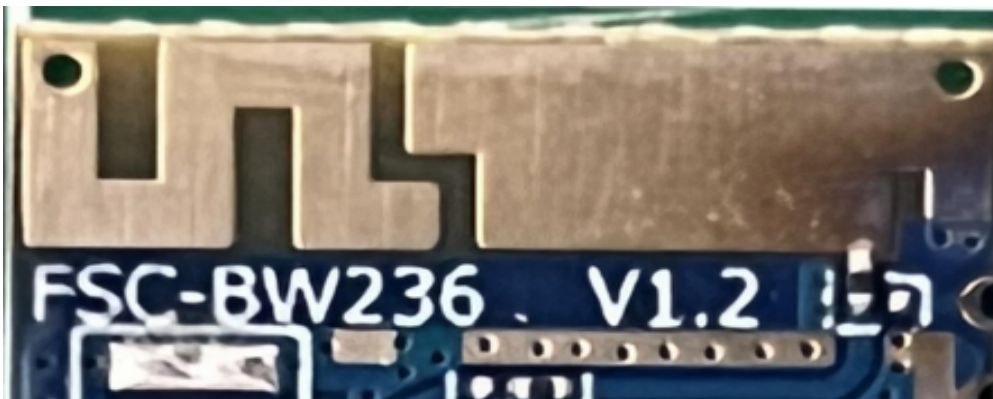
Bottom view



### 3, Specification

**Product Number: 2.4GHZ PCB antenna**

**Sample Photo:**



Antenna model:FSC-BW236 V1.2

#### **A. Electrical Characteristics**

|                         |                 |
|-------------------------|-----------------|
| Bluetooth Frequency     | 2400 ~ 2500 MHz |
| WIFI Frequency (2.4GHZ) | 2400 ~ 2500 MHz |
| WIFI Frequency (5GHZ)   | 5180 ~ 5850 MHz |
| S.W.R.                  | $\leq 3.0$      |
| Gain                    | -1.56 dBi       |
| Efficiency              | ~ 30%           |
| Polarization            | Linear          |
| Impedance               | 50 Ohm          |

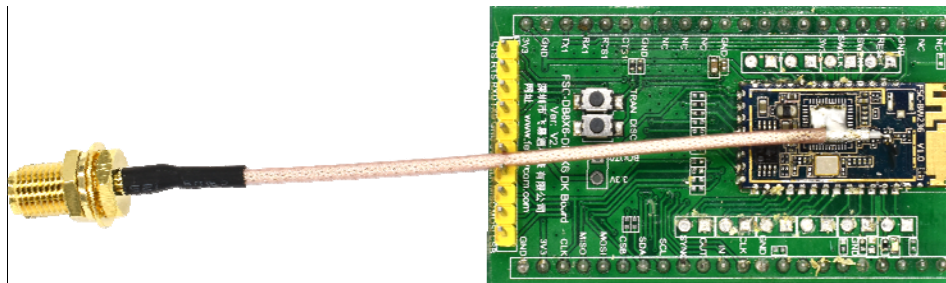
#### **B. Material & Mechanical Characteristics**

