

[illegible]

# WAG-M-LA-00-046-1 Specification

## 1. Explanation of part number :

WAG    M    LA    00    046  
(1)        (2)        (3)        (4)        (5)

(1) Product Type: Wireless Antenna

(2) Material: Copper-Nickel-Zinc Alloy

(3) Frequency : 2400-2500 MHz

(4) Coaxial Cable Type : 00

(5) Suffix : 046

## 2. Storage Condition:

Temperature                      -40 to +85°C  
Humidity                              20 to 65 %RH

Recommended storage condition:

Store in room condition as listed below: Temperature -20°C~+45°C, Humidity 80% Max.

## 3. Operating Condition:

Temperature                      -40 to +85°C  
Humidity                              10 to 85 %RH

## 4. Electrical Specification :

Those specifications were specially defined for WLAN model, and all characteristics were measured in the customer's machine. .

### 4-1. Frequency Band:

| Frequency Band | MHz       |
|----------------|-----------|
| BT             | 2400-2500 |

### 4-2. Impedance

50 ohm nominal

UNLESS OTHER SPECIFIED TOLERANCES ON :

X = ±                      X.X = ±                      X.XX = ±

ANGLES = ±                      HOLEDIA = ±



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SCALE :                      UNIT : mm

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DESIGNED BY: Anduin\_Zhang                      APPROVED BY : Kevin\_Xu

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### 4-3. Matching circuit

None

### 4-4. VSWR

|                         |  |            |
|-------------------------|--|------------|
| Frequency Band          | 2400   | 2500       |
| 4-4-1. Typical Value:   | $\leq 2.5$   | $\leq 2.5$ |
| 4-4-2. Measuring Method | 1. A 50 $\Omega$ coaxial cable is connected to the pcb antenna. Then this cable is connected to a network analyzer to measure the VSWR.<br>2. Keeping this jig away from metal at least 20 cm. |            |
| 4-4-3. Picture          |   |            |

UNLESS OTHER SPECIFIED TOLERANCES ON :

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ANGLES =  $\pm$                       HOLEDIA =  $\pm$

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4-5. Efficiency and Gain

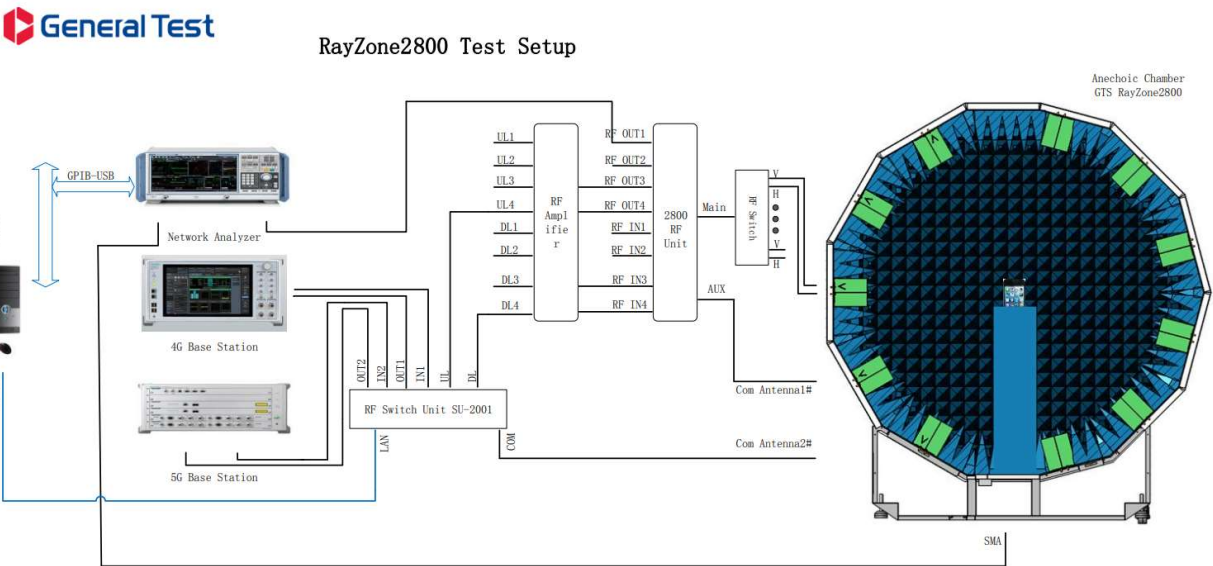
4-5.1 Measuring equipment

Measuring instrument:

Microwave chamber, Network analyzer, and standard antenna.


