



DOCUMENT HISTORY

The revision history for this document is shown in table.

Version	Date	Description
HCT-E-1505-F026	May 29, 2015	Initial Release
HCT-E-1505-F026-1	July 02, 2015	Added the additional model names.



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	26
5. LIST OF TEST EQUIPMENT	30
6. CONCLUSION	31

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-H735
FCC ID	ZNFH735
Additional Model	LGH735, H735, LG-H735L, LGH735L, H735L
EUT Type	Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA and LTE Phone with Bluetooth, Wi-Fi and NFC
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) 824 MHz to 849 MHz (LTE B5) 2 496 MHz to 2 570 MHz (LTE B7) 832 MHz to 862 MHz (LTE B20)
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) 869 MHz to 894 MHz (LTE B5) 2 516 MHz to 2 690 MHz (LTE B7) 791 MHz to 821 MHz (LTE B20)

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-H735	LG	ZNFH735	Notebook PC, Earphone
USB cable	EAD62377902	Ningbo broad	-	EUT, Notebook PC
Earphone	EAB62209201	I-SOUND	-	EUT
Standard cover	-	-	-	EUT
Quick cover	CFV-110	Young Kwang	-	EUT
Notebook PC	ProBook6560b	HP	DoC	EUT, Notebook PC adaptor
Notebook PC adaptor	PPP009D	DELTA Electronics (Jiangsu) LTD	-	Notebook PC
Gateway	MV440	Axesstel	PH7MV440	Notebook PC, Adaptor
Serial 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	16 GB	Samsung	-	EUT



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).
If the EUT is connected to the PC through USB, the AC power-line adapter of the PC is directly connected to 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 (kHz)	Quasi-Peak (dB μ V)	Average (dB μ V)
0.15 to 0.5	9	66 to 56*	56 to 46*
0.5 to 5	9	56	46
5 to 30	9	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 semi anechoic chamber. 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 (μ V/m)	Quasi-Peak (dB μ 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 μ V/m)	Average (dB μ V/m)
Above 1 000	3	74	54

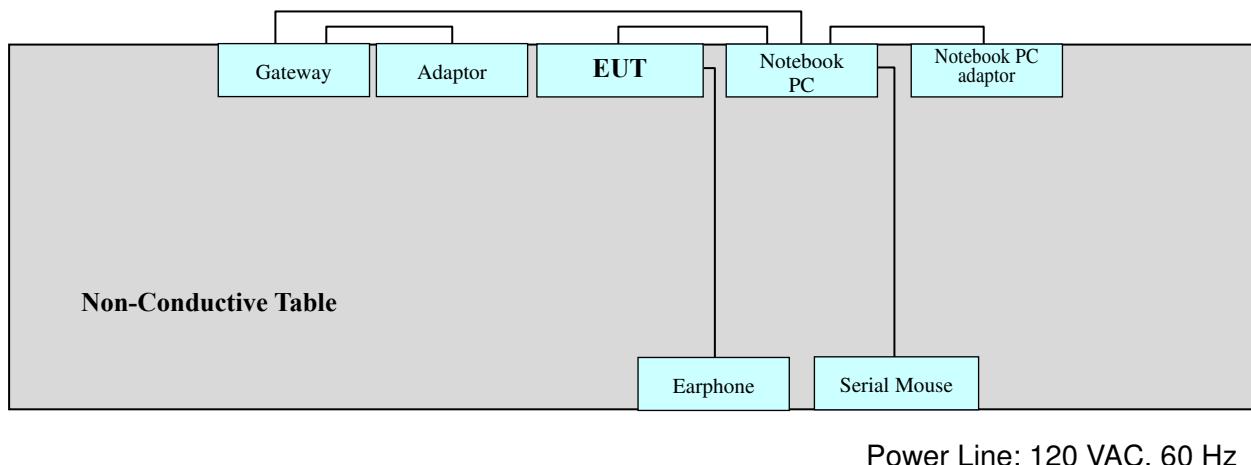


2.2.1 Frequency Range of Radiated Measurements

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





3. PRELIMINARY TEST

3.1 Conducted Emission Test

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

Operation Mode: Data Communication mode

3.2 Radiated Emission Test

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

Operation Mode: Data Communication mode



4. CONDUCTED AND RADIATED EMISSION TEST SUMMARY

4.1 Conducted Emission Test

The test results of conducted emission at mains ports provide the following information:

