

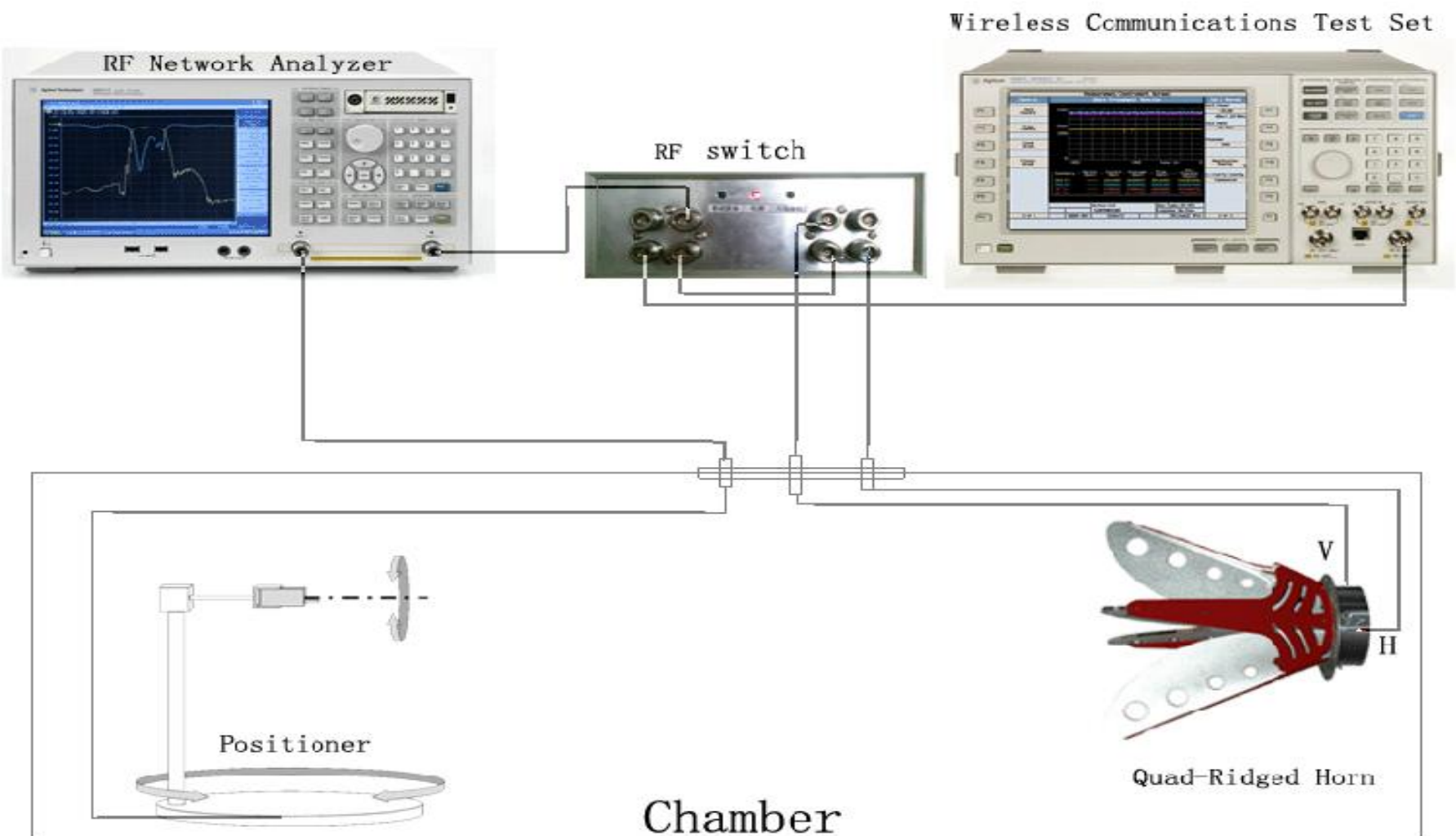
SHENZHEN ATN COMMUNICATION TECHNOLOGY CO.,LTD.

