

WA-F-LB-03-162 Specification

1. Explanation of part number :

WA - F - LB - 03 - 162
(1) (2) (3) (4) (5)

(1) Product Type : Wireless Antenna

(2) Material: FPC

(3) Frequency : 2400~2500/5150~5850 MHz

(4) Coaxial Cable Type : 03

(5) Suffix : 162

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 DXD** 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 & 5150~5850

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X=± X.X=± X.XX=±

ANGLES=± HOLEDIA=±

SCALE : UNIT : mm

DRAWN BY: 张涛 CHECKED BY: 张涛

DESIGNED BY : 胡志清 APPROVED BY : 徐克文



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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 50 Ω 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

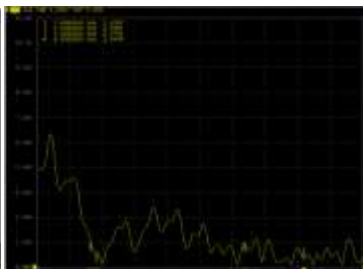
4-4.2 Measurement frequency points and VSWR value

VSWR	Frequency (Unit MHz)	Spec	1	2	3	4	5
	2400	≤ 3.5	2.2	2	2.3	2.2	2.3
	2500	≤ 3.0	1.3	1.5	1.8	1.3	1.7
	5000	≤ 3.0	1.9	1.9	1.9	1.8	1.9
	6000	≤ 3.0	1.4	1.3	1.3	1.4	1.4
	Judgement		ok	ok	ok	ok	ok

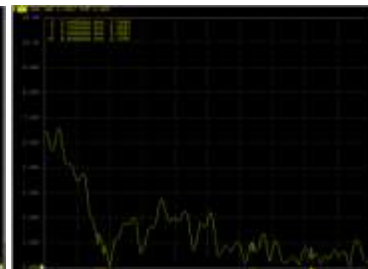
Antenna-1



Antenna-2



Antenna-3



Antenna-4



Antenna-5



4-5. Efficiency and Gain

4-5.1 Measure method

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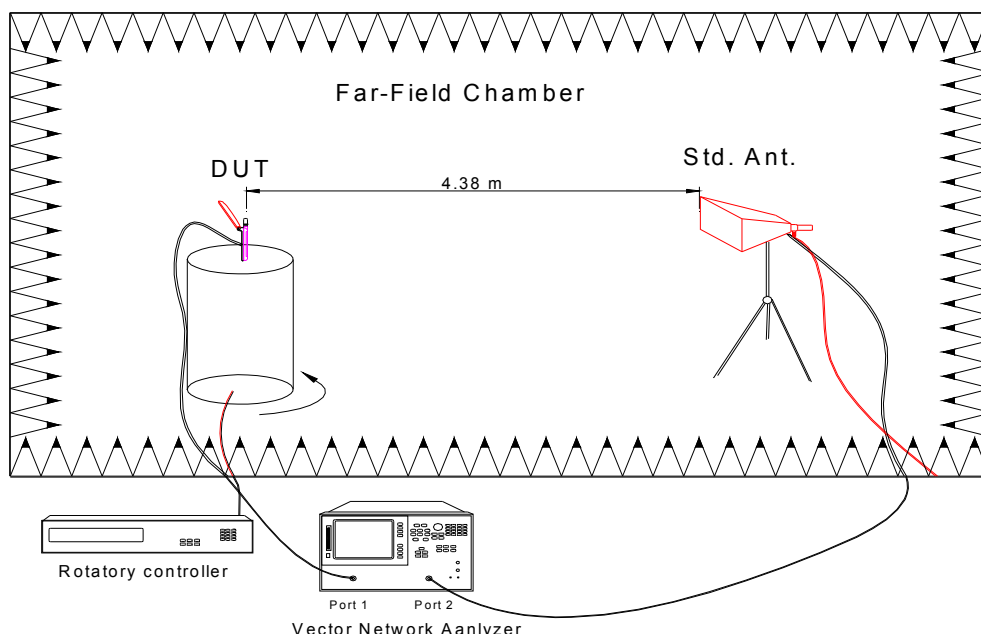
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1. Using a low loss coaxial cable to link a standard handset jig
 2. Fixed this handset jig on chamber's rotator plane
 3. Linking jig into network analyzer port and using a probing horn antenna to collect data.
 4. Using another standard gain horn 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 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)	Antenna Average SPEC	
	Efficiency (%)	Average Gain(dBi)
2400~2500	>30	>-5
5100~5825	>30	>-5

