WA-P-LELE-04-033 Specification

1. Explanation of part number :

$$\frac{WA}{(1)}$$
 - $\frac{P}{(2)}$ - $\frac{LELE}{(3)}$ - $\frac{04}{(4)}$ - $\frac{033}{(5)}$

- (1) Product Type: Wireless Antenna
- (2) PCB: PCB
- (3) Frequency: 2400~2500MHz&5100~5800MHz&5925~7125MHz
- (4) Coaxial Cable Type: With \$ 0.81 Main Black / AUX Gray
- (5) Suffix: 033

2. Storage Condition:

Temperature -40 to $+85^{\circ}$ C Humidity 20 to 90% 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 +70°C

Humidity 10 to 85 %RH

4. Electrical Specification:

Those specifications were specially defined for **LG 14Z90RS** 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

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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	1
	2400	≦3.0	1.3
Main	2500	≦3.0	2.4
Antenna	5150	≦4.0	1.5
	7125	≦4 .0	1.8
	Judge	ok	
Aux Antenna	2400	≦3.0	1.7
	2500	≦3.0	1.7
112	5150	<u>≤</u> 4.0	2. 0
112	5150 7125	≦4.0 ≦4.0	2. 0 1. 5

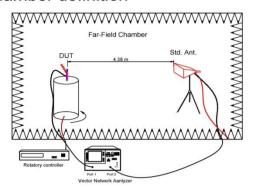
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4-5. Efficiency and Gain

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



- 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
- 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	>40
5100~5825	>30
5925~7125	>20

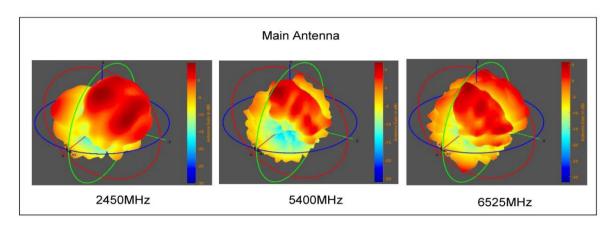
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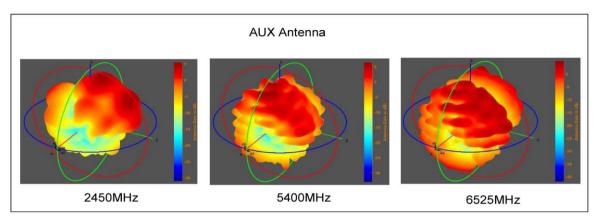
4-5.3-2 Efficiency and Gain Test Data

Frequenc y (MHz)	Main-Antenna				
	Efficiency (%)	Efficiency (dBi)	Peak Gain (dBi)		
2400	55.3	-2.6	3.1		
2450	57.2	-2.4	3.7		
2500	47.2	-3.3	3.2		
5150	43.1	-3.7	1.9		
5470	32	-4.9	2.8		
5850	31.5	-5	1.4		
5925	36.4	-4.4	1.5		
6525	26.2	-5.8	-0.4		
7125	45.1	-3.5	3.8		

Frequenc	Aux-Antenna				
y (MHz)	Efficiency (%)	Efficiency (dBi)	Peak Gain (dBi)		
2400	51.2	-2.9	3.8		
2450	51.5	-2.9	3.9		
2500	45.4	-3.4	4.1		
5150	32.4	-4.9	2.5		
5470	38.1	-4.2	1		
5850	33.6	-4.7	1.2		
5925	37.8	-4.2	1.7		
6525	24.1	-6.2	0.2		
7125	38.7	-4.1	2.9		

4-5.3-3 Antenna 3D Radiation Pattern





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