



HCT CO., LTD.

CERTIFICATION DIVISION

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EMI CERTIFICATION REPORT

Applicant:

LG Electronics MobileComm U.S.A., Inc.

1000 Sylvan Avenue, Englewood Cliffs NJ 07632

Date of Issue: September 03, 2013

Test Report No.: HCTE1309FE01

Test Site: HCT CO., LTD.

HCT FRN: 0005-8664-21

FCC ID:

ZNFA380

Rule Part(s) / Standard(s) : FCC PART 15 Subpart B Class B
Equipment Type : GSM/WCDMA Phone with BT
Model Name : LG-A380
Additional Model Name : A380, LGA380
Port / Connector(s) : USB Port
Date of Test : August 22, 2013 – September 03, 2013

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

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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
HCTE1309FE01	September 03, 2013	Initial Release

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ATTACHMENT: TEST SETUP PHOTOGRAPHS

1. GENERAL INFORMATION

1.1 Product Description

Equipment Under Test is **EUT type: GSM/WCDMA Phone with BT, Model: LG-A380** manufactured by **LG Electronics MobileComm U.S.A., Inc.** Its basic purpose is used for communications.

Model	LG-A380
FCC ID	ZNFA380
Additional Model	A380, LGA380
EUT Type	GSM/WCDMA Phone with BT
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)
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)

1.2 Related Submittal(s) / Grant(s)

Original submittal only.

1.3 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-A380	LG	ZNFA380	Notebook PC Ear-phone
USB cable	EAD62377901	IS	-	E.U.T Notebook PC
USB cable	EAD62377902	BROAD	-	E.U.T Notebook PC
USB cable	EAD62377903	KSD	-	E.U.T Notebook PC
Notebook PC	ProBook 6560b	H.P	DoC	Notebook PC adaptor
Notebook PC adaptor	PPP009D	DELTA Electronics (JIANGSU)LTD	-	Notebook PC
Gateway	MV440	Axesstel	PH7MV440	Notebook PC, Adaptor
Mouse	Serial mouse	Radio shack	FSUGMZE3	Notebook PC
Adaptor	DA-60M12	Yang Ming Industrial	-	Gateway
RJ45 cable	-	-	-	Notebook PC, Gateway
Micro SD card	8 GB	SanDisk	-	E.U.T

1.4 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)1.0
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.

1.5 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
Notebook PC	RJ 45	N	N/A	N	N/A
	Serial (Mouse)	N	N/A	Y	Notebook PC End

1.6 Test Methodology

Both Conducted and Radiated testing was performed according to the procedures in ANSI C63.4/2003. Radiated testing was performed at an antenna to EUT distance of 3 m

1.7 Test Facility

Chamber used to collect the test data is located at the 74, SEOICHEON-RO, 578BEON-GIL, MAJANG-MYEON, ICHEON-SI, GYEONGGI-DO, KOREA. Those measurement facilities are constructed in conformance with the requirements of ANSI C63.4.

Measurement Facilities	Reg. No.
Radiated Field strength measurement facility (3m)	90661(Mar. 02, 2011)
Radiated Field strength measurement facility (10m)	90661 (Sep. 03, 2010)

1.8 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. SYSTEM TEST CONFIGURATION

2.1 Configuration of Test System

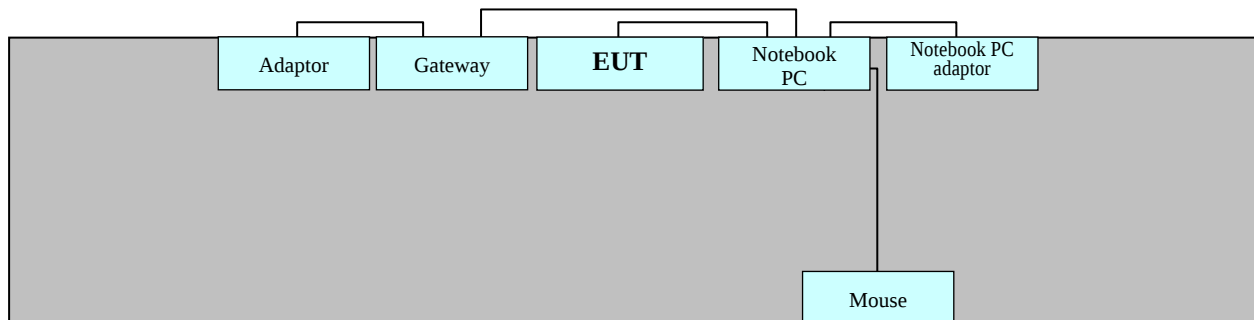
2.1.1 Conducted Emission Test

EUT was connected to LISN via Notebook PC adaptor and Base Station. Preliminary Power Line Conducted Emission tests were performed by using the procedure in ANSI C63.4/2003 7.2.3 to determine the worst operating conditions.

