

EMI CERTIFICATION REPORT

Applicant:

LG Electronics MobileComm U.S.A., Inc.
1000 Sylvan Avenue, Englewood Cliffs NJ 07632

Date of Receipt: April 01, 2014

Date of Issue: April 14, 2014

Test Report No. HCT-E-1404-F021

HCT FRN: 0005866421

FCC ID:

ZNFD850

Rule Part(s) / Standard(s) : FCC PART 15 Subpart B Class B
EUT Type : Multi-band GSM/EDGE/WCDMA/LTE Phone with WLAN,
Bluetooth & RFID
Model Name : LG-D850
Additional Model Name : LGD850, D850
Port / Connector(s) : USB / Earphone Port
Date of Test : April 07, 2014 - April 09, 2014

The device bearing the trade name and model specified above, has been shown to comply with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4-2003. (See Test Report if any modifications were made for compliance)

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

HCT certifies that no party to application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C 862

Tested By



Ki-Min Lee
Test Engineer
EMC Team
Certification Division

Reviewed By



Sang-Jun Lee
Technical Manager
EMC Team
Certification Division

This report only responds to the tested sample and may not be reproduced, except in full, without written approval of the HCT Co., Ltd.



DOCUMENT HISTORY

The revision history for this document is shown in table.

Version	Date	Description
HCT-E-1404-F021	April 14, 2014	Initial Release



TABLE OF CONTENTS

	PAGE
1. GENERAL INFORMATION	4
1.1 Description of EUT	4
1.2 Related Submittal(s) / Grant(s).....	4
1.3 Test Facility	5
1.4 Tested System Details.....	6
1.5 Cable Description	7
1.6 Noise Suppression Parts on Cable. (I/O Cable)	7
2. DESCRIPTION OF TEST	8
3. PRELIMINARY TEST	11
3.1 Conducted Emission Test	11
3.2 Radiated Emission Test	11
4. CONDUCTED AND RADIATED EMISSION TEST SUMMARY	12
4.1 Conducted Emission Test	12
4.2 Radiated Emission Test	13
5. LIST OF TEST EQUIPMENT	26
6. CONCLUSION	27

ATTACHMENT: TEST SETUP PHOTOGRAPHS



1. GENERAL INFORMATION

1.1 Description of EUT

Equipment Under Test is manufactured by **LG Electronics MobileComm U.S.A., Inc.**
Its basic purpose is used for communications.

Model	LG-D850
FCC ID	ZNFD850
Additional Model	LGD850, D850
EUT Type	Multi-band GSM/EDGE/WCDMA/LTE Phone with WLAN, Bluetooth & RFID
TX Frequency	824.20 MHz to 848.80 MHz (GSM 850) 1 850.20 MHz to 1 909.80 MHz (GSM 1 900) 826.40 MHz to 846.60 MHz (WCDMA 850) 1 852.4 MHz to 1 907.6 MHz (WCDMA 1 900) 1712.4 MHz to 1752.6 MHz (WCDMA 1 700) 1 850.7 MHz to 1 909.3 MHz (LTE B2) 1 710 MHz to 1 755 MHz (LTE B4) 824 MHz to 849 MHz (LTE B5) 2500 MHz to 2570 MHz (LTE B7) 704 MHz to 716 MHz (LTE B17)
RX Frequency	869.20 MHz to 893.80 MHz (GSM 850) 1 930.20 MHz to 1 989.80 MHz (GSM 1 900) 871.40 MHz to 891.60 MHz (WCDMA 850) 1 932.4 MHz to 1 987.6 MHz (WCDMA 1 900) 2 112.4 MHz to 2 152.6 MHz (WCDMA 1 700) 1 930.00 MHz to 1 990.00 MHz (LTE B2) 2 110 MHz to 2 155 MHz (LTE B4) 869 MHz to 894 MHz (LTE B5) 2620 MHz to 2690 MHz (LTE B7) 734 MHz to 746 MHz (LTE B17)

1.2 Related Submittal(s) / Grant(s)

Original submittal only.



1.3 Test Facility

Test site is located at 74, SEOICHEON-RO, 578BEON-GIL, MAJANG-MYEON, ICHEON-SI, GYEONGGI-DO, SOUTH KOREA. Those measurement facilities are constructed in conformance with the requirements of ANSI C63.4-2003.

Measurement Facilities	Reg. No.
Radiated Field strength measurement facility (3 m)	90661 (February 28, 2014)
Radiated Field strength measurement facility (10 m)	90661 (February 28, 2014)



1.4 Tested System Details

All equipment descriptions used in the tested system (including inserted cards) are:

Device Type	Model Name	Manufacturer	FCC ID / DoC	Connected To
EUT	LG-D850	LG	ZNFD850	Notebook PC Ear-phone
USB cable	EAD62626901	CRESYN	-	E.U.T Notebook PC
USB cable	EAD62566901	Ningbo Broad	-	E.U.T Notebook PC
USB cable	EAD62589701	KSD	-	E.U.T Notebook PC
USB cable	EAD62627001	CRESYN	-	E.U.T Notebook PC
USB cable	EAD62567001	Ningbo Broad	-	E.U.T Notebook PC
USB cable	EAD62589001	KSD	-	E.U.T Notebook PC
Ear-phone	EAB62910502	CRESYN	-	E.U.T
Standard cover	-	LG	-	E.U.T
Wireless charger cover	-	LG	-	E.U.T
Notebook PC	ProBook6560b	H.P	DoC	EUT Notebook PC adaptor
Notebook PC adaptor	PPP009D	DELTA Electronics (JIANGSU)LTD	-	Notebook PC
Gateway	MV440	Axesstel	PH7MV440	Notebook PC, Adaptor
Mouse	Serial 2 button mouse	Radio shack	FSUGMZE3	Notebook PC
Adaptor	DA-60M12	Yang Ming Industrial	-	Gateway
RJ45 cable	-	-	-	Notebook PC, Gateway
Micro SD Card	8 GB	Transcend	-	EUT



