



# WAG-B.01.L.0806 Specification

## 1. Explanation of part number :

**WAG**    -    **B**    -    **01**    -    **L**    -    **0806**  
 (1)            (2)            (3)            (4)            (5)

- (1) Product Type : Wireless Antenna
- (2) Material : FPC
- (3) Frequency : 699-960Mhz, 1710-2690 Mhz
- (4) Coaxial Cable Type : 00
- (5) Suffix : 088

## 2. Electrical Specification :

### 2-1. Frequency Band:

| Frequency Band | MHz  |
|----------------|--|
| <b>GSM</b>     | <b>1575Mhz,2400-2500Mhz, 5200-5800 Mhz</b> |

UNLESS OTHER SPECIFIED TOLERANCES ON:

X=±2            X.X=±0.1    X.XX=±0.05

ANGLES=±

HOLEDIA=±

**NHAIT** 浙江海通通讯电子股份有限公司

SCALE:

UNIT: mm

DRAWN BY: 张有远

CHECKED BY: 蒋代勇

DESIGNED BY: 蒋代勇

APPROVED BY: 周振邦

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## 2-2. Impedance

50 ohm nominal

## 2-3 VSWR:

| Frequency Band         | 1575  | 2400  | 2500  | 5200 | 5800 |  |
|------------------------|---|-------|-------|------|------|--|
| 2-3-1. Typical Value:  | -13.2   | -13.4 | -13.1 | -5.7 | -8.6 |  |
| 2-3-2 Measuring Method | 1. A 50 $\Omega$ coaxial cable is connected to the fpcb 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. |       |       |      |      |  |

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ANGLES= $\pm$

HOLEDIA= $\pm$

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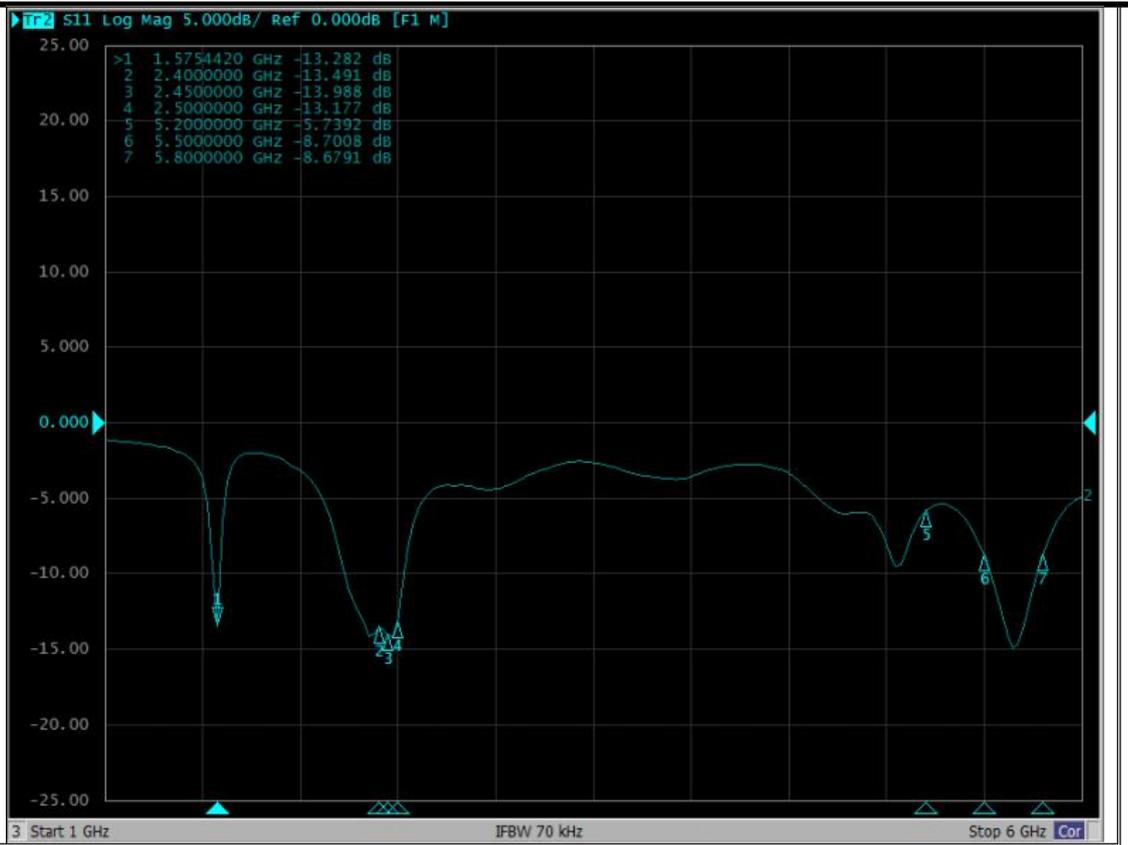
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2-3-3Picture