2.1.2 Radiated Emission Test

Preliminary Radiated Emission tests were performed by using the procedure in ANSI C63.4/2003 8.3.1.1 to determine the worst operating condition. Final Radiated Emission tests were performed at 3 m semi-anechoic chamber.

[Configuration of Tested System]



Non-Conductive Table
Power Line: 120 VAC

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

[USB Cable Type: EAD62377901]

Limit Apply to : FCC PART 15 Subpart B Class B

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

Operation Mode : Data Communication mode

Temperature : 25.0 °C

Humidity Level : 55.2 %

Test Date : September 02, 2013

Frequency	Transd	Conductor	Quasi-Peak			Average		
			Limit	Measurement Level	Result Level	Limit	Measurement Level	Result Level
(MHz)	(dB)		(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dBuV)
0.150	9.80	H	66	40.10	49.90	56	-	-
0.202	9.80	H	64	46.30	56.10	54	-	-
0.206	9.80	H	63	-	-	53	28.20	38.00
0.194	10.00	N	64	43.70	53.70	54	25.30	35.30
4.608	10.00	N	56	31.70	41.70	46	-	-
4.584	10.40	N	56	-	-	46	23.30	33.70

※ **NOTE:** Refer to page 11 to page 14 for details.

1. Line H = Hot, Line N = Neutral
2. Transd = LISN factor + Cable Loss factor

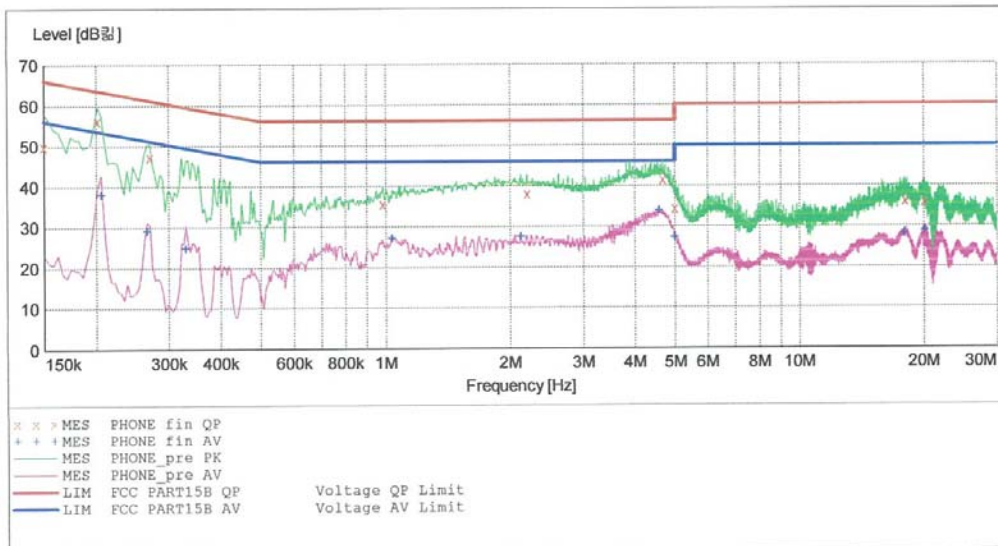
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EMC

EUT: LG-A380
Manufacturer: LG
Operating Condition: DATA MODE
Test Site: SHIELD ROOM
Operator: JH CHOI
Test Specification: FCC PART15 B
Comment: H(EAD62377901)

SCAN TABLE: "FCC CLASS B(H)"

Short Description:			KN22 CLASS B			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
Frequency	Frequency	Width				
150.0 kHz	500.0 kHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			



MEASUREMENT RESULT: "PHONE_fin QP"

2013-09-02 2:51오 후

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.150001	49.90	9.8	66	16.1	---	---
0.202001	56.10	9.8	64	7.4	---	---
0.270001	47.20	9.8	61	14.0	---	---
0.988000	35.50	9.8	56	20.5	---	---
2.200000	38.10	10.0	56	17.9	---	---
4.680000	41.50	10.2	56	14.5	---	---
5.000000	34.40	10.2	56	21.6	---	---
18.012000	36.10	10.9	60	23.9	---	---
20.036000	36.00	10.9	60	24.0	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

2013-09-02 2:51 오후

Frequency MHz	Level dB _{μV}	Transd dB	Limit dB _{μV}	Margin dB	Line	PE
0.206001	38.00	9.8	53	15.4	---	---
0.266001	29.00	9.8	51	22.3	---	---
0.330001	24.70	9.8	50	24.7	---	---
1.040000	27.10	9.8	46	18.9	---	---
2.128000	27.50	10.0	46	18.5	---	---
4.584000	33.90	10.2	46	12.1	---	---
5.000000	27.30	10.2	46	18.7	---	---
17.936000	28.10	10.9	50	21.9	---	---
20.096000	28.80	10.9	50	21.2	---	---