1.5 Cable Description

Product Name	Port	Power Cord Shielded (Y/N)	I/O Cable Shielded (Y/N)	Length (m)
EUT	Micro USB	Y	Y	(P,D)1.2
	Ear-phone	N/A	N	(D)1.2
Notebook PC	RJ 45	N/A	N	(D)1.5
	Serial (Mouse)	N/A	Y	(D)1.8
	DC in	N	N/A	(P)1.8
Gateway	DC in	N	N/A	(P)1.8

* The marked "(D)" means the data cable and "(P)" means the power cable.

1.6 Noise Suppression Parts on Cable. (I/O Cable)

Product Name	Port	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
EUT	Micro USB	N	N/A	Y	Both End
	Ear-phone	N	N/A	Y	EUT End
Notebook PC	RJ 45	N	N/A	N	N/A
	Serial (Mouse)	N	N/A	Y	Notebook PC End



2. DESCRIPTION OF TEST

2.1 Measurement of Conducted Emission

The test procedure was in accordance with ANSI C63.4-2003, Clause 7

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both conducted lines are measured in Quasi-Peak and Average mode, including the worst-case data points for each tested configuration.
- c. The frequency range from 150 kHz to 30 MHz was searched.

[Conducted Emission Limits]

Frequency (MHz)	Resolution Bandwidth	Quasi-Peak(dB μ V)	Average(dB μ V)
0.15 to 0.5	9 kHz	66 to 56*	56 to 46*
0.5 to 5	9 kHz	56	46
5 to 30	9 kHz	60	50

**Decreases with the logarithm of the frequency.*



2.2 Measurement of Radiated Emission

The test procedure was in accordance with ANSI C63.4-2003, Clause 8

- a. The EUT was placed on the top of a turn table 0.8 meters above the ground at a 3 m shield room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 m away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from 1 m to 4 m above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 m to 4 m and the turn table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to Peak and Average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
- g. The antenna height scans apply for both horizontal and vertical polarizations, except that for vertical polarization, the minimum height of the center of the antenna shall be increased so that the lowest point of the bottom of the lowest antenna element clears the site reference ground plane by at least 25 cm. (below 1 GHz)

[Radiated Emission Limits]

Frequency (MHz)	Antenna Distance (m)	Field Strength ($\mu V/m$)	Quasi-Peak (dB $\mu V/m$)
30 to 88	3	100	40.0
88 to 216	3	150	43.5
216 to 960	3	200	46.0
Above 960	3	500	54.0
Frequency (MHz)	Antenna Distance (m)	Peak (dB $\mu V/m$)	Average (dB $\mu V/m$)
Above 1 000	3	74	54

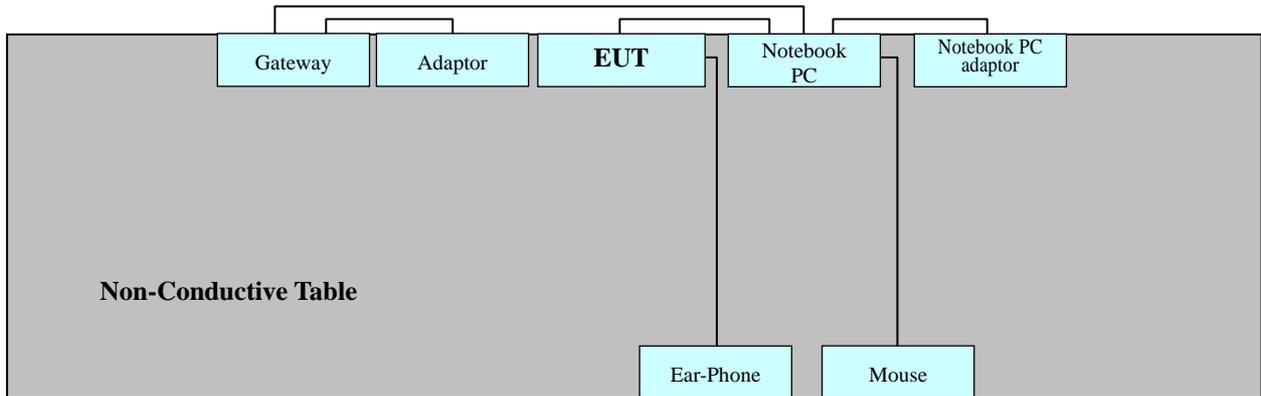


2.2.1 Frequency Range of Radiated Measurements

An unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a Radiated Emission limit is specified, up to the frequency shown in the following table

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705 to 108	1 000
108 to 500	2 000
500 to 1 000	5 000
Above 1 000	5 th harmonic of the highest frequency or 40 GHz, whichever is lower

2.3 Configuration of Tested System



Power Line: 120 VAC, 60 Hz



3. PRELIMINARY TEST

3.1 Conducted Emission Test

- It was tested Data Communication mode, after connecting all peripheral devices.

