



## Specification Approval

|                                                                                      |                |
|--------------------------------------------------------------------------------------|----------------|
| <b>Device name</b>                                                                   | BT antenna     |
|  |                |
| <b>Model name</b>                                                                    | SMI-A048       |
| <b>Company Code</b>                                                                  | -              |
| <b>Date</b>                                                                          | 2020.12.28     |
| <b>Company name</b>                                                                  | ATsens Co.,Ltd |

|                 |                                                                   |
|-----------------|-------------------------------------------------------------------|
| <b>Supplier</b> | SaemON Technology Co.,Ltd                                         |
| <b>Address</b>  | Geumo-ro 604 beon-gil 7, Siheung-si,<br>Gyeonggi-do, 14927, Korea |
| <b>Tel No.</b>  | +82-70-7703-7333                                                  |
| <b>Fax No.</b>  | +82-321-624-0499                                                  |

|                                                                                   |                  |                           |                          |                 |       |
|-----------------------------------------------------------------------------------|------------------|---------------------------|--------------------------|-----------------|-------|
|  | Revision<br>Date | Document<br>series        | Device name / Model name | Revision<br>No. | Page  |
|                                                                                   | 2020-06-10       | Specification<br>approval | BT antenna<br>SMI-A048   | 1.0             | 1 / 4 |

## 1. Technology subject

### 1.1 Electrical specification

|                     |                        |
|---------------------|------------------------|
| Frequency range     | 2.4~2.5 GHz            |
| Gain(max)           | -1.0±1(dBi)            |
| Standing wave ratio | 3.0: below 1 (@2.4GHz) |
| Rated impedance     | 50Ω                    |
| Partiality          | Linear                 |

### 1.2 Mechanical specification

|                    |             |
|--------------------|-------------|
| Size               | 10.88*21.54 |
| Operation temp     | -40℃ ~ +65℃ |
| Operation humidity | 0 ~ 95%     |

### 1.3 Packing specification

Product packaging is packaged according to the characteristics of the product, and then collectively packaged so that there is no flow in an appropriate box.

Product packaging is subject to our regulations unless otherwise requested by the customer.

|                                                                                   |                  |                            |                          |                  |       |
|-----------------------------------------------------------------------------------|------------------|----------------------------|--------------------------|------------------|-------|
|  | Revision<br>Date | Document<br>series         | Device name / Model name | Revisi<br>on No. | Page  |
|                                                                                   | 2020-06-10       | Specificatio<br>n approval | BT antenna<br>SMI-A048   | 1.0              | 2 / 4 |

## 2. Environment requirements

### 2.1 Use temperature test

Place the antenna in a chamber set to 0°C. Take out the antenna after 1 hour and measure VSWR immediately. Place the antenna in a chamber set to +50°C. Take out the antenna after 1 hour and measure VSWR immediately. Visual defects should not occur, and electrical requirements should be satisfied during measurement after testing.

### 2.2 High humidity storage test

Put the antenna in the chamber. Cycle the temperature as follows. The temperature was maintained at 0° C. for 2 hours, increased to +50° C. for 2 hours, maintained at +50° C. for 2 hours, and then decreased to 0° C. for 2 hours. Repeat this process 10 times and finish at room temperature 20°C. Visual defects should not occur and electrical requirements should be satisfied during measurement

### 2.3 Humidity test

The antenna is placed in a temperature chamber of 80% humidity and +50°C for 24 hours. Measure at room temperature after 24 hours after taking the antenna out of the chamber. Apparently no defects should occur and electrical requirements should be satisfied during measurement.

### 2.4 How to deal with defective parts

In case of defects in parts, sorting, reworking, or 1:1 replacement according to customer's requirements.

