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FCC NFC REPORT

Certification

Applicant Name:
LG Electronics MobileComm U.S.A., Inc.

Address:
1000 Sylvan Avenue, Englewood Cliffs NJ 07632

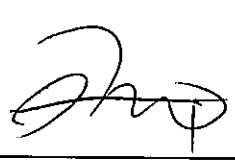
Date of Issue:
February 6, 2017
Test Site/Location:
HCT CO., LTD., 74,Seoicheon-ro 578beon-gil,Majang-myeo,Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA
Report No.: HCT-R-1701-F032-1
HCT FRN: 0005866421

FCC ID	**: ZNFH870**
APPLICANT	**: LG Electronics MobileComm U.S.A., Inc.**

Model:	LG-H870
Additional model(s):	LGH870, H870, LG-H870S, LGH870S, H870S, LG-H870DS, LGH870DS, H870DS, LG-H870K, LGH870K, H870K
EUT Type:	Multi-band GSM/EDGE/WCDMA/LTE phone with Bluetooth, WLAN, NFC
RF Output Field Strength:	15.26 dBuV/m @30 m
Frequency of Operation:	13.56 MHz
Modulation type:	ASK
FCC Classification:	Low Power Communication Device – Transmitter
FCC Rule Part(s):	FCC Part 15.225 Subpart C

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998,21 U.S. C.853(a)



Report prepared by
: Kyung Soo Kang
Test Engineer of RF Team

Approved by
: Jong Seok Lee
Manager of RF Team

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Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-R-1701-F032	January 31, 2017	- First Approval Report
HCT-R-1701-F032-1	February 6, 2017	- Revise the Section 7.

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1. GENERAL INFORMATION

Applicant:	LG Electronics MobileComm U.S.A., Inc.
Address:	1000 Sylvan Avenue, Englewood Cliffs NJ 07632
FCC ID:	ZNFH870
EUT Type:	Multi-band GSM/EDGE/WCDMA/LTE phone with Bluetooth, WLAN, NFC
Model:	LG-H870
Additional model(s):	LGH870, H870, LG-H870S, LGH870S, H870S, LG-H870DS, LGH870DS, H870DS, LG-H870K, LGH870K, H870K
Date(s) of Tests:	December 19, 2016 ~ January 24, 2017
Place of Tests:	HCT Co., Ltd. 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Korea

2. EUT DESCRIPTION

Model	LG-H870
Additional model(s)	LGH870, H870, LG-H870S, LGH870S, H870S, LG-H870DS, LGH870DS, H870DS, LG-H870K, LGH870K, H870K
EUT Type	Multi-band GSM/EDGE/WCDMA/LTE phone with Bluetooth, WLAN, NFC
Power Supply	DC 3.8 V
Battery Information	Model: BL-T32 Type: Li-ion Polymer Battery
Frequency of Operation	13.56 MHz
Transmit Power	15.26 dBuV/m @30 m
Modulation Type	ASK
Antenna Specification	Manufacturer: IMTECH CO., LTD. Antenna type: Internal Antenna

3. TEST METHODOLOGY

The measurement procedure described in the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices (ANSI C63.10-2013) is used in the measurement of the test device.

3.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

3.2 EUT EXERCISE

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.225 under the FCC Rules Part 15 Subpart C.

3.3 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 6.2 of ANSI C63.10. (Version :2013) Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements in Section 6.3 of ANSI C63.10. (Version: 2013).

3.4 DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition. Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

4. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipments, which is traceable to recognized national standards.
Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5 (Version : 2006).

5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

The 10 m semi anechoic chamber used to collect the Conducted and Radiated 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 (Version: 2014). Detailed description of test facilities was submitted to the Commission and accepted dated July 07, 2015 (Registration Number: 90661)

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned loop, dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.
Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.
All receiving equipment conforms to CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

6. ANTENNA REQUIREMENTS

According to FCC 47 CFR §15.203:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

* The antennas of this E.U.T are permanently attached.

*The E.U.T Complies with the requirement of §15.203

7. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4:2014.

All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95 % level of confidence.

Parameter	Expanded Uncertainty (±dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.82
Radiated Disturbance (9 kHz ~ 30 MHz)	3.40
Radiated Disturbance (30 MHz ~ 1 GHz)	4.80
Radiated Disturbance (1 GHz ~ 18 GHz)	6.07

8. TEST SUMMARY

The results in this report apply only to sample tested

Regulation	Test Type	Range	Result
Title 47 of the CFR: Part 15 Subpart (c), Clause 15.225(a)	Radiated Electric Field Emissions	13.553MHz to 13.567MHz	Pass
Title 47 of the CFR: Part 15 Subpart (c), Clause 15.225(b)	Radiated Electric Field Emissions	13.410MHz to 13.553MHz and 13.567MHz to 13.710MHz	Pass
Title 47 of the CFR: Part 15 Subpart (c), Clause 15.225(c)	Radiated Electric Field Emission	13.110 MHz to 13.410 MHz and 13.710 MHz to 14.010 MHz	Pass
Title 47 of the CFR: Part 15 Subpart (c), Clause 15.209 (d)	Radiated Electric Field Emissions	9kHz to 30MHz	Pass
Title 47 of the CFR: Part 15 Subpart (c), Clause 15.209	Radiated Electric Field Emissions	30MHz to 1GHz	Pass
Title 47 of the CFR: Part 15 Subpart (c), Clause 15.207	AC power conducted emissions	150kHz to 30MHz	Pass
Title 47 of the CFR: Part 15 Subpart (c), Clause 15.225(e)	Frequency Stability	0.01% of nominal	Pass
Title 47 of the CFR: Part 15 Subpart (c), Clause 15.215(c)	20 dB Bandwidth	-	Pass

