



客戶名稱 : **LG**
CUSTOMER

Document No.: _____
Approval Sheet Rev.: A0
Spec. Rev. : A0

承認書

APPROVAL SHEET

產品品名/Product Model No. : WA-P-LELE-04-086

客戶料號/Customer No. : EAA30099701

專案名稱/Project Name: 16Z90U

發行日期/ Issue Date : 2025/07/16

承認日期/ Approved Date : 2025/07/16

Approved by customer: (signing or stamping here)



INPAQ WEB

履历表

History List

[illegible]

WA-P-LELE-04-086 Specification

1. Explanation of part number :

WA - P - LELE - 04 - 086
(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 : 086

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 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 50Ωcoaxial cable is connected to the antenna. Then this cable is connected

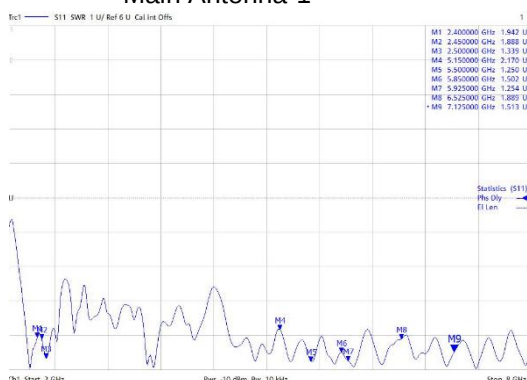
to a network analyzer to measure the VSWR

2.Keeping this jig away from metal at least 20cm

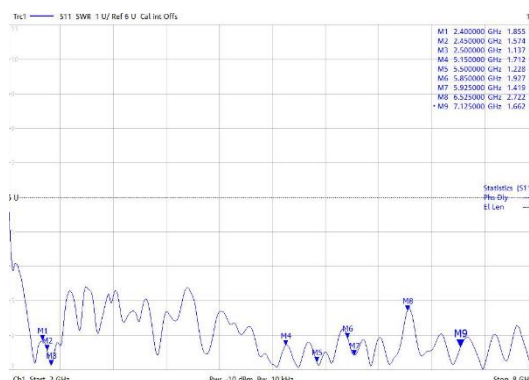
4-4.2 Measurement frequency points and VSWR value

VSWR	Frequency (Unit MHz)	Spec	1
Main Antenna	2400	≤ 3.5	1.9
	2500	≤ 3.5	1.3
	5150	≤ 3.5	2.2
	7125	≤ 3.5	1.5
	Judgement		ok
Aux Antenna	2400	≤ 3.5	1.9
	2500	≤ 3.5	1.1
	5150	≤ 3.5	1.7
	7125	≤ 3.5	1.7
	Judgement		ok

Main Antenna-1



AUX Antenna-1



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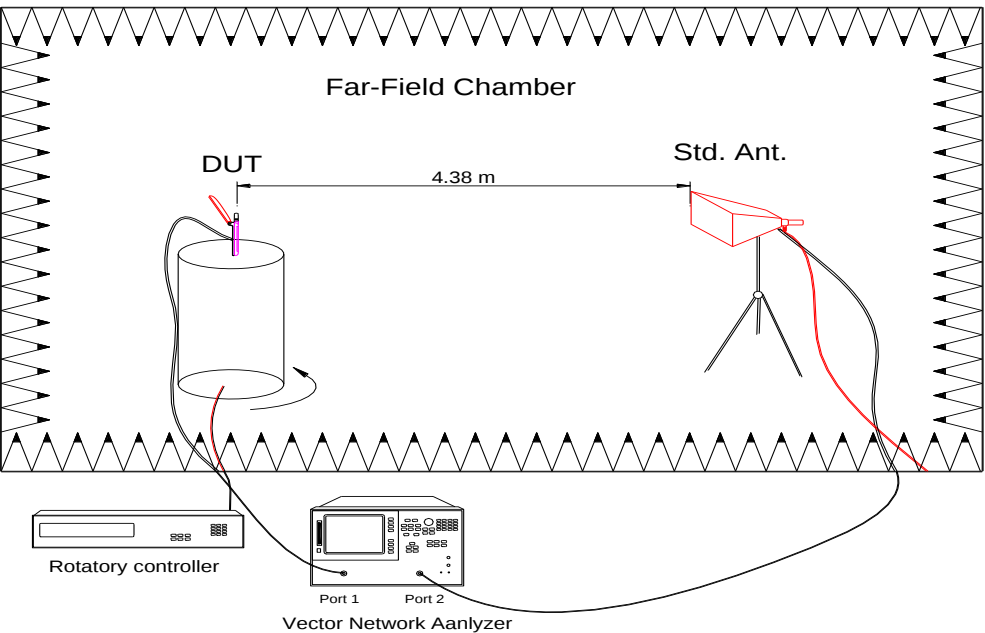
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4-5. Efficiency and Gain