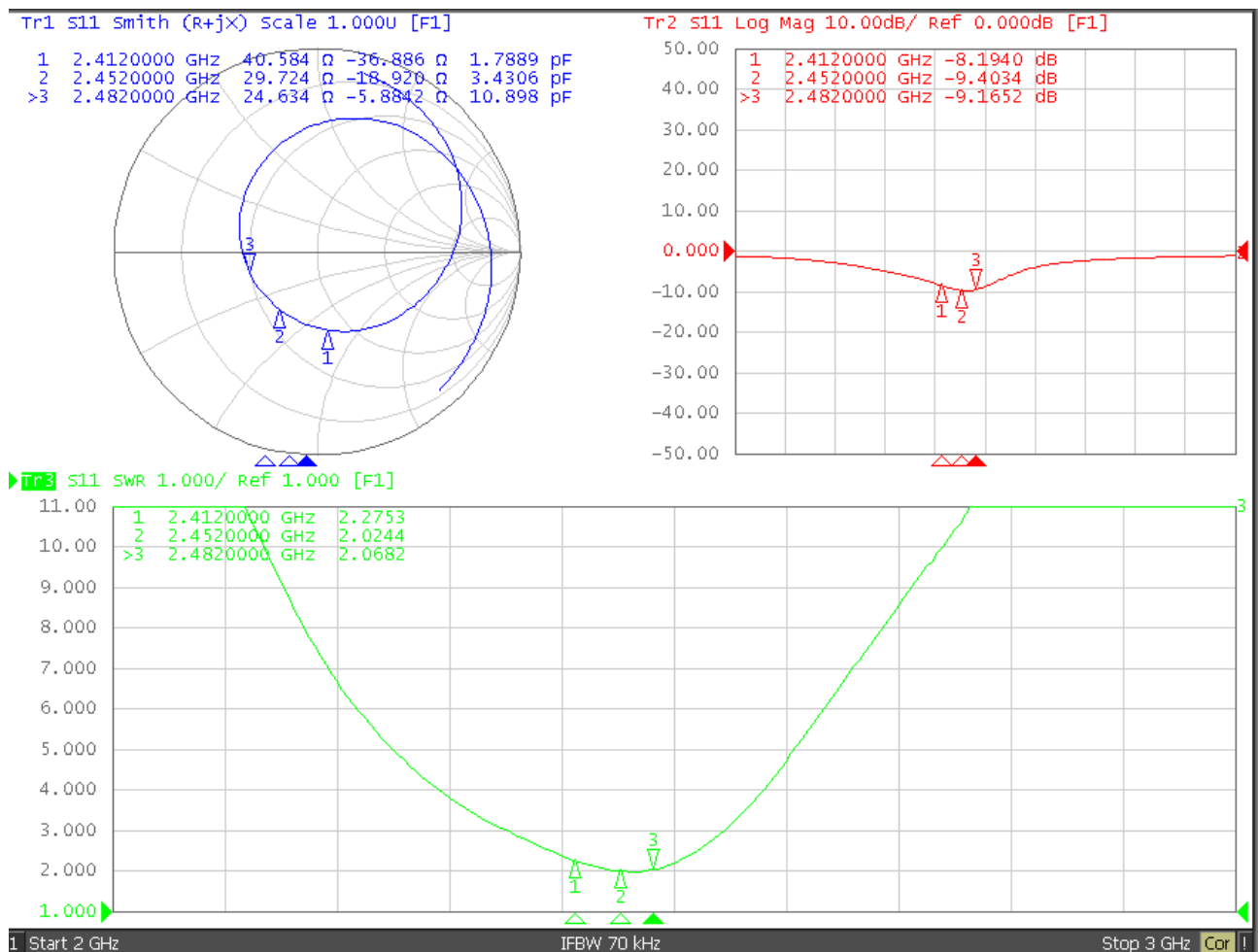
### 2.5 Level of reliability assurance

Parts Warranty Period: At least 1year warranty

|                                                                                   |                  |                            |                          |                  |       |
|-----------------------------------------------------------------------------------|------------------|----------------------------|--------------------------|------------------|-------|
|  | Revision<br>Date | Document<br>series         | Device name / Model name | Revisi<br>on No. | Page  |
|                                                                                   | 2020-06-10       | Specificatio<br>n approval | BT antenna<br>SMI-A048   | 1.0              | 3 / 4 |

### 3. VSWR (Agilent E5071B Network Analyzer)

VSWR proceeds without a cover due to the characteristic deviation caused by the clearance between the measuring jig and the cover, and the frequency shift accordingly should be considered.



|                                                                                   |                  |                            |                          |                  |       |
|-----------------------------------------------------------------------------------|------------------|----------------------------|--------------------------|------------------|-------|
|  | Revision<br>Date | Document<br>series         | Device name / Model name | Revisi<br>on No. | Page  |
|                                                                                   | 2020-06-10       | Specificatio<br>n approval | BT antenna<br>SMI-A048   | 1.0              | 4 / 4 |

## 4. GAIN Pattern (MTC Chamber)

### ● Radiation Pattern