9. RADIATED EMISSION MEASUREMENT

Requirement(s): 15.209, 15.225

Except as provided elsewhere in this paragraph the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Minimum Standard: FCC Part 15.225 / 15.209

Rule Part	Frequency (MHz)	Limit
Part 15.209	0.009 ~ 0.490	2400/F(kHz) uV/m@300 m
	0.490 ~1.705	24000/F(kHz) uV/m@30 m
	1.705 ~ 30	30 uV/m@30 m
	30 ~ 88	100 ** uV/m@3 m
	88 ~ 216	150 ** uV/m@3 m
	216 ~ 960	200 ** uV/m@3 m
	Above 960	500 uV/m@3 m

** Except as provided in 15.209(g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g. 15.231 and 15.241.

15.225 Operation within the band 13.110 MHz – 14.010 MHz

(a) The field strength of any emissions within the band 13.553 MHz-13.567 MHz shall not exceed 15,848 microvolts/meter (= 84 dBuV/m) at 30 meters.

(b) Within the bands 13.410-13.553 MHz and 13.567 MHz-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter (=50.5dBuV/m) at 30 meters.

(c) Within the bands 13.110-13.410 MHz and 13.710 MHz-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter (=40.5 dBuV/m) at 30 meters.

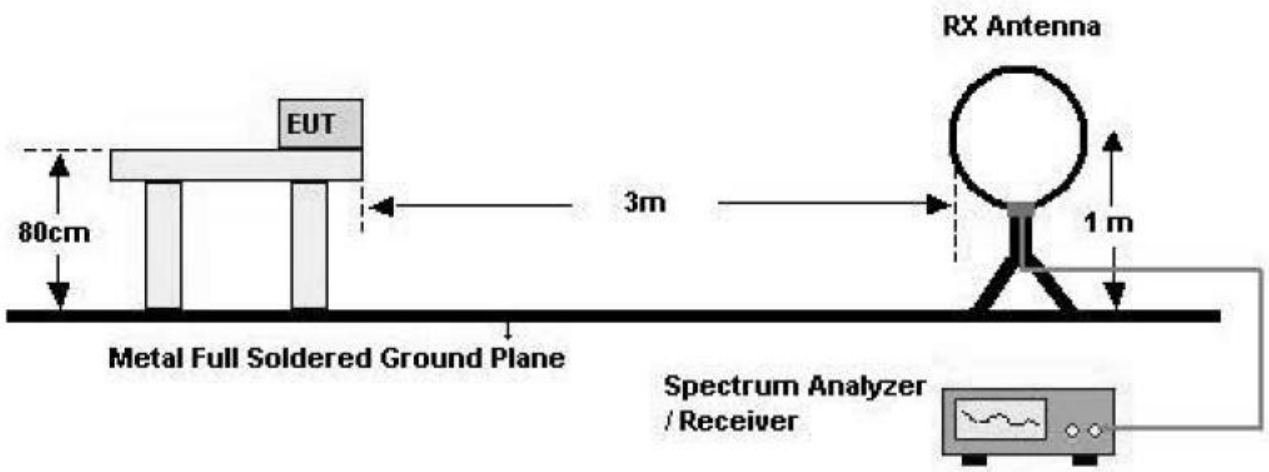
(d) The field strength of any emissions appearing outside of the 13.110 MHz-14.010 MHz band shall not exceed the general radiated emission limits in § 15.209.

(e) The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% of the operating frequency over a temperature variation of –20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

(f) In the case of radio frequency powered tags designed to operate with a device authorized under this section, the tag may be approved with the device or be considered as a separate device subject to its own authorization. Powered tags approved with a device under a single application shall be labeled with the same identification number as the device.

9.1. RADIATED EMISSION 9 kHz – 30 MHz

Test Set-up



Test Procedure

The EUT was placed on a non-conductive table located on semi-anechoic chamber.
The loop antenna was placed at a location 3m from the EUT. Radiated emissions were measured with the loop antenna both parallel and perpendicular to the plane of the EUT loop antenna and with x, y, z planes in EUT.