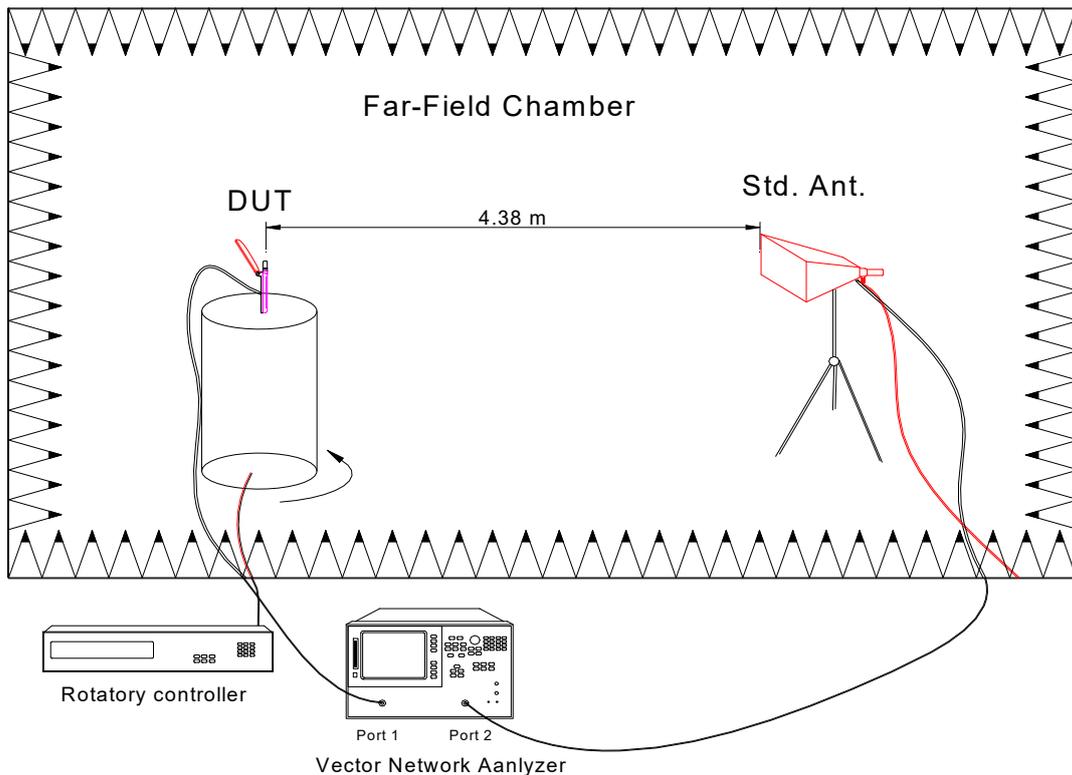


## 2-4. Measure and Chamber

### 2-4-1 Measure method

1. Using a low loss coaxial cable to link a standard handset jig
2. Fixed this handset jig on chamber's rotator plane
3. Linking jig into network analyzer port and using a probing horn antenna to collect data.
4. Using another standard gain horn antenna to calibrated those data

### 2-4-2 Chamber definition



1. An anechoic chamber (8mx4mx3.5m) which satisfied far-field condition was applied to avoid multi-path effect
2. The quiet room region is 40cmx40cmx40cm at the center of rotator
3. The distance between DUT and standard antenna is 4.38 m
4. Probing antenna (9120D horn antenna) and standard gain horn antenna (BBHA9120 LPF 700MHz ~6GHz)

