

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

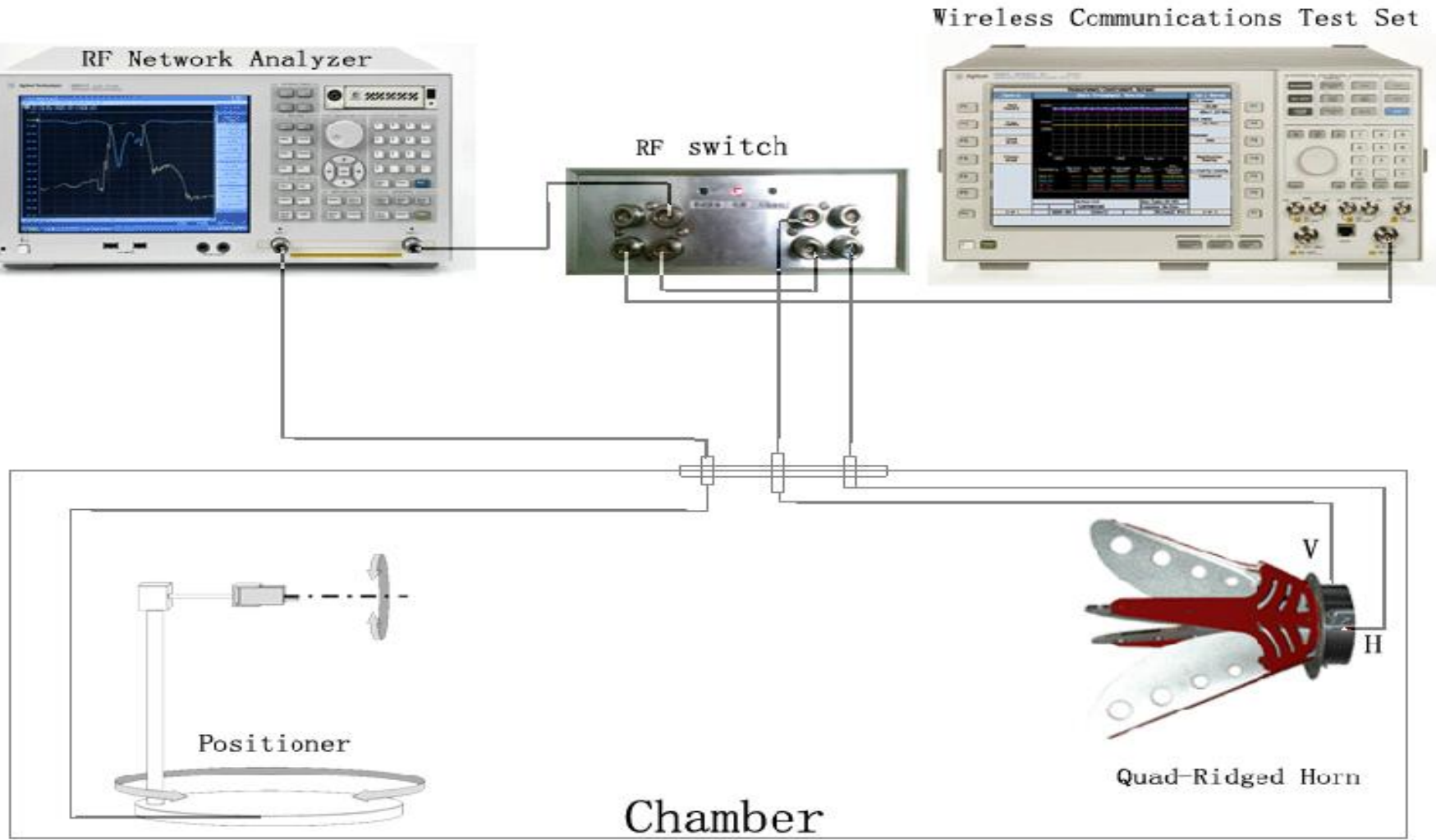
Manufacturer: SHENZHEN ATN COMMUNICATION TECHNOLOGY CO.,LTD.

