

WA-P-LELE-04-009 Specification

1. Explanation of part number :

WA - P - LELE - 04 - 009
 (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 ϕ 0.81 Main Black / AUX Gray

(5) Suffix : 009

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 16Z90Q 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

DRAWN BY: 张涛 CHECKED BY: 张涛

DESIGNED BY : 胡志清 APPROVED BY : 徐克文

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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 50Ω coaxial 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	2
Main Antenna	2400	≤3.5	1.3
	2500	≤3.5	2.1
	5150	≤4.0	2.6
	7125	≤4.0	2.8
	Judgement		ok
Aux Antenna	2400	≤3.5	2.2
	2500	≤3.5	1.6
	5150	≤4.5	2.6
	7125	≤4.5	2.2
	Judgement		ok

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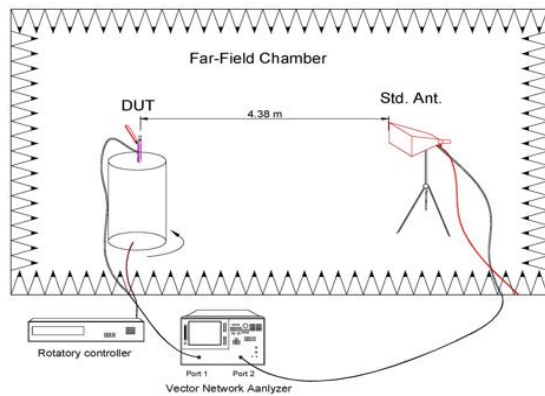
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4-5. Efficiency and Gain

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



1. An anechoic chamber (8mx4mx3.5m) which

satisfied far-field condition was applied to avoid multi-path effect

2. The quite 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

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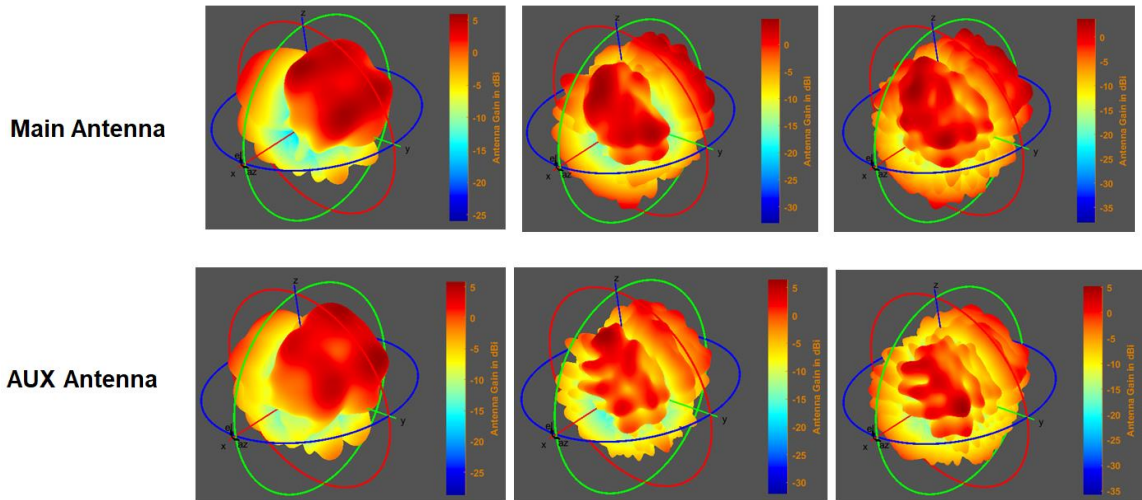
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4-5.3-2 Efficiency and Gain Test Data

Frequency(MHz)	Main Antenna		
	Peak Gain (dBi)	Efficiency (dBi)	Efficiency(%)
2400	2.2	-4.9	32.6
2450	2.3	-4.7	33.9
2500	3.1	-4.7	34.1
5150	4.2	-4.0	39.8
5400	4.2	-3.1	48.8
5850	4.0	-2.8	52.0
5925	4.3	-3.1	49.5
6525	4.2	-2.9	51.3
7125	4.1	-3.4	45.3

Frequency(MHz)	AUX Antenna		
	Peak Gain (dBi)	Efficiency (dBi)	Efficiency(%)
2400	1.9	-4.8	32.8
2450	2.4	-4.7	33.7
2500	2.3	-5.0	31.5
5150	3.6	-4.6	35.1
5400	3.7	-4.3	37.4
5850	3.5	-4.5	35.8
5925	3.5	-4.6	34.5
6525	3.5	-4.9	32.1
7125	2.3	-4.5	35.7

4-5.3-3 Antenna 3D Radiation Pattern



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