The limit is converted from microvolts/meter to decibel microvolts/meter. Sample Calculation:

Corrected Amplitude = Raw Amplitude(dBμV/m) + ACF(dB) + Cable Loss(dB) – Distance Correction Factor

The spectrum analyzer is set to:
Frequency Range = 9 kHz ~ 1 GHz

RBW = 9 kHz (9 kHz ~ 30 MHz)
= 120 kHz (30 MHz ~ 1 GHz)

Trace Mode = max hold
Detector Mode = peak / Quasi-peak
Sweep time = auto

▣ **Test Results (Worst case : Y-H)**

13.553 MHz-13.567 MHz						
Frequency (MHz)	Read Level (dBuV/m)@3m	Ant.Factor+Cable Loss (dB/m)	Distance Correction (dB)	Result Level (dBuV/m)@30m	Limit (dBuV/m)@30m	Margin (dB)
13.5622(H)	33.93	21.33	-40	15.26	84	68.74
13.5622(V)	32.22	21.33	-40	13.55	84	70.45

13.410 MHz-13.553 MHz and 13.567 MHz-13.710 MHz						
Frequency (MHz)	Read Level (dBuV/m)@3m	Ant.Factor+Cable Loss (dB/m)	Distance Correction (dB)	Result Level (dBuV/m)@30m	Limit (dBuV/m)@30m	Margin (dB)
13.4546	22.96	21.33	-40	4.29	50.47	46.18
13.6671	23.12	21.33	-40	4.45	50.47	46.02

13.110 MHz – 13.410 MHz and 13.710 MHz-14.010 MHz						
Frequency (MHz)	Read Level (dBuV/m)@3m	Ant.Factor+Cable Loss (dB/m)	Distance Correction (dB)	Result Level (dBuV/m)@30m	Limit (dBuV/m)@30m	Margin (dB)
13.3488	18.40	21.33	-40	-0.27	40.51	40.78
13.7724	18.73	21.33	-40	0.06	40.51	40.45

9 kHz -30 MHz						
Frequency (MHz)	Read Level (dBuV/m)@3m	Ant.Factor+Cable Loss (dB/m)	Distance Correction (dB)	Result Level (dBuV/m)@30m	Limit (dBuV/m)@30m	Margin (dB)
9.6496	10.49	21.38	-40	-8.13	29.54	37.67
14.0818	12.17	21.33	-40	-6.50	29.54	36.04
27.1038	7.45	21.75	-40	-10.80	29.54	40.34
27.1824	6.87	21.75	-40	-11.38	29.54	40.92

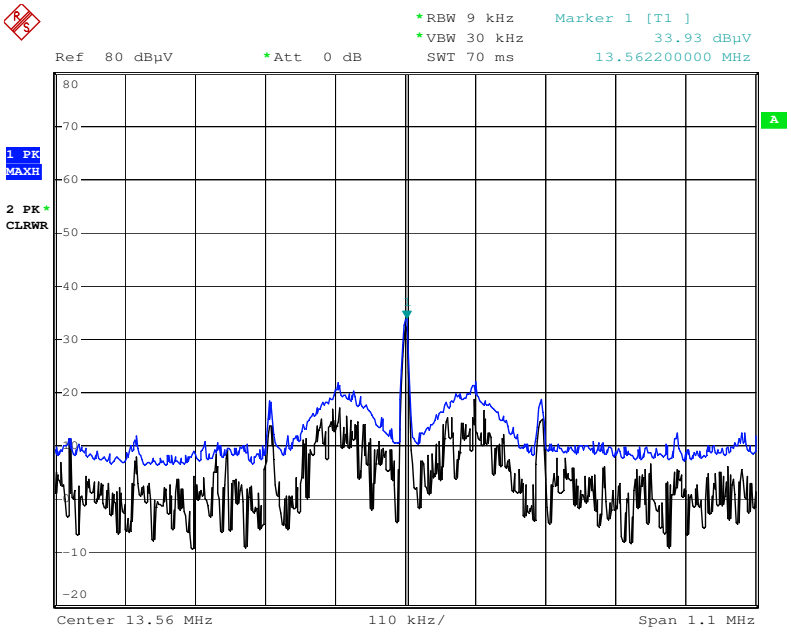
Note : The test results for below 30 MHz is correlated to an open site.

The result on OATS is about 2 dB higher than semi-anechoic chamber(10 m chamber)

1. Distance Correction Below 30 MHz = 40log(3 m/30 m) = - 40 dB
   Measurement Distance : 3 m (Below 30 MHz)
2. Factor = Antenna Factor + Cable Loss
3. Result Level = Read Level + Factor + Distance Correction
4. Margin = Limit – Result Level
5. We have done x, y, z planes in EUT
6. Antenna rotated about its vertical/horizontal axis for maximum response at each azimuth position around the EUT.
7. Worst case of operating mode is type A, analog mode and 106 kbps.