Rule Part / Standard	FCC PART 15 Subpart B Class B
Detector	Quasi-Peak, CISPR-Average
Bandwidth	9 kHz (6 dB)
Operation Mode	Data Communication mode
EUT Cover Type	Standard Cover
Kind of Test Site	Shielded Room
Temperature	22.7 °C
Relative Humidity	43.1 %
Test Date	May 12, 2015

- Calculation Formula:

1. Conductor L1 = Hot, Conductor N = Neutral
2. Corr. = LISN Factor + Cable Loss
3. QuasiPeak or CAverage = Receiver Reading + Corr.
4. Margin = Limit – QuasiPeak or CAverage

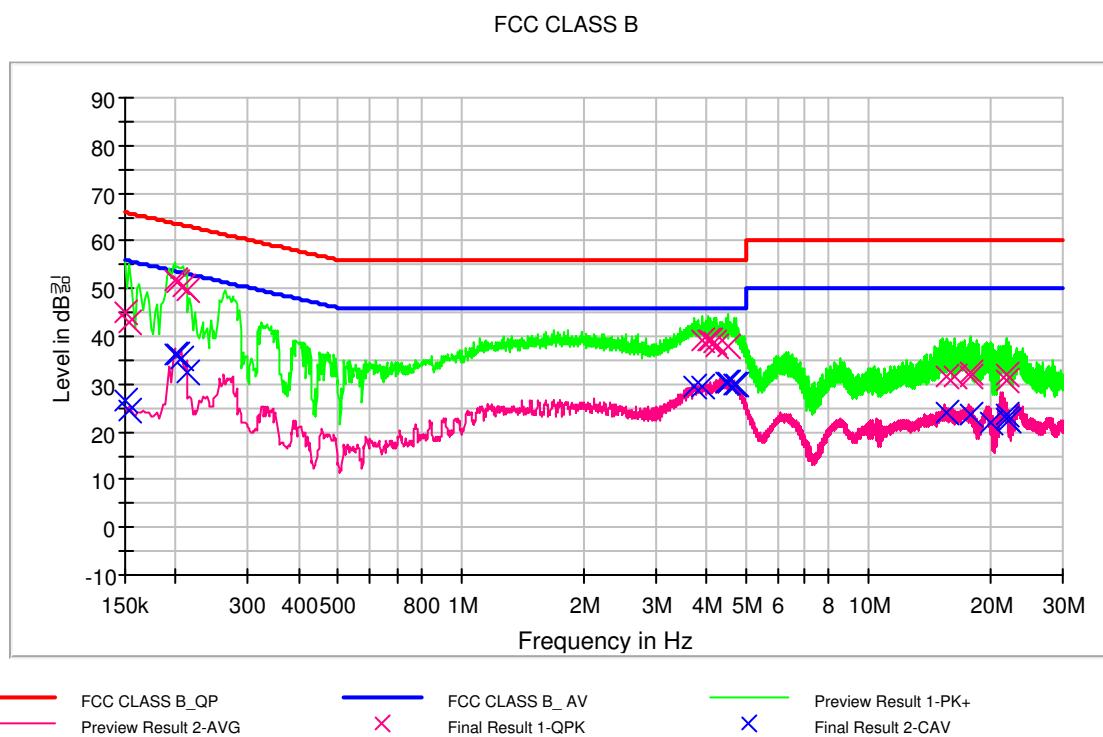
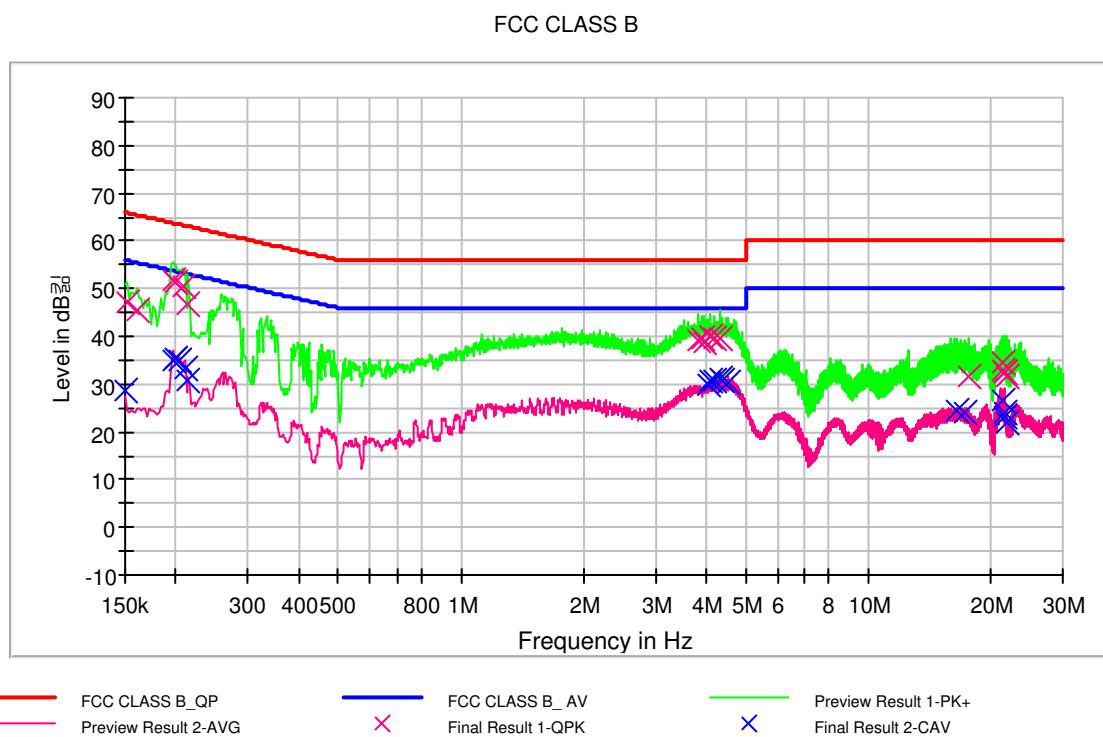
**Figure 1: Spectral Diagrams, Conducted Emission, AC Main Port, Line (L1)**



