



# WA-F-LBLB-04-057 Specification

## 1. Explanation of part number :

WA - F - LBLB - 04 - 057  
(1) (2) (3) (4) (5)

(1) Product Type: Wireless Antenna

(2) PCB: FPCB

(3) Frequency : 2.4GHz&5GHz

(4) Coaxial Cable Type : With  $\phi$  0.81 Black ,  $\phi$  0.81 Gray

(5) Suffix : 057

## 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 13Z980 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

UNLESS OTHER SPECIFIED TOLERANCES ON:

X=± X.X=± X.XX=±

ANGLES=± HOLEDIA=±

SCALE: UNIT: mm

DRAWN BY: 林娟 CHECKED BY:李志强

DESIGNED BY: 胡志清 APPROVED BY: 唐龙

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佳邦科技股份有限公司  
INPAQ TECHNOLOGY CO., LTD.

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DOCUMENT NO.

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PAGE REV.  
A0

## 4-2. Impedance

50 ohm nominal

## 4-3. Matching circuit

None

## 4-4. VSWR

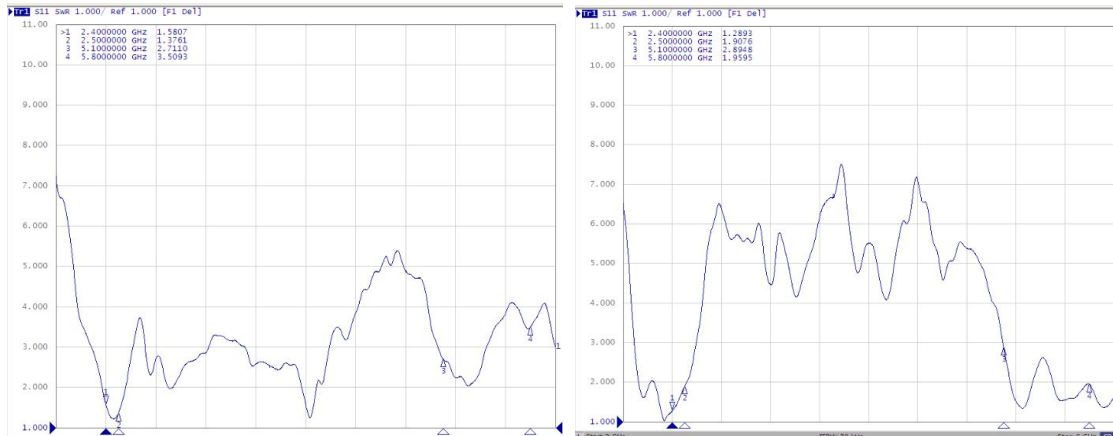
### 4-4.1 Measuring Method

1.A 50  $\Omega$  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

Frequency (Unit MHz)	2400	2500	5100	5800
VSWR	$\leq 3.5$		$\leq 5.5$	



MAIN

AUX

## 4-5. Efficiency and Gain

### 4-5.1 Measure method

- Using a low loss coaxial cable to link a standard handset jig
- Fixed this handset jig on chamber's rotator plane
- Linking jig into network analyzer port and using a probing horn antenna to collect data.
- Using another standard gain horn antenna to calibrated those data

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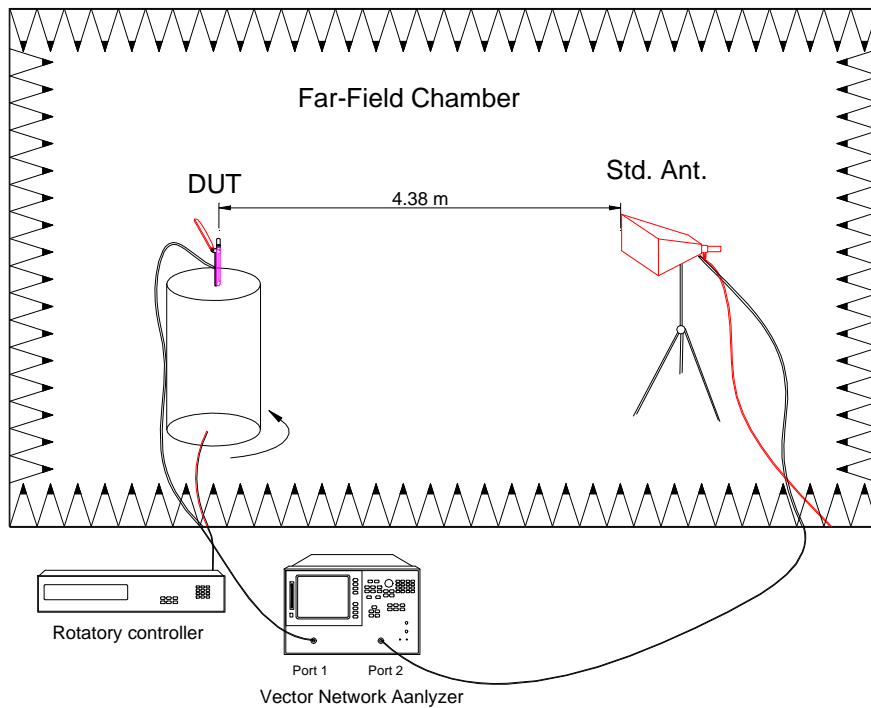
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## 4-5.2 Chamber definition

