

EMI CERTIFICATION REPORT

Applicant:

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

Date of Receipt: March 30, 2015
Date of Issue: April 20, 2015
Test Report No. HCT-E-1504-F038
HCT FRN: 0005866421

FCC ID:**ZNFUS991**

Rule Part(s) / Standard(s): FCC CFR 47 PART 15 Subpart B Class B
FCC Classification: JBP (Part 15 B – Class B Computing Device Peripheral)
EUT Type: Potable Handset
Model Name: LG-US991
Additional Model Name: LGUS991, US991
Test Port: USB / Earphone Port
Date of Test: April 15, 2015 - April 17, 2015

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

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Test Engineer
EMC Team
Certification Division

Reviewed By

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Technical Manager
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Certification Division

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DOCUMENT HISTORY

The revision history for this document is shown in table.

Version	Date	Description
HCT-E-1504-F038	April 20, 2015	Initial Release



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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-US991
FCC ID	ZNFUS991
Additional Model	LGUS991, US991
EUT Type	Potable Handset
TX Frequency	824.70 MHz to 848.31 MHz (CDMA 850) 1 851.25 MHz to 1 908.75 MHz (CDMA 1 900) 824.20 MHz to 848.80 MHz (GSM 850) 1 850.20 MHz to 1 909.80 MHz (GSM 1 900) 1 852.4 MHz to 1 907.6 MHz (WCDMA B2) 826.40 MHz to 846.60 MHz (WCDMA B5) 1 850 MHz to 1 910 MHz (LTE B2) 1 710 MHz to 1 755 MHz (LTE B4) 824 MHz to 849 MHz (LTE B5) 699 MHz to 716 MHz (LTE B12) 777 MHz to 787 MHz (LTE B13) 704 MHz to 716 MHz (LTE B17) 1 850 MHz to 1 915 MHz (LTE B25)
RX Frequency	869.70 MHz to 893.31 MHz (CDMA 850) 1 931.25 MHz to 1 988.75 MHz (CDMA 1 900) 869.20 MHz to 893.80 MHz (GSM 850) 1 930.20 MHz to 1 989.80 MHz (GSM 1 900) 1 932.4 MHz to 1 987.6 MHz (WCDMA B2) 871.40 MHz to 891.60 MHz (WCDMA B5) 1 930 MHz to 1 990 MHz (LTE B2) 2 110 MHz to 2 155 MHz (LTE B4) 869 MHz to 894 MHz (LTE B5) 729 MHz to 746 MHz (LTE B12) 746 MHz to 756 MHz (LTE B13) 734 MHz to 746 MHz (LTE B17) 1 930 MHz to 1 995 MHz (LTE B25)



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-US991	LG	ZNFUS991	Notebook PC, Earphone
USB cable	EAD62567001	Ningbo broad	-	EUT, Notebook PC
USB cable	EAD62589001	CRESYN	-	EUT, Notebook PC
USB cable	EAD62627001	KSD	-	EUT, Notebook PC
Earphone	EAB62910501	I-SOUND	-	EUT
Standard case	-	-	-	EUT
Quick cover	CFR-100	DKUIL	-	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



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
	Earphone	N/A	Y	(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
	Earphone	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).
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 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 ($\mu\text{V/m}$)	Quasi-Peak ($\text{dB}\mu\text{V/m}$)
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 ($\text{dB}\mu\text{V/m}$)	Average ($\text{dB}\mu\text{V/m}$)
Above 1 000	3	74	54

