

## HSB5181 Antenna Specifications-BT

2025/3/11

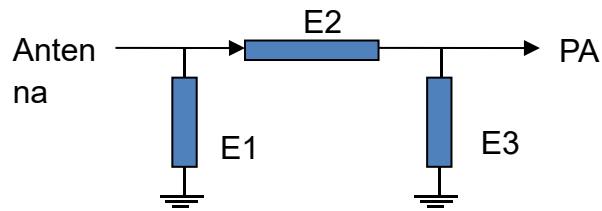
manufacturer Shenzhen World Elite Electronic CO.,LTD

ADD 5th Floor, Xiangyu 'er Comprehensive Building, No. 8, Longsheng Road, Longgang Sub-district, Longgang District, Shenzhen City

| antenna | frequency    | type        | performance requirement |
|---------|--------------|-------------|-------------------------|
| BT      | 2400-2480MHz | PCB antenna |                         |

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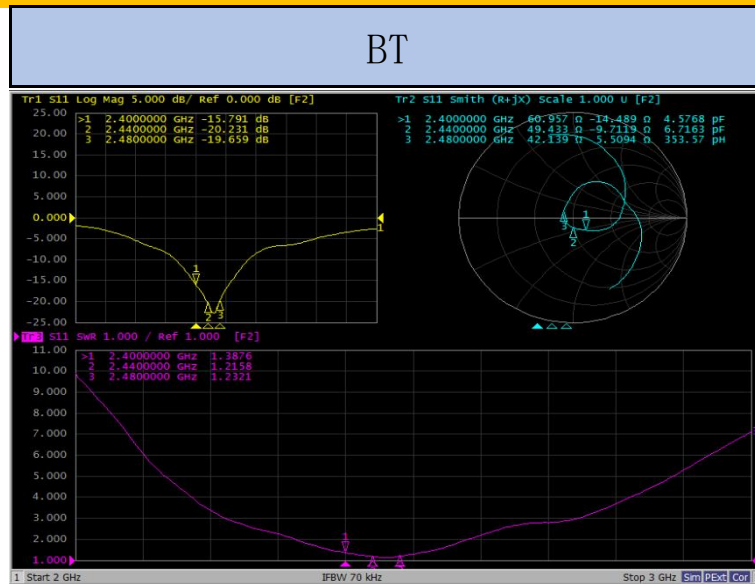
## Antenna end matching circuit



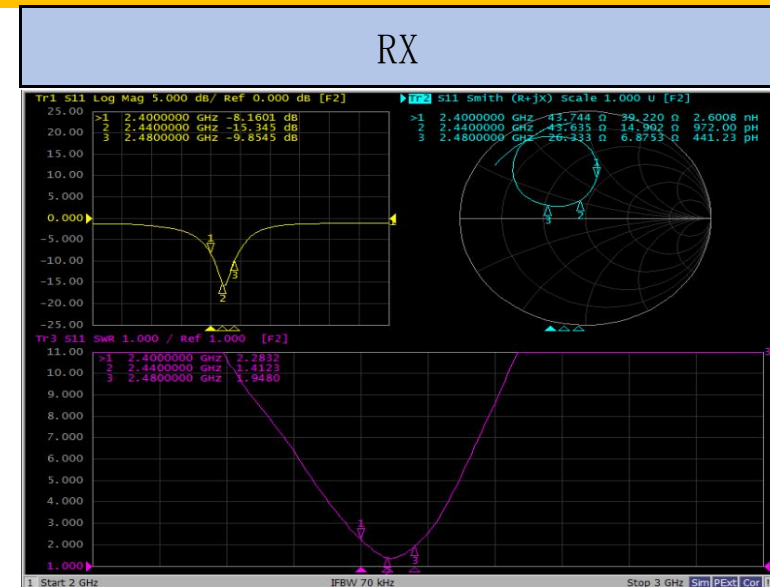
| BT       |       |
|----------|-------|
| Element  |       |
| E1(0201) |       |
| E2(0201) | 1.8nH |
| E3(0201) | 1.0pF |

| RX       |     |
|----------|-----|
| Element  |     |
| E1(0201) | 原匹配 |
| E2(0201) | 原匹配 |
| E3(0201) | 原匹配 |

## Passive S11 parameter test of antenna



| Freq (MHz) | 2400   | 2440   | 2480   |
|------------|--------|--------|--------|
| SWR        | 1.39   | 1.22   | 1.23   |
| Log Mag    | -15.79 | -20.23 | -19.66 |



| Freq (MHz) | 2400  | 2440   | 2480  |
|------------|-------|--------|-------|
| SWR        | 2.28  | 1.41   | 1.95  |
| Log Mag    | -8.16 | -15.35 | -9.85 |

## Passive efficiency and gain testing of antennas

| BT              |            |                |                 |
|-----------------|------------|----------------|-----------------|
| Frequency (MHz) | Gain (dBi) | Efficiency (%) | Efficiency (dB) |
| 2400            | 3.17       | 41.68          | -3.80           |
| 2410            | 3.26       | 41.74          | -3.79           |
| 2420            | 3.27       | 41.39          | -3.83           |
| 2430            | 3.28       | 41.23          | -3.85           |
| 2440            | 3.07       | 39.64          | -4.02           |
| 2450            | 2.99       | 39.78          | -4.00           |
| 2460            | 2.87       | 40.85          | -3.89           |
| 2470            | 2.70       | 41.80          | -3.79           |
| 2480            | 2.62       | 42.48          | -3.72           |
| 2490            | 2.37       | 42.97          | -3.67           |
| 2500            | 2.00       | 43.22          | -3.64           |

| RX              |            |                |                 |
|-----------------|------------|----------------|-----------------|
| Frequency (MHz) | Gain (dBi) | Efficiency (%) | Efficiency (dB) |
| 2400            | 1.63       | 38.66          | -4.13           |
| 2410            | 1.80       | 40.59          | -3.92           |
| 2420            | 1.91       | 42.05          | -3.76           |
| 2430            | 1.89       | 43.17          | -3.65           |
| 2440            | 1.91       | 43.81          | -3.58           |
| 2450            | 2.21       | 44.69          | -3.50           |
| 2460            | 2.23       | 44.19          | -3.55           |
| 2470            | 2.29       | 43.66          | -3.60           |
| 2480            | 2.63       | 43.37          | -3.63           |
| 2490            | 2.78       | 42.99          | -3.67           |
| 2500            | 2.48       | 40.95          | -3.88           |

Passive radiation pattern of the antenna



Antenna size picture (mm) :