Operation Mode: Data Communication mode

Test Configuration: USB cable (EAD62626901: CRESYN) & Standard cover
 USB cable (EAD62566901: Ningbo Broad) & Standard cover
 USB cable (EAD62589701: KSD) & Standard cover
 USB cable (EAD62627001: CRESYN) & Wireless charger cover
 USB cable (EAD62567001: Ningbo Broad) & Wireless charger cover
 USB cable (EAD62589001: KSD) & Wireless charger cover

※The worst-case emissions are reported.

3.2 Radiated Emission Test

- It was tested Data Communication mode, after connecting all peripheral devices.

Operation Mode: Data Communication mode

Test Configuration: USB cable (EAD62626901: CRESYN) & Standard cover
 USB cable (EAD62566901: Ningbo Broad) & Standard cover
 USB cable (EAD62589701: KSD) & Standard cover
 USB cable (EAD62627001: CRESYN) & Wireless charger cover
 USB cable (EAD62567001: Ningbo Broad) & Wireless charger cover
 USB cable (EAD62589001: KSD) & Wireless charger cover

※The worst-case emissions are reported.



4. CONDUCTED AND RADIATED EMISSION TEST SUMMARY

4.1 Conducted Emission Test

The following table shows the highest levels of conducted emissions on both polarization of hot and neutral line.

Limit Apply to	: FCC PART 15 Subpart B Class B
Detector	: Quasi-Peak, Average (6 dB Bandwidth: 9 kHz)
Operation Mode	: Data Communication mode
Battery & USB Cable Type	: Standard Cover & KSD(EAD62589701) ※ The worst-case emissions are reported.
Temperature	: 20.2°C
Humidity Level	: 28.8 %
Test Date	: April 08, 2014

Frequency (MHz)	Corr. (dB)	Conductor	Quasi-Peak			Average		
			Limit (dBuV)	Measurement Level (dBuV)	Result Level (dBuV)	Limit (dBuV)	Measurement Level (dBuV)	Result Level (dBuV]
0.2040	9.7	L1	63.4	40.0	49.7	53.4	-	-
0.2130	9.7	L1	63.1	37.6	47.3	53.1	-	-
0.2670	9.7	N	61.2	34.1	43.8	51.2	21.4	31.1
3.8255	10.0	L1	56.0	-	-	46.0	18.9	28.9
4.3205	10.1	N	56.0	26.9	37.0	46.0	18.4	28.5
4.6040	10.1	N	56.0	-	-	46.0	18.4	28.5

※ Calculation Formula:

1. Conductor L1 = Hot, Conductor N = Neutral
 2. Corr. = LISN Factor + Cable Loss
 3. Measurement Level (Receiver Reading) = Result Level - Corr.
 4. Result Level = Measurement Level + Corr.
- * 'Result Level' in above table is same as the 'Quasi-Peak' and 'CAverage' of the Test Data Graph (Refer to page 13 to page 16 for details.)



- Test Data Graph

Test

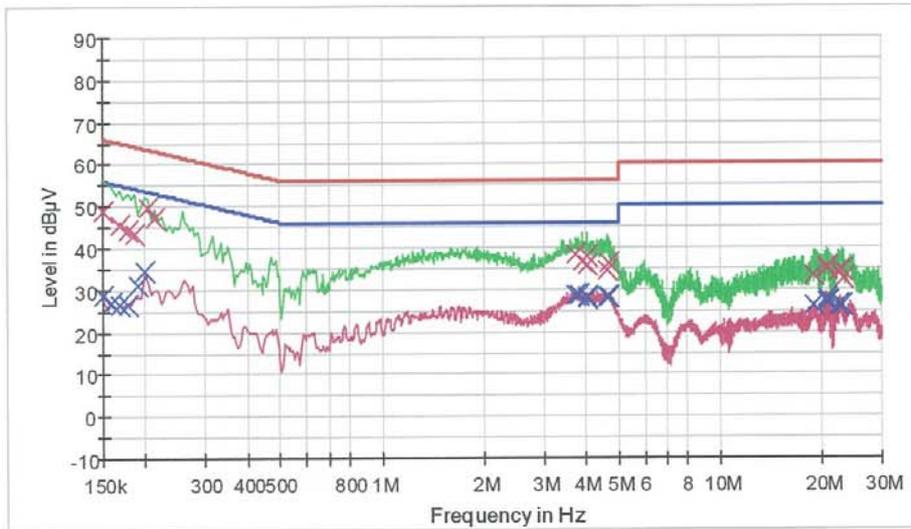
1 / 2

HCT TEST Report

Common Information

EUT: LG-D850
 Manufacturer: LG
 Test Site: SHIELD ROOM
 Operating Conditions: STANDARD CASE_KSD
 Operator Name:

FCC CLASS B



— FCC CLASS B_QP
 — FCC CLASS B_AV
 — Preview Result 1-PK+
— Preview Result 2-AVG
 x Final Result 1-QPK
 x Final Result 2-CAV