An anechoic chamber (8mx4mx3.5m) which satisfied far-field condition was applied to avoid multi-path effect



1. The quiet room region is 40cmx40cmx40cm at the center of rotator
2. The distance between DUT and standard antenna is 4.38 m
3. 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)	Efficiency (%)
2400	>30
2450	>30
2500	>30
5100	>20
5400	>20
5800	>20

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A0

### 4-5-3-2 Electrical specification

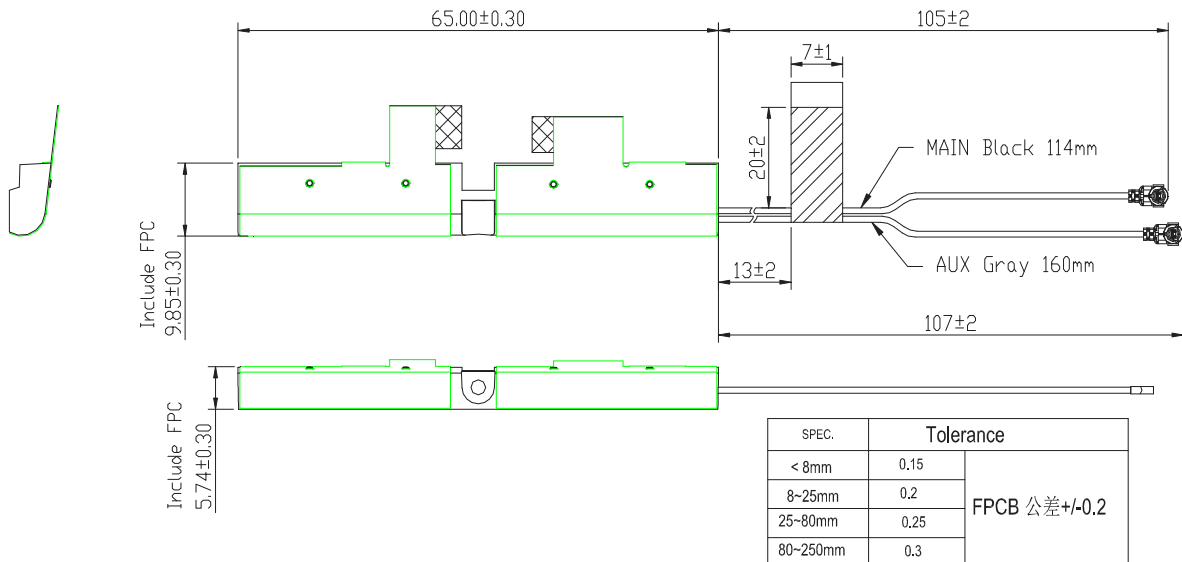
Frequency (MHz)	Main Antenna			AUX Antenna		
	AVG Gain(dB)	Efficiency (%)	Peak Gain (dBi)	AVG Gain(dB)	Efficiency (%)	Peak Gain (dBi)
2400	-4.30	37.19	2.58	-4.55	35.04	2.00
2450	-4.09	39.02	2.41	-4.02	39.63	2.91
2500	-4.49	35.54	2.11	-4.50	35.47	2.55
5100	-5.85	25.99	1.97	-5.77	26.46	1.03
5400	-5.42	28.71	1.70	-5.58	27.66	2.03
5800	-6.03	24.95	1.18	-6.25	23.71	1.34

## 5. Mechanical Specification:

Connector: I-PEX MHF 4: 20448; Cable: RF Cable0.81 Lowloss Black + Gray

### Mechanical Configuration:

ASSY Drawing (\* dimension is important dimension, the dimension without tolerance follow the tolerance list)



## 6. UL File No:

ITEM	DESCRIPTION	SUPPLIER	UL File No
1	FPCB	M00316	E358911
2	CABLE	M00018	E318898
		M00186	E464731

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