### 2-4-3 Antenna OTA

#### TRP/TIS:

| Band           | Channel | TRP   | TIS    |
|----------------|---------|-------|--------|
| 802.11b<br>11M | 1       | 10.38 |        |
|                | 6       | 10.26 |        |
|                | 11      | 12.44 | -82.16 |
| 802.11a<br>6M  | 36      | 11.55 |        |
|                | 100     | 12.83 |        |
|                | 165     | 10.24 | -87.85 |

| GPS |         |
|-----|---------|
| TIS | -147.67 |
| UHS | -145.61 |
| SNR | 35.89   |

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## 2-4- Antenna Efficiency

| Frequency | Efficiency | Efficiency .<br>dB | Gain .<br>dBi |
|-----------|------------|--------------------|---------------|
|-----------|------------|--------------------|---------------|

|            |       |      |     |
|------------|-------|------|-----|
| 5100000000 | 24.2% | -6.2 | 0.4 |
| 5120000000 | 24.9% | -6.0 | 0.3 |
| 5140000000 | 26.3% | -5.8 | 0.4 |
| 5160000000 | 29.0% | -5.4 | 1.2 |
| 5180000000 | 28.8% | -5.4 | 0.5 |
| 5200000000 | 32.4% | -4.9 | 1.6 |
| 5220000000 | 33.3% | -4.8 | 1.4 |
| 5240000000 | 31.5% | -5.0 | 1.6 |
| 5260000000 | 31.3% | -5.0 | 2.0 |
| 5280000000 | 30.8% | -5.1 | 1.8 |
| 5300000000 | 29.6% | -5.3 | 1.0 |
| 5320000000 | 30.4% | -5.2 | 1.2 |
| 5340000000 | 33.2% | -4.8 | 1.0 |
| 5360000000 | 34.9% | -4.6 | 1.1 |
| 5380000000 | 35.4% | -4.5 | 1.9 |
| 5400000000 | 36.8% | -4.3 | 2.1 |
| 5420000000 | 38.3% | -4.2 | 2.4 |
| 5440000000 | 38.7% | -4.1 | 2.7 |
| 5460000000 | 37.7% | -4.2 | 2.9 |
| 5480000000 | 37.9% | -4.2 | 2.9 |
| 5500000000 | 36.9% | -4.3 | 3.0 |
| 5520000000 | 35.7% | -4.5 | 2.6 |
| 5540000000 | 34.2% | -4.7 | 2.4 |
| 5560000000 | 32.2% | -4.9 | 1.9 |
| 5580000000 | 30.8% | -5.1 | 1.9 |
| 5600000000 | 29.1% | -5.4 | 1.4 |
| 5620000000 | 28.7% | -5.4 | 1.5 |
| 5640000000 | 28.9% | -5.4 | 1.5 |
| 5660000000 | 29.7% | -5.3 | 1.8 |
| 5680000000 | 30.1% | -5.2 | 1.7 |