Antenna Data Sheet

|                   |                                                                      |         |             |      |             |
|-------------------|----------------------------------------------------------------------|---------|-------------|------|-------------|
| Customer:         | Hailingwei                                                           | project | S31-BES2600 | Date | 2024. 1. 26 |
| Frequency band    | 2. 4G-2. 48G ; Max. Gain: -1.56dBi                                   |         |             |      |             |
| version number    | V2. 0 (PCB version v1.3, mold shell debugging)                       |         |             |      |             |
| Antenna structure | FPC Stick the back cover(monopole antenna, L/R antenna mirror image) |         |             |      |             |

Model: ATN1503-L/ATN1503-R  
Type: FPC Antenna  
Manufacturer: SHENZHEN ATN COMMUNICATION TECHNOLOGY CO.,LTD.  
Address: 504-505 Meisheng Chuanggu Xiagu, Longchang Road, Xin'an Street,  
Bao'an District, Shenzhen  
Phone: 0755-29308863                      Fax: 0755-29308861

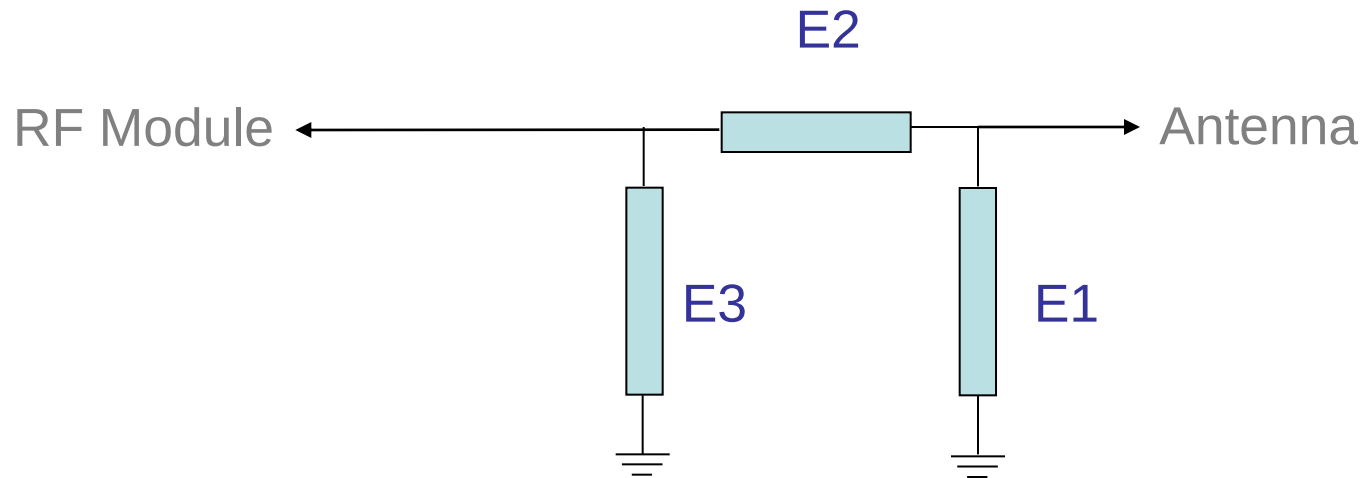
# System



# catalogue

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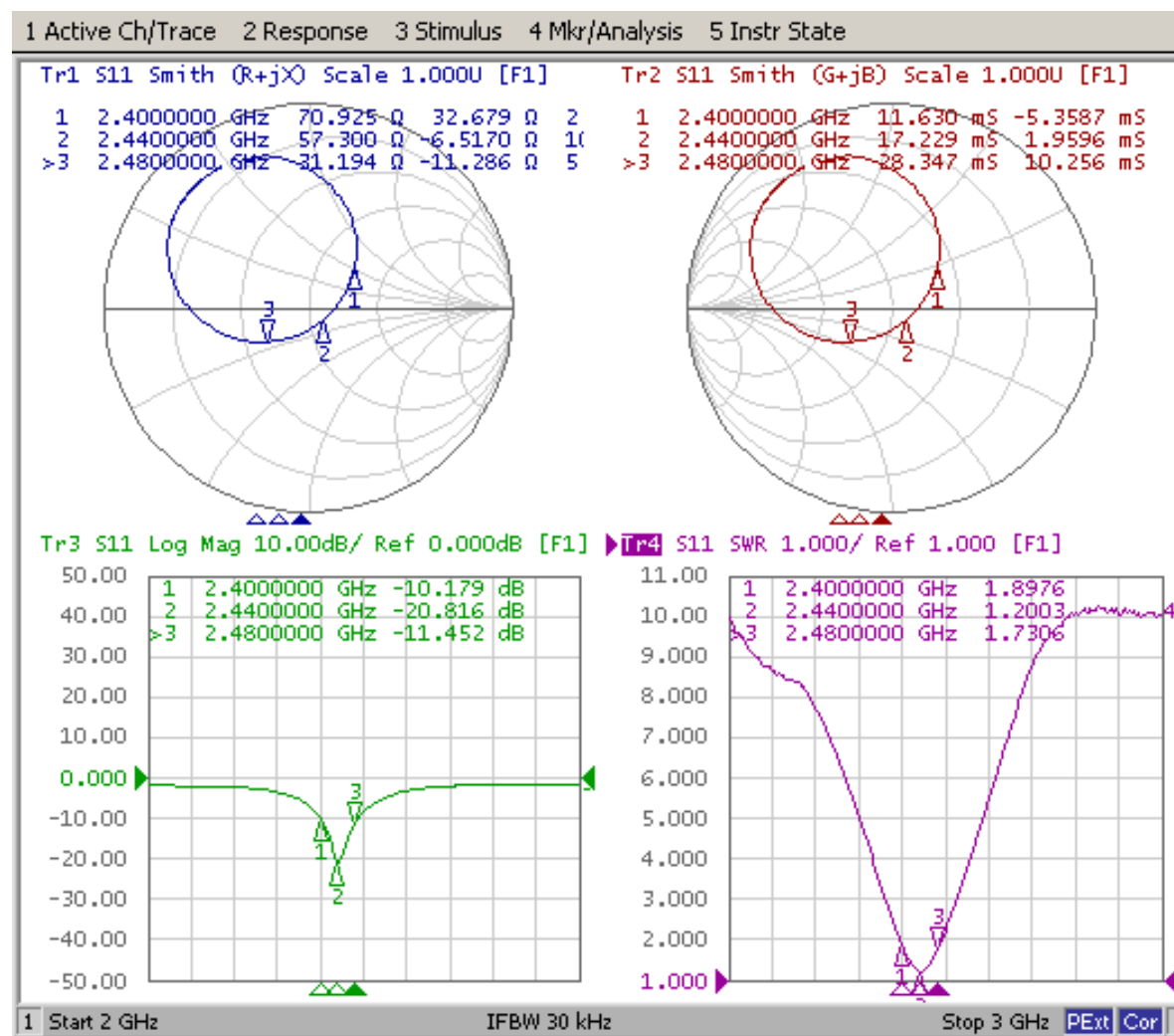
# 1. Matching circuit



| Element                   | Value                     |
|---------------------------|---------------------------|
| E1(0201)                  | 2.0pF(GRM0335C1H2R0BA01D) |
| E2(0201)                  | 0R                        |
| E3(0201)                  | NC                        |
| L/R Same matching circuit |                           |