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	48.6	9.000	Off	L1	9.7	17.4	66.0
0.168000	45.6	9.000	Off	L1	9.7	19.5	65.1
0.177000	44.3	9.000	Off	L1	9.7	20.3	64.6
0.186000	43.4	9.000	Off	L1	9.7	20.8	64.2
0.204000	49.7	9.000	Off	L1	9.7	13.7	63.4
0.213000	47.3	9.000	Off	L1	9.7	15.8	63.1
3.753500	38.3	9.000	Off	L1	10.0	17.7	56.0
3.911000	36.7	9.000	Off	L1	10.0	19.3	56.0
4.037000	37.8	9.000	Off	L1	10.1	18.2	56.0
4.059500	36.0	9.000	Off	L1	10.1	20.0	56.0
4.658000	34.5	9.000	Off	L1	10.1	21.5	56.0
4.676000	36.2	9.000	Off	L1	10.1	19.8	56.0
18.914000	33.5	9.000	Off	L1	10.9	26.5	60.0
20.610500	35.3	9.000	Off	L1	10.9	24.7	60.0
20.624000	35.1	9.000	Off	L1	10.9	24.9	60.0
22.311500	34.1	9.000	Off	L1	11.0	25.9	60.0

4/8/2014

2:15:32



Test

2 / 2

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
22.739000	34.5	9.000	Off	L1	11.0	25.5	60.0
23.162000	32.6	9.000	Off	L1	11.1	27.4	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	28.6	9.000	Off	L1	9.7	27.4	56.0
0.159000	27.0	9.000	Off	L1	9.7	28.5	55.5
0.168000	26.7	9.000	Off	L1	9.7	28.4	55.1
0.177000	26.7	9.000	Off	L1	9.7	27.9	54.6
0.190500	31.0	9.000	Off	L1	9.7	23.0	54.0
0.199500	34.6	9.000	Off	L1	9.7	19.0	53.6
3.753500	28.8	9.000	Off	L1	10.0	17.2	46.0
3.825500	28.9	9.000	Off	L1	10.0	17.1	46.0
4.037000	28.2	9.000	Off	L1	10.1	17.8	46.0
4.059500	27.9	9.000	Off	L1	10.1	18.1	46.0
4.658000	28.3	9.000	Off	L1	10.1	17.7	46.0
4.676000	28.0	9.000	Off	L1	10.1	18.0	46.0
18.914000	26.3	9.000	Off	L1	10.9	23.7	50.0
20.610500	27.1	9.000	Off	L1	10.9	22.9	50.0
20.624000	27.7	9.000	Off	L1	10.9	22.3	50.0
20.984000	26.8	9.000	Off	L1	11.0	23.2	50.0
22.311500	26.0	9.000	Off	L1	11.0	24.0	50.0
22.739000	26.1	9.000	Off	L1	11.0	23.9	50.0

4/8/2014

2:15:32



EMI Auto Test(2)

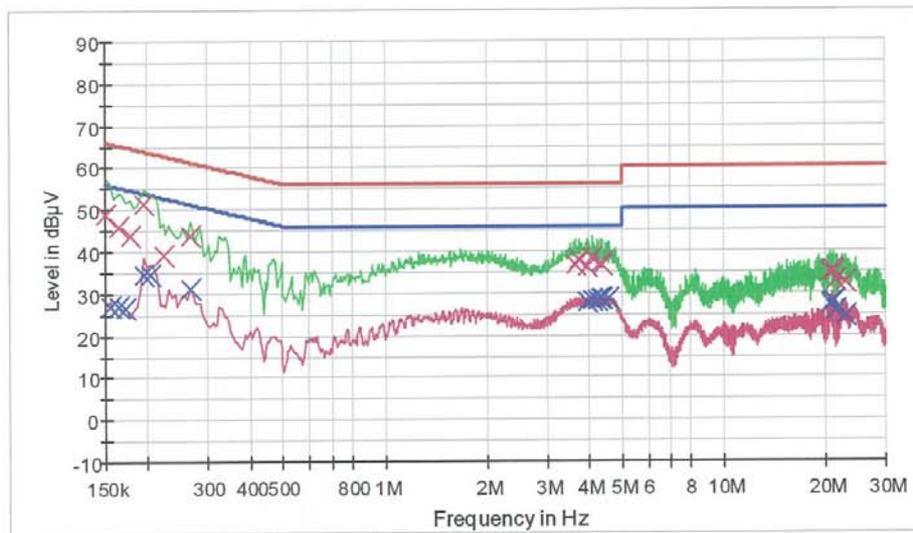
1 / 2

HCT TEST Report

Common Information

EUT: LG-D850
 Manufacturer: LG
 Test Site: SHIELD ROOM
 Operating Conditions: STANDARD CASE_KSD
 Operator Name:

FCC CLASS B



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	48.8	9.000	Off	N	9.7	17.2	66.0
0.163500	46.0	9.000	Off	N	9.7	19.3	65.3
0.177000	44.0	9.000	Off	N	9.7	20.6	64.6
0.195000	51.3	9.000	Off	N	9.7	12.5	63.8
0.222000	39.0	9.000	Off	N	9.7	23.7	62.7
0.267000	43.8	9.000	Off	N	9.7	17.4	61.2
3.659000	36.8	9.000	Off	N	10.0	19.2	56.0
3.753500	37.8	9.000	Off	N	10.0	18.2	56.0
3.974000	36.2	9.000	Off	N	10.1	19.8	56.0
4.109000	38.2	9.000	Off	N	10.1	17.8	56.0
4.320500	37.0	9.000	Off	N	10.1	19.0	56.0
4.392500	36.8	9.000	Off	N	10.1	19.2	56.0
20.547500	35.0	9.000	Off	N	10.8	25.0	60.0
20.831000	35.5	9.000	Off	N	10.8	24.5	60.0
21.042500	34.9	9.000	Off	N	10.9	25.1	60.0
21.110000	35.0	9.000	Off	N	10.9	25.0	60.0

