

# WA-P-LELE-04-035 Specification

## 1. Explanation of part number :

WA - P - LELE - 04 - 035  
(1) (2) (3) (4) (5)

(1) Product Type : Wireless Antenna

(2) P: PCB

(3) Frequency : 2400~2500MHz&5100~5800MHz&5925~7125MHz

(4) Coaxial Cable Type : With  $\phi$  0.81 Main Black / AUX Gray

(5) Suffix : 035

## 2. Storage Condition:

Temperature -40 to +70°C  
Humidity 20 to 65 %RH

## 3. Operating Condition:

Temperature -40 to +70°C  
Humidity 10 to 85 %RH

## 4. Electrical Specification :

*Those specifications were specially defined for LG 16Z90RS WIFI model, and all characteristics were measured under the model's handset testing jig .*

### 4-1. Frequency Band:

Frequency Band	MHz
WIFI/BT	2400~2500 & 5100~5800 & 5925~7125

UNLESS OTHER SPECIFIED TOLERANCES ON :

X = ±      X.X = ±      X.XX = ±

ANGLES = ±      HOLEDIA = ±

SCALE :      UNIT : mm

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DESIGNED BY : 许文佳      APPROVED BY : 唐龙



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## 4-2. Impedance

50 ohm nominal

## 4-3. Matching circuit

None

## 4-4. VSWR

### 4-4.1 Measuring Method

- 1.A 50Ωcoaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the VSWR
- 2.Keeping this jig away from metal at least 20cm

### 4-4.2 Measurement frequency points and VSWR value

VSWR	Frequency (Unit MHz)	Spec	1
Main Antenna	2400	≤3.5	2.2
	2500	≤3.5	1.7
	5150	≤4.0	1.5
	7125	≤4.0	1.4
	Judgement		ok
Aux Antenna	2400	≤3.5	2.1
	2500	≤3.5	1.7
	5150	≤4.5	2.0
	7125	≤4.5	1.3
	Judgement		ok

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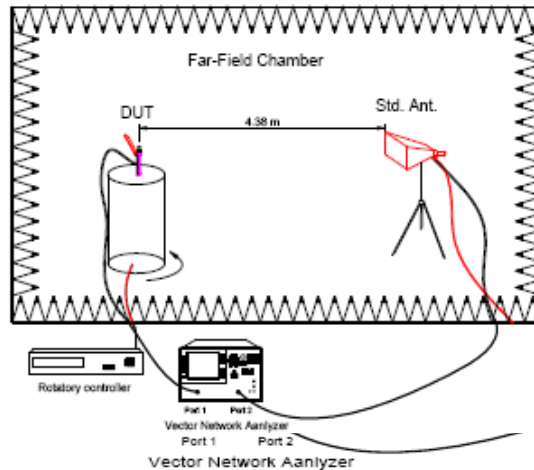
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## 4-5. Efficiency and Gain

### 4-5.1 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

### 4-5.2 Chamber definition



(8m×4m×3.5m) which satisfied far-field condition was applied to avoid multi-path effect

2. The quite room region is 40cm×40cm×40cm 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)

### 4-5.3 Efficiency and Gain

Antenna gain is marked (dBi) and is based on STANDARD HORN antenna. The data shows Peak Gain and Average Gain.

#### 4-5-3-1 Electrical specification

Frequency (MHz)	Average Efficiency (%)
2400~2500	>30
5100~5825	>30
5925~7125	>25

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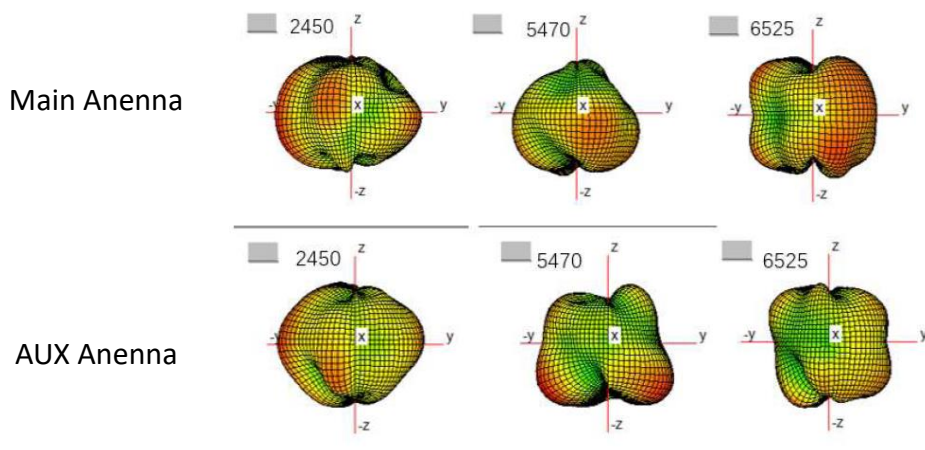
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### 4-5.3-2 Efficiency and Gain Test Data

Freq(MHz)	Main Antenna		
	Gain	Effi dB	Effi Pcent
2400	2.8	-3.3	46.7
2450	3.3	-2.7	54.1
2500	3.8	-2.5	56.7
5150	1.8	-5.1	30.6
5250	2.0	-5.2	30.3
5470	1.9	-5.6	27.7
5850	1.1	-5.7	26.8
5925	2.9	-4.5	35.7
6425	0.7	-5.7	27.0
6825	0.3	-5.2	30.2
7125	-3.4	-7.1	19.6

Freq(MHz)	AUX Antenna		
	Gain	Effi dB	Effi Pcent
2400	1.8	-3.9	41.0
2450	1.1	-4.1	39.0
2500	1.4	-4.4	36.7
5150	0.2	-6.3	23.4
5250	5.8	-4.5	35.9
5470	0.9	-6.7	21.4
5850	1.5	-6.6	22.0
5925	2.9	-5.6	27.3
6425	1.4	-5.3	29.3
6825	2.8	-4.1	39.0
7125	1.0	-4.4	36.2

### 4-5.3-3 Antenna 3D Radiation Pattern



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