## 2、Passive data

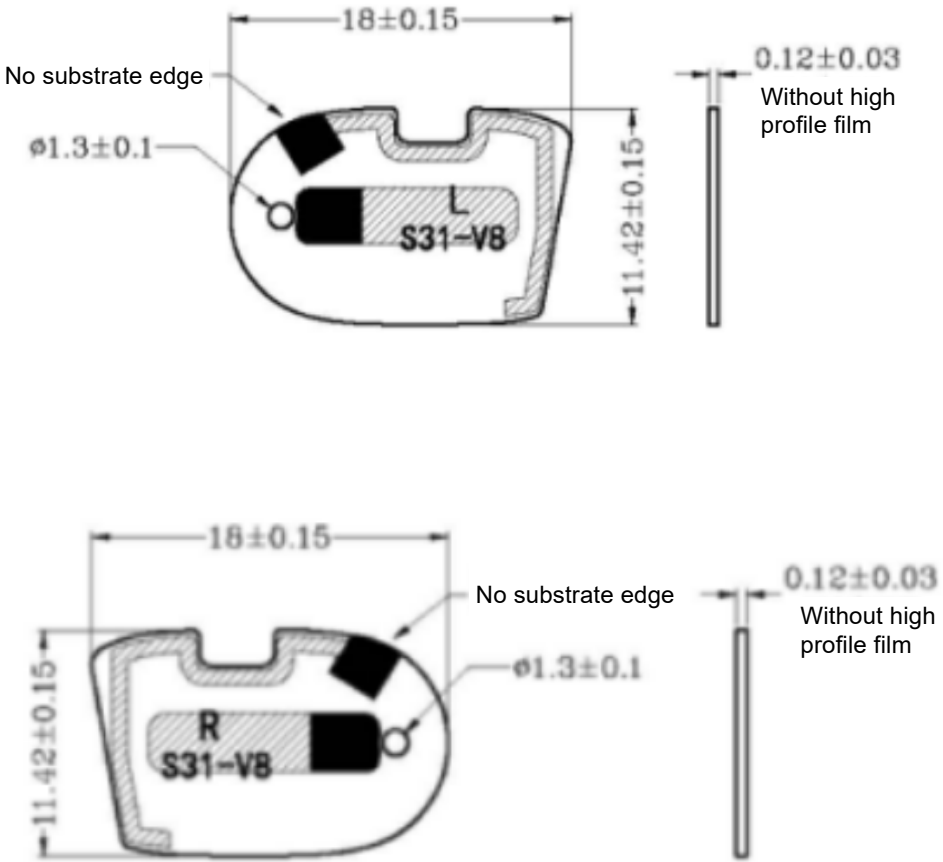
### 2.1 S11 Parameter



2.2 Gain & Efficiency

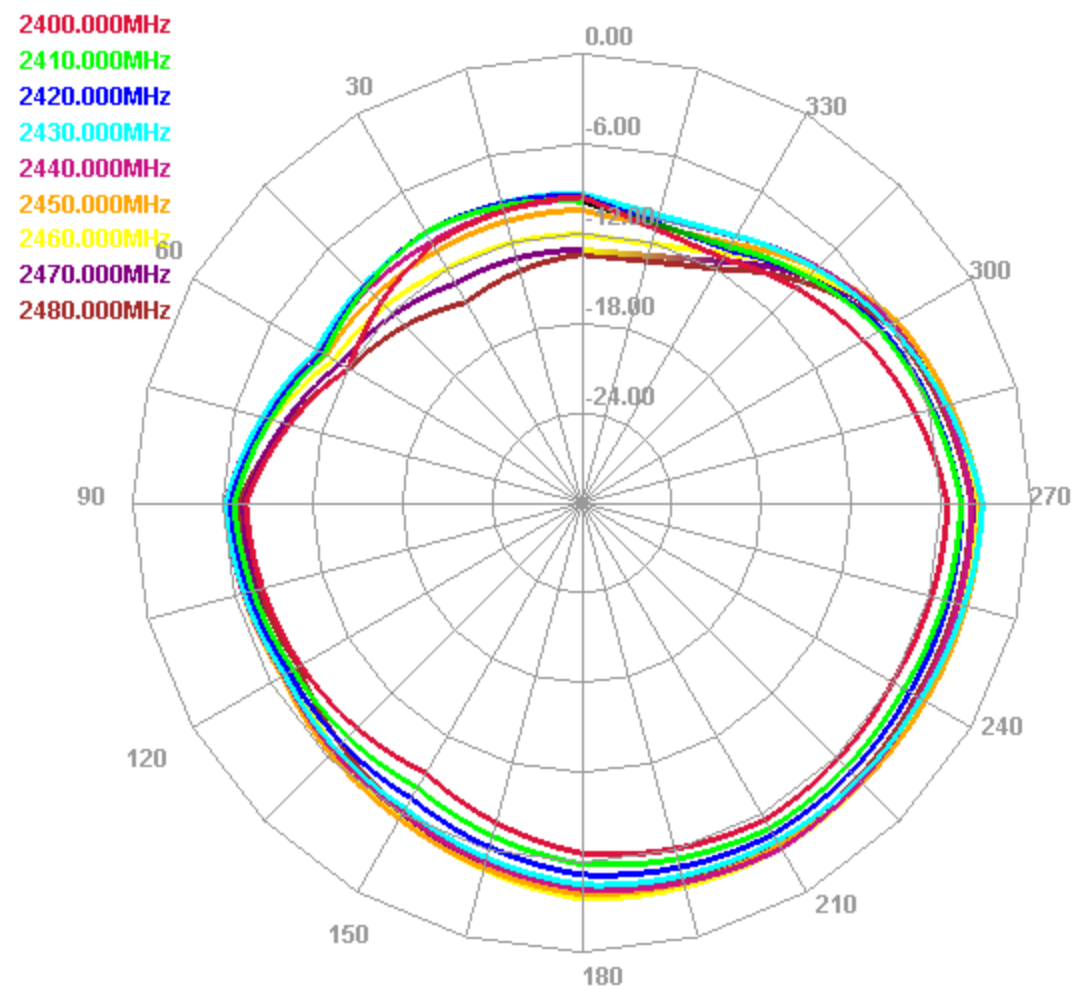
| Freq<br>(MHz) | Effi<br>(%) | Effi<br>(dB) | Gain<br>(dBi) |
|---------------|-------------|--------------|---------------|
| 2400          | 20.18       | -6.95        | -2.27         |
| 2410          | 22.73       | -6.43        | -1.8          |
| 2420          | 23.61       | -6.27        | -1.72         |
| 2430          | 25.19       | -5.99        | -1.56         |
| 2440          | 24.57       | -6.1         | -1.68         |
| 2450          | 24.98       | -6.02        | -1.59         |
| 2460          | 23.79       | -6.24        | -1.89         |
| 2470          | 22.9        | -6.4         | -1.88         |
| 2480          | 21.35       | -6.71        | -1.95         |