▣ RESULT PLOTS

Radiated Emissions (9 kHz~30 MHz) plot



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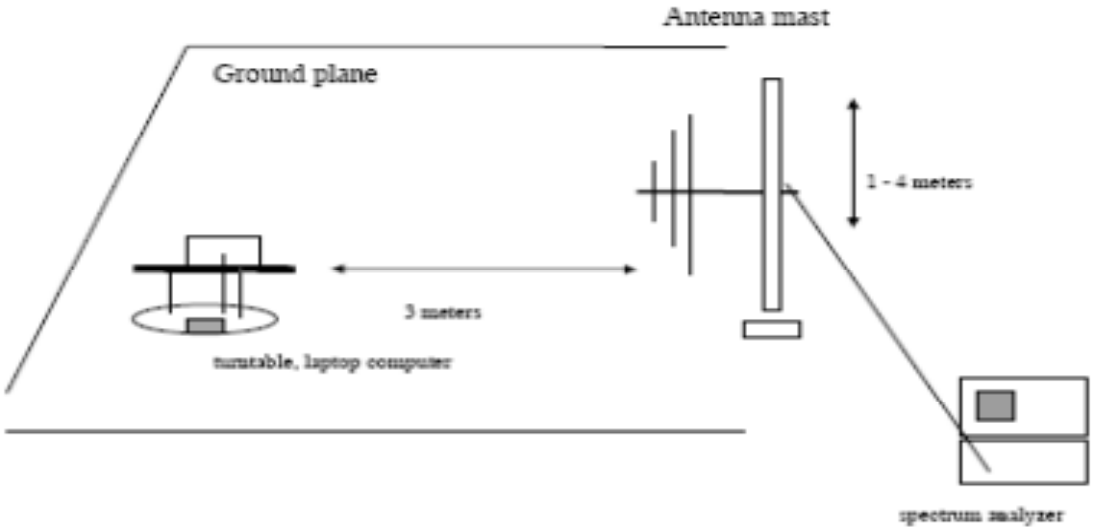
Note : Only the worst case plots for Radiated Emissions.

9.2. RADIATED EMISSION 30 MHz – 1000 MHz

Test Set-up



Test Procedures: Radiated emissions were measured according to ANSI C63.10.

The EUT was set to transmit at the highest output power.

The EUT was set 3 meter away from the measuring antenna.

▣ Test Results

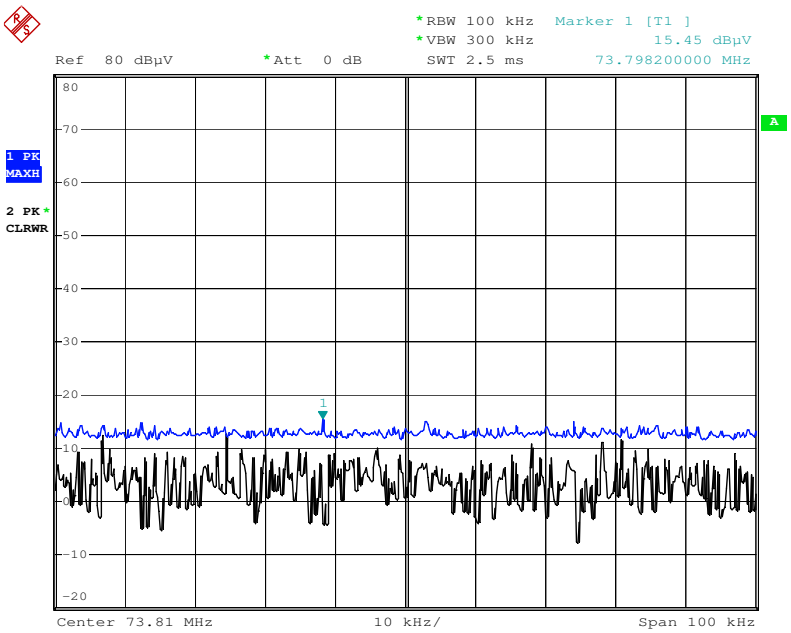
Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
MHz	dBuV	dB/m	dB	(H/V)	dBuV/m	dBuV/m	dB
*37.912	14.84	11.72	0.66	H	27.22	40	12.78
51.0524	14.72	12.38	0.7	H	27.8	40	12.2
*73.7982	15.45	10.32	0.77	V	26.54	40	13.46
*120.1601	14.29	11.64	0.81	H	26.74	43.5	16.76
147.53	15.21	13.12	0.92	H	29.25	43.5	14.25
180.7	15.14	11.6	0.98	V	27.72	43.5	15.78

Remark

1. Result Level = Read Level + (Antenna Factor+ Cable Loss)
2. Margin = Limit – Result Level
3. '*' is the result for restricted band.

▣ RESULT PLOTS

Radiated Emissions (30 MHz ~ 1000 MHz) plot



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Note : Only the worst case plots for Radiated Emissions.

10. EMISSION BANDWIDTH PLOT

Requirement(s):

Test Set-up: The EUT was connected to a spectrum analyzer.

Test Procedure: The 20 dB bandwidth was measured by using a spectrum analyzer.

RBW = Auto

VBW = Auto

Span = Adequately in the operating Tx.

Detector = Peak

Trace mode = Max hold

Allow the trace to stabilize

11. FREQUENCY TOLERANCE

Procedure: Part 15.225, ANSI 63.10 (Version : 2013)

If required, the operating or transmitting frequency of an intentional radiator should be measured in accordance with the following procedure to ensure that the device operates outside certain precluded frequency bands and within the frequency range. No modulation needs to be supplied to the intentional radiator during these tests, unless modulation is required to produce an output, e.g., single-sideband suppressed carrier transmitters.

The frequency stability of the transmitter is measured by:

a) Temperature: The temperature is varied from -20°C to + 50°C using an environmental chamber.
b) For battery operated equipment, the equipment tests shall be performed using a new battery.
c) Test Procedure
- Turn the EUT OFF and place it inside the environmental temperature chamber. For devices that have oscillator heaters, energize only the heater circuit.
- Set the temperature control on the chamber to the highest specified in the regulatoryrequirements for the type of device and allow the oscillator heater and the chamber temperatureto stabilize.
- While maintaining a constant temperature inside the environmental chamber, turn the EUT ON and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized. Four measurements in total are made.

d) The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% of the operating frequency.