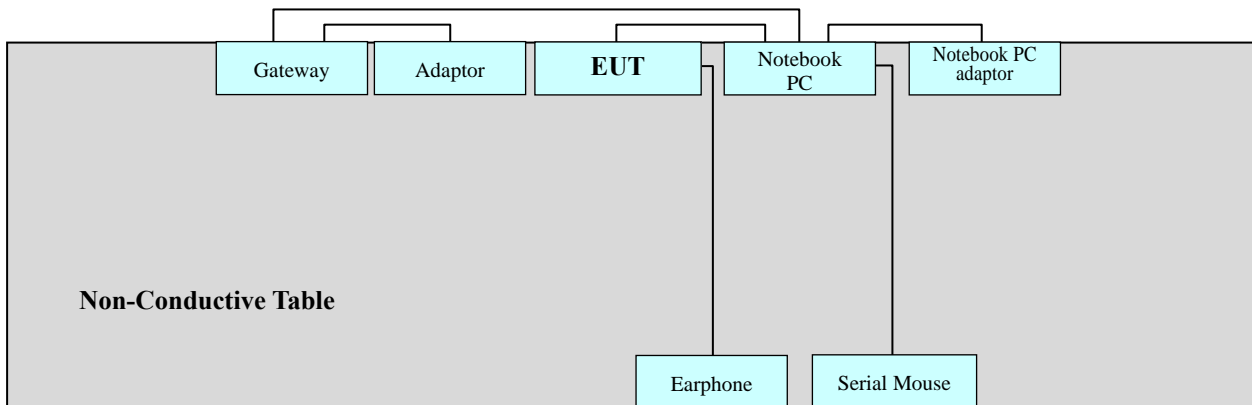


2.2.1 Frequency Range of Radiated Measurements

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

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:

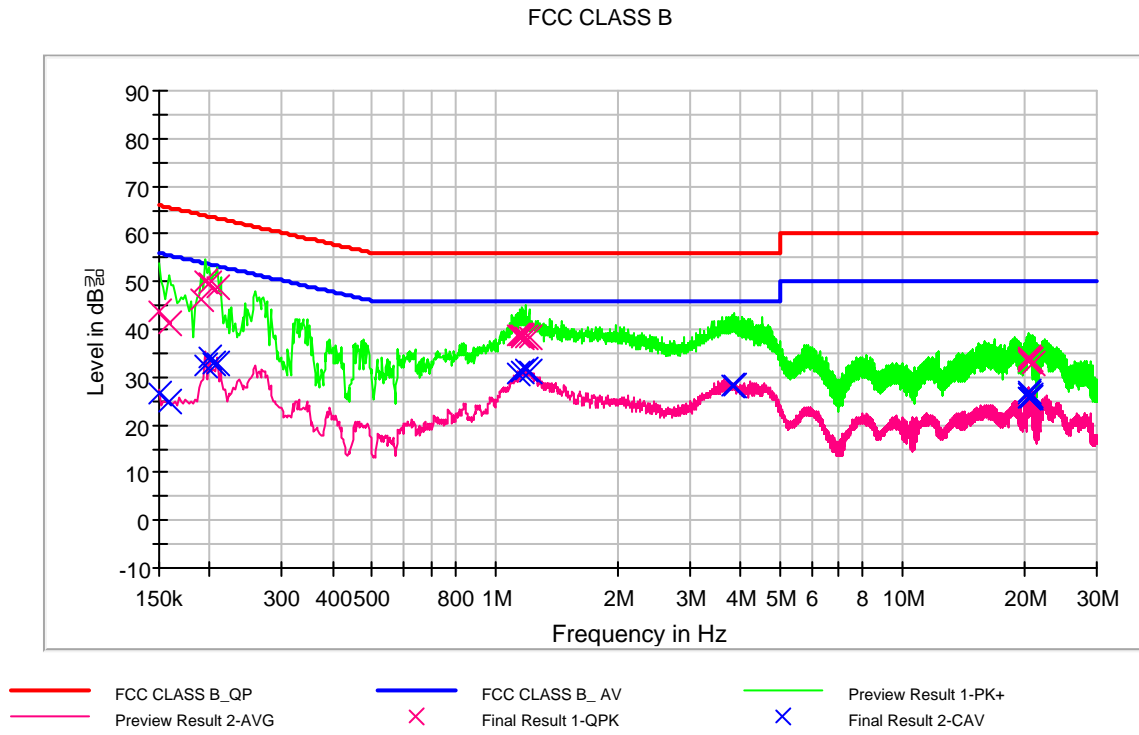
Rule Part / Standard	FCC PART 15 Subpart B Class B
Detector	Quasi-Peak, CISPR-Average
Bandwidth	9 kHz (6 dB)
Operation Mode	Data Communication mode
EUT Cover Type	Standard Cover
USB Cable Type	KSD *NOTE: The worst-case emissions are reported.
Kind of Test Site	Shielded Room
Temperature	23.4 °C
Relative Humidity	38.1 %
Test Date	April 15, 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)