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ANGLES=±

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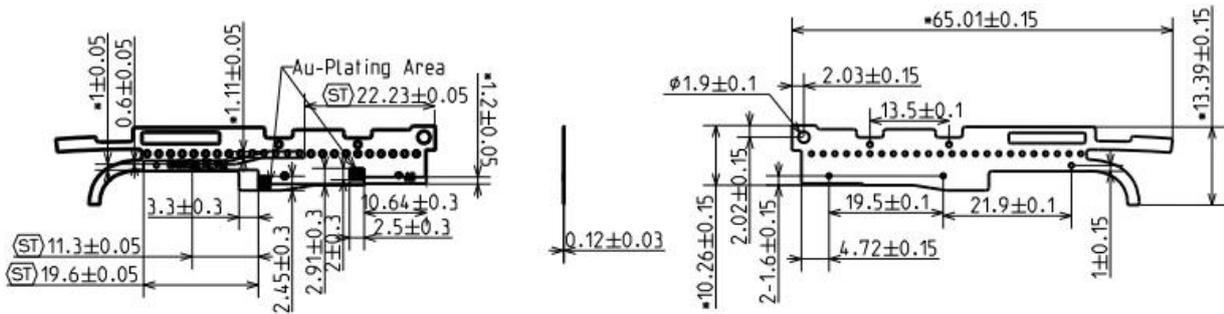
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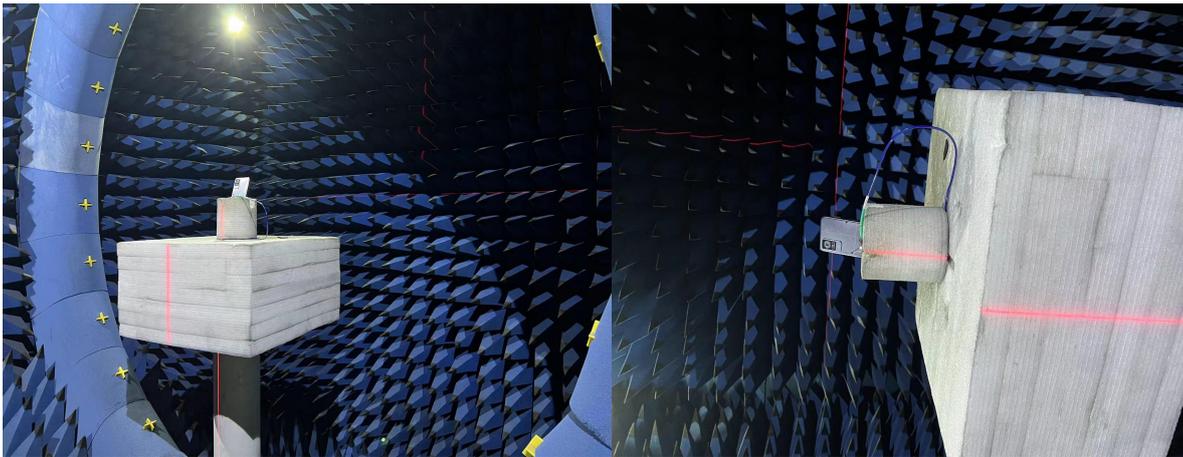
|            |       |      |     |
|------------|-------|------|-----|
| 5700000000 | 30.4% | -5.2 | 1.9 |
| 5720000000 | 31.3% | -5.0 | 1.9 |
| 5740000000 | 31.6% | -5.0 | 1.6 |
| 5760000000 | 32.0% | -4.9 | 2.2 |
| 5780000000 | 31.4% | -5.0 | 1.9 |
| 5800000000 | 31.4% | -5.0 | 1.4 |
| 5820000000 | 29.5% | -5.3 | 1.2 |
| 5840000000 | 28.8% | -5.4 | 1.1 |
| 5860000000 | 28.1% | -5.5 | 0.6 |
| 5880000000 | 27.6% | -5.6 | 0.6 |
| 5900000000 | 27.3% | -5.6 | 0.7 |