Note : Below the measurement result is worst value of the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized

Startup

Measurement Result:

PERATING FREQUENCY: 13.56 MHz

REFERENCE VOLTAGE: 3.8 VDC

DEVIATION LIMIT: 0.01 % = 1356 Hz

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (MHz)	Frequency Dev. (Hz)	Frequency Dev (%)
100	3.8	-20	13.560152	152	0.0011209
100		-10	13.560152	152	0.0011209
100		0	13.560154	154	0.0011357
100		+10	13.560158	158	0.0011652
100		+20(Ref.)	13.560159	159	0.0011726
100		+30	13.560161	161	0.0011873
100		+40	13.560162	162	0.0011947
100		+50	13.560164	164	0.0012094
Maximum	4.37	+20	13.560158	158	0.0011652
End point	3.23	+20	13.560160	160	0.0011799

2 minutes

Measurement Result:

PERATING FREQUENCY: 13.56 MHz

REFERENCE VOLTAGE: 3.85 VDC

DEVIATION LIMIT: 0.01 % = 1356 Hz

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (MHz)	Frequency Dev. (Hz)	Frequency Dev (%)
100	3.80	-20	13.560146	146	0.0010767
100		-10	13.560147	147	0.0010841
100		0	13.560149	149	0.0010988
100		+10	13.560155	155	0.0011431
100		+20(Ref.)	13.560159	159	0.0011726
100		+30	13.560162	162	0.0011947
100		+40	13.560165	165	0.0012168
100		+50	13.560167	167	0.0012316
Maximum	4.35	+20	13.560158	158	0.0011652
End point	3.60	+20	13.560162	162	0.0011947

.

5 minutes

Measurement Result:

PERATING FREQUENCY: 13.56 MHz

REFERENCE VOLTAGE: 3.85 VDC

DEVIATION LIMIT: 0.01 % = 1356 Hz

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (MHz)	Frequency Dev. (Hz)	Frequency Dev (%)
100	3.80	-20	13.560145	145	0.0010693
100		-10	13.560147	147	0.0010841
100		0	13.560150	150	0.0011062
100		+10	13.560156	156	0.0011504
100		+20(Ref.)	13.560158	158	0.0011652
100		+30	13.560160	160	0.0011799
100		+40	13.560164	164	0.0012094
100		+50	13.560167	167	0.0012316
Maximum	4.35	+20	13.560154	154	0.0011357
End point	3.60	+20	13.560157	157	0.0011578

10 minutes

Measurement Result:

PERATING FREQUENCY: 13.56 MHz

REFERENCE VOLTAGE: 3.85 VDC

DEVIATION LIMIT: 0.01 % = 1356 Hz

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (MHz)	Frequency Dev. (Hz)	Frequency Dev (%)
100	3.80	-20	13.560146	146	0.0010767
100		-10	13.560148	148	0.0010914
100		0	13.560151	151	0.0011136
100		+10	13.560154	154	0.0011357
100		+20(Ref.)	13.560159	159	0.0011726
100		+30	13.560161	161	0.0011873
100		+40	13.560163	163	0.0012021
100		+50	13.560165	165	0.0012168
Maximum	4.35	+20	13.560158	158	0.0011652
End point	3.60	+20	13.560160	160	0.0011799

12. POWERLINE CONDUCTE EMISSIONS

LIMIT

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolt (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

Test Configuration

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

TEST PROCEDURE

1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors – Quasi Peak and Average Detector.
5. The EUT is the device operating below 30 MHz.
   - For unterminated the Antenna, the AC line conducted tests are performed with the antenna connected
   - For terminated the Antenna, the AC line conducted tests are performed with a dummy load connected to the EUT antenna output terminal.

Sample Calculation

Quasi-peak(Final Result) = Reading Value + Correction Factor

Test Plots

Unterminate the Antenna

Conducted Emissions (Line 1)

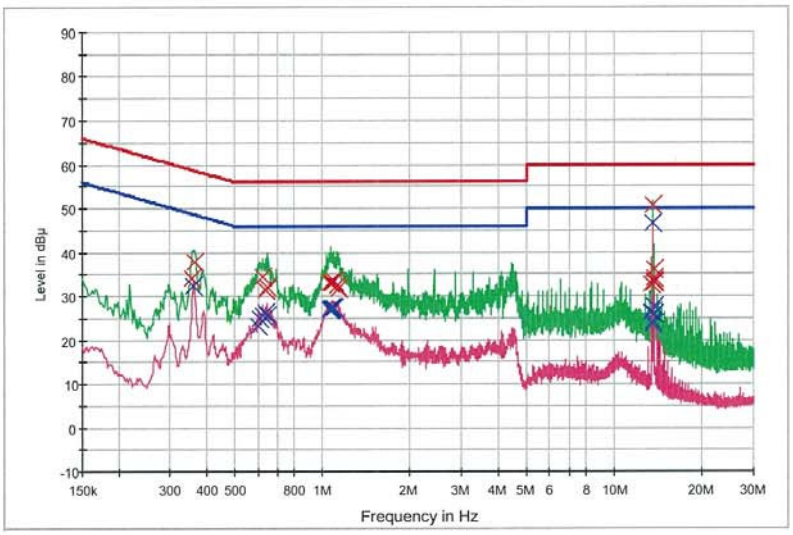
EMI Auto Test(7) 1 / 2

HCT TEST Report

Common Information

EUT:	LG-H870
Manufacturer:	LG
Test Site:	SHIELD ROOM
Operating Conditions:	NFC MODE _ UNTERMINATION