Figure 2: Spectral Diagrams, Conducted Emission, AC Main Port, Line (N)





The test results of conducted emission at mains ports provide the following information:

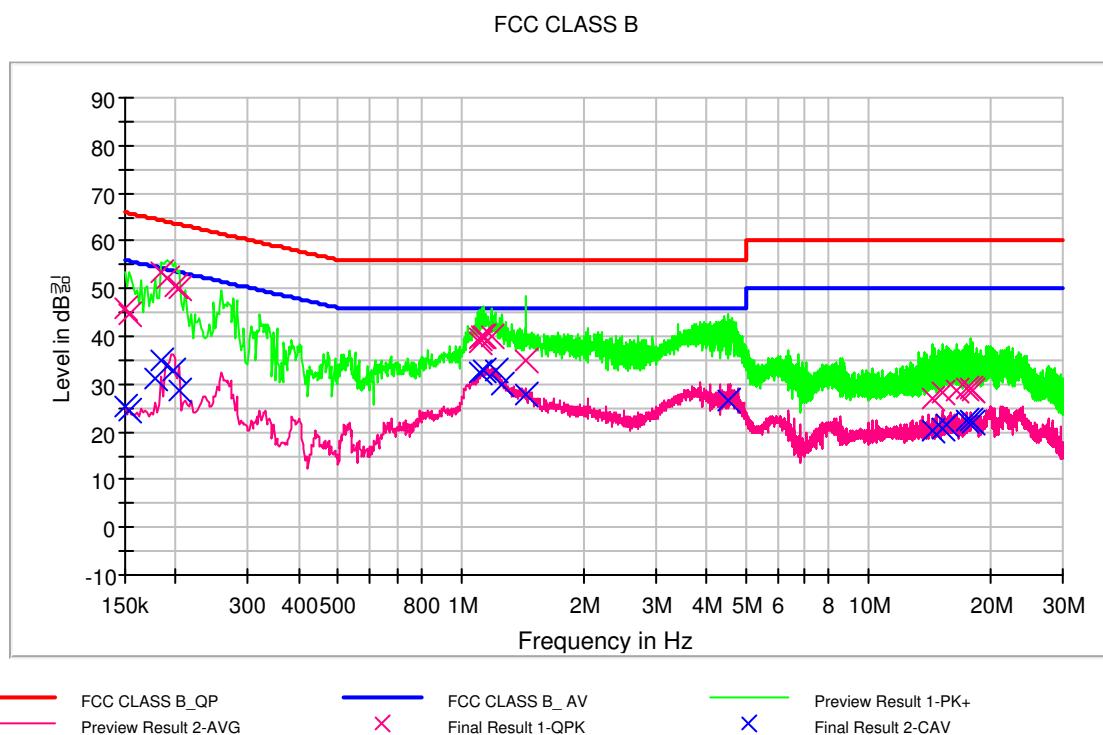
Rule Part / Standard	FCC PART 15 Subpart B Class B
Detector	Quasi-Peak, CISPR-Average
Bandwidth	9 kHz (6 dB)
Operation Mode	Data Communication mode
EUT Cover Type	Quick Cover
Kind of Test Site	Shielded Room
Temperature	24.3 °C
Relative Humidity	43.8 %
Test Date	May 19, 2015

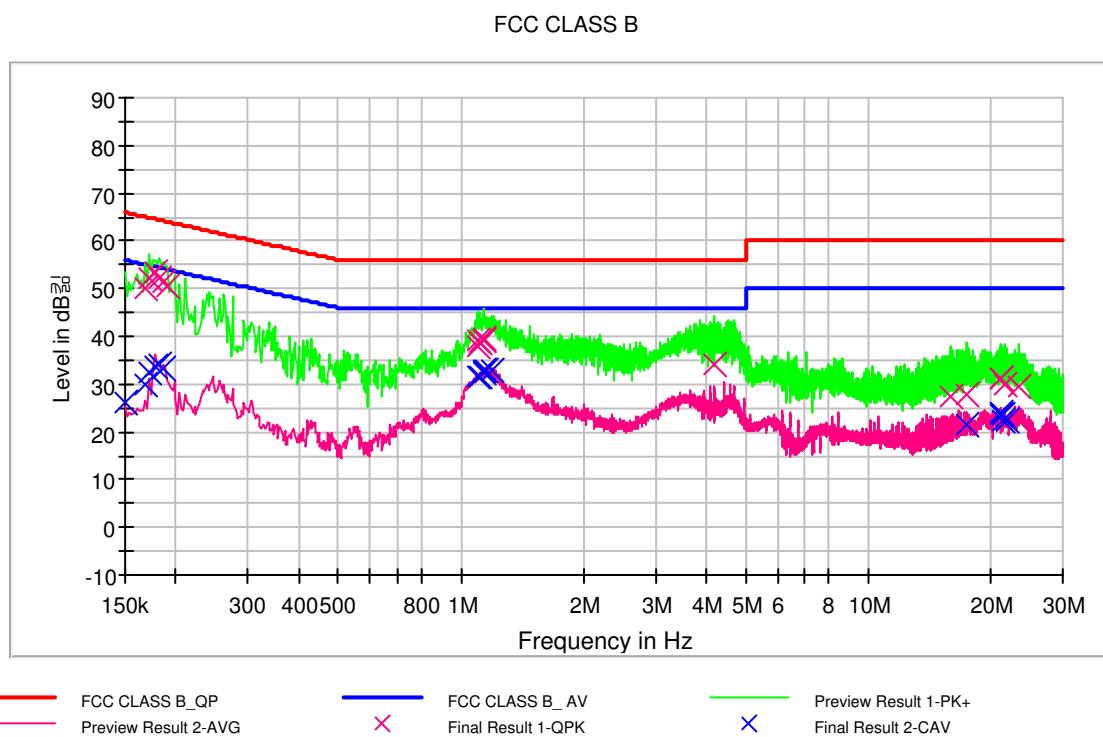
- Calculation Formula:

1. Conductor L1 = Hot, Conductor N = Neutral
2. Corr. = LISN Factor + Cable Loss
3. QuasiPeak or CAverage = Receiver Reading + Corr.
4. Margin = Limit – QuasiPeak or CAverage



Figure 3: Spectral Diagrams, Conducted Emission, AC Main Port, Line (L1)



**Figure 4: Spectral Diagrams, Conducted Emission, AC Main Port, Line (N)**



CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	26.0	9.000	N	9.6	30.0	56.0
0.168000	29.8	9.000	N	9.6	25.3	55.1
0.172000	32.3	9.000	N	9.6	22.6	54.9
0.178000	33.7	9.000	N	9.6	20.9	54.6
0.182000	33.9	9.000	N	9.6	20.5	54.4
0.186000	33.4	9.000	N	9.6	20.8	54.2
1.096000	31.4	9.000	N	9.7	14.6	46.0
1.108000	31.6	9.000	N	9.7	14.4	46.0
1.132000	32.5	9.000	N	9.7	13.5	46.0
1.144000	32.8	9.000	N	9.7	13.2	46.0
1.156000	32.9	9.000	N	9.7	13.1	46.0
1.192000	33.0	9.000	N	9.7	13.0	46.0
17.404000	21.4	9.000	N	10.2	28.6	50.0
21.010000	23.7	9.000	N	10.3	26.3	50.0
21.082000	23.9	9.000	N	10.3	26.1	50.0
21.296000	22.5	9.000	N	10.3	27.5	50.0
21.360000	23.7	9.000	N	10.3	26.3	50.0
21.934000	22.5	9.000	N	10.3	27.5	50.0



4.2 Radiated Emission Test

The test results of radiated emission provide the following information:

-For Measurement Below 1 GHz

Rule Part / Standard	FCC PART 15 Subpart B Class B
Detector	Quasi-Peak
Bandwidth	120 kHz (6 dB)
Operation Mode	Data Communication mode
EUT Cover Type	Standard Cover
Kind of Test Site	3 m semi anechoic chamber
Temperature	22.3 °C
Relative Humidity	40.1 %
Test Date	May 11, 2015

Frequency (MHz)	Quasi Peak (dBuV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
32.783888	25.1	100.0	V	275.0	14.9	14.9	40.0
85.028858	27.9	222.0	H	256.0	11.6	12.1	40.0
240.339880	34.9	150.0	H	169.0	15.8	11.1	46.0

- Calculation Formula:

1. POL. H = Horizontal, POL. V = Vertical
2. QuasiPeak = Reading (Receiver Reading) + Corr.
3. Corr. (Correction Factor) = Antenna Factor + Cable Loss
4. Margin = Limit - QuasiPeak



6. CONCLUSION

The data collected shows that the **EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA and LTE Phone with Bluetooth, Wi-Fi and NFC, FCC ID: ZNFH735, Model: LG-H735** complies with §15.107 and §15.109 of the FCC rules.