QuasiPeak Final Result, Line (L1)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	43.9	9.000	L1	9.6	22.1	66.0
0.158000	41.4	9.000	L1	9.6	24.2	65.6
0.190000	46.4	9.000	L1	9.6	17.6	64.0
0.194000	50.0	9.000	L1	9.6	13.9	63.9
0.198000	49.5	9.000	L1	9.6	14.2	63.7
0.208000	48.7	9.000	L1	9.7	14.6	63.3
1.142000	38.6	9.000	L1	9.7	17.4	56.0
1.156000	38.5	9.000	L1	9.7	17.5	56.0
1.160000	38.6	9.000	L1	9.7	17.4	56.0
1.170000	38.4	9.000	L1	9.7	17.6	56.0
1.192000	38.4	9.000	L1	9.7	17.6	56.0
1.212000	38.2	9.000	L1	9.7	17.8	56.0
20.438000	33.1	9.000	L1	10.3	26.9	60.0
20.450000	34.0	9.000	L1	10.3	26.0	60.0
20.510000	33.5	9.000	L1	10.3	26.5	60.0
20.520000	33.8	9.000	L1	10.3	26.2	60.0
20.588000	33.6	9.000	L1	10.3	26.4	60.0
20.934000	32.8	9.000	L1	10.3	27.2	60.0