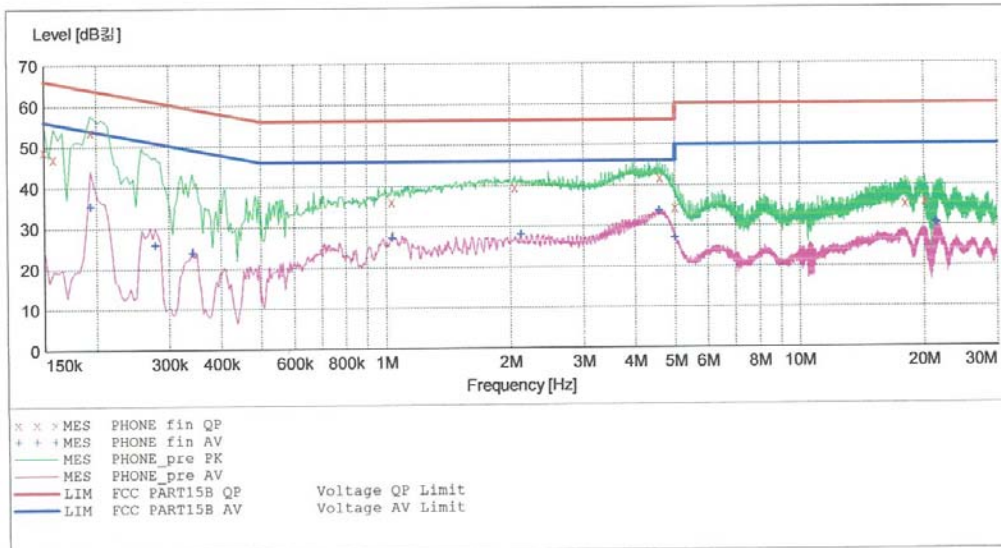
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EMC

EUT: LG-A380
Manufacturer: LG
Operating Condition: DATA MODE
Test Site: SHIELD ROOM
Operator: JH CHOI
Test Specification: FCC PART15 B
Comment: N(EAD62377901)

SCAN TABLE: "FCC CLASS B(N)"

Short Description:			KN22 CLASS B			
Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	500.0 kHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			



MEASUREMENT RESULT: "PHONE_fin QP"

2013-09-02 2:55오후

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.150001	48.90	10.0	66	17.1	---	---
0.158001	47.10	10.0	66	18.4	---	---
0.194001	53.70	10.0	64	10.2	---	---
1.036000	36.10	10.1	56	19.9	---	---
2.056000	39.60	10.1	56	16.4	---	---
4.608000	41.70	10.4	56	14.3	---	---
5.000000	34.30	10.4	56	21.7	---	---
18.008000	35.20	11.2	60	24.8	---	---
20.064000	35.90	11.2	60	24.1	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

2013-09-02 2:55 오후

Frequency MHz	Level dB _{μV}	Transd dB	Limit dB _{μV}	Margin dB	Line	PE
0.194001	35.30	10.0	54	18.6	---	---
0.278001	25.70	10.0	51	25.2	---	---
0.342001	23.80	10.0	49	25.4	---	---
1.040000	27.30	10.1	46	18.7	---	---
2.124000	28.00	10.2	46	18.0	---	---
4.584000	33.70	10.4	46	12.3	---	---
5.000000	27.00	10.4	46	19.0	---	---
21.260000	30.60	11.3	50	19.4	---	---
21.464000	30.30	11.3	50	19.7	---	---

[USB Cable Type: EAD62377902]

Limit Apply to : FCC PART 15 Subpart B Class B

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

Operation Mode : Data Communication mode

Temperature : 25.2 °C

Humidity Level : 53.7 %

Test Date : August 28, 2013

Frequency (MHz)	Transd (dB)	Conductor	Quasi-Peak			Average		
			Limit (dBuV)	Measurement Level (dBuV)	Result Level (dBuV)	Limit (dBuV)	Measurement Level (dBuV)	Result Level (dBuV)
0.190	10.00	N	64	39.20	49.20	54	-	-
0.210	10.00	N	63	41.80	51.80	53	23.80	33.80
0.194	9.80	H	64	43.10	52.90	54	-	-
4.108	10.10	H	56	-	-	46	21.40	31.50
4.516	10.40	N	56	-	-	46	23.20	33.60
4.684	10.20	H	56	30.10	40.30	46	-	-

※ **NOTE:** Refer to page 16 to page 19 for details.