FCC CLASS B



Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.358000	34.0	9.000	Off	L1	9.7	24.8	58.8
0.366000	37.9	9.000	Off	L1	9.7	20.7	58.6
0.624000	34.3	9.000	Off	L1	9.7	21.7	56.0
0.638000	31.5	9.000	Off	L1	9.7	24.5	56.0
0.646000	32.1	9.000	Off	L1	9.7	23.9	56.0
0.650000	31.9	9.000	Off	L1	9.7	24.1	56.0
1.052000	32.9	9.000	Off	L1	9.7	23.1	56.0
1.066000	33.1	9.000	Off	L1	9.7	22.9	56.0
1.078000	33.1	9.000	Off	L1	9.7	22.9	56.0
1.094000	33.2	9.000	Off	L1	9.7	22.8	56.0
1.118000	32.4	9.000	Off	L1	9.7	23.6	56.0
1.132000	31.8	9.000	Off	L1	9.7	24.2	56.0
13.458000	32.7	9.000	Off	L1	10.2	27.3	60.0
13.560000	50.7	9.000	Off	L1	10.2	9.3	60.0
13.642000	33.2	9.000	Off	L1	10.2	26.8	60.0
13.658000	33.5	9.000	Off	L1	10.2	26.5	60.0
13.662000	34.0	9.000	Off	L1	10.2	26.0	60.0
13.666000	36.2	9.000	Off	L1	10.2	23.8	60.0

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EMI Auto Test(7) 2 / 2

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.362000	32.2	9.000	Off	L1	9.7	16.5	48.7
0.600000	23.2	9.000	Off	L1	9.7	22.8	46.0
0.612000	24.8	9.000	Off	L1	9.7	21.2	46.0
0.624000	25.7	9.000	Off	L1	9.7	20.4	46.0
0.636000	26.1	9.000	Off	L1	9.7	19.9	46.0
0.648000	25.5	9.000	Off	L1	9.7	20.5	46.0
1.056000	26.8	9.000	Off	L1	9.7	19.2	46.0
1.066000	27.1	9.000	Off	L1	9.7	18.9	46.0
1.074000	27.4	9.000	Off	L1	9.7	18.6	46.0
1.078000	27.4	9.000	Off	L1	9.7	18.6	46.0
1.088000	27.2	9.000	Off	L1	9.7	18.8	46.0
1.100000	27.4	9.000	Off	L1	9.7	18.6	46.0
13.456000	26.4	9.000	Off	L1	10.2	23.6	50.0
13.464000	24.3	9.000	Off	L1	10.2	25.7	50.0
13.484000	23.6	9.000	Off	L1	10.2	26.4	50.0
13.560000	46.7	9.000	Off	L1	10.2	3.3	50.0
13.656000	25.8	9.000	Off	L1	10.2	24.2	50.0
13.668000	27.8	9.000	Off	L1	10.2	22.2	50.0

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Conducted Emissions (Line 2)

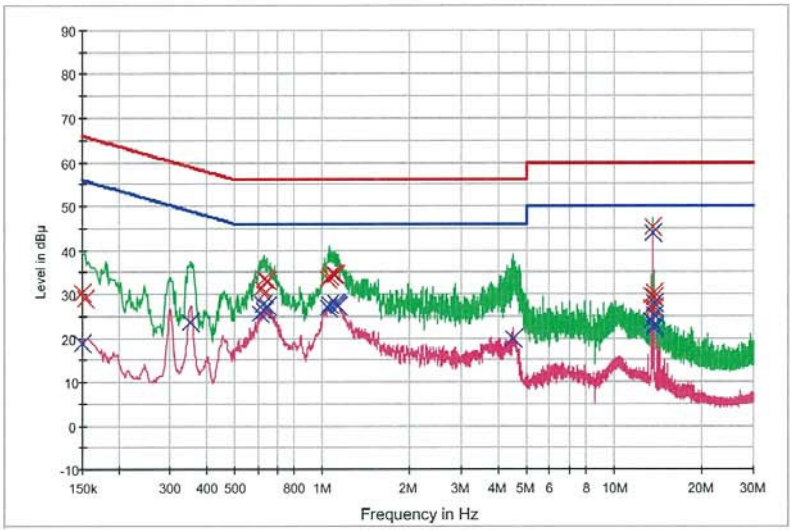
EMI Auto Test(7) 1 / 2

HCT TEST Report

Common Information

EUT:	LG-H870
Manufacturer:	LG
Test Site:	SHIELD ROOM
Operating Conditions:	NFC MODE _ UNTERMINATION

