

WA-P-LELE-04-021 Specification

1. Explanation of part number :

WA - P - LELE - 04 - 021
(1) (2) (3) (4) (5)

(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℃
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 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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		PAGE REV. P0

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

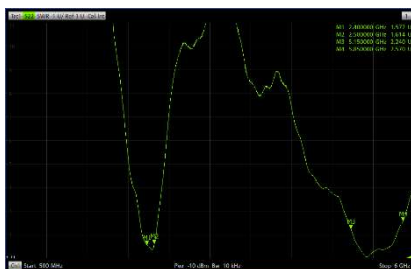
to a network analyzer to measure the VSWR

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	1.6
	2500	≤ 3.5	1.6
	5150	≤ 4.0	2.2
	5850	≤ 4.0	2.6
	Judgement		ok
Aux Antenna	2400	≤ 3.5	1.8
	2500	≤ 3.5	2.0
	5150	≤ 4.5	2.1
	5850	≤ 4.5	2.6
	Judgement		ok

Main Antenna-1



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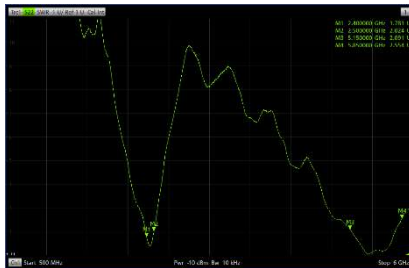
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PAGE REV.
P0

AUX Antenna-1



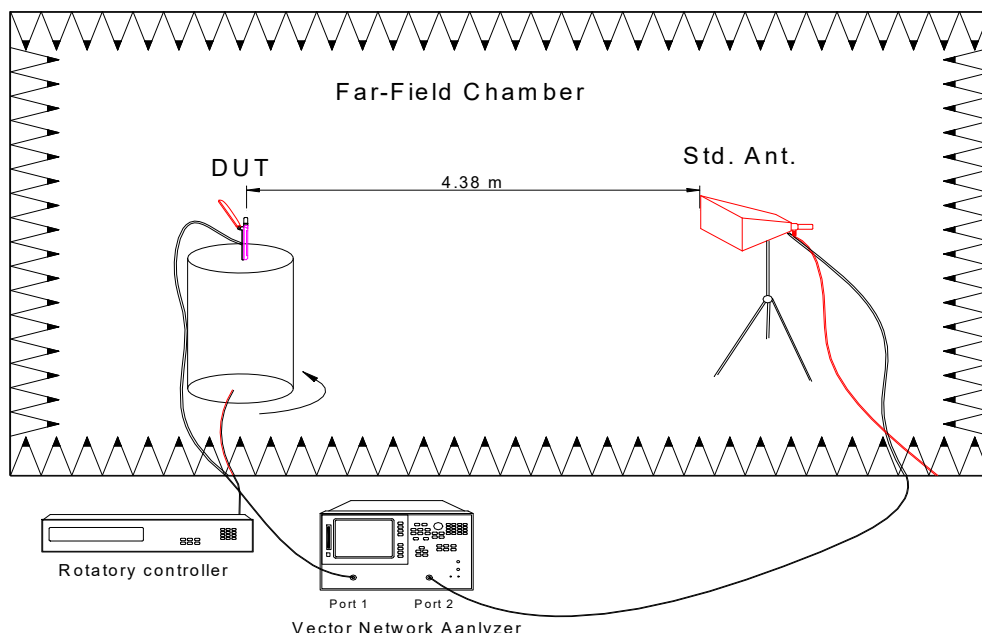
4-5. Efficiency and Gain

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 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
5100~5850	>30

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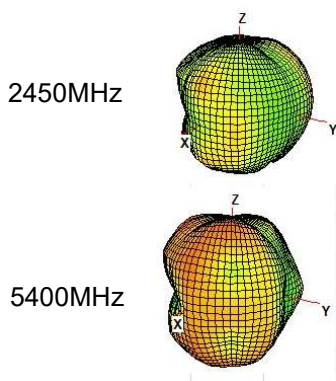
4-5.3-2 Efficiency and Gain Test Data

Frequency (MHz)	MAIN Antenna-1		
	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

Frequency (MHz)	AUX Antenna-1		
	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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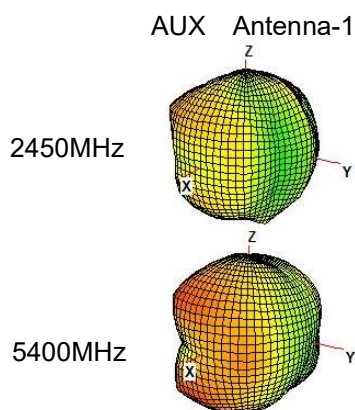
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5. Mechanical Specification:

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

Cable length: Main Antenna L: $125.5 \pm 2\text{mm}$ (Exclude connector)

Aux Antenna L: $183.5 \pm 2\text{mm}$ (Exclude connector)

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