### 3. Antenna Dimensions (mm) :



### 4. Testing Environment

#### Passive Test



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ANGLES=±      HOLEDIA=±

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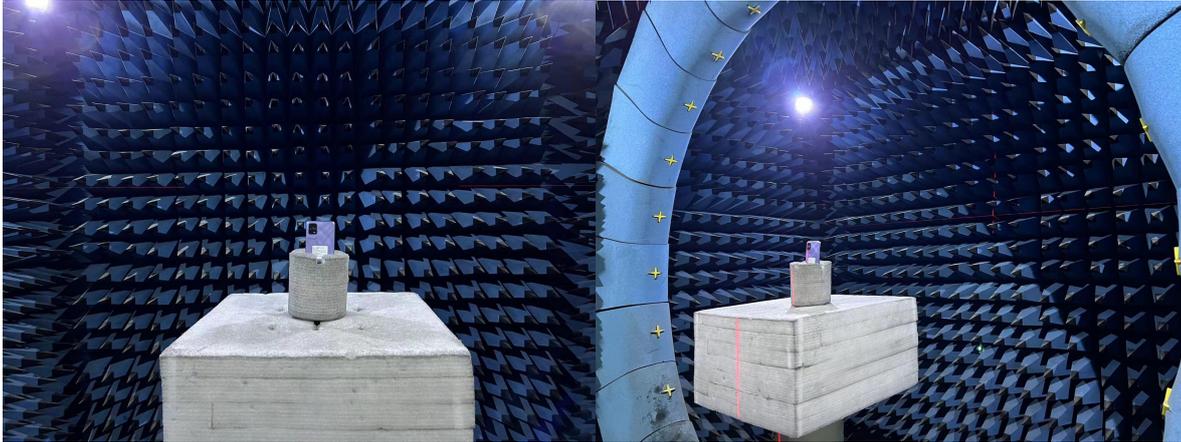
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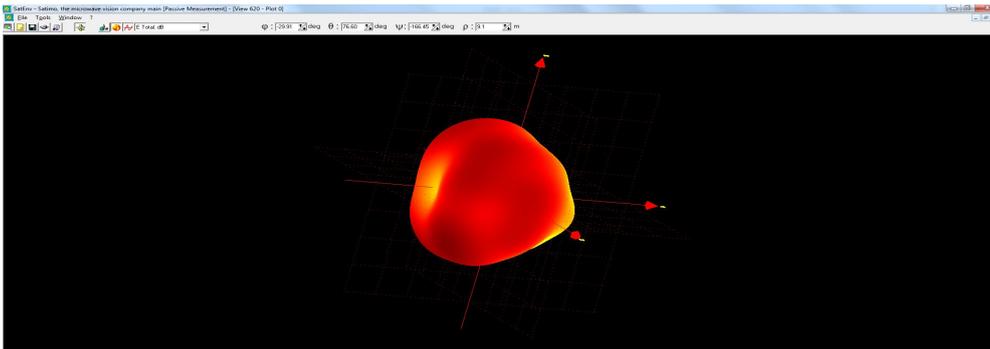
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## Active Test



### 5.3D Radiation Pattern - GPS L1



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ANGLES=±      HOLEDIA=±

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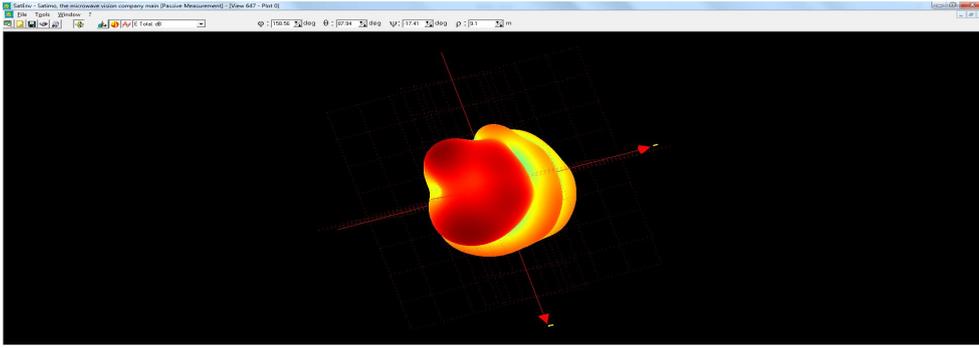
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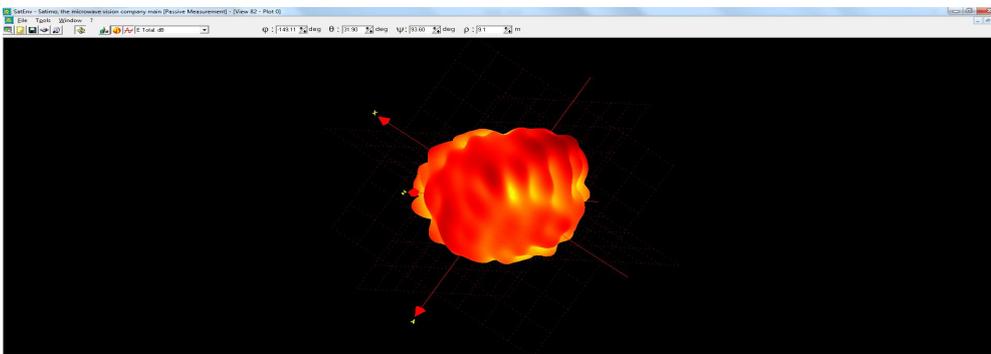
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## - WIFI 2.4G



## - WIFI 5G



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ANGLES=±      HOLEDIA=±

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