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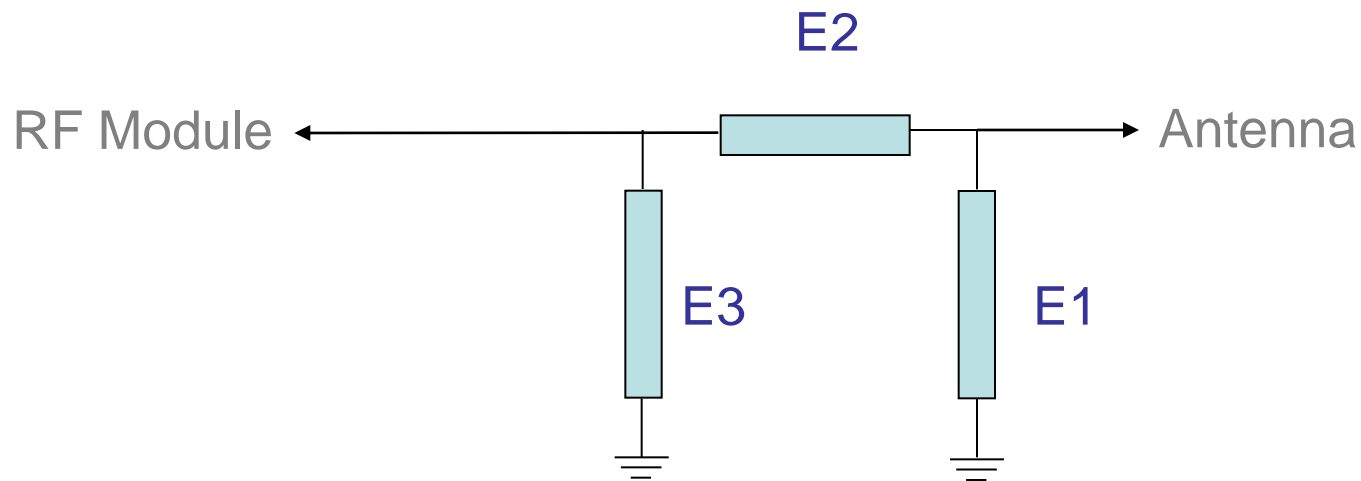
System



catalogue

- 1、 Matching circuit
- 2、 Passive test data
- 3、 OTA test data
- 4、 Assembly requirements
- 5、 Practical distance testing

