

# WAG-F-LA-00-209 Specification

## 1. Explanation of part number :

WAG    F    LA    00    209  
 (1)        (2)        (3)        (4)        (5)

- (1) Product Type: Wireless Antenna
- (2) Material: FPC
- (3) Frequency :2400-2500 MHz
- (4) Coaxial Cable Type : 00
- (5) Suffix : 009

## 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
Bluetooth 2.4-2.5G	2400-2500MHz

### 4-2. Impedance

50 ohm nominal

### 4-3. Matching circuit

None

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#### 4-4. VSWR

Frequency Band	2400	2500
4-4-1. Typical Value:	$\leq 5.0$	$\leq 5.0$

4-4-2. Measuring Method	<ol style="list-style-type: none"> <li>1. A 50Ω coaxial cable is connected to the fpcb antenna. Then this cable is connected to a network analyzer to measure the VSWR.</li> <li>2. Keeping this jig away from metal at least 20 cm.</li> </ol>
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4-4-3. Picture	
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## 4-5. Efficiency and Gain

### 4-5.1 Measuring equipment

#### Measuring instrument:

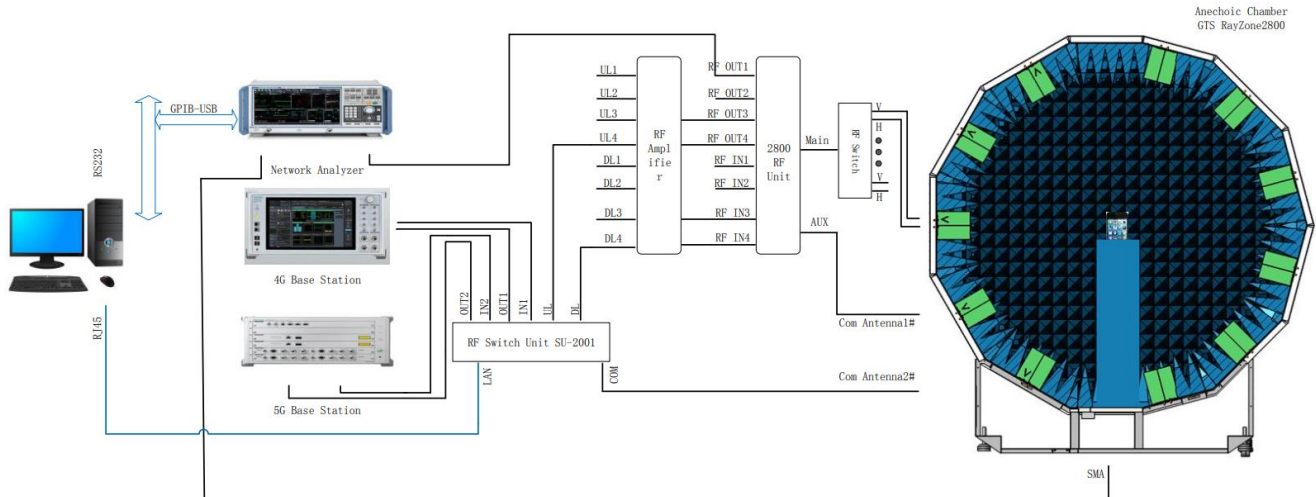
Microwave chamber, Network analyzer, and standard antenna.

#### 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.



RayZone2800 Test Setup



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

Bluetooth 2.4-2.5G

FS R			
Frequency (MHz)	Efficiency (dB)	Efficiency (%)	Peakgain (dBi)
2400	-9.3	11.9	-6.0
2410	-8.7	13.4	-6.2
2420	-8.4	14.6	-5.7
2430	-7.9	16.0	-5.1
2440	-7.7	16.9	-4.2
2450	-7.6	17.5	-3.7
2460	-8.0	15.9	-4.0
2470	-8.7	13.5	-4.4
2480	-9.7	10.8	-4.3
2490	-9.9	10.2	-4.8
2500	-10.1	9.8	-6.5

Frequency Band(MHz)	2400	2500
Efficiency(dB)	≥-10.5	≥-10.5
Peak Gain(dBi)	≤3.0	≤3.0

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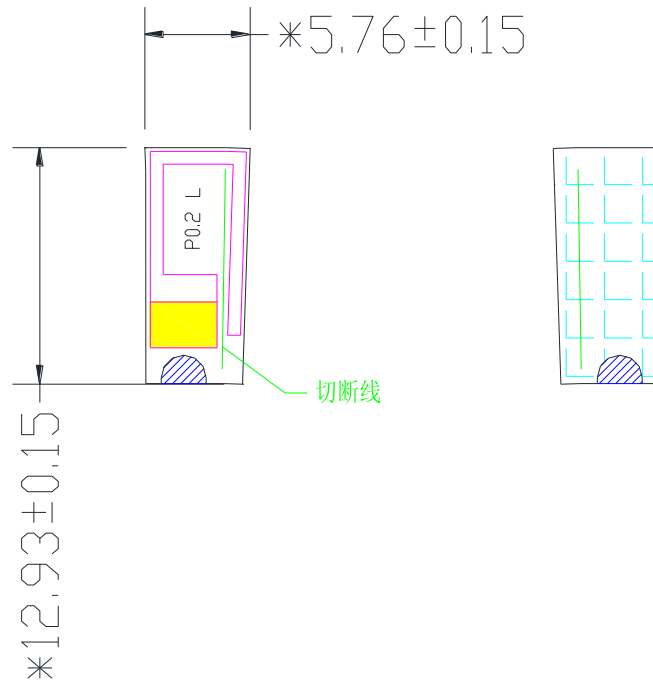
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## 5. Mechanical Specification:



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