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

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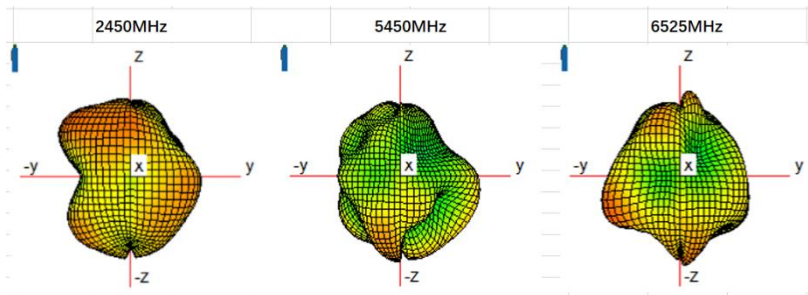
Frequency (MHz)	Average Efficiency (%)
2400~2500	>30
5100~5825	>20
5925~7125	>20

4-5.3-2 Efficiency and Gain Test Data

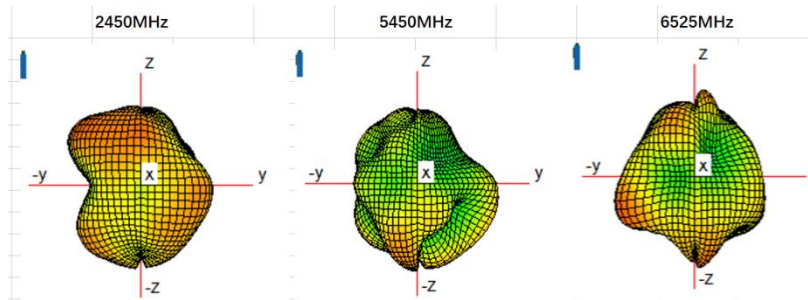
Freq(MHz)	Main Antenna			AUX Antenna		
	Efficiency_dB	Gain	Efficiency(%)	Efficiency_dB	Gain	Efficiency(%)
2400	-4.43	1.38	36.02	-5.54	1.29	27.94
2450	-3.99	1.46	39.91	-4.63	2.00	34.40
2500	-4.02	2.15	39.62	-4.71	0.81	33.81
5150	-6.15	-1.14	24.25	-6.48	-0.60	22.49
5470	-6.27	0.11	23.60	-6.49	1.41	22.43
5850	-5.39	1.55	28.91	-5.27	1.92	29.73
5925	-5.21	0.13	30.13	-6.15	1.18	24.25
6525	-5.46	2.84	28.47	-5.39	-0.51	28.89
7125	-5.00	0.47	31.64	-6.02	0.91	24.97

4-5.3-3 Antenna 3D Radiation Pattern

Main Antenna-1



AUX Antenna-1



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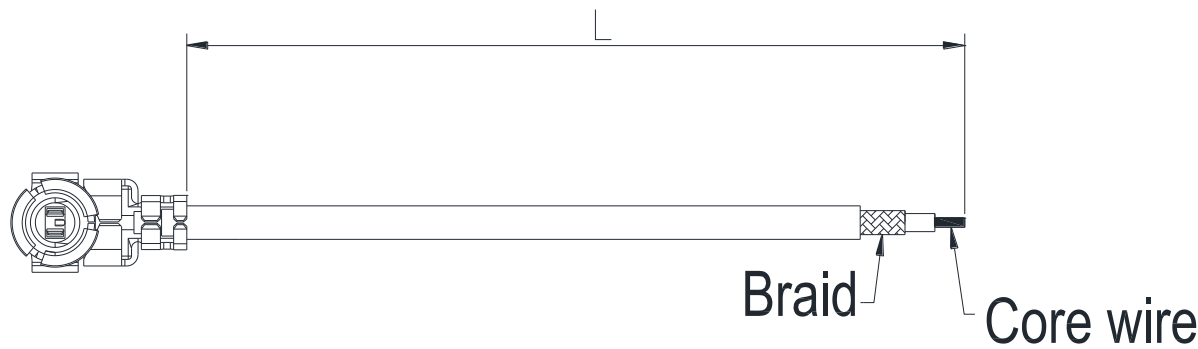
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5. Mechanical Specification:

