WA-P-LALB-04-011 Specification

1. Explanation of part number:

WA	_	P	_	LALB	_	04	_	011
(1)		(2)		(3)		(4)		(5)

(1) Product Type: Wireless Antenna

(2) PCB: PCB+CABLE

(3) Frequency: 2400~2500MHz&5150~5895MHz&5925~7125MHz

(4) Coaxial Cable Type: With ∮0.81 Main Black / AUX Gray

(5) Suffix: 011

2. Storage Condition:

Temperature: -40 to +85℃

Humidity: 20 to 90% RH

Recommended storage condition：

Store in room condition as listed below: Temperature -20℃~+45°C, Humidity 80% Max

3. Operating Condition:

Temperature:-40 to +70℃

Humidity: 10 to 85 %RH

4. Electrical Specification:

*Those specifications were specially defined for **LG 16Z90TS** WIFI model, and all characteristics were measured under the model's testing jig.*

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DESIGNED BY：刘海	APPROVED BY：唐龙		
TITLE：WA-P-LALB-04-011 Specification		DOCUMENT NO. ENS000198670	PAGE REV. P2

4.1 Frequency Band:

Frequency Band	MHz
WIFI	2400~2500 & 5150~5895 & 5925~7125

4.2 Impedance

50 ohm nominal

4.3 Matching circuit

None

4.4 VSWR

4.4.1 Measuring Method

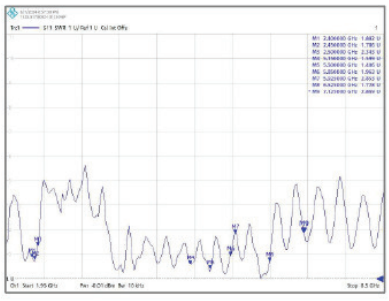
1.A 50Ωcoaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the VSWR

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

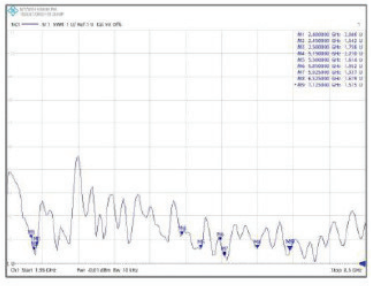
4.4.2 Measurement frequency points and VSWR value

VSWR	Frequency (MHz)	2400	2500	5150	5895	5925	7125
	Spec	≦3.0	≦3.0	≦4.0	≦4.0	≦5.5	≦5.5
Main Antenna	1#	1.8	2.3	1.5	1.9	2.8	2.8

VSWR	Frequency (MHz)	2400	2500	5150	5895	5925	7125
	Spec	≦3.0	≦3.0	≦4.0	≦4.0	≦5.5	≦5.5
AUX Antenna	1#	2.0	1.7	2.2	1.9	1.3	1.5



Main Antenna-1



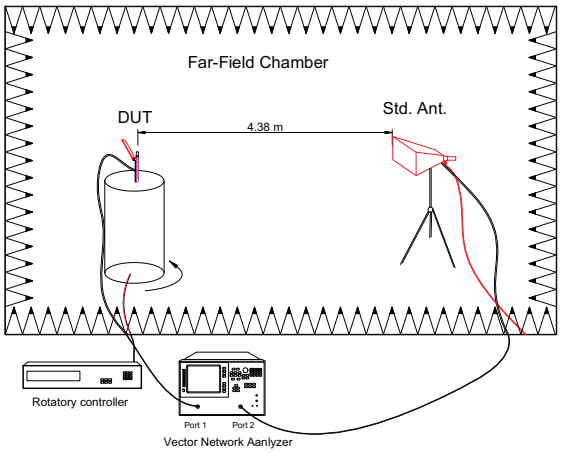
AUX Antenna-1

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



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 600MHz ~8.5GHz)

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.

