

## SB2305 Antenna test report\_V2

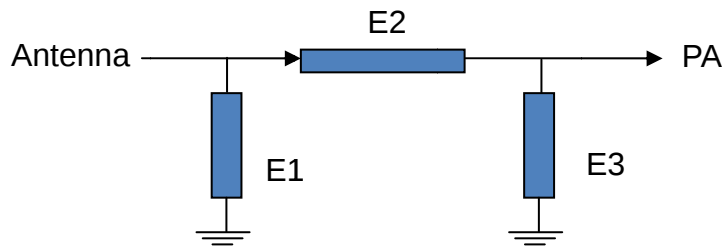
Date: 2024/9/30

Purpose of this report: Test and verify antenna performance

Conclusions of this report: Antenna performance test OK, VSWR less than 2

| Type | Band           | Material | Performance requirement                   |
|------|----------------|----------|-------------------------------------------|
| BT   | 2400-2483.5MHz | FPC      | According to the customer's requirements. |
| WIFI | 2400-2483.5MHz | FPC      |                                           |
|      | 5150-5850MHz   | FPC      |                                           |

### 1. Antenna circuit matching



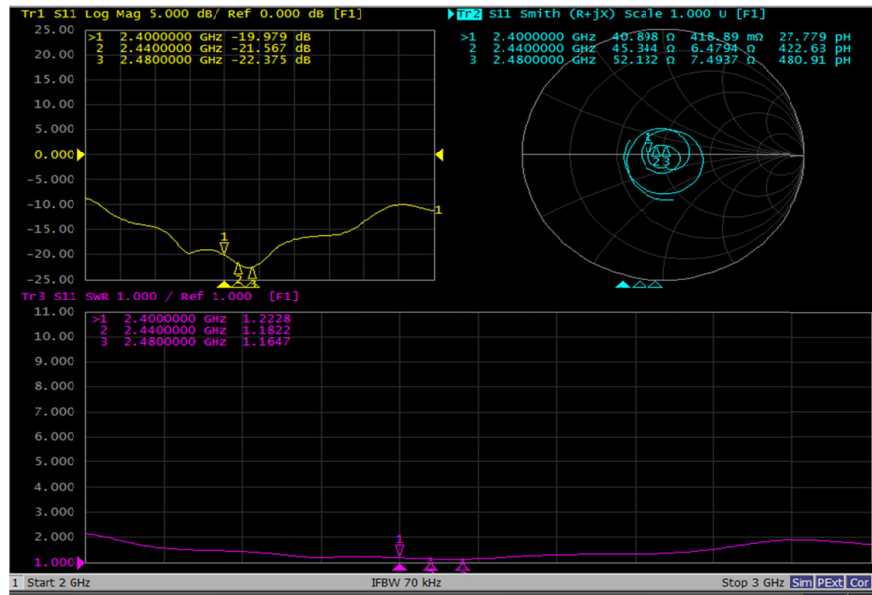
| BT       |    |
|----------|----|
| Element  |    |
| E1(0402) | NG |
| E2(0402) | 0R |
| E3(0402) | NG |

| WIFI2.4  |    |
|----------|----|
| Element  |    |
| E1(0403) | NG |
| E2(0403) | 0R |
| E3(0403) | NG |

| WIFI5.8  |    |
|----------|----|
| Element  |    |
| E1(0403) | NG |
| E2(0403) | 0R |
| E3(0403) | NG |