1. Line H = Hot, Line N = Neutral
2. Transd = LISN factor + Cable Loss factor

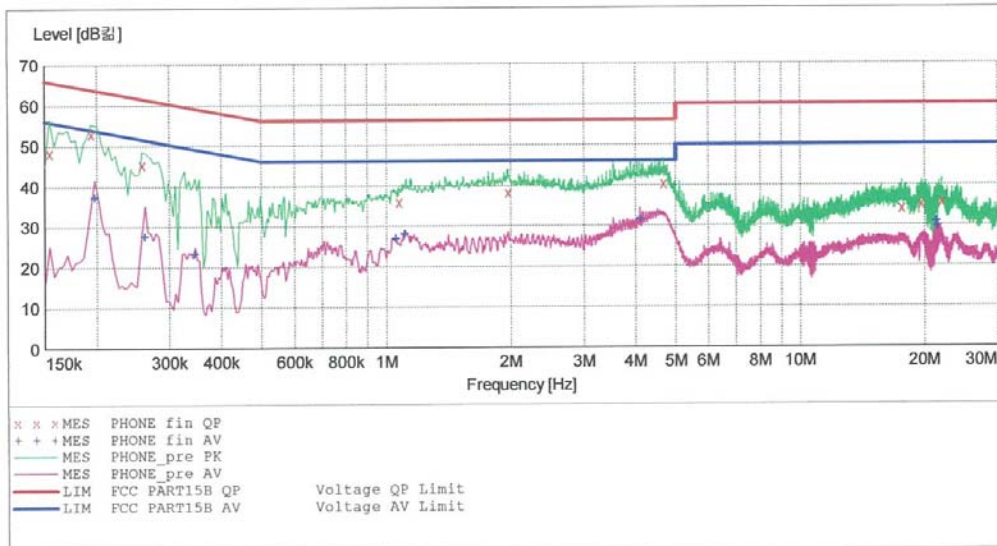
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EMC

EUT: LG-A380
Manufacturer: LG
Operating Condition: DATA MODE
Test Site: SHIELD ROOM
Operator: JH CHOI
Test Specification: FCC PART15 B
Comment: H (EAD62377902)

SCAN TABLE: "FCC CLASS B(H)"

Short Description:			KN22 CLASS B	Meas.	IF	Transducer
Start	Stop	Step	Detector	Time	Bandw.	
Frequency	Frequency	Width				
150.0 kHz	500.0 kHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			



MEASUREMENT RESULT: "PHONE_fin QP"

2013-08-28 7:14 오후

Frequency MHz	Level dB	Transd dB	Limit dB	Margin dB	Line	PE
0.154001	48.20	9.8	66	17.6	---	---
0.194001	52.90	9.8	64	11.0	---	---
0.258001	45.40	9.8	62	16.1	---	---
1.076000	35.90	9.8	56	20.1	---	---
1.972000	38.20	9.9	56	17.8	---	---
4.684000	40.30	10.2	56	15.7	---	---
17.584000	34.10	10.8	60	25.9	---	---
19.640000	35.10	10.9	60	24.9	---	---
21.980000	35.60	11.0	60	24.4	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

2013-08-28 7:14 Ω.辛

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.198001	37.10	9.8	54	16.6	---	---
0.262001	27.60	9.8	51	23.8	---	---
0.346001	23.30	9.8	49	25.7	---	---
1.056000	26.90	9.8	46	19.1	---	---
1.112000	28.00	9.9	46	18.0	---	---
4.108000	31.50	10.1	46	14.5	---	---
21.264000	30.70	11.0	50	19.3	---	---
21.332000	30.80	11.0	50	19.2	---	---
21.468000	29.50	11.0	50	20.5	---	---

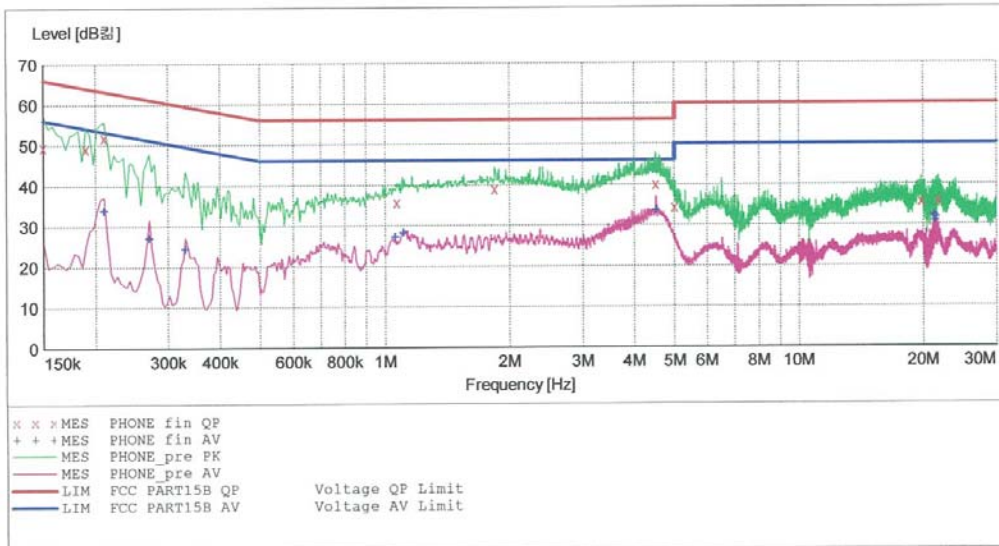
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EMC

