

客戶名稱 : LG 16U70Q
CUSTOMER

Document No.: ENS000159610

Approval Sheet Rev.: A1

Spec. Rev. : A2

承認書

APPROVAL SHEET

產品品名/Product Model No. : WA-P-LE-02-080

客戶料號/Customer No. : EAA65978501

發行日期/ Issue Date : 2023/02/09

承認日期/ Approved Date : _____

Approved by customer: (signing or stamping here)



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WA-P-LE-02-080 Specification

1. Explanation of part number :

WA - P - LE - 02 - 080
 (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 : 080

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 16U70Q 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
Main Antenna	2400	≤ 3.5	1.3
	2500	≤ 3.5	2.1
	5150	≤ 4.0	2.4
	7125	≤ 4.0	2.6
	Judgement		ok
Aux Antenna	2400	≤ 3.5	2.0
	2500	≤ 3.5	1.6
	5150	≤ 4.5	2.6
	7125	≤ 4.5	2.3
	Judgement		ok

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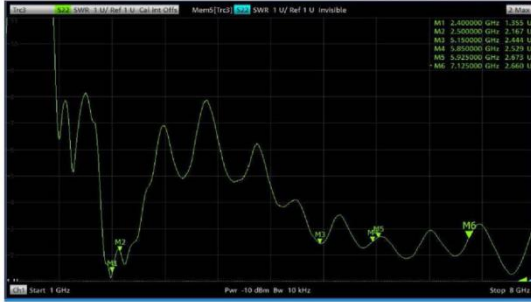
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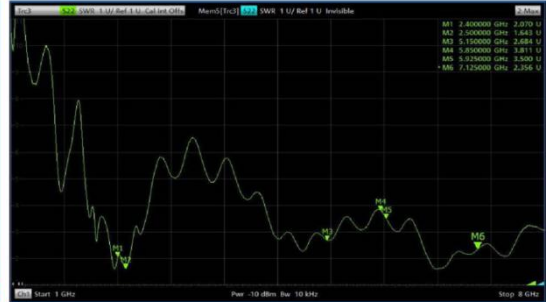
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Main Antenna-1



AUX Antenna-1

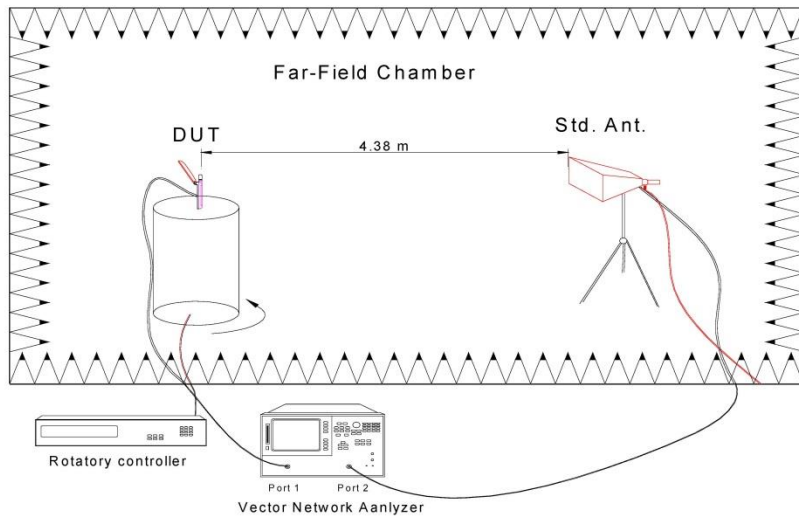


4-5. Efficiency and Gain

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
5100~5825	>30
5925~7125	>30

4-5.3-2 Efficiency and Gain Test Data

Frequency(MHz)	Main Antenna-1		
	Peak Gain (dBi)	Efficiency (dBi)	Efficiency(%)
2400	2.6	-4.9	32.6
2450	2.7	-4.4	35.9
2500	2.4	-4.1	38.9
5150	2.6	-4.5	35.7
5400	2.7	-4.0	40.2
5850	2.8	-3.4	45.7
5925	2.6	-4.5	35.7
6525	2.2	-3.6	43.8
7125	2.1	-4.6	34.7

Frequency(MHz)	AUX Antenna-1		
	Peak Gain (dBi)	Efficiency (dBi)	Efficiency(%)
2400	2.7	-4.6	34.7
2450	2.2	-4.6	34.5
2500	1.5	-4.9	32.1
5150	2.3	-3.8	41.3
5400	2.4	-4.0	39.6
5850	2.2	-4.1	39.2
5925	1.6	-4.6	35.0
6525	2.0	-4.3	36.9
7125	2.6	-4.6	34.8

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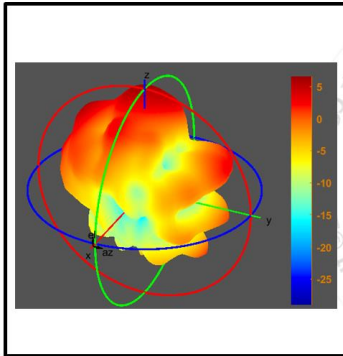
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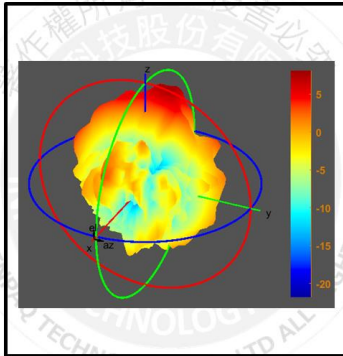
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4-5.3-3 Antenna 3D Radiation Pattern

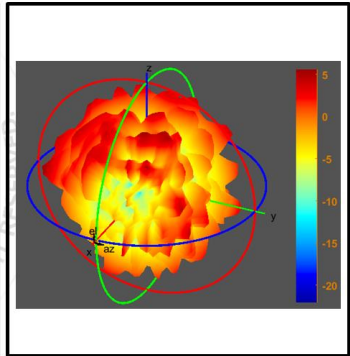
Main Antenna-1



2450MHz

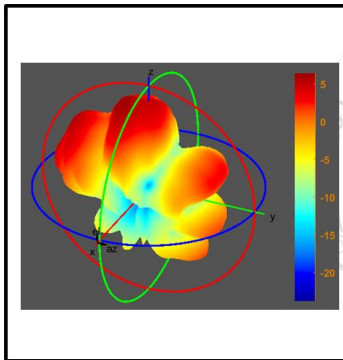


5400MHz

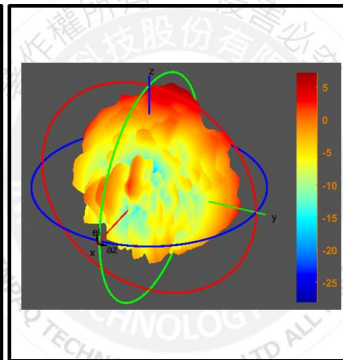


6000MHz

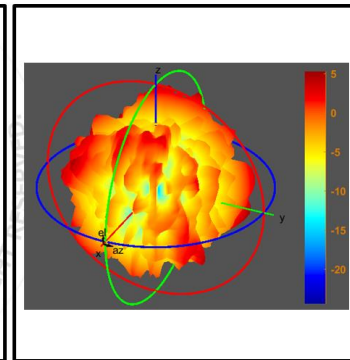
AUX Antenna-1



2450MHz



5400MHz



6000MHz

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