

WA-P-LBLB-04-117 Specification

1. Explanation of part number:

WA - P - LBLB - 04 - 117
(1) (2) (3) (4) (5)

(1) Product Type : Wireless Antenna

(2) P: PCB + Cable

(3) Frequency: 2400~2500MHz&5100~5800MHz&5925~7125MHz

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

(5) Suffix: 117

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 17Z90R TC 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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DESIGNED BY : 刘海			APPROVED BY : 唐龙		
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4-2. Impedance

50ohm 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

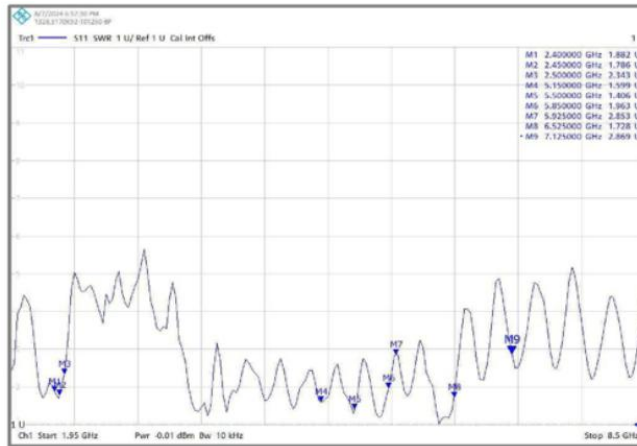
to a network analyzer to measure the VSWR

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

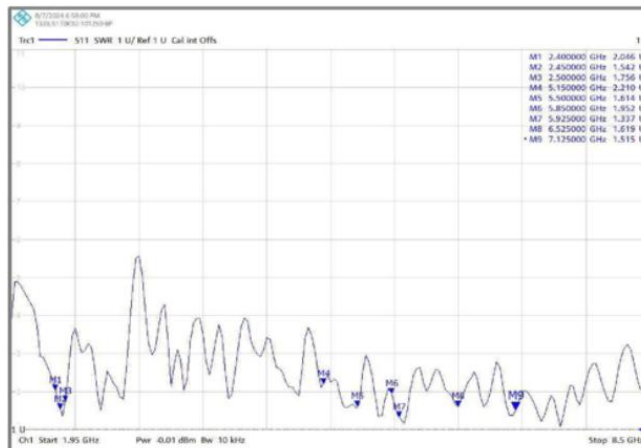
4-4.2 Measurement frequency points and VSWR value

VSWR	Frequency (MHz)	2400	2500	5150	5850	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
	Judgement	ok	ok	ok	ok	ok	ok
AUX Antenna	1#	2.0	1.7	2.2	1.9	1.3	1.5
	Judgement	ok	ok	ok	ok	ok	ok

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Main Antenna-1



AUX Antenna-1

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4-5. Efficiency and Gain

4-5.1 Measuring equipment

Measuring instrument:

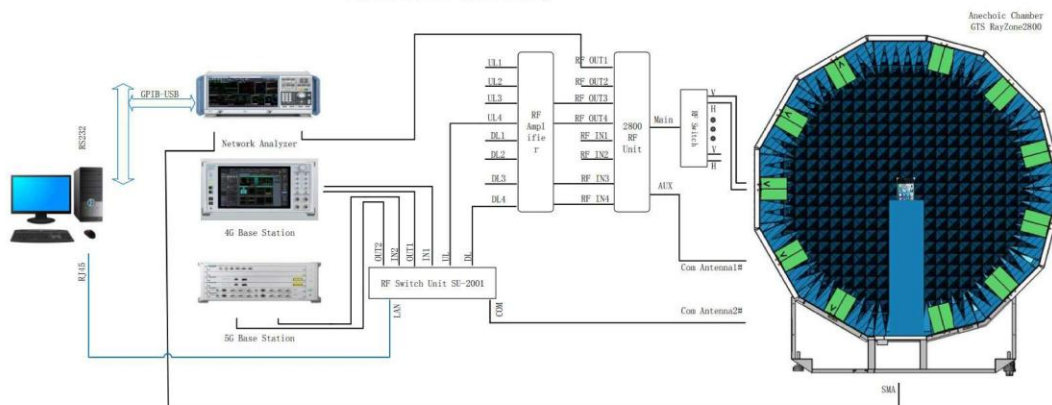
Microwave chamber, Network analyzer, and standard antenna.