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

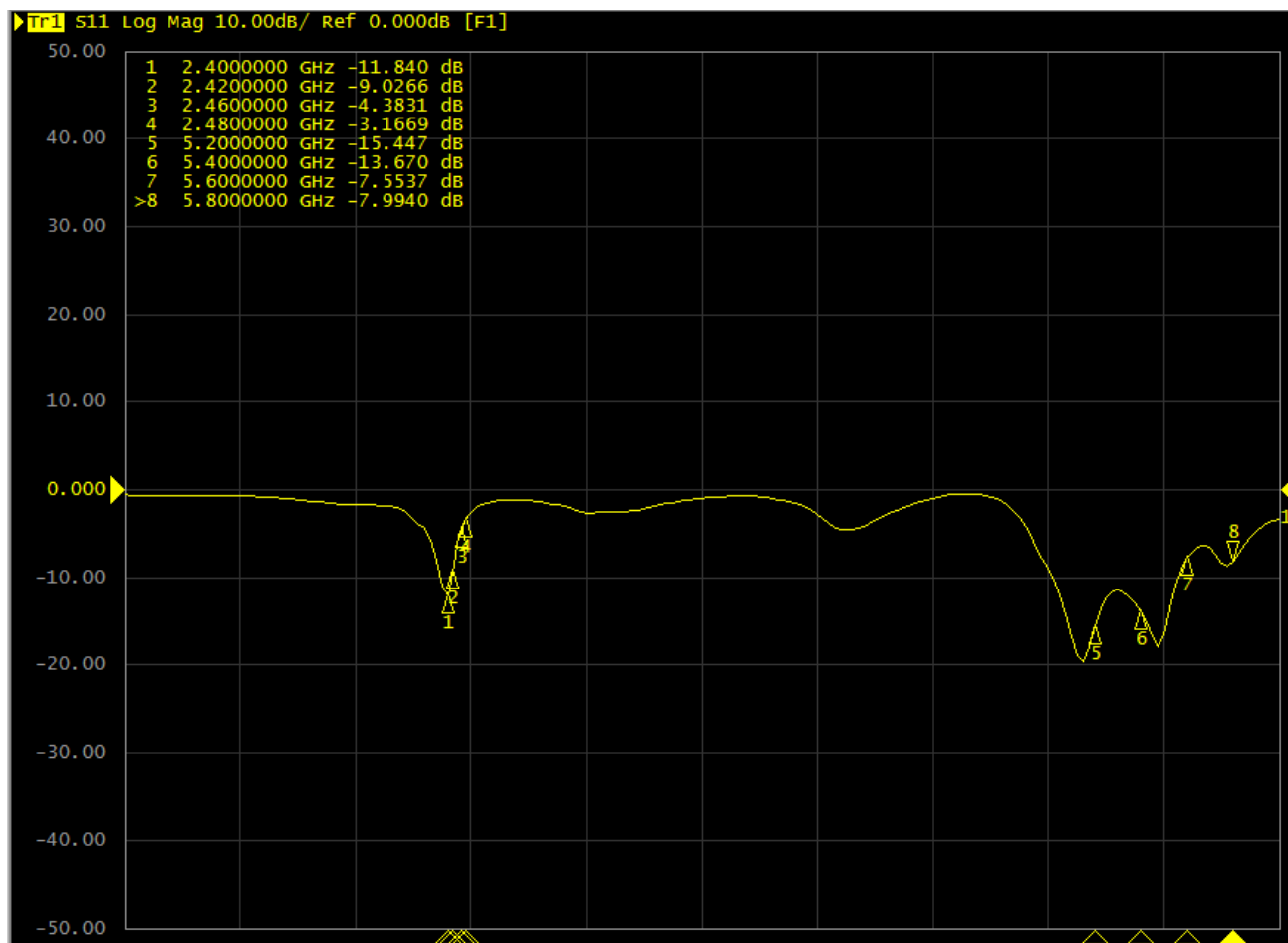
#### **C. Environmental**

|                       |                |
|-----------------------|----------------|
| Operation Temperature | - 40℃ ~ + 85℃  |
| Storage Temperature   | - 40℃ ~ + 105℃ |