FCC CLASS B



Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	30.3	9.000	Off	N	9.6	35.7	66.0
0.154000	29.1	9.000	Off	N	9.6	36.7	65.8
0.616000	31.2	9.000	Off	N	9.7	24.8	56.0
0.630000	29.9	9.000	Off	N	9.7	26.1	56.0
0.634000	33.3	9.000	Off	N	9.7	22.7	56.0
0.648000	33.0	9.000	Off	N	9.7	23.0	56.0
1.042000	33.5	9.000	Off	N	9.7	22.5	56.0
1.052000	33.9	9.000	Off	N	9.7	22.1	56.0
1.062000	34.0	9.000	Off	N	9.7	22.0	56.0
1.078000	34.6	9.000	Off	N	9.7	21.4	56.0
1.092000	34.5	9.000	Off	N	9.7	21.5	56.0
1.110000	34.3	9.000	Off	N	9.7	21.7	56.0
13.448000	27.0	9.000	Off	N	10.2	33.0	60.0
13.454000	29.7	9.000	Off	N	10.2	30.3	60.0
13.560000	45.4	9.000	Off	N	10.2	14.6	60.0
13.662000	29.2	9.000	Off	N	10.2	30.8	60.0
13.668000	30.5	9.000	Off	N	10.2	29.5	60.0
13.690000	27.1	9.000	Off	N	10.2	32.9	60.0

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EMI Auto Test(7) 2 / 2

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	18.7	9.000	Off	N	9.6	37.3	56.0
0.354000	23.4	9.000	Off	N	9.7	25.4	48.9
0.612000	25.5	9.000	Off	N	9.7	20.5	46.0
0.624000	27.6	9.000	Off	N	9.7	18.4	46.0
0.634000	26.4	9.000	Off	N	9.7	19.6	46.0
0.648000	27.2	9.000	Off	N	9.7	18.8	46.0
1.042000	26.9	9.000	Off	N	9.7	19.1	46.0
1.052000	27.6	9.000	Off	N	9.7	18.4	46.0
1.110000	28.1	9.000	Off	N	9.7	17.9	46.0
1.122000	27.7	9.000	Off	N	9.7	18.3	46.0
1.138000	27.2	9.000	Off	N	9.7	18.8	46.0
4.516000	19.9	9.000	Off	N	9.9	26.1	46.0
13.454000	24.0	9.000	Off	N	10.2	26.0	50.0
13.560000	43.9	9.000	Off	N	10.2	6.1	50.0
13.638000	22.2	9.000	Off	N	10.2	27.8	50.0
13.646000	22.9	9.000	Off	N	10.2	27.1	50.0
13.668000	25.1	9.000	Off	N	10.2	24.9	50.0
13.772000	27.9	9.000	Off	N	10.2	22.1	50.0

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Terminate the Antenna

Conducted Emissions (Line 1)

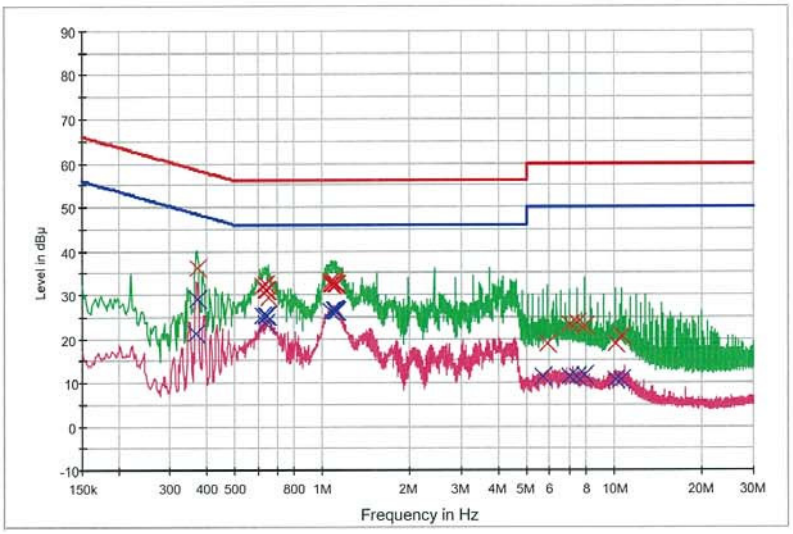
EMI Auto Test(7) 1 / 2

HCT TEST Report

Common Information

EUT:	LG-H870
Manufacturer:	LG
Test Site:	SHIELD ROOM
Operating Conditions:	NFC MODE _ TERMINATION

FCC CLASS B



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.372000	36.2	9.000	Off	L1	9.7	22.3	58.5
0.624000	31.9	9.000	Off	L1	9.7	24.1	56.0
0.636000	32.3	9.000	Off	L1	9.7	23.7	56.0
0.640000	30.9	9.000	Off	L1	9.7	25.1	56.0
0.648000	30.9	9.000	Off	L1	9.7	25.1	56.0
0.654000	29.3	9.000	Off	L1	9.7	26.7	56.0
1.064000	32.3	9.000	Off	L1	9.7	23.7	56.0
1.072000	33.1	9.000	Off	L1	9.7	22.9	56.0
1.078000	32.3	9.000	Off	L1	9.7	23.7	56.0
1.098000	32.9	9.000	Off	L1	9.7	23.1	56.0
1.106000	32.5	9.000	Off	L1	9.7	23.5	56.0
1.116000	32.2	9.000	Off	L1	9.7	23.8	56.0
5.924000	19.0	9.000	Off	L1	9.9	41.0	60.0
7.026000	23.2	9.000	Off	L1	10.0	36.8	60.0
7.464000	23.4	9.000	Off	L1	10.0	36.6	60.0
7.904000	23.0	9.000	Off	L1	10.0	37.0	60.0
10.096000	18.8	9.000	Off	L1	10.1	41.2	60.0
10.536000	20.5	9.000	Off	L1	10.1	39.5	60.0