Instructions for microwave chamber:

This is a microwave chamber set up by our company in Suzhou, This microwave chamber belongs to a set of near-field measurement system. The size of the chamber is 2.95M * 3M * 3M.



RayZone2800 Test Setup



The microwave chamber, shown above, using a unique multi-probe technique, The aim is to reduce the measurement time of the whole measurement system. The measuring system use multi-probe array instead of single probe to scan the measured surface of the antenna under test, a single probe has the capability of measuring orthogonal polarization amplitude and phase, it also has a wide frequency range, the corresponding multi-probe array is switched quickly by electronic switch, greatly improved the measurement efficiency.

The probe model: MA186960A(400MHz~7.5GHz) . Because of its capability of broadband frequency and the orthogonal polarization function, the number of probes needed to be equipped with the system is reduced; The small size of the probe reduces the coupling between the probes, make it is possible to insert probes of other frequency bands between probes, then a single system can support a wider frequency range

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4-5.2 Efficiency and Gain

Antenna gain is marked (dBi) and is based on STANDARD HORN antenna. The data shows Peak Gain and Average Gain.

4-5-2-1 Electrical specification

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

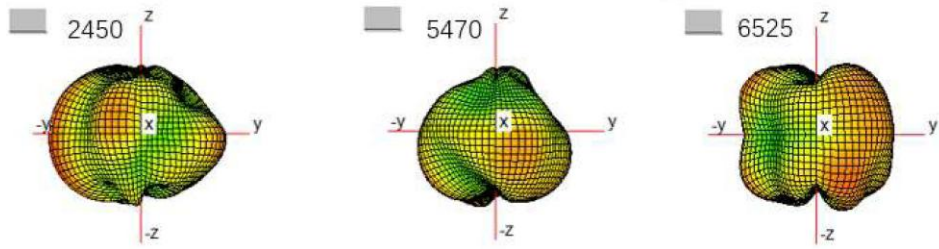
4-5-2-2 Efficiency and Gain Test Data

Frequency (MHz)	Main Antenna-1			Frequency (MHz)	Aux Antenna-1		
	Efficiency (%)	Gain w/ cable loss (dBi)	Peak Gain w/ cable loss (dBi)		Efficiency (%)	Gain w/ cable loss (dBi)	Peak Gain w/ cable loss (dBi)
2.4GHz (2400~2500MHz)	40%	-4	2.4	2.4GHz (2400~2500MHz)	43%	-3.7	2.2
5.2&5.3GHz (5150~5350MHz)	38%	-4.2	1.6	5.2&5.3GHz (5150~5350MHz)	37%	-4.3	1.2
5.5GHz (5470~5725MHz)	41%	-3.9	1.3	5.5GHz (5470~5725MHz)	38%	-4.2	0.7
5.8GHz (5725~5850MHz)	37%	-4.3	2.1	5.8GHz (5725~5850MHz)	40%	-4	1.5
5.9GHz (5850~5900MHz)	34%	-4.7	1.6	5.9GHz (5850~5900MHz)	38%	-4.2	1.6
6.2GHz (5925~6425MHz)	34%	-4.7	1.5	6.2GHz (5925~6425MHz)	36%	-4.4	1.5
6.5GHz (6425~6525MHz)	32%	-4.9	1.4	6.5GHz (6425~6525MHz)	34%	-4.7	1.4
6.7GHz (6525~6875MHz)	36%	-4.4	1	6.7GHz (6525~6875MHz)	33%	-4.8	1.3
6.9GHz (6875~7125MHz)	39%	-4.1	1.2	6.9GHz (6875~7125MHz)	36%	-4.4	2.1