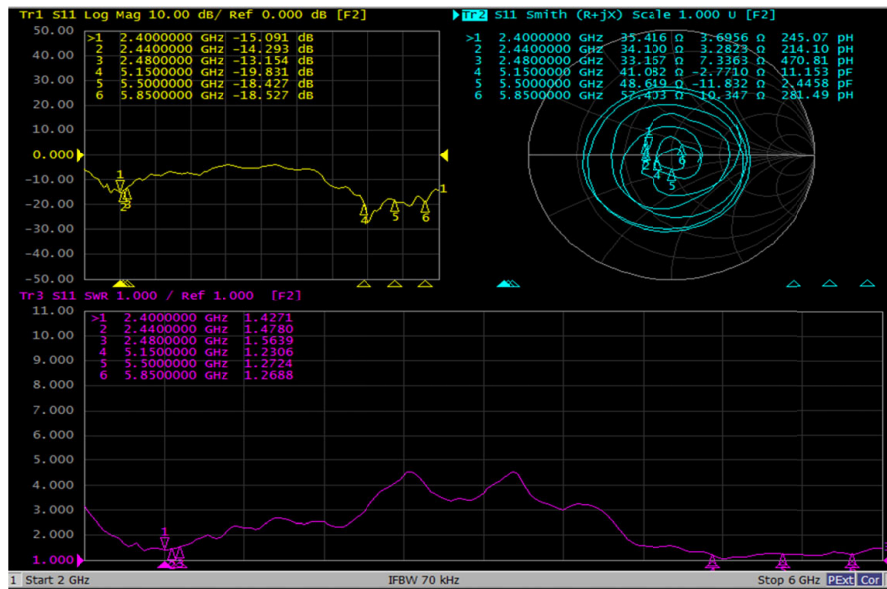
## 2. Antenna passive S11 parameter

BT



|            |        |        |        |
|------------|--------|--------|--------|
| Freq (MHz) | 2400   | 2440   | 2480   |
| SWR        | 1.22   | 1.18   | 1.16   |
| Log Mag    | -19.97 | -21.56 | -22.37 |

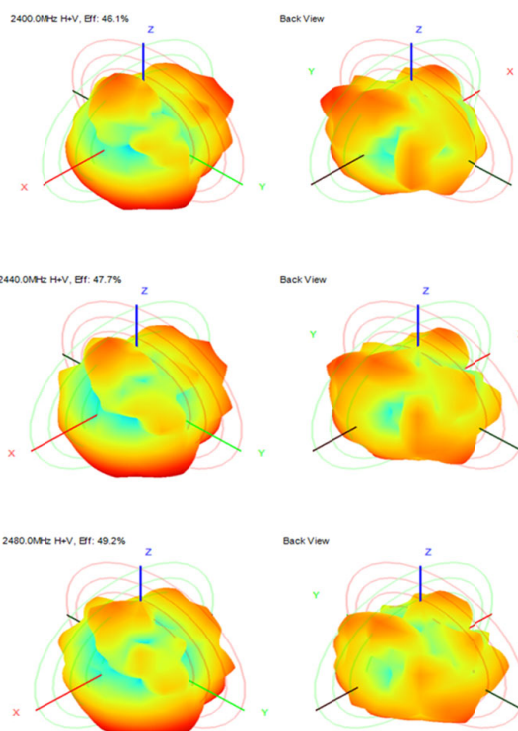
WIFI



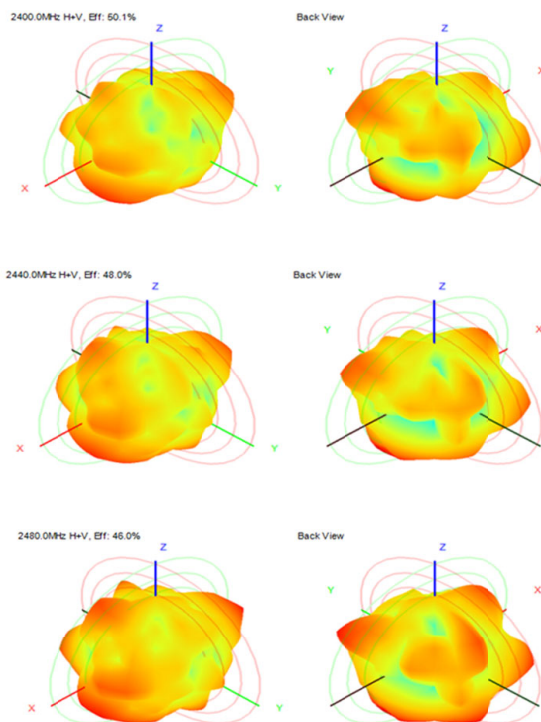
|            |        |        |        |        |        |        |
|------------|--------|--------|--------|--------|--------|--------|
| Freq (MHz) | 2400   | 2440   | 2480   | 5150   | 5550   | 5850   |
| SWR        | 1.42   | 1.47   | 1.56   | 1.23   | 1.27   | 1.26   |
| Log Mag    | -15.09 | -14.29 | -13.15 | -19.83 | -18.42 | -18.52 |