4/8/2014

2:08:29



EMI Auto Test(2)

2 / 2

Frequency (MHz)	QuasiPeak (dBμV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
21.312500	32.7	9.000	Off	N	10.9	27.3	60.0
22.959500	32.5	9.000	Off	N	10.9	27.5	60.0

Final Result 2

Frequency (MHz)	CAverage (dBμV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.154500	26.8	9.000	Off	N	9.7	29.0	55.8
0.163500	26.8	9.000	Off	N	9.7	28.5	55.3
0.172500	26.7	9.000	Off	N	9.7	28.1	54.8
0.195000	34.4	9.000	Off	N	9.7	19.4	53.8
0.204000	34.6	9.000	Off	N	9.7	18.8	53.4
0.267000	31.1	9.000	Off	N	9.7	20.1	51.2
3.938000	27.8	9.000	Off	N	10.1	18.2	46.0
4.109000	28.4	9.000	Off	N	10.1	17.6	46.0
4.253000	28.4	9.000	Off	N	10.1	17.6	46.0
4.320500	28.5	9.000	Off	N	10.1	17.5	46.0
4.392500	28.4	9.000	Off	N	10.1	17.6	46.0
4.604000	28.5	9.000	Off	N	10.1	17.5	46.0
20.547500	27.3	9.000	Off	N	10.8	22.7	50.0
20.835500	27.9	9.000	Off	N	10.8	22.1	50.0
21.042500	28.0	9.000	Off	N	10.9	22.0	50.0
21.110000	28.0	9.000	Off	N	10.9	22.0	50.0
21.312500	25.6	9.000	Off	N	10.9	24.4	50.0
22.959500	24.5	9.000	Off	N	10.9	25.5	50.0

4/8/2014

2:08:29



Limit Apply to : FCC PART 15 Subpart B Class B

Detector : Quasi-Peak, Average (6 dB Bandwidth: 9 kHz)

Operation Mode : Data Communication mode

Battery & USB Cable Type : Wireless Charger Cover & KSD (EAD62589701)
 ※ The worst-case emissions are reported.

Temperature : 20.2°C

Humidity Level : 28.8 %

Test Date : April 08, 2014

Frequency (MHz)	Corr. (dB)	Conductor	Quasi-Peak			Average		
			Limit (dBuV)	Measurement Level (dBuV)	Result Level (dBuV)	Limit (dBuV)	Measurement Level (dBuV)	Result Level (dBuV)
0.1950	9.7	N	63.8	40.4	50.1	53.4	24.9	34.6
0.2040	9.7	N	63.4	39.7	49.4	53.4	-	-
4.2440	10.1	N	56.0	28.8	38.9	46.0	20.1	30.2
4.3160	10.1	L1	56.0	28.9	39.0	46.0	20.5	30.6
4.3880	10.1	L1	56.0	-	-	46.0	20.4	30.5
4.4600	10.1	L1	56.0	-	-	46.0	20.3	30.4

※ Calculation Formula:

1. Conductor L1 = Hot, Conductor N = Neutral
 2. Corr. = LISN Factor + Cable Loss
 3. Measurement Level (Receiver Reading) = Result Level - Corr.
 4. Result Level = Measurement Level + Corr.
- * 'Result Level' in above table is same as the 'Quasi-Peak' and 'Average' of the Test Data Graph (Refer to page 18 to page 21 for details.)



- Test Data Graph

Test

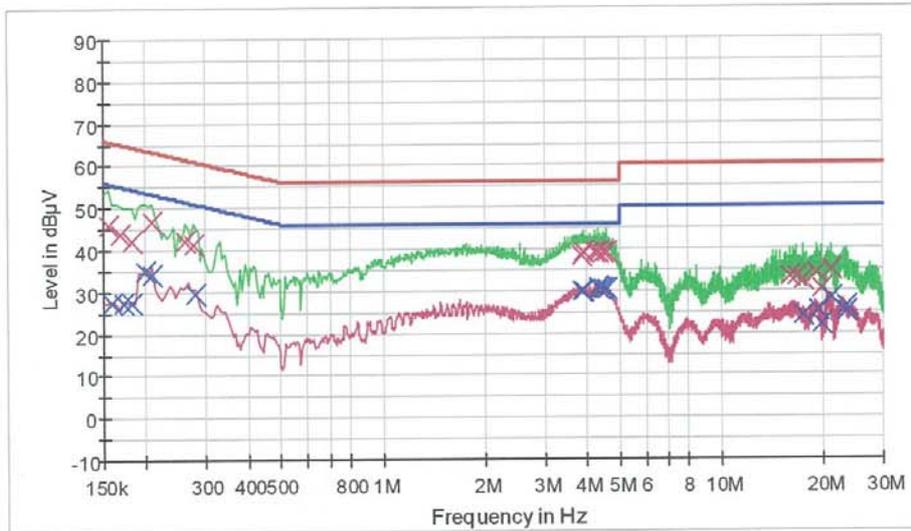
1 / 2

HCT TEST Report

Common Information

EUT: LG-D850
 Manufacturer: LG
 Test Site: SHIELD ROOM
 Operating Conditions: Wireless Charger CASE_KSD
 Operator Name:

FCC CLASS B



— FCC CLASS B_QP
 — FCC CLASS B_AV
 — Preview Result 1-PK+
— Preview Result 2-AVG
 X Final Result 1-QPK
 X Final Result 2-CAV