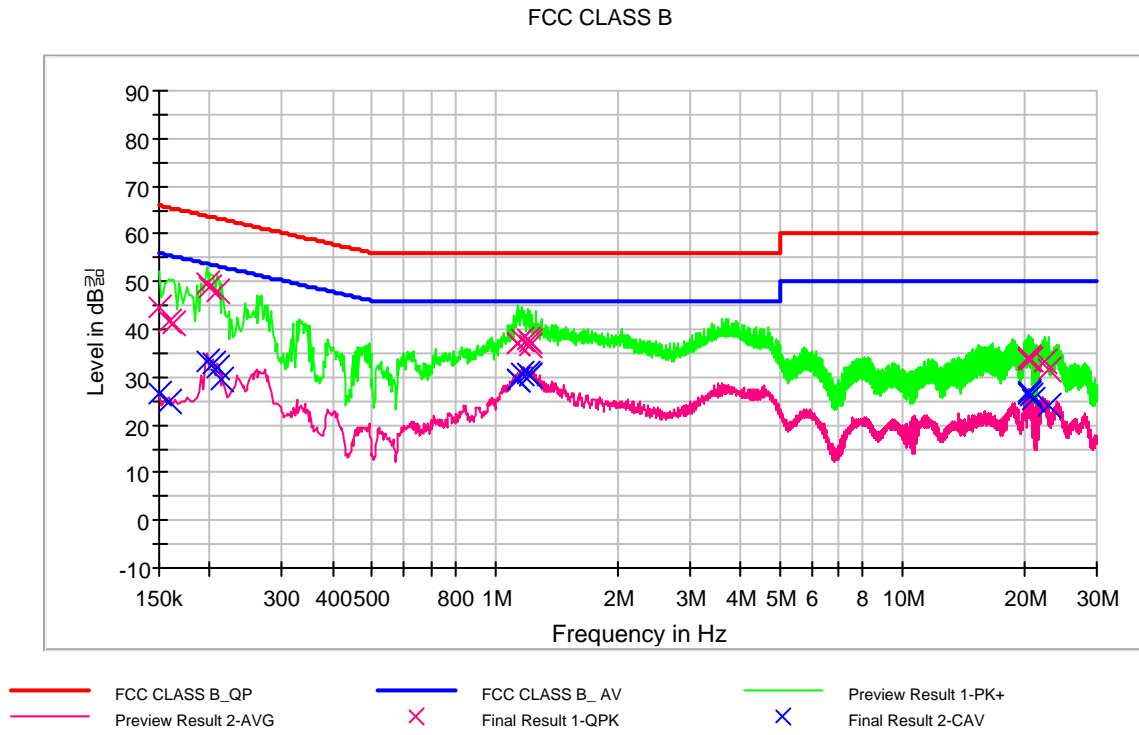


CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	26.5	9.000	L1	9.6	29.5	56.0
0.158000	24.9	9.000	L1	9.6	30.7	55.6
0.194000	32.6	9.000	L1	9.6	21.3	53.9
0.200000	34.0	9.000	L1	9.7	19.6	53.6
0.204000	33.0	9.000	L1	9.7	20.4	53.4
0.208000	32.8	9.000	L1	9.7	20.5	53.3
1.142000	30.8	9.000	L1	9.7	15.2	46.0
1.170000	31.2	9.000	L1	9.7	14.8	46.0
1.186000	31.7	9.000	L1	9.7	14.3	46.0
1.212000	31.0	9.000	L1	9.7	15.0	46.0
3.822000	28.0	9.000	L1	9.9	18.0	46.0
3.874000	28.2	9.000	L1	9.9	17.8	46.0
20.440000	26.5	9.000	L1	10.3	23.5	50.0
20.450000	26.9	9.000	L1	10.3	23.1	50.0
20.510000	25.9	9.000	L1	10.3	24.1	50.0
20.520000	25.9	9.000	L1	10.3	24.1	50.0
20.584000	25.5	9.000	L1	10.3	24.5	50.0
20.588000	26.0	9.000	L1	10.3	24.0	50.0



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





QuasiPeak Final Result, Line (N)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	44.6	9.000	N	9.6	21.4	66.0
0.158000	41.6	9.000	N	9.6	24.0	65.6
0.162000	41.3	9.000	N	9.6	24.1	65.4
0.196000	49.5	9.000	N	9.6	14.3	63.8
0.200000	48.9	9.000	N	9.6	14.7	63.6
0.208000	48.1	9.000	N	9.6	15.2	63.3
1.132000	36.9	9.000	N	9.7	19.1	56.0
1.144000	37.0	9.000	N	9.7	19.0	56.0
1.164000	37.9	9.000	N	9.7	18.1	56.0
1.202000	37.7	9.000	N	9.7	18.3	56.0
1.212000	37.5	9.000	N	9.7	18.5	56.0
1.218000	36.7	9.000	N	9.7	19.3	56.0
20.302000	33.7	9.000	N	10.3	26.3	60.0
20.372000	33.8	9.000	N	10.3	26.2	60.0
20.512000	34.0	9.000	N	10.3	26.0	60.0
20.586000	33.6	9.000	N	10.3	26.4	60.0
22.280000	33.1	9.000	N	10.4	26.9	60.0
22.776000	31.8	9.000	N	10.4	28.2	60.0



CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	26.5	9.000	N	9.6	29.5	56.0
0.158000	24.9	9.000	N	9.6	30.7	55.6
0.196000	33.3	9.000	N	9.6	20.5	53.8
0.204000	32.7	9.000	N	9.6	20.7	53.4
0.208000	32.2	9.000	N	9.6	21.1	53.3
0.214000	29.6	9.000	N	9.6	23.4	53.0
1.132000	29.5	9.000	N	9.7	16.5	46.0
1.144000	29.7	9.000	N	9.7	16.3	46.0
1.164000	30.8	9.000	N	9.7	15.2	46.0
1.202000	30.9	9.000	N	9.7	15.1	46.0
1.212000	30.5	9.000	N	9.7	15.5	46.0
1.218000	30.3	9.000	N	9.7	15.7	46.0
20.302000	26.4	9.000	N	10.3	23.6	50.0
20.370000	26.4	9.000	N	10.3	23.6	50.0
20.374000	27.0	9.000	N	10.3	23.0	50.0
20.586000	26.1	9.000	N	10.3	23.9	50.0
20.800000	25.3	9.000	N	10.3	24.7	50.0
22.776000	24.0	9.000	N	10.4	26.0	50.0