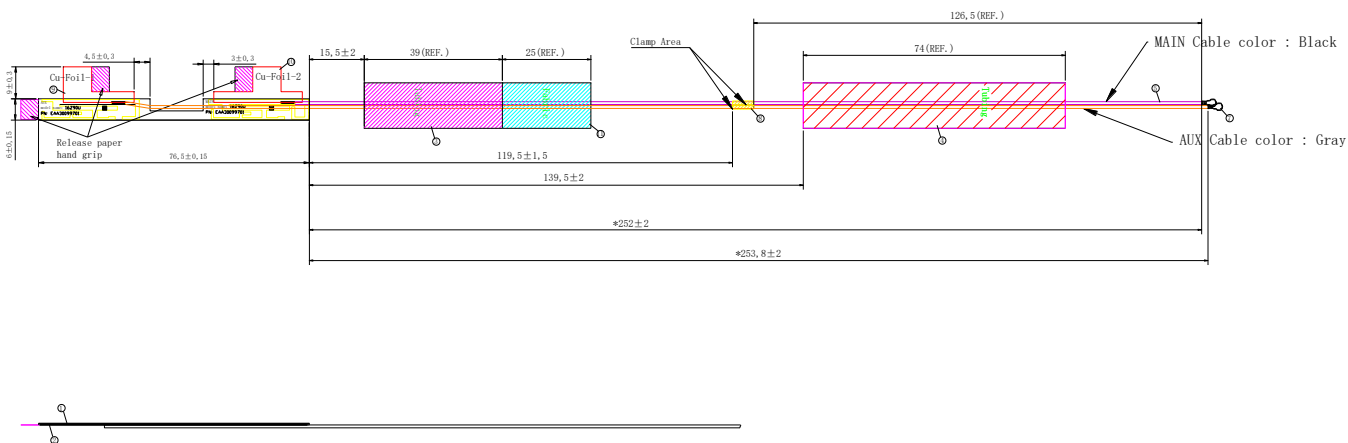
Connector: I-PEX MHF 4L: 20572; Cable: RF Cable 0.81（Main Black/Aux Gray）

Cable length: Main Antenna L: 267.5±1.5mm(Exclude connector)

Aux Antenna L: 316.5±1.5mm(Exclude connector)



Mechanical Configuration: (* dimension is important dimension)



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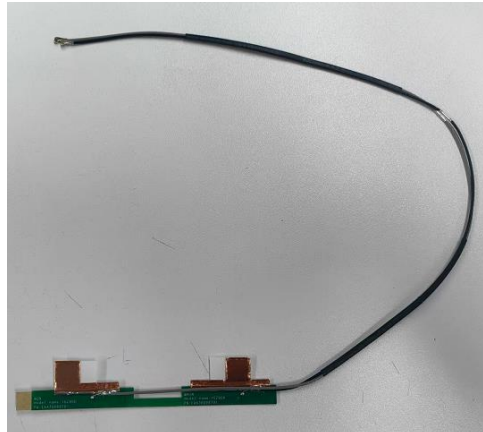
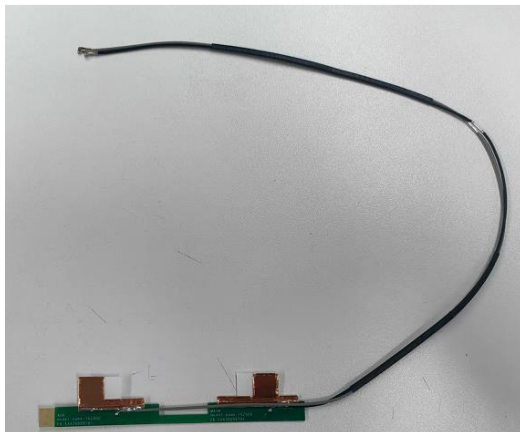
Material list :

Item	Description	Material	Quantity
1	PCB	FR4 76.5*6mm,T0.4mm	1
2	TAP	3M467 75.6*5.2mm	1
3	Shrink Tube	Shrink Tube black, ϕ 1.5 x39mm	1
4	Shrink Tube	Shrink Tube black, ϕ 1.5 x74mm	1
5	Cable black	Cable 0.81 black	1
6	Cable gray	Cable 0.81 gray	1
7	Connector	I-PEX MHF 4L for 0.81, 20572	2
8	Clamp	Clamp 0.81 5mm	2
9	CU-Foil	CU-Foil 20*10	1
10	CU-Foil	CU-Foil 25*10	1
11	醋酸布	25*10	1

6. UL File No:

ITEM	DESCRIPTION	SUPPLIER	UL File No
1	PCB	HA0129	E202191
2	CABLE	HA0008	E318898
		HA0053	E464731

7. Product Picture:



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