EUT: LG-A380
Manufacturer: LG
Operating Condition: DATA MODE
Test Site: SHIELD ROOM
Operator: JH CHOI
Test Specification: FCC PART15 B
Comment: N (EAD62377902)

SCAN TABLE: "FCC CLASS B(N)"

Short Description:			KN22 CLASS B			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
Frequency	Frequency	Width				
150.0 kHz	500.0 kHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			



MEASUREMENT RESULT: "PHONE_fin QP"

2013-08-28 7:19오후

Frequency MHz	Level dB	Transd dB	Limit dB	Margin dB	Line	PE
0.150001	49.50	10.0	66	16.5	---	---
0.190001	49.20	10.0	64	14.9	---	---
0.210001	51.80	10.0	63	11.4	---	---
1.068000	35.70	10.1	56	20.3	---	---
1.844000	39.00	10.1	56	17.0	---	---
4.512000	40.00	10.4	56	16.0	---	---
5.000000	34.30	10.4	56	21.7	---	---
19.772000	35.60	11.2	60	24.4	---	---
21.732000	36.00	11.3	60	24.0	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

2013-08-28 7:19 오후

Frequency MHz	Level dB _{μV}	Transd dB	Limit dB _{μV}	Margin dB	Line	PE
0.210001	33.80	10.0	53	19.4	---	---
0.270001	27.00	10.0	51	24.1	---	---
0.330001	24.30	10.0	50	25.1	---	---
1.060000	27.20	10.1	46	18.8	---	---
1.112000	28.30	10.1	46	17.7	---	---
4.516000	33.60	10.4	46	12.4	---	---
21.252000	32.20	11.3	50	17.8	---	---
21.328000	30.80	11.3	50	19.2	---	---
21.388000	31.70	11.3	50	18.3	---	---

[USB Cable Type: EAD62377903]

Limit Apply to : FCC PART 15 Subpart B Class B

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

Operation Mode : Data Communication mode

Temperature : 25.2 °C

Humidity Level : 53.7 %

Test Date : August 28, 2013

Frequency	Transd	Conductor	Quasi-Peak			Average		
			Limit	Measurement Level	Result Level	Limit	Measurement Level	Result Level
(MHz)	(dB)		(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dBuV]
0.150	9.80	H	66	38.80	48.60	56	-	-
0.206	9.80	H	63	39.40	49.20	53	-	-
0.210	10.00	N	63	40.80	50.80	53	-	-
4.240	10.30	N	56	-	-	46	23.10	33.40
4.664	10.40	N	56	28.40	38.80	46	-	-
4.488	10.20	H	56	29.50	39.70	46	22.30	32.50

※ **NOTE:** Refer to page 21 to page 24 for details.

1. Line H = Hot, Line N = Neutral
2. Transd = LISN factor + Cable Loss factor

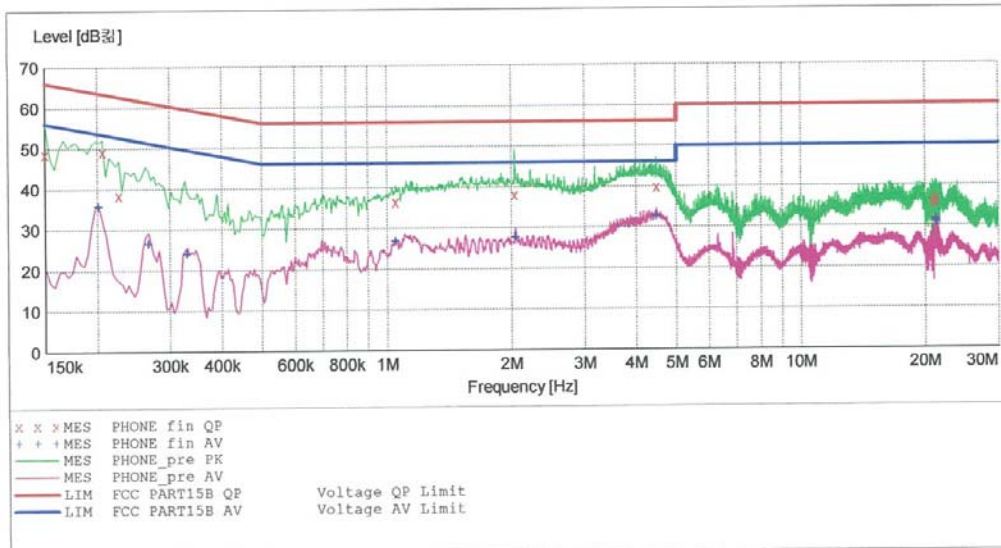
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EMC

