

# WA-P-LELE-04-027 Specification

## 1. Explanation of part number :

WA - P - LELE - 04 - 027  
(1) (2) (3) (4) (5)

- (1) Product Type : Wireless Antenna
- (2) PCB: PCB
- (3) Frequency : 2400~2500MHz&5100~5800MHz&5925~7125MHz
- (4) Coaxial Cable Type : With  $\phi$  0.81 Main Black (172.6) / AUX Gray (251.8mm)
- (5) Suffix : 027

## 2. Storage Condition:

Temperature -40 to +70℃  
Humidity 20 to 65 %RH

## 3. Operating Condition:

Temperature -40 to +70℃  
Humidity 10 to 85 %RH

## 4. Electrical Specification :

*Those specifications were specially defined for LG 17ZB90Q 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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## 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	1.7
	2500	≤3.5	1.9
	5000	≤3.5	1.7
	6000	≤3.5	1.4
	Judgement		
Aux Antenna	2400	≤3.5	2.4
	2500	≤4.0	2.8
	5000	≤4.0	1.2
	6000	≤4.0	1.6
	Judgement		

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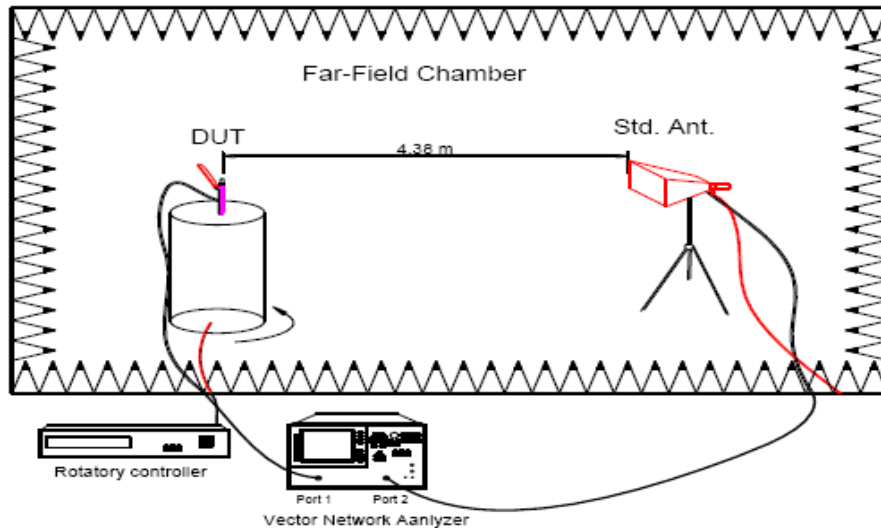
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## 4-5. Efficiency and Gain

### 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



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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)

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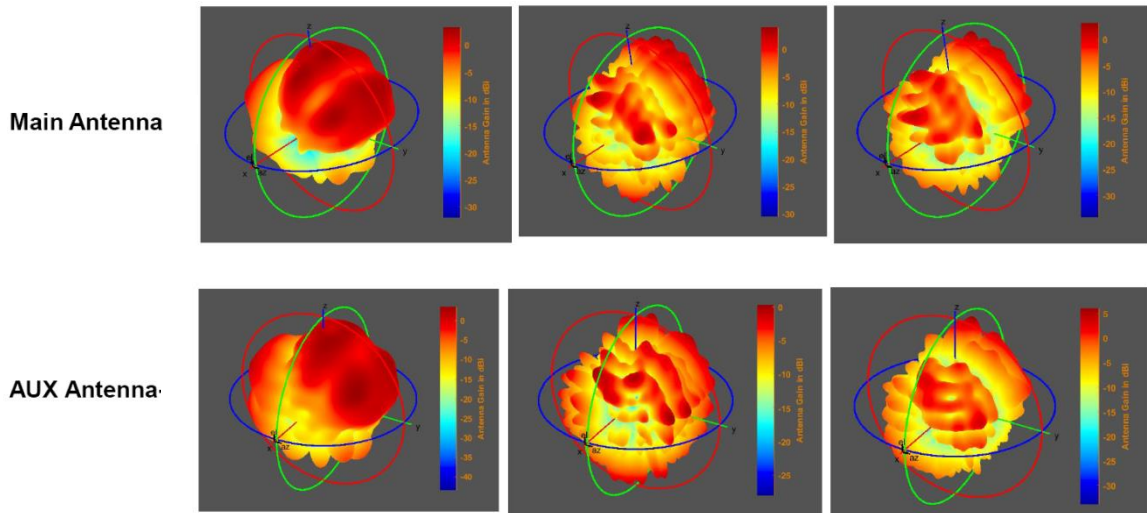
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### 4-5.3-2 Efficiency and Gain Test Data

Frequency	Antenna		
	Efficiency	Average Gain	Peak Gain
2400MHz	27.0 %	-5.7 dBi	2.3 dBi
2425MHz	40.8 %	-3.9 dBi	4.3 dBi
2450MHz	35.9 %	-4.5 dBi	3.8 dBi
2475MHz	40.9 %	-3.9 dBi	4.3 dBi
2500MHz	50.0 %	-3.0 dBi	5.2 dBi
5150MHz	38.8 %	-4.1 dBi	2.9 dBi
5250MHz	39.8 %	-4.0 dBi	2.5 dBi
5350MHz	36.0 %	-4.4 dBi	0.7 dBi
5725MHz	42.7 %	-3.7 dBi	1.9 dBi
5825MHz	46.6 %	-3.3 dBi	3.0 dBi
5925MHz	31.0 %	-5.1 dBi	1.7 dBi
6525MHz	32.0 %	-4.9 dBi	1.9 dBi
7125MHz	31.0 %	-5.1 dBi	2.0 dBi

Frequency	AUX Antenna		
	Efficiency	Average Gain	Peak Gain
2400MHz	29.8 %	-5.3 dBi	2.3 dBi
2425MHz	42.0 %	-3.8 dBi	4.1 dBi
2450MHz	36.7 %	-4.4 dBi	3.8 dBi
2475MHz	40.2 %	-4.0 dBi	4.6 dBi
2500MHz	47.1 %	-3.3 dBi	5.6 dBi
5150MHz	37.3 %	-4.3 dBi	2.9 dBi
5250MHz	38.2 %	-4.2 dBi	2.5 dBi
5350MHz	35.9 %	-4.5 dBi	0.7 dBi
5725MHz	42.8 %	-3.7 dBi	1.9 dBi
5825MHz	44.8 %	-3.5 dBi	3.0 dBi
5925MHz	30.1 %	-5.2 dBi	2.3 dBi
6525MHz	29.5 %	-5.3 dBi	2.0 dBi
7125MHz	29.0 %	-5.4 dBi	1.9 dBi

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



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