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154500	46.0	9.000	Off	L1	9.7	19.8	65.8
0.168000	43.7	9.000	Off	L1	9.7	21.4	65.1
0.181500	42.0	9.000	Off	L1	9.7	22.4	64.4
0.208500	46.5	9.000	Off	L1	9.7	16.8	63.3
0.262500	42.2	9.000	Off	L1	9.7	19.2	61.4
0.276000	41.2	9.000	Off	L1	9.7	19.7	60.9
3.866000	38.2	9.000	Off	L1	10.0	17.8	56.0
3.893000	39.1	9.000	Off	L1	10.0	16.9	56.0
4.244000	39.1	9.000	Off	L1	10.1	16.9	56.0
4.316000	39.0	9.000	Off	L1	10.1	17.0	56.0
4.455500	39.3	9.000	Off	L1	10.1	16.7	56.0
4.599500	39.2	9.000	Off	L1	10.1	16.8	56.0
15.921500	33.2	9.000	Off	L1	10.7	26.8	60.0
16.695500	33.3	9.000	Off	L1	10.7	26.7	60.0
17.339000	32.4	9.000	Off	L1	10.8	27.6	60.0
19.031000	34.0	9.000	Off	L1	10.9	26.0	60.0

4/8/2014

3:48:31



Test

2 / 2

Frequency (MHz)	QuasiPeak (dBμV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
19.737500	30.5	9.000	Off	L1	10.9	29.5	60.0
21.164000	34.8	9.000	Off	L1	11.0	25.2	60.0

Final Result 2

Frequency (MHz)	CAverage (dBμV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.159000	27.5	9.000	Off	L1	9.7	28.0	55.5
0.172500	27.3	9.000	Off	L1	9.7	27.5	54.8
0.181500	27.4	9.000	Off	L1	9.7	27.0	54.4
0.199500	35.0	9.000	Off	L1	9.7	18.6	53.6
0.208500	34.2	9.000	Off	L1	9.7	19.1	53.3
0.280500	29.3	9.000	Off	L1	9.7	21.5	50.8
3.866000	29.9	9.000	Off	L1	10.0	16.1	46.0
3.893000	30.0	9.000	Off	L1	10.0	16.0	46.0
4.316000	30.6	9.000	Off	L1	10.1	15.4	46.0
4.388000	30.5	9.000	Off	L1	10.1	15.5	46.0
4.460000	30.4	9.000	Off	L1	10.1	15.6	46.0
4.599500	30.3	9.000	Off	L1	10.1	15.7	46.0
17.339000	23.9	9.000	Off	L1	10.8	26.1	50.0
19.373000	25.4	9.000	Off	L1	10.9	24.6	50.0
19.737500	21.9	9.000	Off	L1	10.9	28.1	50.0
21.164000	28.2	9.000	Off	L1	11.0	21.8	50.0
23.283500	26.0	9.000	Off	L1	11.1	24.0	50.0
23.490500	24.8	9.000	Off	L1	11.1	25.2	50.0

4/8/2014

3:48:31



Test

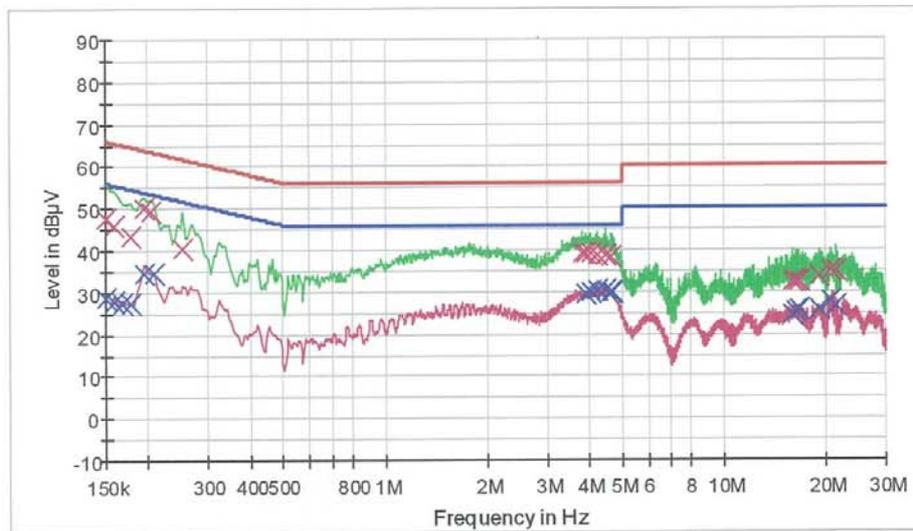
1 / 2

HCT TEST Report

Common Information

EUT: LG-D850
 Manufacturer: LG
 Test Site: SHIELD ROOM
 Operating Conditions: Wireless Charger CASE_KSD
 Operator Name:

FCC CLASS B



— FCCCLASS B_QP — FCCCLASS B_AV — Preview Result 1-1PK+
 — Preview Result 2-AVG X Final Result 1-CPK X Final Result 2-CAV