EUT: LG-A380
Manufacturer: LG
Operating Condition: DATA MODE
Test Site: SHIELD ROOM
Operator: JH CHOI
Test Specification: FCC PART15 B
Comment: H (EAD62377903)

SCAN TABLE: "FCC CLASS B(H)"

Short Description:			KN22 CLASS B			
Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	500.0 kHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			



MEASUREMENT RESULT: "PHONE_fin QP"

2013-08-28 7:28오후

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.150001	48.60	9.8	66	17.4	---	---
0.206001	49.20	9.8	63	14.2	---	---
0.226001	38.30	9.8	63	24.3	---	---
1.052000	36.40	9.8	56	19.6	---	---
2.040000	38.00	9.9	56	18.0	---	---
4.488000	39.70	10.2	56	16.3	---	---
20.816000	35.80	11.0	60	24.2	---	---
21.168000	36.80	11.0	60	23.2	---	---
21.244000	35.70	11.0	60	24.3	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

2013-08-28 7:28 Ω ㄹ

Frequency MHz	Level dBμ	Transd dB	Limit dBμ	Margin dB	Line	PE
0.202001	35.60	9.8	54	17.9	---	---
0.266001	26.50	9.8	51	24.8	---	---
0.330001	23.90	9.8	50	25.6	---	---
1.052000	26.70	9.8	46	19.3	---	---
2.052000	27.50	9.9	46	18.5	---	---
4.488000	32.50	10.2	46	13.5	---	---
21.168000	31.50	11.0	50	18.5	---	---
21.240000	31.20	11.0	50	18.8	---	---
21.308000	30.70	11.0	50	19.3	---	---

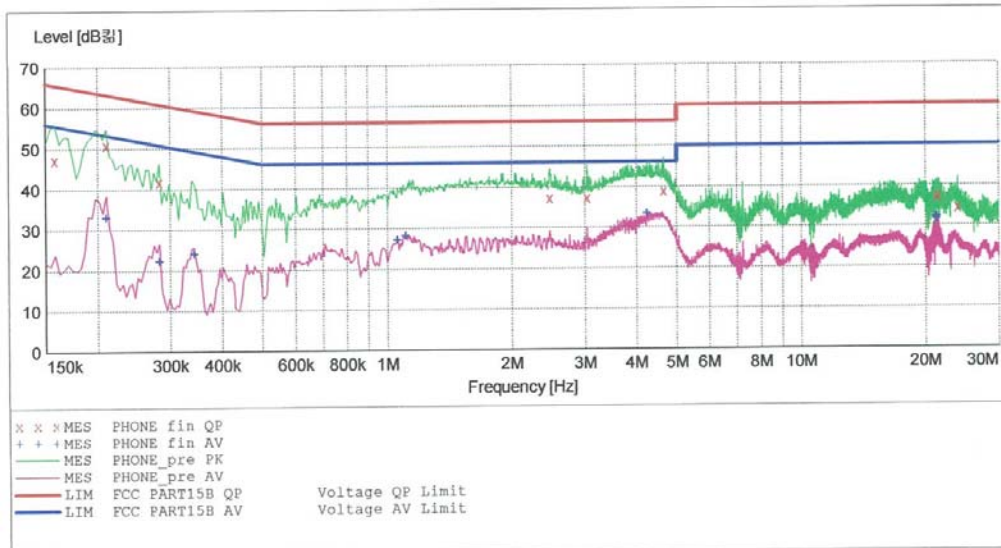
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EMC

EUT: LG-A380
Manufacturer: LG
Operating Condition: DATA MODE
Test Site: SHIELD ROOM
Operator: JH CHOI
Test Specification: FCC PART15 B
Comment: N (EAD62377903)

SCAN TABLE: "FCC CLASS B(N)"

Short Description:			KN22 CLASS B			
Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	500.0 kHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			



MEASUREMENT RESULT: "PHONE_fin QP"

2013-08-28 7:24오후

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.158001	47.30	10.0	66	18.3	---	---
0.210001	50.80	10.0	63	12.4	---	---
0.282001	41.80	10.0	61	19.0	---	---
2.468000	37.10	10.2	56	18.9	---	---
3.044000	37.20	10.2	56	18.8	---	---
4.664000	38.80	10.4	56	17.2	---	---
21.248000	37.00	11.3	60	23.0	---	---
21.456000	37.40	11.3	60	22.6	---	---
23.868000	34.30	11.5	60	25.7	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