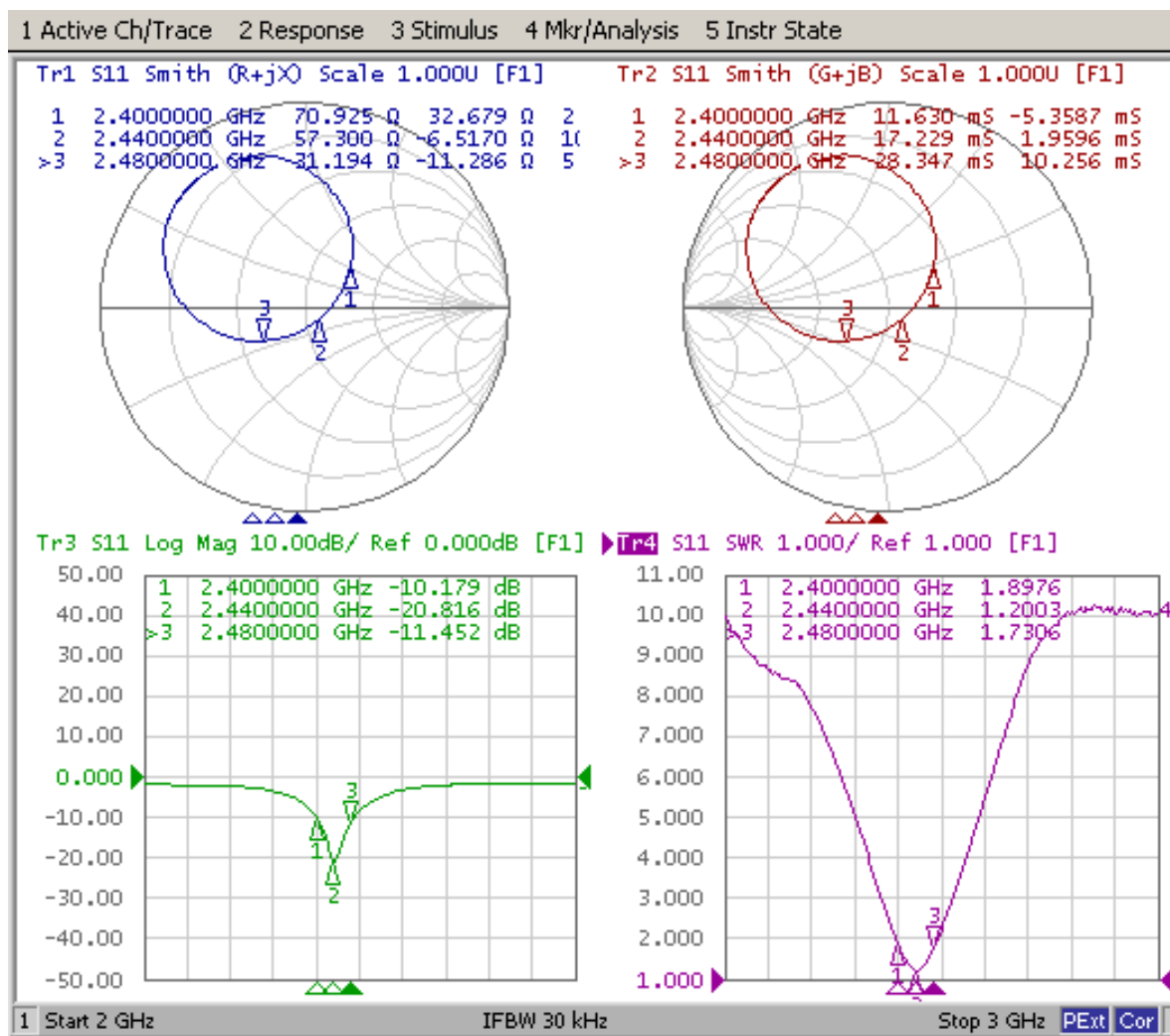
1. Matching circuit



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

2、Passive data

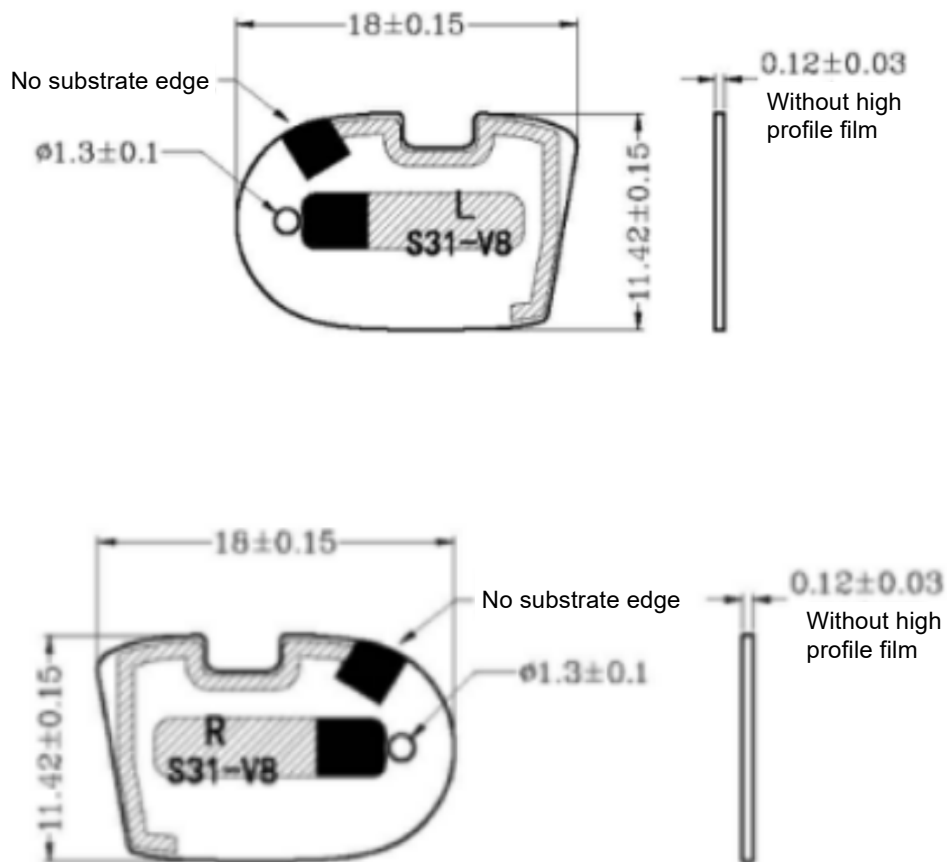
2.1 S11 Parameter



2.2 Gain & Efficiency

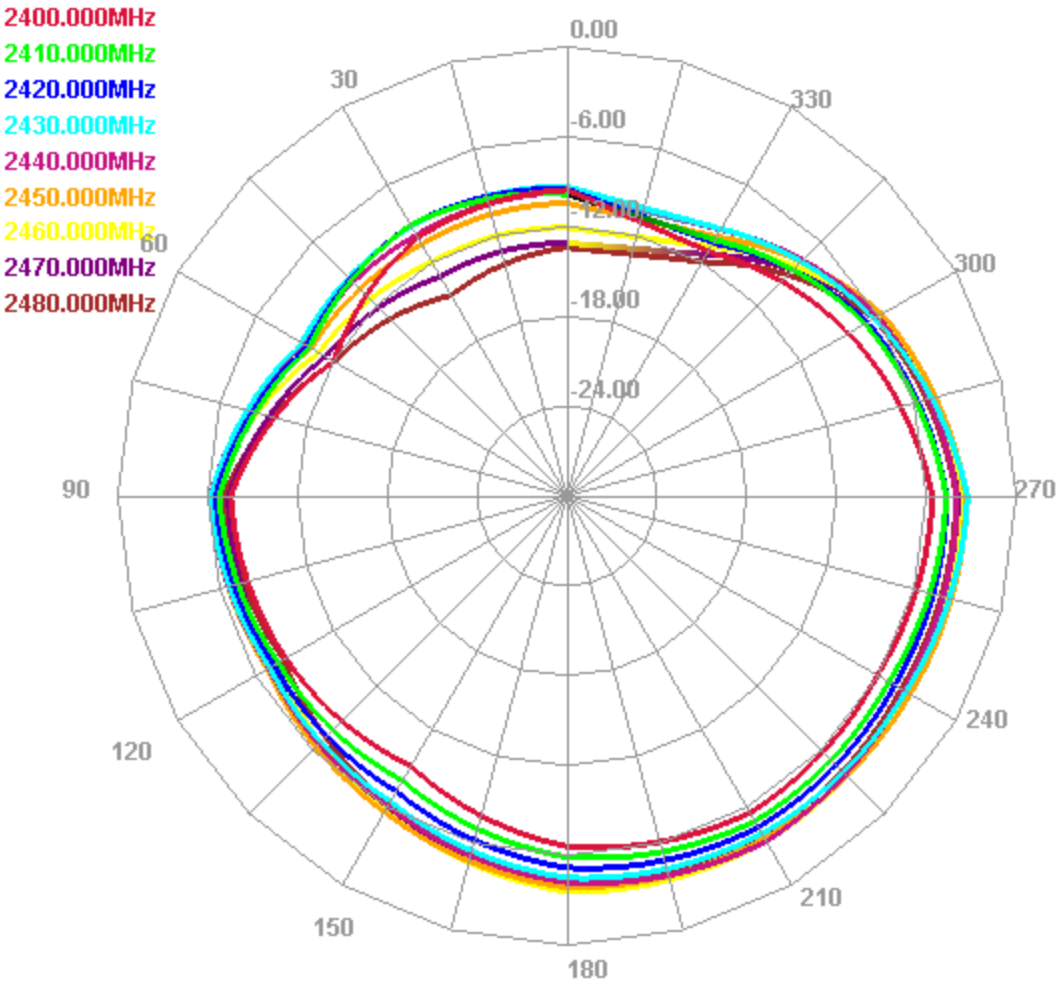
| Freq (MHz) | Effi (%) | Effi (dB) | Gain (dBi) |
|---------------|-------------|--------------|---------------|
| 2400 | 20.18 | -6.95 | -2.27 |
| 2410 | 22.73 | -6.43 | -1.8 |
| 2420 | 23.61 | -6.27 | -1.72 |
| 2430 | 25.19 | -5.99 | -1.56 |
| 2440 | 24.57 | -6.1 | -1.68 |
| 2450 | 24.98 | -6.02 | -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