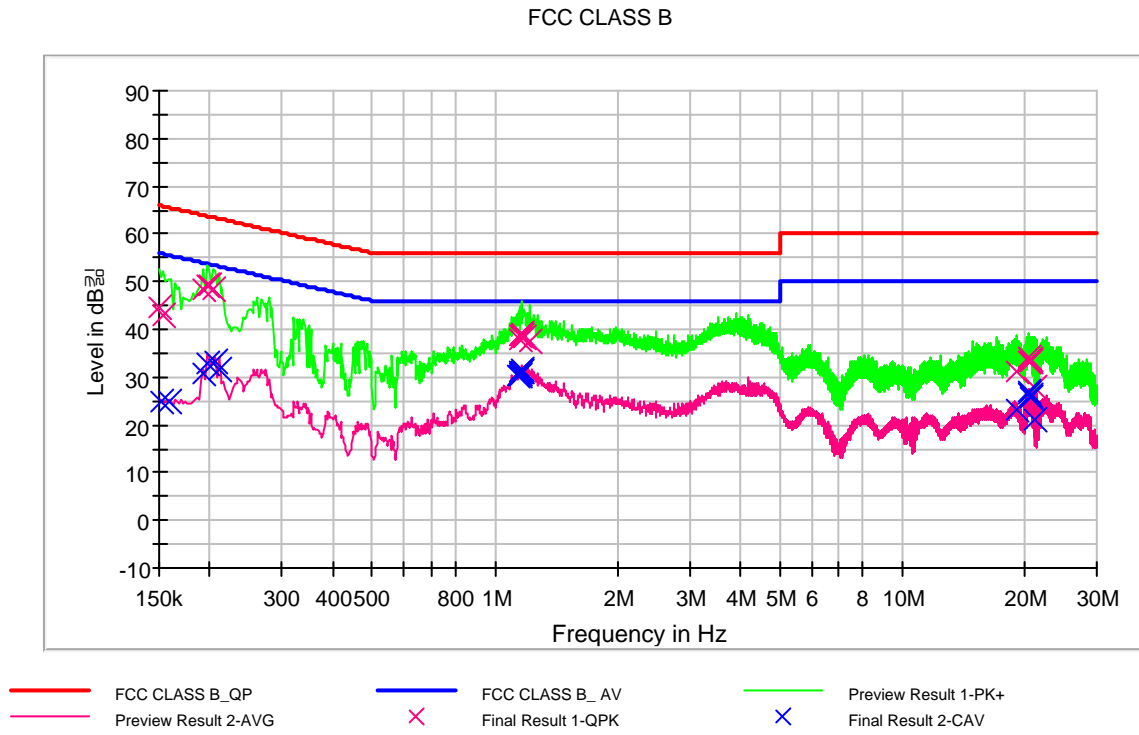
Rule Part / Standard	FCC PART 15 Subpart B Class B
Detector	Quasi-Peak, CISPR-Average
Bandwidth	9 kHz (6 dB)
Operation Mode	Data Communication mode
EUT Cover Type	Quick Cover
USB Cable Type	KSD *NOTE: The worst-case emissions are reported.
Kind of Test Site	Shielded Room
Temperature	23.4 °C
Relative Humidity	38.1 %
Test Date	April 15, 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)





QuasiPeak Final Result, Line (L1)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	44.5	9.000	L1	9.6	21.5	66.0
0.154000	42.9	9.000	L1	9.6	22.9	65.8
0.192000	48.4	9.000	L1	9.6	15.5	63.9
0.196000	49.4	9.000	L1	9.6	14.4	63.8
0.200000	49.1	9.000	L1	9.7	14.5	63.6
0.204000	48.6	9.000	L1	9.7	14.8	63.4
1.146000	37.9	9.000	L1	9.7	18.1	56.0
1.154000	38.6	9.000	L1	9.7	17.4	56.0
1.164000	39.3	9.000	L1	9.7	16.7	56.0
1.168000	38.5	9.000	L1	9.7	17.5	56.0
1.184000	38.5	9.000	L1	9.7	17.6	56.0
1.222000	37.4	9.000	L1	9.7	18.6	56.0
18.984000	31.4	9.000	L1	10.3	28.6	60.0
20.512000	33.3	9.000	L1	10.3	26.7	60.0
20.516000	34.2	9.000	L1	10.3	25.8	60.0
20.582000	33.4	9.000	L1	10.3	26.6	60.0
20.588000	33.9	9.000	L1	10.3	26.1	60.0
21.232000	27.8	9.000	L1	10.3	32.2	60.0