### 3. Antenna passive efficiency

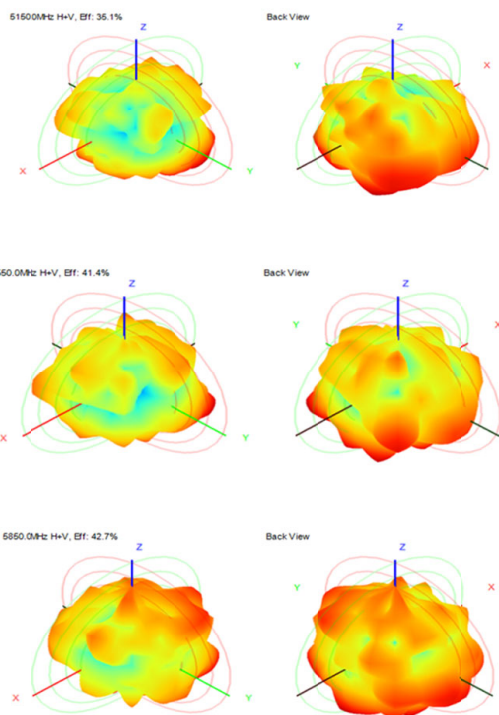
| BT              |            |                |
|-----------------|------------|----------------|
| Frequency (MHz) | Gain (dBi) | Efficiency (%) |
| 2400            | 2.79       | 46.10%         |
| 2410            | 2.88       | 47.00%         |
| 2420            | 2.93       | 47.40%         |
| 2430            | 3.05       | 48.10%         |
| 2440            | 2.88       | 47.70%         |
| 2450            | 2.91       | 48.10%         |
| 2460            | 3.19       | 49.50%         |
| 2470            | 3.27       | 50.00%         |
| 2480            | 3.25       | 49.20%         |
| 2490            | 3.50       | 50.20%         |
| 2500            | 3.66       | 50.50%         |



| WIFI 2.4GHz     |            |                |
|-----------------|------------|----------------|
| Frequency (MHz) | Gain (dBi) | Efficiency (%) |
| 2400            | 4.58       | 50.10%         |
| 2410            | 4.49       | 50.10%         |
| 2420            | 4.46       | 50.30%         |
| 2430            | 4.41       | 50.20%         |
| 2440            | 4.20       | 48.00%         |
| 2450            | 4.05       | 48.10%         |
| 2460            | 3.90       | 48.50%         |
| 2470            | 3.59       | 47.50%         |
| 2480            | 3.23       | 46.00%         |
| 2490            | 2.94       | 45.60%         |
| 2500            | 2.72       | 45.30%         |



| WIFI 5.8GHz     |            |                |
|-----------------|------------|----------------|
| Frequency (MHz) | Gain (dBi) | Efficiency (%) |
| 5150            | 5.17       | 35.10%         |
| 5200            | 5.54       | 36.70%         |
| 5250            | 5.10       | 37.80%         |
| 5300            | 5.15       | 37.20%         |
| 5350            | 5.91       | 40.50%         |
| 5400            | 6.18       | 40.70%         |
| 5450            | 5.94       | 40.50%         |
| 5500            | 6.31       | 41.90%         |
| 5550            | 6.52       | 41.40%         |
| 5600            | 6.04       | 40.60%         |
| 5650            | 5.95       | 41.50%         |
| 5700            | 5.70       | 42.70%         |
| 5750            | 5.40       | 43.00%         |
| 5800            | 4.60       | 42.50%         |
| 5850            | 5.60       | 42.70%         |



#### 4. Reference pictures

Isolation to antenna name number