## 4, Antenna On Test Board

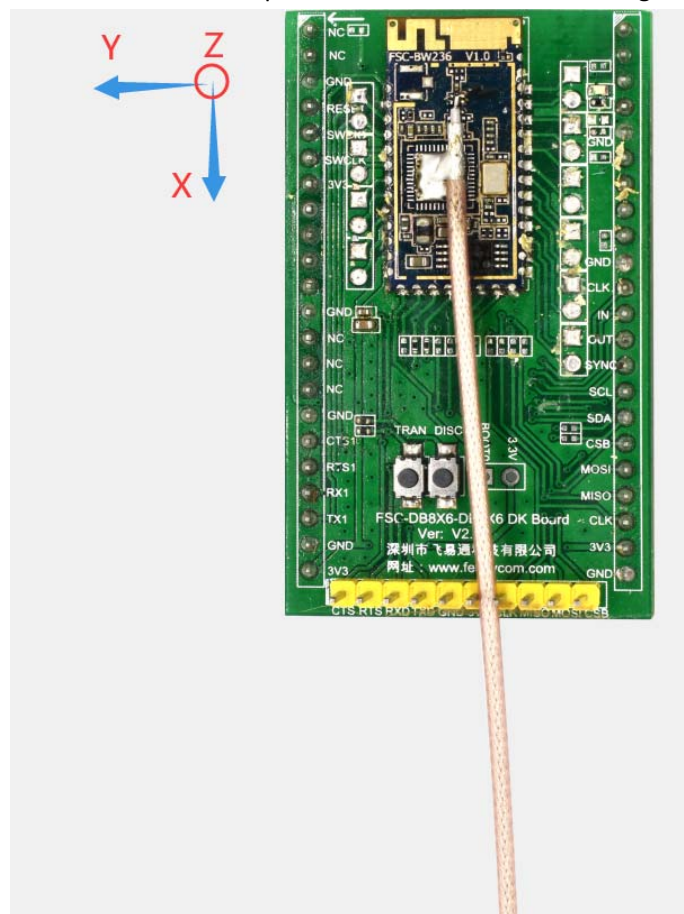


## 5, Return Loss



## 6, Radiation Pattern

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

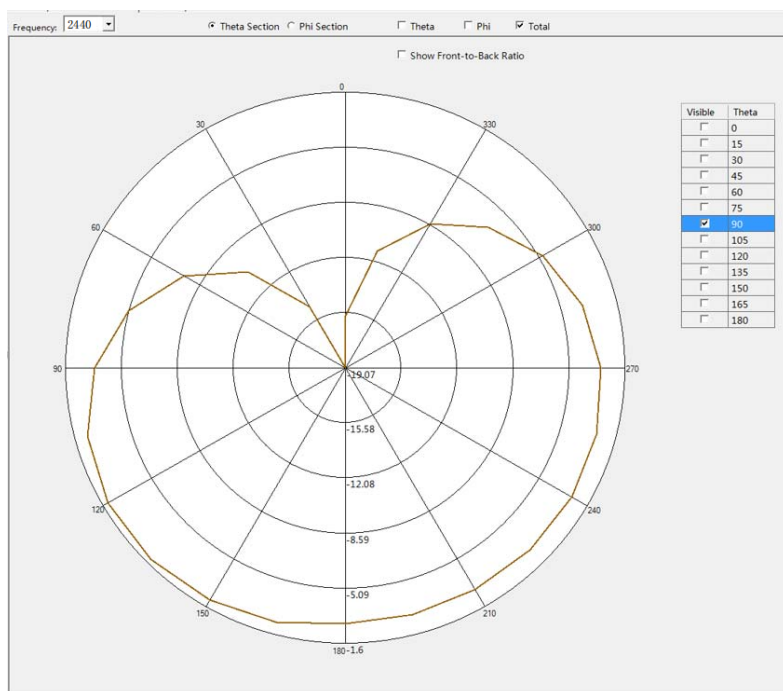


### 6.1, Gain and Efficiency

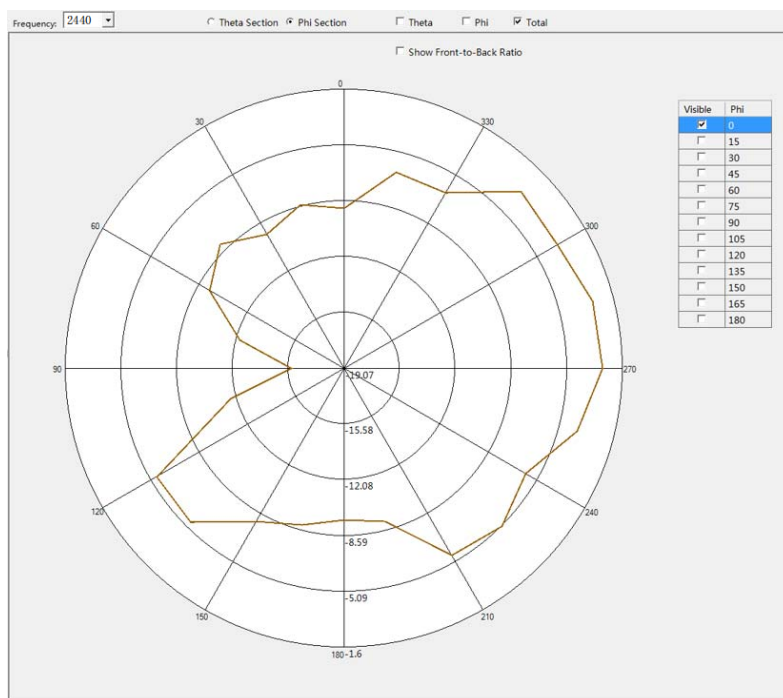
| Frequency | Gain(dBi) | Efficiency | Frequency | Gain(dBi) | Efficiency |
|-----------|-----------|------------|-----------|-----------|------------|
| 2400      | -2.49     | 26.54      | 5100      | -2.68     | 17.21      |
| 2410      | -1.9      | 29.34      | 5200      | -1.56     | 20.24      |
| 2420      | -1.83     | 29.58      | 5300      | -2.42     | 20.42      |
| 2430      | -1.73     | 30.29      | 5400      | -1.81     | 22.4       |
| 2440      | -1.56     | 30.65      | 5500      | -2.83     | 17.93      |
| 2450      | -1.59     | 30.32      | 5600      | -5.65     | 12.01      |
| 2460      | -1.67     | 30.05      | 5700      | -2.23     | 19.69      |
| 2470      | -1.79     | 29.19      | 5800      | -2.35     | 22.95      |
| 2480      | -1.93     | 26.84      | 5900      | -2.78     | 22.07      |