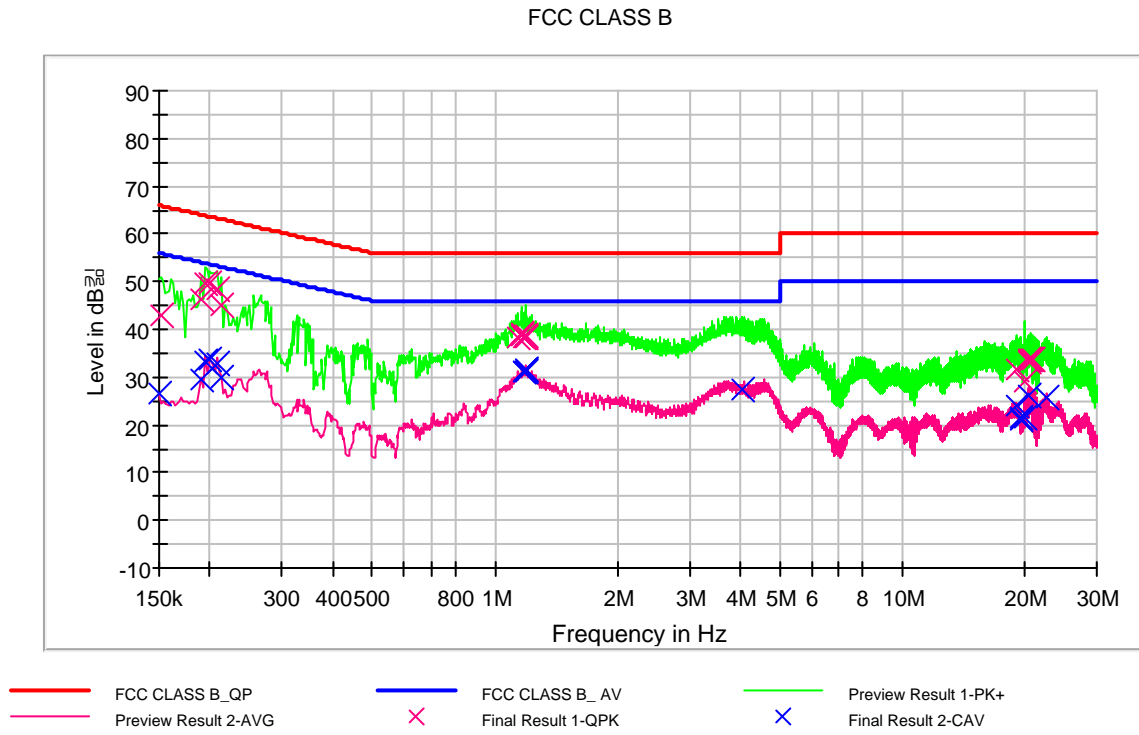


CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	24.8	9.000	L1	9.6	31.1	55.9
0.158000	25.0	9.000	L1	9.6	30.6	55.6
0.192000	30.9	9.000	L1	9.6	23.0	53.9
0.196000	32.8	9.000	L1	9.6	21.0	53.8
0.206000	33.1	9.000	L1	9.7	20.3	53.4
0.210000	31.8	9.000	L1	9.7	21.4	53.2
1.132000	30.2	9.000	L1	9.7	15.8	46.0
1.146000	30.2	9.000	L1	9.7	15.8	46.0
1.152000	30.8	9.000	L1	9.7	15.2	46.0
1.156000	31.0	9.000	L1	9.7	15.0	46.0
1.164000	31.7	9.000	L1	9.7	14.3	46.0
1.168000	31.3	9.000	L1	9.7	14.7	46.0
18.984000	23.3	9.000	L1	10.3	26.7	50.0
20.512000	26.5	9.000	L1	10.3	23.5	50.0
20.516000	26.8	9.000	L1	10.3	23.2	50.0
20.582000	25.8	9.000	L1	10.3	24.2	50.0
20.588000	26.1	9.000	L1	10.3	24.0	50.0
21.232000	21.2	9.000	L1	10.3	28.8	50.0



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





QuasiPeak Final Result, Line (N)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	43.0	9.000	N	9.6	22.9	65.9
0.190000	46.2	9.000	N	9.6	17.8	64.0
0.194000	49.9	9.000	N	9.6	14.1	63.9
0.200000	49.6	9.000	N	9.6	14.0	63.6
0.208000	48.3	9.000	N	9.6	15.0	63.3
0.214000	45.3	9.000	N	9.6	17.8	63.0
1.142000	38.3	9.000	N	9.7	17.7	56.0
1.162000	39.0	9.000	N	9.7	17.0	56.0
1.166000	38.8	9.000	N	9.7	17.2	56.0
1.178000	38.4	9.000	N	9.7	17.6	56.0
1.188000	38.8	9.000	N	9.7	17.2	56.0
1.192000	38.5	9.000	N	9.7	17.5	56.0
19.106000	31.7	9.000	N	10.3	28.3	60.0
19.858000	29.2	9.000	N	10.3	30.8	60.0
20.374000	33.5	9.000	N	10.3	26.5	60.0
20.390000	33.6	9.000	N	10.3	26.4	60.0
20.584000	33.7	9.000	N	10.3	26.3	60.0
20.802000	33.5	9.000	N	10.3	26.5	60.0



CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	26.4	9.000	N	9.6	29.6	56.0
0.190000	29.3	9.000	N	9.6	24.7	54.0
0.194000	33.2	9.000	N	9.6	20.7	53.9
0.200000	33.8	9.000	N	9.6	19.8	53.6
0.208000	32.8	9.000	N	9.6	20.5	53.3
0.214000	29.9	9.000	N	9.6	23.1	53.0
1.172000	31.3	9.000	N	9.7	14.7	46.0
1.178000	31.3	9.000	N	9.7	14.7	46.0
1.188000	31.7	9.000	N	9.7	14.3	46.0
1.192000	31.4	9.000	N	9.7	14.6	46.0
1.196000	31.2	9.000	N	9.7	14.8	46.0
4.058000	27.5	9.000	N	9.8	18.5	46.0
19.106000	24.0	9.000	N	10.3	26.0	50.0
19.434000	21.5	9.000	N	10.3	28.5	50.0
19.438000	21.2	9.000	N	10.3	28.8	50.0
19.858000	21.6	9.000	N	10.3	28.4	50.0
20.374000	26.2	9.000	N	10.3	23.8	50.0
22.636000	25.5	9.000	N	10.4	24.5	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
USB Cable Type	KSD *NOTE: The worst-case emissions are reported.
Kind of Test Site	3 m semi anechoic chamber
Temperature	22.7 °C
Relative Humidity	33.5 %
Test Date	April 17, 2015

Frequency (MHz)	Quasi Peak (dBuV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)
59.798317	20.3	144.0	V	1.0	15.5	19.7	40.0
82.444970	31.0	350.0	H	272.0	11.8	9.0	40.0
86.092745	30.7	266.0	H	247.0	11.6	9.3	40.0
131.562164	14.5	350.0	V	11.0	16.3	29.0	43.5
277.033747	29.4	100.0	H	266.0	17.3	16.6	46.0
750.342365	25.8	214.0	V	40.0	27.5	20.2	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



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	Quick Cover
USB Cable Type	KSD ※NOTE: The worst-case emissions are reported.
Kind of Test Site	3 m semi anechoic chamber
Temperature	22.7 °C
Relative Humidity	33.5 %
Test Date	April 17, 2015

Frequency (MHz)	Quasi Peak (dBuV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
30.800000	24.9	100.0	V	235.0	14.8	15.1	40.0
81.461082	33.8	242.0	H	273.0	11.8	6.2	40.0
84.548858	31.6	275.0	H	269.0	11.6	8.4	40.0
266.514309	31.2	125.0	H	293.0	16.9	14.8	46.0



-For Measurement Above 1 GHz

Rule Part / Standard	FCC PART 15 Subpart B Class B
Detector	Peak mode: Peak (RBW: 1 MHz, VBW: 3 MHz) CISPR-Average mode: Peak (RBW: 1 MHz, VBW: 10 Hz)
Highest Operating Frequency	1.44 GHz
Testing Frequency Range	1 GHz to 7.2 GHz
Operation Mode	Data Communication mode
EUT Cover Type	Standard Cover
USB Cable Type	KSD ※NOTE: The worst-case emissions are reported.
Kind of Test Site	3 m semi anechoic chamber
Temperature	22.7 °C
Relative Humidity	33.5 %
Test Date	April 17, 2015

Frequency (MHz)	Peak (dBuV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
1250.150301	44.8	150.0	V	1.0	-9.4	29.2	74.0
1329.008016	48.7	100.0	V	289.0	-9.3	25.3	74.0
2015.080160	51.8	100.0	V	33.0	-7.7	22.2	74.0

Frequency (MHz)	CAverage (dBuV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
1250.150301	37.1	150.0	V	1.0	-9.4	16.9	54.0
1329.008016	26.8	100.0	V	289.0	-9.3	27.2	54.0
2015.080160	29.7	100.0	V	33.0	-7.7	24.3	54.0

- Calculation Formula:

1. POL. H = Horizontal, POL. V = Vertical
2. Peak or CAverage = Reading (Receiver Reading) + Corr.
3. Corr. (Correction Factor) = Antenna Factor+ Cable Loss –Amplifier Gain
4. Margin = Limit - Peak or CAverage