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	47.7	9.000	Off	N	9.7	18.3	66.0
0.159000	45.9	9.000	Off	N	9.7	19.6	65.5
0.177000	43.5	9.000	Off	N	9.7	21.1	64.6
0.195000	50.1	9.000	Off	N	9.7	13.7	63.8
0.204000	49.4	9.000	Off	N	9.7	14.0	63.4
0.253500	40.6	9.000	Off	N	9.7	21.0	61.6
3.821000	39.0	9.000	Off	N	10.0	17.0	56.0
3.888500	39.0	9.000	Off	N	10.0	17.0	56.0
4.032500	39.2	9.000	Off	N	10.1	16.8	56.0
4.244000	38.9	9.000	Off	N	10.1	17.1	56.0
4.460000	38.7	9.000	Off	N	10.1	17.3	56.0
4.617500	38.2	9.000	Off	N	10.1	17.8	56.0
15.917000	32.3	9.000	Off	N	10.6	27.7	60.0
16.205000	32.5	9.000	Off	N	10.6	27.5	60.0
16.623500	32.5	9.000	Off	N	10.7	27.5	60.0
19.170500	33.9	9.000	Off	N	10.8	26.1	60.0

4/8/2014

3:33:40



Test

2 / 2

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
20.736500	35.1	9.000	Off	N	10.8	24.9	60.0
21.299000	35.1	9.000	Off	N	10.9	24.9	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	28.5	9.000	Off	N	9.7	27.5	56.0
0.159000	27.7	9.000	Off	N	9.7	27.8	55.5
0.168000	27.5	9.000	Off	N	9.7	27.6	55.1
0.177000	27.5	9.000	Off	N	9.7	27.1	54.6
0.195000	34.6	9.000	Off	N	9.7	19.2	53.8
0.208500	34.4	9.000	Off	N	9.7	18.9	53.3
3.888500	29.4	9.000	Off	N	10.0	16.6	46.0
4.032500	29.7	9.000	Off	N	10.1	16.3	46.0
4.244000	30.2	9.000	Off	N	10.1	15.8	46.0
4.460000	30.2	9.000	Off	N	10.1	15.8	46.0
4.617500	30.1	9.000	Off	N	10.1	15.9	46.0
4.671500	30.0	9.000	Off	N	10.1	16.0	46.0
15.917000	24.7	9.000	Off	N	10.6	25.3	50.0
16.205000	25.4	9.000	Off	N	10.6	24.6	50.0
16.623500	25.5	9.000	Off	N	10.7	24.5	50.0
19.170500	25.6	9.000	Off	N	10.8	24.4	50.0
20.736500	27.9	9.000	Off	N	10.8	22.1	50.0
21.299000	26.7	9.000	Off	N	10.9	23.3	50.0



4.2 Radiated Emission Test

The following table shows the highest levels of Radiated Emissions on both polarization of horizontal and vertical.

-For Measurement Below 1 GHz

Limit Apply to	: FCC PART 15 Subpart B Class B
Detector	: Quasi-Peak
6 dB Bandwidth:	: RBW 120 kHz, VBW 300 kHz
Operation Mode	: Data Communication mode
Battery & USB Cable Type	: Standard Cover & KSD(EAD62589701) * The worst-case emissions are reported.
Temperature	: 21.4°C
Humidity Level	: 27.0 %
Test Date	: April 07, 2014

Frequency (MHz)	Reading (dBUV)	Polarity (H/V)	Antenna Height (m)	Correction Factor		Limit (dBUV/m)	Total Level (dBUV/m)	Margin (dB)
				Antenna (dB/m)	Cable (dB)			
83.0	23.7	H	2.5	7.9	3.7	40.0	35.3	4.7
375.0	20.7	V	1.2	15.1	4.8	46.0	40.6	5.4
625.0	13.7	V	1.0	20.0	5.4	46.0	39.1	6.9

* Calculation Formula:

1. Polarity H = Horizontal, Polarity V = Vertical
2. Reading (Receiver Reading) = Total Level – Correction Factor
3. Margin = Limit - Total Level
4. Total Level = Quasi-Peak



Limit Apply to : FCC PART 15 Subpart B Class B

Detector : Quasi-Peak
6 dB Bandwidth: : RBW 120 kHz, VBW 300 kHz

Operation Mode : Data Communication mode
Battery & USB Cable Type : Wireless Charger Cover & KSD(EAD62589701)
※ The worst-case emissions are reported.

Temperature : 21.4°C
Humidity Level : 27.0 %
Test Date : April 07, 2014

Frequency (MHz)	Reading (dBuV)	Polarity (H/V)	Antenna Height (m)	Correction Factor		Limit (dBuV/m)	Total Level (dBuV/m)	Margin (dB)
				Antenna (dB/m)	Cable (dB)			
82.4	24.4	H	2.7	7.9	3.7	40.0	36.0	4.0
375.0	20.4	V	1.3	15.1	4.8	46.0	40.3	5.7

※ **Calculation Formula:**

1. Polarity H = Horizontal, Polarity V = Vertical
2. Reading (Receiver Reading) = Total Level – Correction Factor
3. Margin = Limit - Total Level
4. Total Level = Quasi-Peak



-For Measurement Above 1 GHz

Limit Apply to : FCC PART 15 Subpart B Class B

Detector : Peak mode: Peak (RBW: 1 MHz, VBW: 3 MHz)
Average mode: Peak (RBW: 1 MHz, VBW: 10 Hz)

Operation Mode : Data Communication mode

Battery & USB Cable Type : Standard Cover & KSD(EAD62589701)
※ The worst-case emissions are reported.