## 6.2, Bluetooth 2D Radiation Pattern

Theta=90°

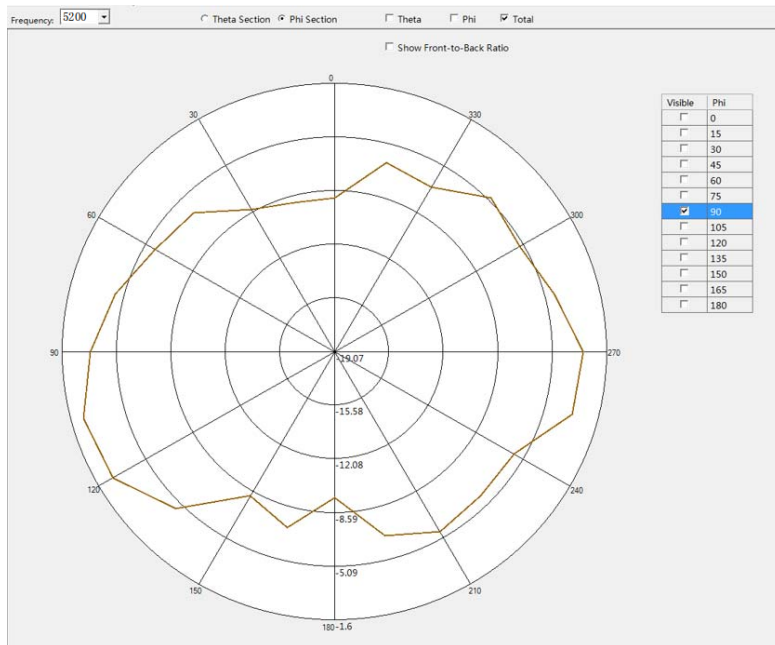


Phi=0°

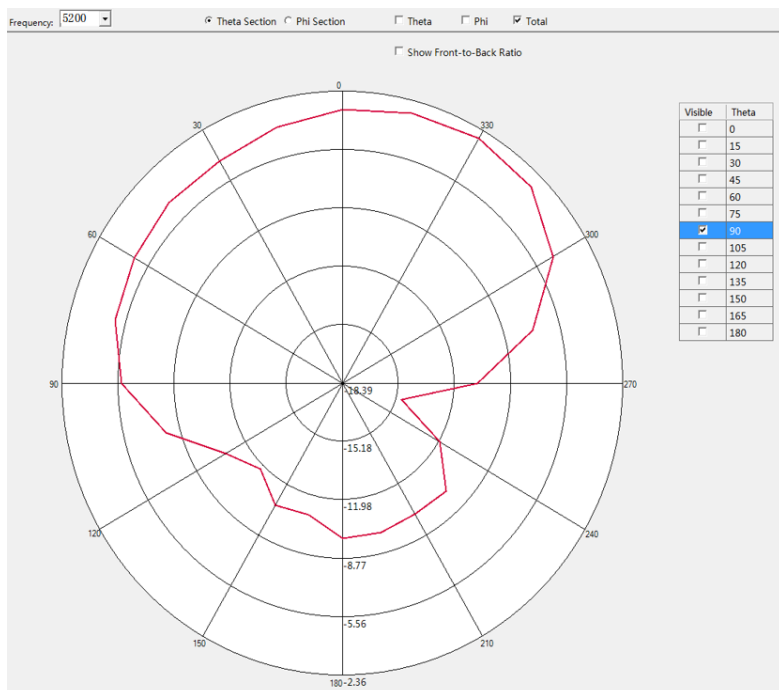


## 6.3, WIFI 2D Radiation Pattern

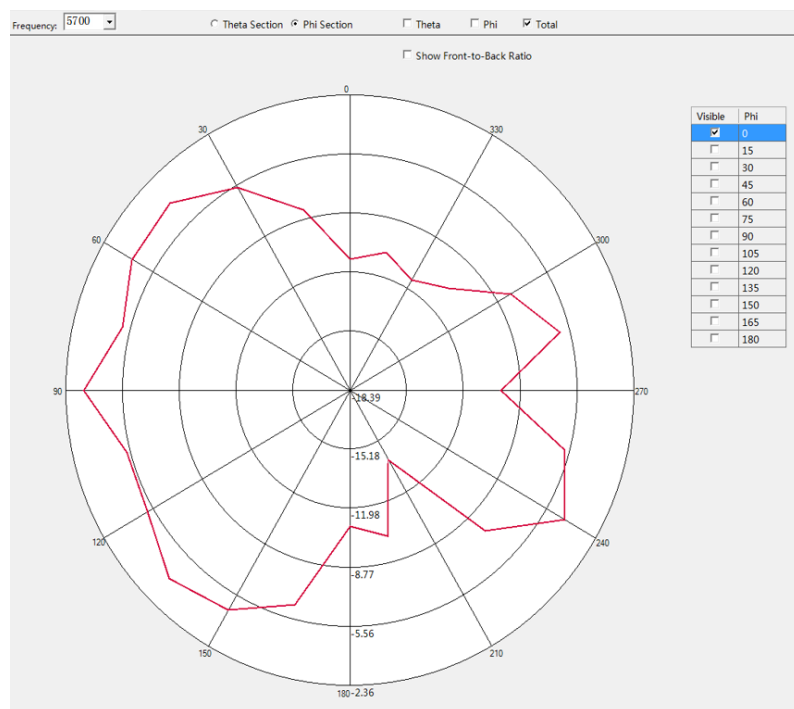
Phi=90°



Theta=90°



Phi=0°



Phi=90°