Instructions for microwave chamber:

This is a microwave chamber set up by our company in Suzhou, This microwave chamber belongs to a set of near-field measurement system. The size of the chamber is 2.95M \* 3M \* 3M.



The microwave chamber, shown above, using a unique multi-probe technique, The aim is to reduce the measurement time of the whole measurement system. The measuring system use multi-probe array instead of single probe to scan the measured surface of the antenna under test, a single probe has the capability of measuring orthogonal polarization amplitude and phase, it also has a wide frequency range, the corresponding multi-probe array is switched quickly by electronic switch, greatly improved the measurement efficiency.

The probe model: MA186960A(400MHz~7.5GHz) . Because of its capability of broadband frequency and the orthogonal polarization function, the number of probes needed to be equipped with the system is reduced; The small size of the probe reduces the coupling between the probes, make it is possible to insert probes of other frequency bands between probes, then a single system can support a wider frequency range.

|  |                        |   |           |
|--|------------------------|---|-----------|
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#### 4-5.2 Efficiency and Gain

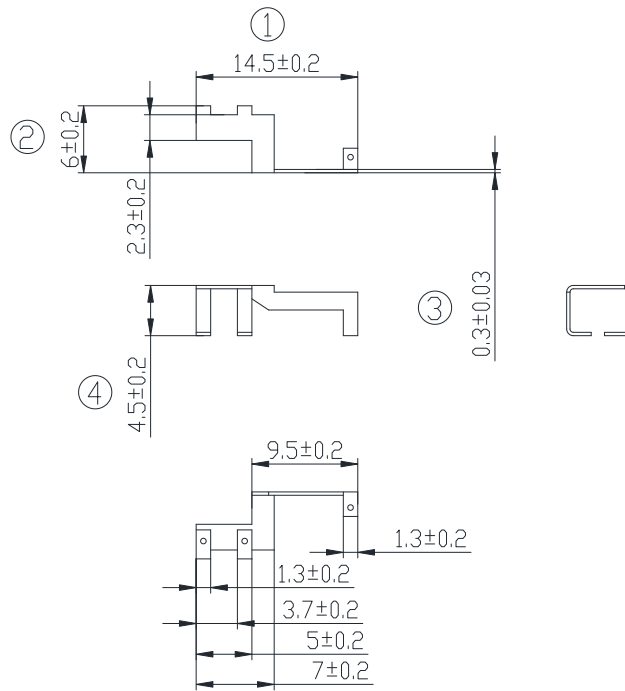
BT

| Frequency (MHz) | Efficiency (%) | Gain (dBi) |
|-----------------|----------------|------------|
| 2400            | 14.34          | -4.28      |
| 2410            | 15.57          | -3.68      |
| 2420            | 15.65          | -3.60      |
| 2430            | 16.62          | -3.70      |
| 2440            | 18.92          | -3.60      |
| 2450            | 19.37          | -3.49      |
| 2460            | 18.75          | -3.61      |
| 2470            | 17.39          | -3.86      |
| 2480            | 15.52          | -4.44      |
| 2490            | 13.66          | -4.97      |
| 2500            | 12.12          | -5.54      |

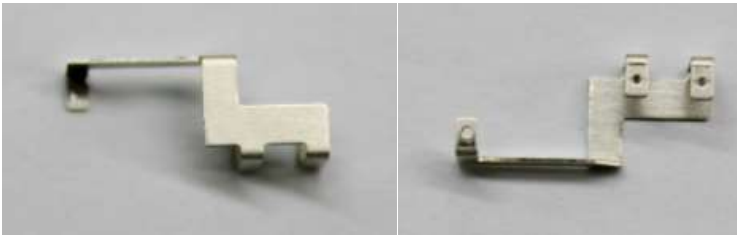
|                     |       |       |
|---------------------|-------|-------|
| Frequency Band(MHz) | 2400  | 2500  |
| Efficiency(%)       | ≥10   | ≥10   |
| Gain(dBi)           | ≤-3.5 | ≤-4.5 |


#### 5. Mechanical Specification:

|  |                        |   |               |           |
|--|------------------------|---|---------------|-----------|
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## 6. Assembly precautions:



|   |  |   |                            |   |
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