Temperature : 20.5°C

Humidity Level : 30.1 %

Test Date : April 09, 2014

Frequency (GHz)	Polarity (H/V)	Antenna Height (m)	Peak			Average		
			Total Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Total Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
1.3278	V	1.0	53.2	74	20.8	36.4	54	17.6
2.0378	V	1.0	55.7	74	18.3	41.0	54	13.0
2.6588	V	1.0	53.7	74	20.3	37.3	54	16.7

※ Calculation Formula:

1. Polarity H = Horizontal, Polarity V = Vertical
2. Margin = Limit - Total Level



Limit Apply to : FCC PART 15 Subpart B Class B

Detector : Peak mode: Peak (RBW: 1 MHz, VBW: 3 MHz)
Average mode: Peak (RBW: 1 MHz, VBW: 10 Hz)

Operation Mode : Data Communication mode

Battery & USB Cable Type : Wireless Charger Cover & CRESYN(EAD62626901)
※The worst-case emissions are reported.

Temperature : 20.5°C

Humidity Level : 30.1 %

Test Date : April 09, 2014

Frequency (GHz)	Polarity (H/V)	Antenna Height (m)	Peak			Average		
			Total Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Total Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
1.3286	V	1.0	51.5	74	22.5	33.0	54	21.0
1.9995	V	1.0	56.6	74	17.4	38.5	54	15.5

※ **Calculation Formula:**

1. Polarity H = Horizontal, Polarity V = Vertical
2. Margin = Limit - Total Level



5. LIST OF TEST EQUIPMENT

<u>Type</u>	<u>Manufacturer</u>	<u>Model Name</u>	<u>Serial Number</u>	<u>Calibration Cycle</u>	<u>Next CAL Date</u>
<u>Conducted Emission</u>					
<input checked="" type="checkbox"/> EMI Test Receiver	Rohde & Schwarz	ESCI	100584	1 year	2015.01.24
<input checked="" type="checkbox"/> LISN	EMCO	3816/2SH	9706-1070	1 year	2014.04.26
<input checked="" type="checkbox"/> LISN	Rohde & Schwarz	ENV216	100073	1 year	2015.01.29
<input type="checkbox"/> EMI Test Receiver	Rohde & Schwarz	ESCI	100033	1 year	2014.06.23
<input type="checkbox"/> LISN	Rohde & Schwarz	ESH3-Z5	100282	1 year	2014.07.03
<input type="checkbox"/> Attenuator	Rohde & Schwarz	ESH3-Z2	357.8810.352	1 year	2014.07.03
<input checked="" type="checkbox"/> Software	Rohde & Schwarz	EMC32	-	-	-
<u>Radiated Emission</u>					
-For measurement below 1 GHz					
<input checked="" type="checkbox"/> EMI Test Receiver	Rohde & Schwarz	ESI40	831564103	1 year	2015.04.07
<input checked="" type="checkbox"/> Trilog Antenna	Schwarzbeck	VULB9160	3301	2 year	2014.12.17
<input checked="" type="checkbox"/> Antenna master	HD GmbH	MA240	240/520	N/A	-
<input checked="" type="checkbox"/> Turn Table	HD GmbH	2090	9702/1224	N/A	-
<input type="checkbox"/> EMI Test Receiver	Rohde & Schwarz	ESU 26	100241	1 year	2014.07.01
<input type="checkbox"/> Trilog Antenna	Schwarzbeck	VULB9168	185	2 year	2015.04.16
<input type="checkbox"/> Antenna master	INNCO Systems	MA4000-EP	MA4000/283	N/A	-
<input type="checkbox"/> Turn Table	INNCO Systems	DT3000-3T	DT3000/69	N/A	-
<input checked="" type="checkbox"/> Software	Rohde & Schwarz	EMC32	-	-	-
-For measurement above 1 GHz					
<input checked="" type="checkbox"/> EMI Test Receiver	Rohde & Schwarz	ESI40	831564103	1 year	2015.04.07
<input checked="" type="checkbox"/> Antenna master	HD GmbH	MA240	240/520	N/A	-
<input checked="" type="checkbox"/> Turn Table	HD GmbH	2090	9702/1224	N/A	-
<input checked="" type="checkbox"/> Power Amplifier	CERNEX	CBLU1183540	21691	1 year	2014.07.24
<input type="checkbox"/> Power Amplifier	CERNEX	CBLU1183540	21690	1 year	2014.07.12
<input type="checkbox"/> Power Amplifier	CERNEX	CBLU1183540	22964	1 year	2014.07.24
<input checked="" type="checkbox"/> Horn Antenna	Schwarzbeck	BBHA 9120D	296	2 year	2014.12.13
<input type="checkbox"/> EMI Test Receiver	Rohde & Schwarz	ESU 26	100241	1 year	2014.07.01
<input type="checkbox"/> Antenna master	INNCO Systems	MA4000-EP	MA4000/283	N/A	-
<input type="checkbox"/> Turn Table	INNCO Systems	DT3000-3T	DT3000/69	N/A	-
<input checked="" type="checkbox"/> Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170124	2 year	2014.10.30
<input checked="" type="checkbox"/> Power Amplifier	CERNEX	CBL18265035	22966	1 year	2014.07.24
<input checked="" type="checkbox"/> Power Amplifier	CERNEX	CBL26405040	19660	1 year	2014.04.16
<input checked="" type="checkbox"/> Software	Rohde & Schwarz	EMC32	-	-	-



6. CONCLUSION

The data collected shows that the **EUT type: Multi-band GSM/EDGE/WCDMA/LTE Phone with WLAN, Bluetooth & RFID, FCC ID: ZNFD850, Model: LG-D850** complies with §15.107 and §15.109 of the FCC rules.