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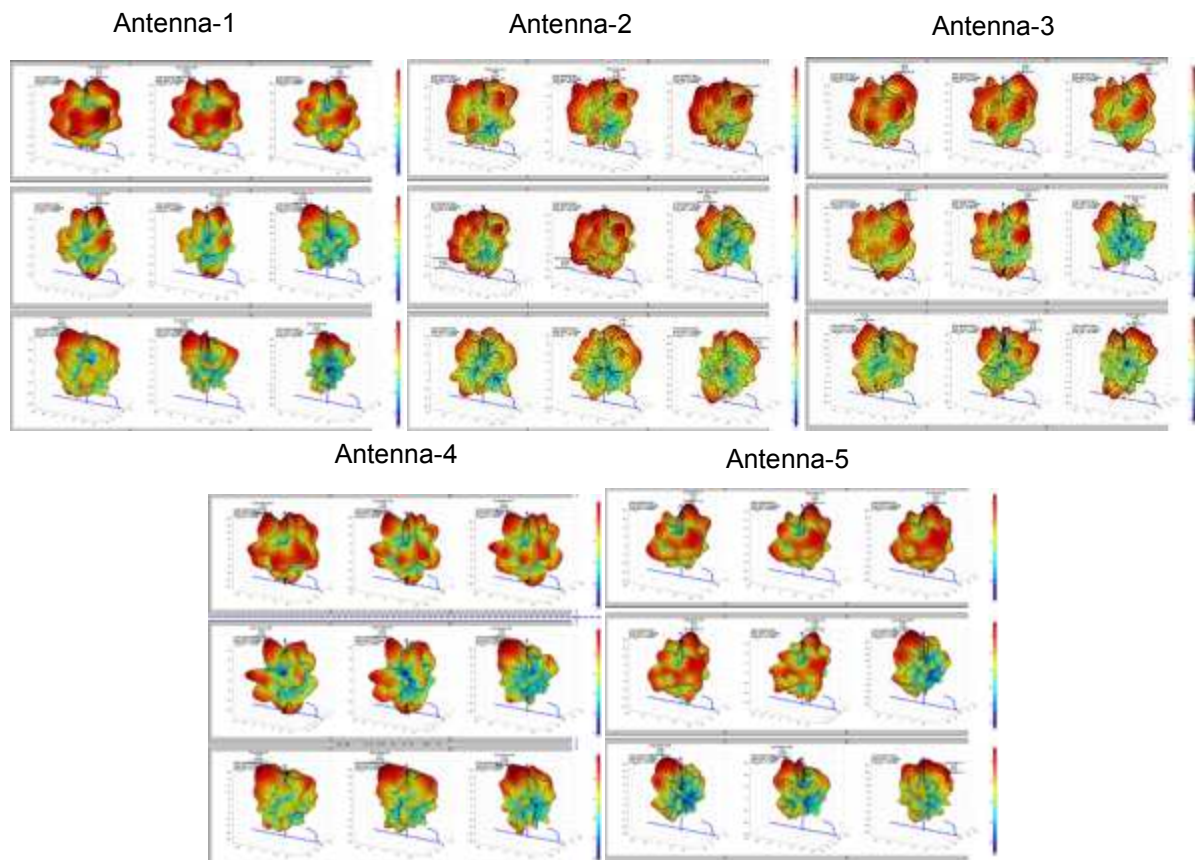
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4-5.3-2 Efficiency and Gain Test Data

Frequency	Antenna-1			Antenna-2			Antenna-3		
	Efficiency	Average Gain	Peak Gain	Efficiency	Average Gain	Peak Gain	Efficiency	Average Gain	Peak Gain
2400MHz	43.1 %	-3.7 dBi	3.0 dBi	44.2 %	-3.5 dBi	3.2 dBi	46.4 %	-3.3 dBi	3.1 dBi
2425MHz	44.3 %	-3.5 dBi	3.4 dBi	44.0 %	-3.6 dBi	3.5 dBi	43.2 %	-3.6 dBi	3.3 dBi
2450MHz	43.3 %	-3.6 dBi	2.7 dBi	42.8 %	-3.7 dBi	2.8 dBi	42.5 %	-3.7 dBi	2.9 dBi
2475MHz	49.6 %	-3.0 dBi	2.8 dBi	46.5 %	-3.3 dBi	2.6 dBi	47.2 %	-3.3 dBi	2.5 dBi
2500MHz	45.5 %	-3.4 dBi	2.8 dBi	47.3 %	-3.3 dBi	2.9 dBi	50.9 %	-2.9 dBi	3.0 dBi
5150MHz	32.7 %	-4.9 dBi	2.9 dBi	33.0 %	-4.8 dBi	2.9 dBi	32.8 %	-4.8 dBi	2.7 dBi
5250MHz	33.3 %	-4.8 dBi	2.8 dBi	33.3 %	-4.8 dBi	2.5 dBi	34.1 %	-4.7 dBi	2.7 dBi
5350MHz	32.3 %	-4.9 dBi	3.0 dBi	32.7 %	-4.9 dBi	2.7 dBi	33.7 %	-4.7 dBi	3.1 dBi
5725MHz	37.2 %	-4.3 dBi	2.8 dBi	39.4 %	-4.0 dBi	2.9 dBi	39.4 %	-4.1 dBi	3.1 dBi
5825MHz	39.8 %	-4.0 dBi	2.7 dBi	41.0 %	-3.9 dBi	3.0 dBi	41.0 %	-3.9 dBi	3.0 dBi