Antenna size

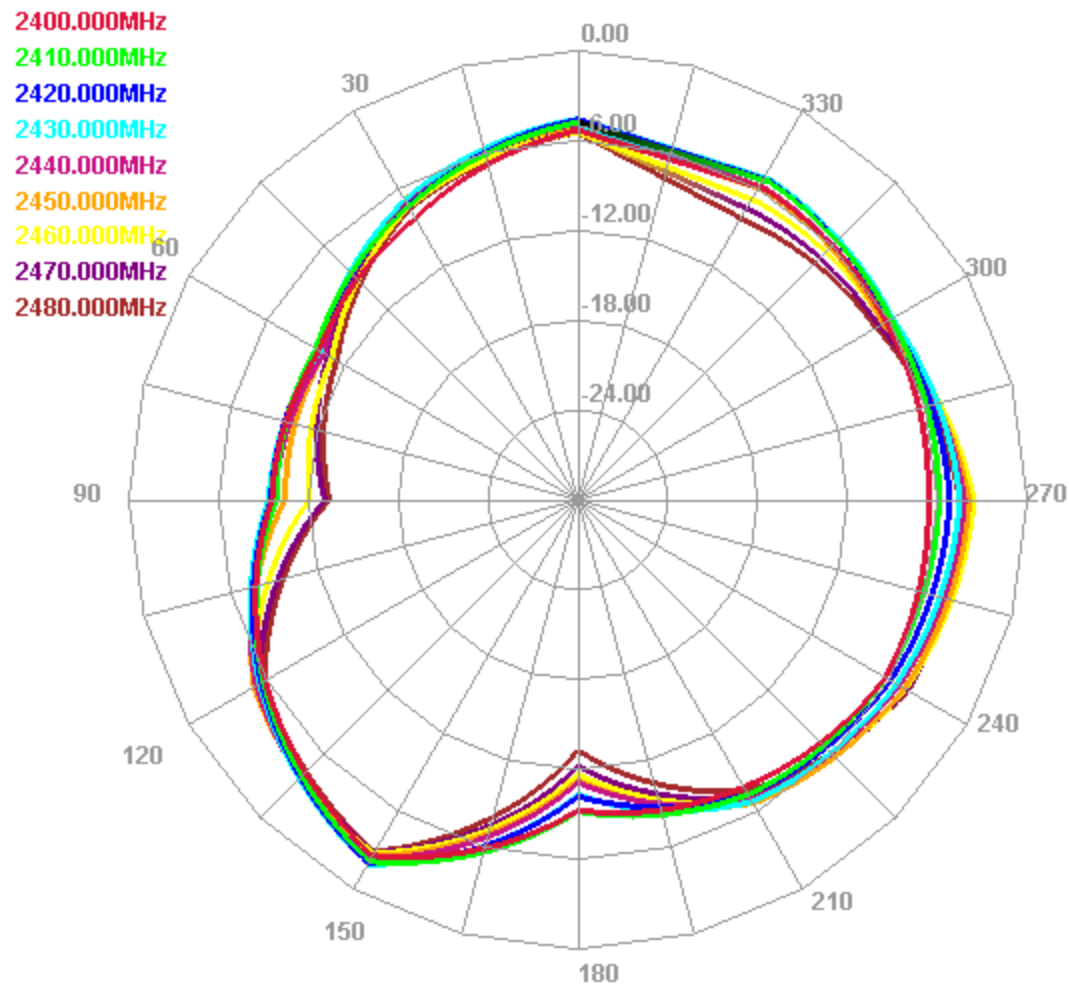


## 2.3 Radiation pattern

### Horizontal

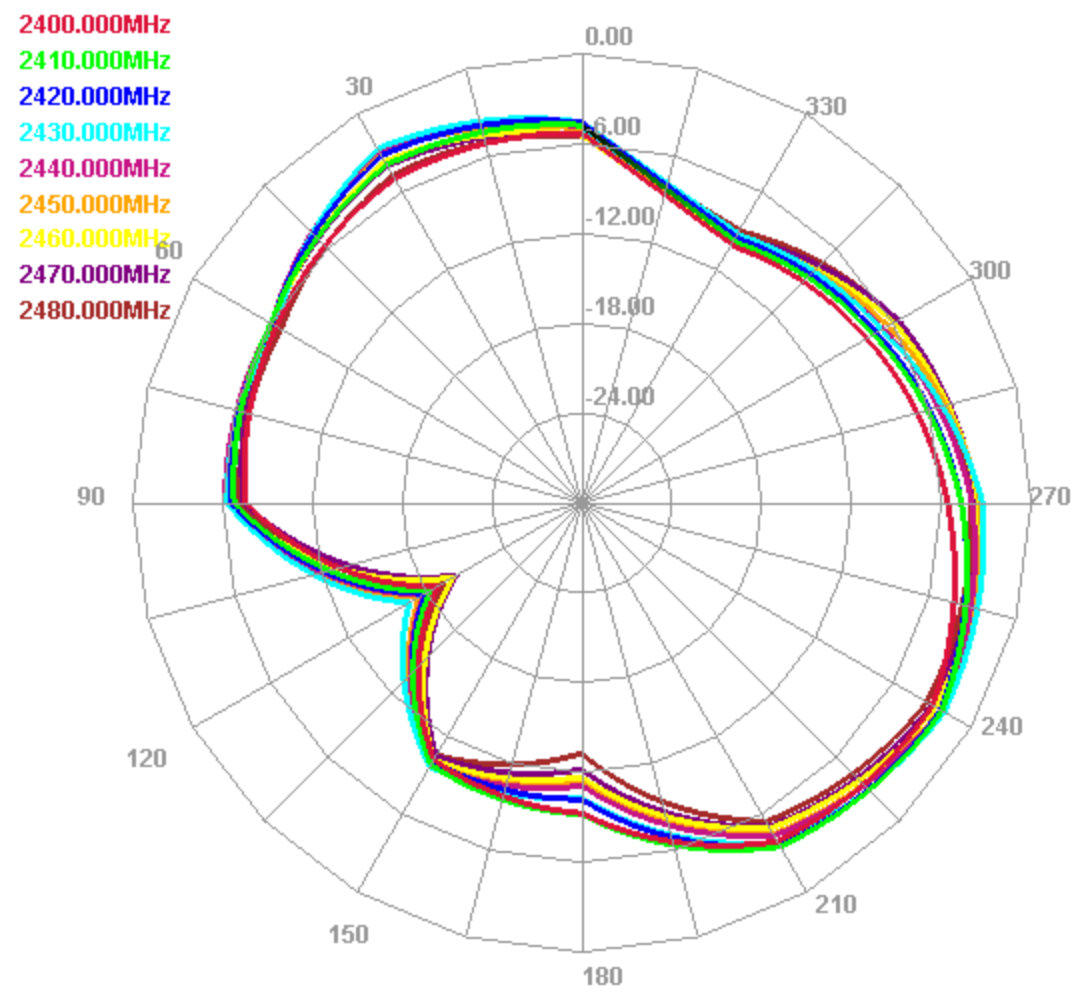


### E1 Face





E2 Face



## 3. 1、OTA test data

| band                           | channel | TRP (dBm) | TIS (dBm) |
|--------------------------------|---------|-----------|-----------|
| Bluetooth BR (L)<br>Free field | 0       | 7.5       | -88.7     |
|                                | 39      | 9.2       | -89.2     |
|                                | 78      | 9.3       | -88.8     |

| band                           | channel | TRP (dBm) | TIS (dBm) |
|--------------------------------|---------|-----------|-----------|
| Bluetooth BR (R)<br>Free field | 0       | 7.9       | -88.3     |
|                                | 39      | 8.8       | -87.9     |
|                                | 78      | 9.3       | -88.0     |

| band                          | channel | TRP (dBm) | TIS (dBm) |
|-------------------------------|---------|-----------|-----------|
| Bluetooth BR (L)<br>Head mold | 0       | 3.8       | -85.2     |
|                               | 39      | 5.0       | -85.1     |
|                               | 78      | 4.8       | -84.1     |

| band                          | channel | TRP (dBm) | TIS (dBm) |
|-------------------------------|---------|-----------|-----------|
| Bluetooth BR (R)<br>Head mold | 0       | 6.4       | -87.3     |
|                               | 39      | 6.7       | -86.8     |
|                               | 78      | 6.3       | -85.2     |

## 4、Assembly requirements

No special assembly requirements

## 5、Measured distance

Test location: Longchang Road, South Gate of Meisheng Chuanggu

|                                        |            |
|----------------------------------------|------------|
| Test mobile phone                      | Samsung S8 |
| Listening to music omnidirectional (m) | 16         |