2013-08-28 7:24 오후

Frequency MHz	Level dB _{μV}	Transd dB	Limit dB _{μV}	Margin dB	Line	PE
0.210001	33.00	10.0	53	20.2	---	---
0.282001	22.20	10.0	51	28.6	---	---
0.342001	24.00	10.0	49	25.2	---	---
1.060000	27.10	10.1	46	18.9	---	---
1.112000	28.20	10.1	46	17.8	---	---
4.240000	33.40	10.3	46	12.6	---	---
21.172000	31.90	11.3	50	18.1	---	---
21.248000	31.40	11.3	50	18.6	---	---
21.308000	32.10	11.3	50	17.9	---	---

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

[USB Cable Type: EAD62377901]

Limit Apply to	: FCC PART 15 Subpart B Class B
Detector	: Quasi-Peak (6 dB Bandwidth: 120 kHz)
Operation Mode	: Data Communication mode
Temperature	: 24.7 °C
Humidity Level	: 62.4 %
Test Date	: August 26, 2013

Frequency (MHz)	Reading (dBuV)	Polarity (H/V)	Antenna Height (m)	Correction Factor		Limit (dBuV/m)	Level (dBuV/m)	Margin (dB)
				Antenna (dB/m)	Cable (dB)			
51.40	11.60	V	1.0	12.32	3.49	40.0	27.40	12.60
64.40	18.16	V	1.1	11.28	3.57	40.0	33.00	7.00
108.00	17.16	V	1.0	10.24	3.80	43.5	31.20	12.30
133.40	21.84	V	1.0	12.42	3.94	43.5	38.20	5.30
138.90	14.95	V	1.0	12.69	3.96	43.5	31.60	11.90
240.00	24.01	H	1.7	11.37	4.32	46.0	39.70	6.30

[USB Cable Type: EAD62377902]

Limit Apply to : FCC PART 15 Subpart B Class B

Detector : Quasi-Peak (6 dB Bandwidth: 120 kHz)

Operation Mode : Data Communication mode

Temperature : 24.6 °C

Humidity Level : 67.0 %

Test Date : August 28, 2013

Frequency (MHz)	Reading (dBuV)	Polarity (H/V)	Antenna Height (m)	Correction Factor		Limit (dBuV/m)	Level (dBuV/m)	Margin (dB)
				Antenna (dB/m)	Cable (dB)			
30.67	13.80	V	1.0	11.37	3.33	40.0	28.50	11.50
64.99	12.42	H	1.0	11.21	3.57	40.0	27.20	12.80
99.88	17.74	H	1.0	9.20	3.76	43.5	30.70	12.80
160.00	18.35	V	1.2	13.11	4.04	43.5	35.50	8.00
240.00	16.91	H	1.0	11.37	4.32	46.0	32.60	13.40
720.00	10.92	H	1.0	21.15	5.54	46.0	37.60	8.40

[USB Cable Type: EAD62377903]

Limit Apply to : FCC PART 15 Subpart B Class B

Detector : Quasi-Peak (6 dB Bandwidth: 120 kHz)

Operation Mode : Data Communication mode

Temperature : 24.6 °C

Humidity Level : 67.0 %

Test Date : August 28, 2013

Frequency (MHz)	Reading (dBuV)	Polarity (H/V)	Antenna Height (m)	Correction Factor		Limit (dBuV/m)	Level (dBuV/m)	Margin (dB)
				Antenna (dB/m)	Cable (dB)			
30.90	13.80	V	1.5	11.37	3.33	40.0	28.50	11.50
64.90	10.71	H	1.6	11.22	3.57	40.0	25.50	14.50
100.00	14.92	H	1.0	9.22	3.76	43.5	27.90	15.60
160.20	15.56	V	1.0	13.09	4.04	43.5	32.70	10.80
240.00	17.71	H	1.0	11.37	4.32	46.0	33.40	12.60
720.00	10.22	H	1.0	21.15	5.54	46.0	36.90	9.10

-For Measurement Above 1 GHz

[USB Cable Type: EAD62377901]

Limit Apply to : FCC PART 15 Subpart B Class B

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

Operation Mode : Data Communication mode

Temperature : 24.7 °C

Humidity Level : 67.7 %

Test Date : August 29, 2013

Frequency (GHz)	Peak			POL	Average		
	Total (dBμV/m)	Limit (dBμV/m)	Margin (dB)		Total (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2.0000	58.40	74	15.60	V	41.10	54	12.90
3.0000	55.40	74	18.60	V	36.30	54	17.70

※ NOTE:

1. Measurement above 1 GHz was performed from 1 GHz to the 5th harmonic of highest fundamental frequency. Test was measured by 12 GHz.