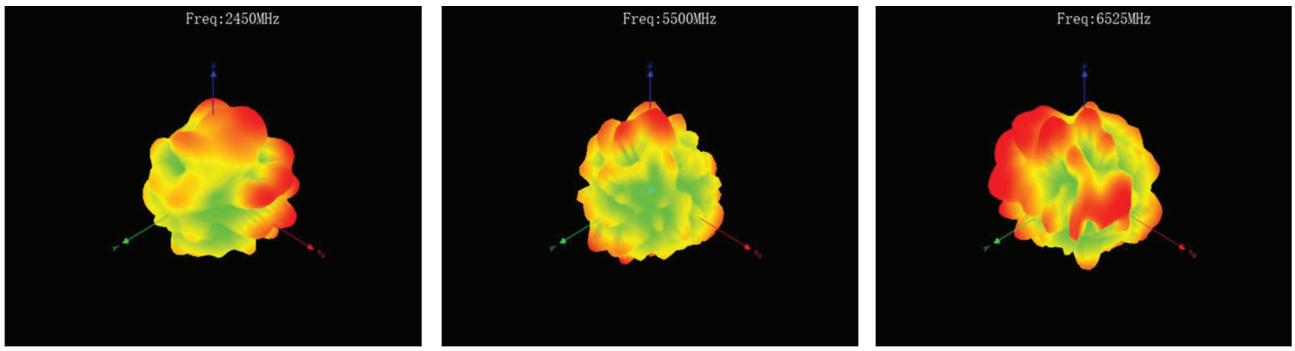
4.5.3.1 Electrical specification

Frequency (MHz)	Average Efficiency (%)
2400~2500	>40
5150~5895	>30
5925~7125	>20

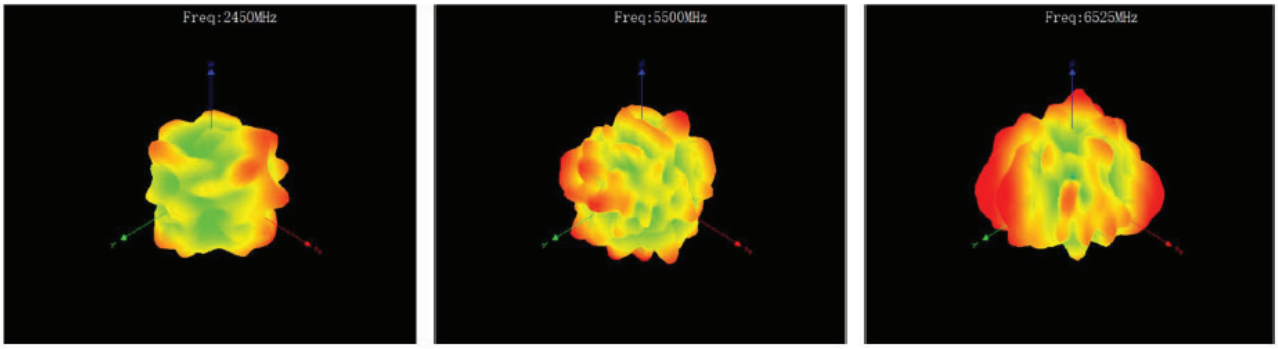
4.5.3.2 Efficiency and Gain Test Data

Frequency (Mhz)	2400-2500MHz			5150-5895MHz			5925-7125MHz		
	Gain w/cable loss (dB)	Efficiency (%)	Peak Gain w/cable loss (dBi)	Gain w/cable loss (dB)	Efficiency (%)	Peak Gain w/cable loss (dBi)	Gain w/cable loss (dB)	Efficiency (%)	Peak Gain w/cable loss (dBi)
Main Antenna-1	-3.8	42.0	2.1	-5.1	30.8	2.1	-7.0	20.2	3.3
AUX Antenna-1	-3.9	41.1	2.0	-5.2	30.5	0.1	-7.0	20.0	3.6

4.5.3.3 Antenna 3D Radiation Pattern



Main Antenna 1



AUX Antenna 1

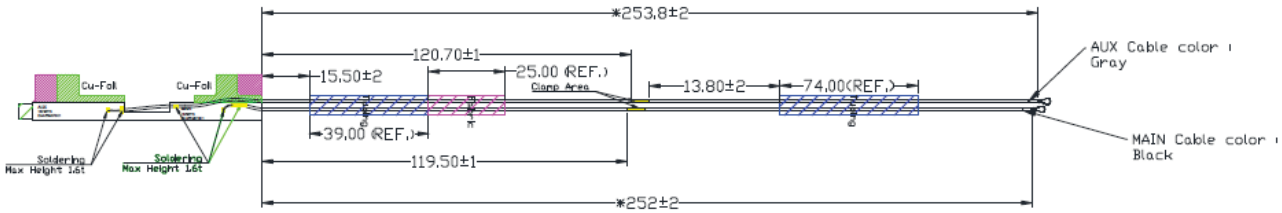
5. Mechanical Specification:

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

Cable length: Main Antenna L: 269.24±1mm

Aux Antenna L: 307.78±1mm

Mechanical Configuration: (* dimension is important dimension)



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Material list :

Item	Description	Material	Quantity
1	PCB	FR4 75x6mm,T0.4mm	1
2	铜箔	Cu Foil 22*10.2_AUX	1
3	铜箔	Cu Foil 25*15_MAIN	1
4	醋酸布 25*10	醋酸布 25*10	1
5	Shrink Tube	Shrink Tube black, ϕ 1.5 x39mm	1
6	Shrink Tube	Shrink Tube black, ϕ 1.5 x74mm	1
7	Cable black	Cable 0.81 LLS black	1
8	Cable gray	Cable 0.81 LLS gray	1
9	Connector	I-PEX MHF 4L for 0.81, 20572	2
10	TAP	3M467 74*5MM	1
11	Clamp	Clamp 0.81 5mm	2

6. UL File No:

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