Rule Part / Standard	FCC PART 15 Subpart B Class B
Detector	Peak mode: Peak (RBW: 1 MHz, VBW: 3 MHz) CISPR-Average mode: Peak (RBW: 1 MHz, VBW: 10 Hz)
Highest Operating Frequency	1.44 GHz
Testing Frequency Range	1 GHz to 7.2 GHz
Operation Mode	Data Communication mode
EUT Cover Type	Quick Cover
USB Cable Type	KSD ※NOTE: The worst-case emissions are reported.
Kind of Test Site	3 m semi anechoic chamber
Temperature	22.7 °C
Relative Humidity	33.5 %
Test Date	April 17, 2015

Frequency (MHz)	Peak (dBuV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)
1200.350702	48.4	115.0	V	185.0	-9.5	25.6	74.0
1249.949900	49.4	100.0	V	198.0	-9.4	24.6	74.0
1328.907816	49.5	100.0	V	28.0	-9.3	24.5	74.0
1995.040080	55.3	100.0	V	26.0	-7.8	18.7	74.0

Frequency (MHz)	CAverage (dBuV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)
1200.350702	42.3	115.0	V	185.0	-9.5	11.7	54.0
1249.949900	44.5	100.0	V	198.0	-9.4	9.5	54.0
1328.907816	27.8	100.0	V	28.0	-9.3	26.2	54.0
1995.040080	31.6	100.0	V	26.0	-7.8	22.4	54.0



5. LIST OF TEST EQUIPMENT

<u>Type</u>	<u>Manufacturer</u>	<u>Model Name</u>	<u>Serial Number</u>	<u>Calibration Cycle</u>	<u>CAL Date</u>
<u>Conducted Emission</u>					
<input checked="" type="checkbox"/> EMI Test Receiver	Rohde & Schwarz	ESCI	100584	1 year	01.13.2015
<input checked="" type="checkbox"/> LISN	Rohde & Schwarz	ESH3-Z5	100282	1 year	06.10.2014
<input checked="" type="checkbox"/> LISN	Rohde & Schwarz	ENV216	100073	1 year	01.13.2015
<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	04.01.2015
<input checked="" type="checkbox"/> Trilog Antenna	Schwarzbeck	VULB9160	3301	2 year	11.17.2014
<input checked="" type="checkbox"/> Antenna master	HD GmbH	MA240	240/520	N/A	-
<input checked="" type="checkbox"/> Antenna master controller	HD GmbH	HD 100	100/637	N/A	-
<input checked="" type="checkbox"/> Turn Table	EMCO	1060-2M	-	N/A	-
<input checked="" type="checkbox"/> Turn Table controller	EMCO	2090	9702-1224	N/A	-
<input type="checkbox"/> EMI Test Receiver	Rohde & Schwarz	ESU 26	100241	1 year	06.18.2014
<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	04.01.2015
<input checked="" type="checkbox"/> Antenna master	HD GmbH	MA240	240/520	N/A	-
<input checked="" type="checkbox"/> Antenna master controller	HD GmbH	HD 100	100/637	N/A	-
<input checked="" type="checkbox"/> Turn Table	EMCO	1060-2M	-	N/A	-
<input checked="" type="checkbox"/> Turn Table controller	EMCO	2090	9702-1224	N/A	-
<input type="checkbox"/> Power Amplifier	CERNEX	CBLU1183540	21691	1 year	07.11.2014
<input checked="" type="checkbox"/> Power Amplifier	CERNEX	CBLU5183530	24348	1 year	06.11.2014
<input checked="" type="checkbox"/> Horn Antenna	Schwarzbeck	BBHA 9120D	296	2 year	10.07.2014
<input type="checkbox"/> Horn Antenna	Schwarzbeck	BBHA 9120D	1151	2 year	07.05.2013
<input type="checkbox"/> EMI Test Receiver	Rohde & Schwarz	ESU 26	100241	1 year	06.18.2014
<input type="checkbox"/> Turn Table	INNCO Systems	DT3000-3T	DT3000/69	N/A	-
<input type="checkbox"/> Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170124	2 year	10.30.2013
<input type="checkbox"/> Power Amplifier	CERNEX	CBL18265035	22966	1 year	07.23.2014
<input checked="" type="checkbox"/> Software	Rohde & Schwarz	EMC32	-	-	-



6. CONCLUSION

The data collected shows that the **EUT Type: Potable Handset, FCC ID: ZNFUS991, Model: LG-US991** complies with §15.107 and §15.109 of the FCC rules.