[USB Cable Type: EAD62377902]

Limit Apply to : FCC PART 15 Subpart B Class B

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

Operation Mode : Data Communication mode

Temperature : 24.7 °C

Humidity Level : 67.7 %

Test Date : August 29, 2013

Frequency (GHz)	Peak			POL	Average		
	Total (dBμV/m)	Limit (dBμV/m)	Margin (dB)		Total (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2.0000	58.20	74	15.80	V	39.90	54	14.10

※ NOTE:

1. Measurement above 1 GHz was performed from 1 GHz to the 5th harmonic of highest fundamental frequency. Test was measured by 12 GHz.

[USB Cable Type: EAD62377903]

Limit Apply to : FCC PART 15 Subpart B Class B

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

Operation Mode : Data Communication mode

Temperature : 24.7 °C

Humidity Level : 67.7 %

Test Date : August 29, 2013

Frequency (GHz)	Peak			POL	Average		
	Total (dBμV/m)	Limit (dBμV/m)	Margin (dB)		Total (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2.0000	57.80	74	16.20	V	40.60	54	13.40

※ NOTE:

1. Measurement above 1 GHz was performed from 1 GHz to the 5th harmonic of highest fundamental frequency. Test was measured by 12 GHz.

5. FIELD STRENGTH CALCULATION

The field strength is calculated by adding the antenna factor and cable factor.
The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF$$

Where FS = Field Strength

RA = Receiver Amplitude

AF = Antenna Factor

CF = Cable Attenuation Factor

Assume a receiver reading of 21.5 dB μ V is obtained. The antenna factor of 7.4 dB/m and a cable factor of 1.1 dB are added. The 30 dB μ V/m value is mathematically converted to its corresponding level in μ V/m.

$$FS = 21.5 + 7.4 + 1.1 = 30 \text{ dB}\mu\text{V/m}$$

[Radiated Emission Limits]

Frequency of Emission (MHz)	Field Strength	
	μ V/m	dB μ V/m
30 to 88	100	40.0
88 to 216	150	43.5
216 to 960	200	46.0
Above 960	500	54.0

6. 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>					
☒ EMI Test Receiver	Rohde & Schwarz	ESCI	100584	1 year	2014.04.25
☐ EMI Test Receiver	Rohde & Schwarz	ESCI	100033	1 year	2014.06.23
☐ LISN	Rohde & Schwarz	ESH3-Z5	100282	1 year	2014.07.03
☒ LISN	EMCO	3816/2SH	9706-1070	1 year	2014.04.26
☒ LISN	Rohde & Schwarz	ENV216	100073	1 year	2014.02.06
☐ Attenuator	Rohde & Schwarz	ESH3-Z2	357.8810.352	1 year	2014.07.03
<u>Radiated Emission</u>					
-For measurement below 1 GHz					
☒ EMI Test Receiver	Rohde & Schwarz	ESI40	831564103	1 year	2014.04.16
☒ Trilog Antenna	Schwarzbeck	VULB9160	3301	2 year	2014.12.17
☒ Antenna master	HD GmbH	MA240	240/520	N/A	-
☒ Turn Table	HD GmbH	2090	9702/1224	N/A	-
☐ EMI Test Receiver	Rohde & Schwarz	ESU 26	100241	1 year	2014.07.01
☐ Trilog Antenna	Schwarzbeck	VULB9168	185	2 year	2015.04.16
☐ Antenna master	INNCO Systems	MA4000-EP	MA4000/283	N/A	-
☐ Turn Table	INNCO Systems	DT3000-3T	DT3000/69	N/A	-
-For measurement above 1 GHz					
☒ EMI Test Receiver	Rohde & Schwarz	ESI40	831564103	1 year	2014.04.16
☐ Antenna master	HD GmbH	MA240	240/520	N/A	-
☐ Turn Table	HD GmbH	2090	9702/1224	N/A	-
☐ EMI Test Receiver	Rohde & Schwarz	ESU 26	100241	1 year	2014.07.01
☒ Antenna master	INNCO Systems	MA4000-EP	MA4000/283	N/A	-
☒ Turn Table	INNCO Systems	DT3000-3T	DT3000/69	N/A	-
☒ Power Amplifier	CERNEX	CBLU1183540	21690	1 year	2014.07.12
☒ Horn Antenna	Schwarzbeck	BBHA 9120D	296	2 year	2014.12.13

7. CONCLUSION

The data collected shows that the **EUT type: GSM/WCDMA Phone with BT, FCC ID: ZNFA380, Model: LG-A380** complies with §15.107 and §15.109 of the FCC rules.