Frequency	Antenna-4			Antenna-5		
	Efficiency	Average Gain	Peak Gain	Efficiency	Average Gain	Peak Gain
2400MHz	46.2 %	-3.4 dBi	2.8 dBi	44.9 %	-3.5 dBi	3.3 dBi
2425MHz	42.9 %	-3.7 dBi	3.2 dBi	40.6 %	-3.9 dBi	3.5 dBi
2450MHz	43.1 %	-3.7 dBi	2.8 dBi	46.5 %	-3.3 dBi	3.0 dBi
2475MHz	47.1 %	-3.3 dBi	3.0 dBi	47.5 %	-3.2 dBi	2.8 dBi
2500MHz	49.2 %	-3.1 dBi	2.9 dBi	48.7 %	-3.1 dBi	2.9 dBi
5150MHz	32.9 %	-4.8 dBi	2.7 dBi	33.0 %	-4.8 dBi	2.6 dBi
5250MHz	33.3 %	-4.8 dBi	2.8 dBi	33.9 %	-4.7 dBi	3.1 dBi
5350MHz	33.2 %	-4.8 dBi	3.1 dBi	32.4 %	-4.9 dBi	3.2 dBi
5725MHz	39.2 %	-4.1 dBi	3.0 dBi	38.9 %	-4.1 dBi	3.2 dBi
5825MHz	40.7 %	-3.9 dBi	2.7 dBi	41.1 %	-3.9 dBi	2.9 dBi

4-5.3-3 Antenna 3D Radiation Pattern



5. Mechanical Specification:

Connector: I-PEX: 20278; Cable: RF Cable 1.13 (Gray)

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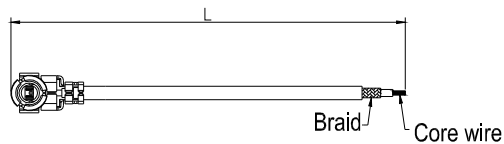
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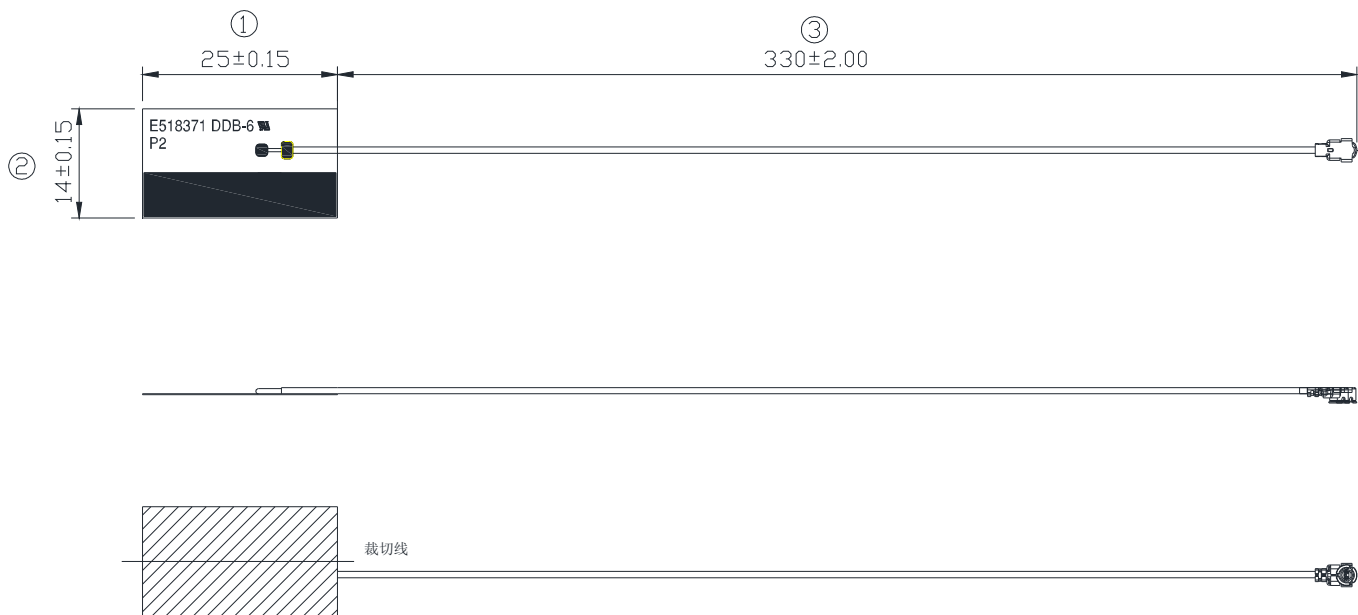
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Cable length: 340±2mm(Include connector)



Mechanical Configuration: (* dimension is important dimension)



实物照片:



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