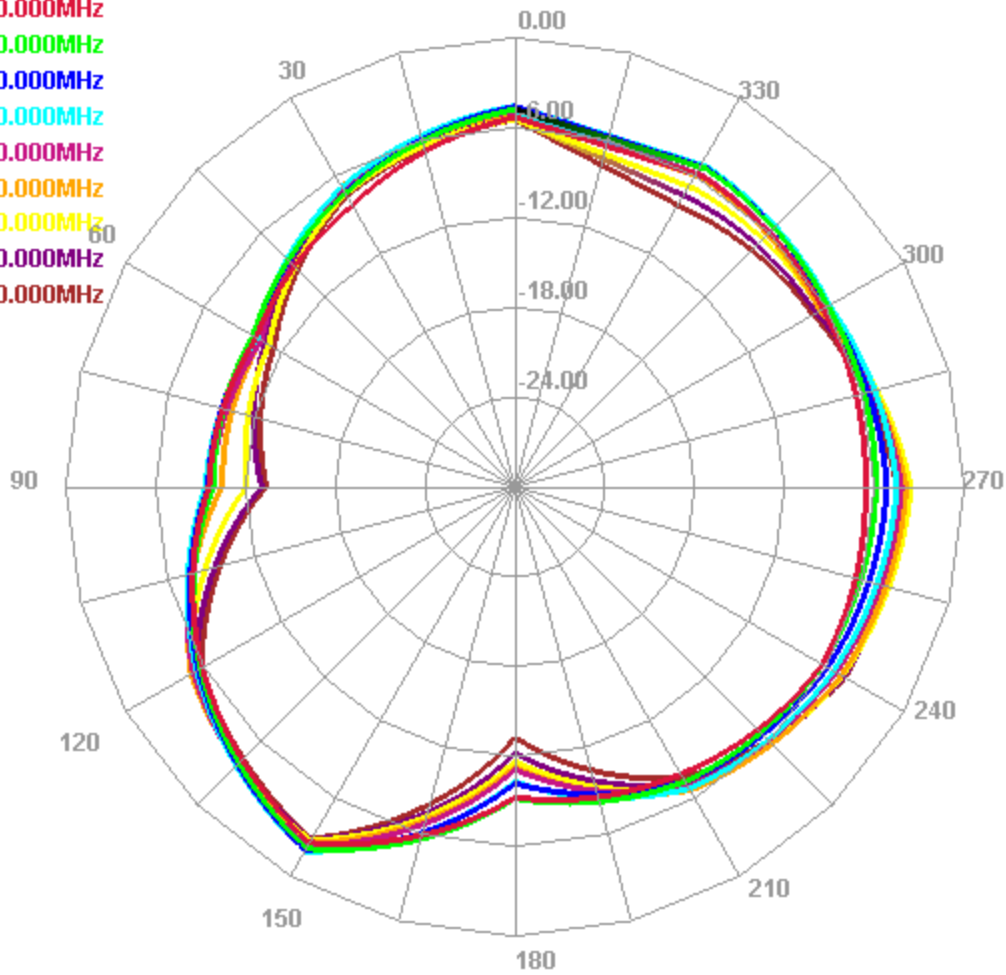
2.3 Radiation pattern

Horizontal



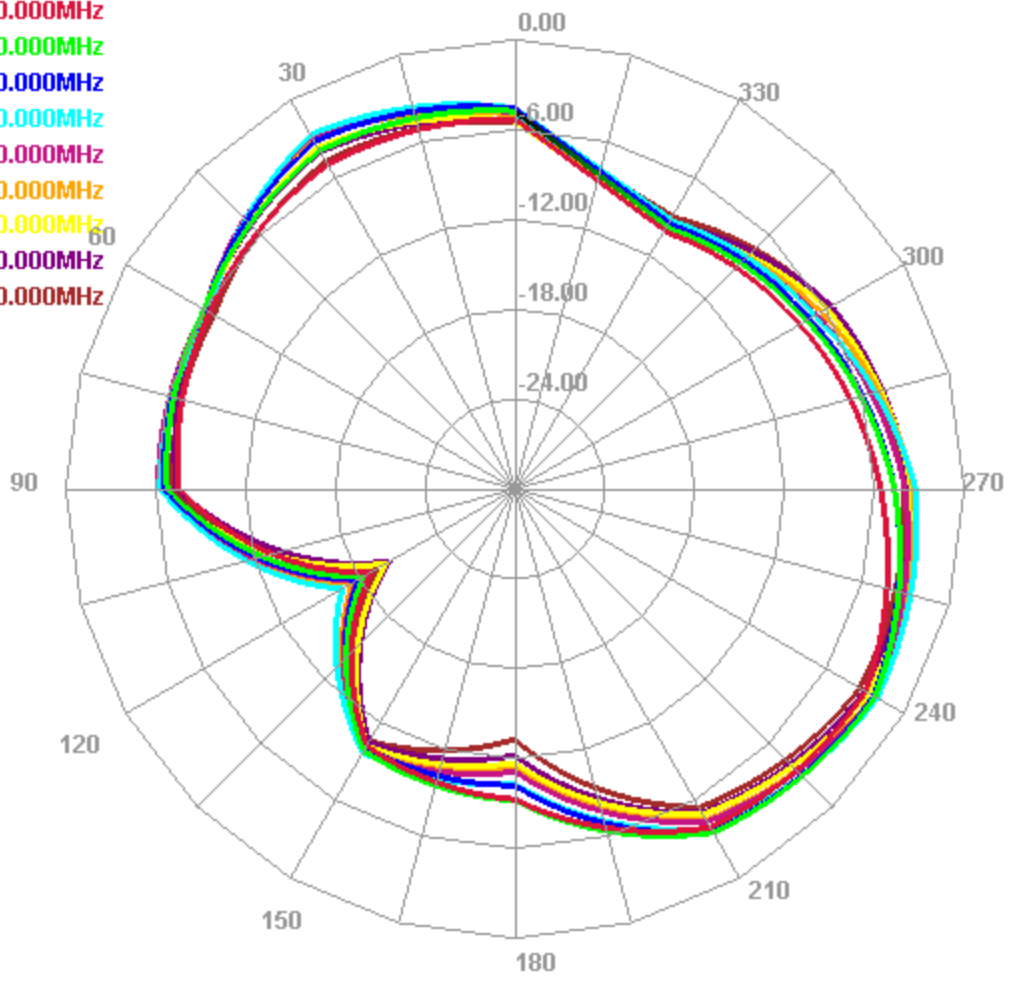
E1 Face

- 2400.000MHz
- 2410.000MHz
- 2420.000MHz
- 2430.000MHz
- 2440.000MHz
- 2450.000MHz
- 2460.000MHz
- 2470.000MHz
- 2480.000MHz



E2 Face

- 2400.000MHz
- 2410.000MHz
- 2420.000MHz
- 2430.000MHz
- 2440.000MHz
- 2450.000MHz
- 2460.000MHz
- 2470.000MHz
- 2480.000MHz



3. 1、OTA test data

| band | channel | TRP (dBm) | TIS (dBm) |
|--------------------------------|---------|-----------|-----------|
| Bluetooth BR (L) 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) 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) 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) 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 |