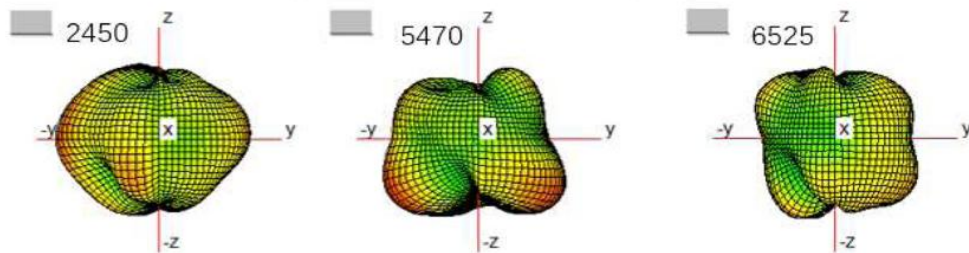
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4-5.2-3 Antenna 3D Radiation Pattern

Main Antenna-1



AUX Antenna-1



5. Mechanical Specification:

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

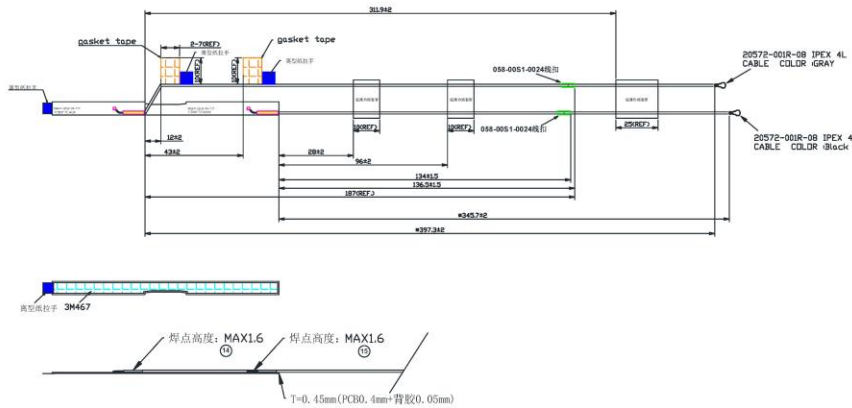
Cable length: Aux Antenna L: $361.1 \pm 2\text{mm}$ (Include connector)

Main Antenna L: $412.7 \pm 2\text{mm}$ (Include connector)



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Mechanical Configuration:



Note:
1. 外觀標準依照INPAQ《PCB通用檢驗標準》。
需充實無破損，不可有渣污、蟲墨、漏銅、氣泡、毛边等情形。
3. 工程圖上“”為CPK控制尺寸，“”為輸入料檢校尺寸，“”球標為全尺寸標註指示。
4. 產品符合RoHS2.0+HF+TSCA+REACH要求，符合系統 Q-WI-21-01 HSF 控制標準。

Material list :

Item	Description	Material	Quantity
1	PCB	PCB T0.4 WA-P-LBLB-04-117	1
2	Acetate tape	Acetate tape 21x7mm, T0.12mm	2
3	Shrink Tube	Shrink Tube black, \$ 1.5 x10mm	2
4	Shrink Tube	Shrink Tube black, \$ 1.5 x25mm	1
4	Cable black	Cable 0.81 black	1
5	Cable gray	Cable 0.81 gray	1
6	Connector	I-PEX MHF 4L for 0.81, 20572	2
7	TAP	TAP 3M467 84.5x4mm	1
8	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

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UNIT : mm

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DATE	11/11/2011
CHECKED BY	11/11/2011

DRAWN BY: 尹猛	CHECKED BY: 李志强
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APPROVED BY : 唐龙

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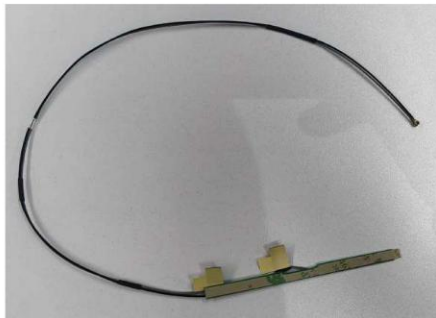
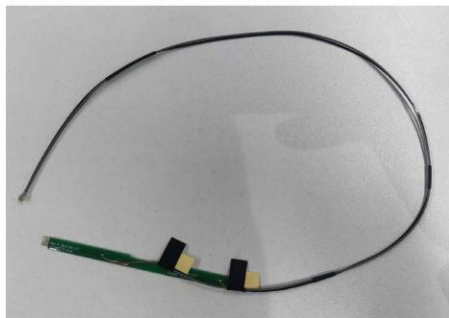
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7.Product Picture:



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