WA-P-LELE-04-021 Specification

1. Explanation of part number :

- (1) Product Type: Wireless Antenna
- (2) PCB: PCB+CABLE
- (3) Frequency: 2400~2500MHz&5100~5850MHz
- (4) Coaxial Cable Type: With \$ 0.81 Main Black / AUX Gray
- (5) Suffix: 021

2. Storage Condition:

Temperature -40 to $+70^{\circ}$ C Humidity 20 to 65 %RH

3. Operating Condition:

Temperature -40 to $+70^{\circ}$ C Humidity 10 to 85 %RH

4. Electrical Specification:

Those specifications were specially defined for **LG 14U70Q** 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 & 5100~5850

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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

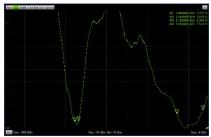
to a network analyzer to measure the VSWR

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	≦ 3.5	1.6
16 .	2500	≦ 3.5	1.6
Main Antenna	5150	<u>≤</u> 4.0	2.2
	5850	<u>≤</u> 4.0	2.6
	Judge	ment	ok
	Judger 2400	ment ≦3.5	ok 1.8
A			
Aux Antenna	2400	≦3.5	1.8
	2400 2500	≦3.5 ≤3.5	1.8

Main Antenna-1



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AUX Antenna-1

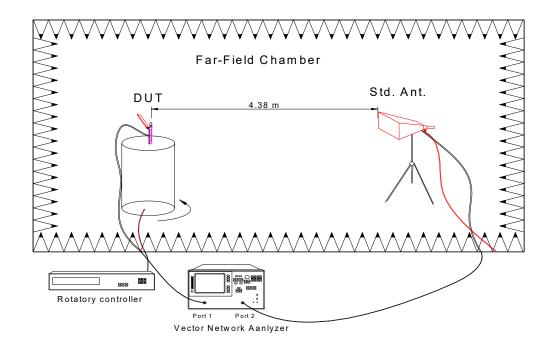


4-5. Efficiency and Gain

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

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- 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
5100~5850	>30

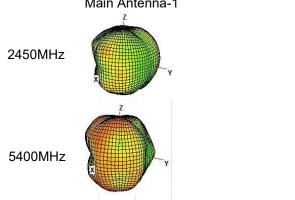
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4-5.3-2 Efficiency and Gain Test Data

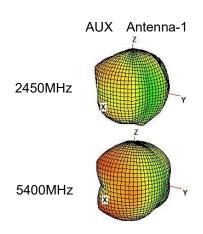
Fraguenay (MIII)	MAIN Antenna-1				
Frequency (MHz)	Efficiency (dB)	Efficiency (%)	Gain (dBi)		
2400	-4.1	38.9	2.8		
2450	-4.0	39.7	2.6		
2500	-4.1	38.7	2.5		
5150	-4.3	37.2	4.9		
5400	-3.6	43.8	4.7		
5850	-3.9	40.3	5.1		

[AU	X Antenna-1	
Frequency (MHz)	Efficiency (dB)	Efficiency (%)	Gain (dBi)
2400	-4.3	37.1	2.6
2450	-4.1	38.8	2.2
2500	-4.4	36.2	1.4
5150	-4.3	37.2	4.6
5400	-3.9	40.9	4.4
5850	-4.2	38.2	4.3

4-5.3-3 Antenna 3D Radiation Pattern Main Antenna-1



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5. Mechanical Specification:

Connector: I-PEX MHF 4L: 20572; Cable: RF Cable 0.81 (Main Black/Aux Gray)

Cable length: Main Antenna L: 125.5 ± 2mm(Exclude connector)

Aux Antenna L: 183.5 ± 2mm(Exclude connector)

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