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EMI Auto Test(7) 2 / 2

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.370000	21.2	9.000	Off	L1	9.7	27.3	48.5
0.374000	29.1	9.000	Off	L1	9.7	19.3	48.4
0.624000	25.3	9.000	Off	L1	9.7	20.7	46.0
0.636000	25.4	9.000	Off	L1	9.7	20.6	46.0
0.640000	23.6	9.000	Off	L1	9.7	22.4	46.0
0.648000	25.1	9.000	Off	L1	9.7	20.9	46.0
1.064000	26.3	9.000	Off	L1	9.7	19.7	46.0
1.100000	26.7	9.000	Off	L1	9.7	19.3	46.0
1.106000	26.3	9.000	Off	L1	9.7	19.7	46.0
1.110000	26.5	9.000	Off	L1	9.7	19.5	46.0
1.116000	26.4	9.000	Off	L1	9.7	19.6	46.0
1.120000	26.2	9.000	Off	L1	9.7	19.8	46.0
5.704000	11.4	9.000	Off	L1	9.9	38.6	50.0
7.026000	11.3	9.000	Off	L1	10.0	38.7	50.0
7.464000	11.4	9.000	Off	L1	10.0	38.6	50.0
7.904000	11.7	9.000	Off	L1	10.0	38.3	50.0
10.096000	10.7	9.000	Off	L1	10.1	39.3	50.0
10.536000	10.8	9.000	Off	L1	10.1	39.2	50.0

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Conducted Emissions (Line 2)

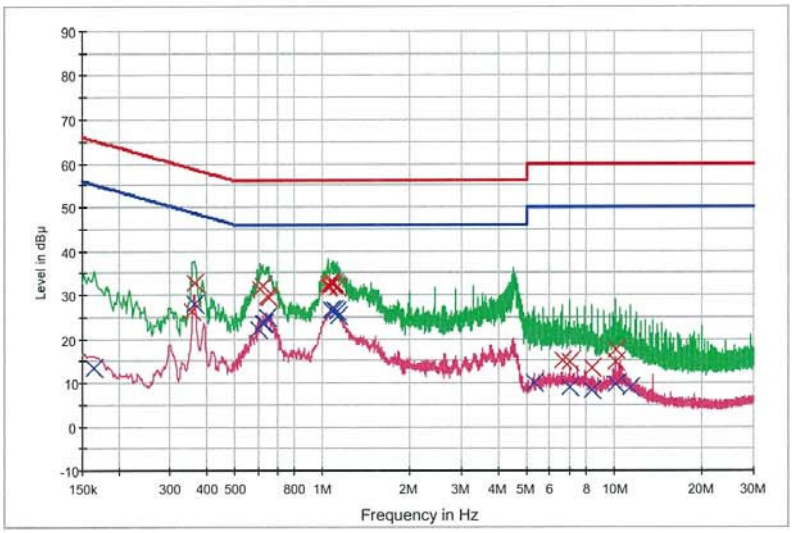
EMI Auto Test(7) 1 / 2

HCT TEST Report

Common Information

EUT:	LG-H870
Manufacturer:	LG
Test Site:	SHIELD ROOM
Operating Conditions:	NFC MODE _ TERMINATION

FCC CLASS B



Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.358000	26.2	9.000	Off	N	9.7	32.6	58.8
0.364000	32.8	9.000	Off	N	9.7	25.9	58.6
0.614000	31.3	9.000	Off	N	9.7	24.7	56.0
0.622000	32.1	9.000	Off	N	9.7	23.9	56.0
0.644000	29.6	9.000	Off	N	9.7	26.4	56.0
0.652000	29.5	9.000	Off	N	9.7	26.5	56.0
1.040000	31.6	9.000	Off	N	9.7	24.4	56.0
1.050000	32.3	9.000	Off	N	9.7	23.7	56.0
1.076000	32.9	9.000	Off	N	9.7	23.1	56.0
1.082000	32.4	9.000	Off	N	9.7	23.6	56.0
1.100000	32.6	9.000	Off	N	9.7	23.4	56.0
1.122000	31.7	9.000	Off	N	9.7	24.3	56.0
6.600000	15.1	9.000	Off	N	10.0	44.9	60.0
7.036000	14.8	9.000	Off	N	10.0	45.2	60.0
8.350000	13.2	9.000	Off	N	10.0	46.8	60.0
10.070000	17.4	9.000	Off	N	10.1	42.6	60.0
10.074000	14.7	9.000	Off	N	10.1	45.3	60.0
10.078000	14.8	9.000	Off	N	10.1	45.2	60.0

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EMI Auto Test(7) 2 / 2

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.164000	13.3	9.000	Off	N	9.6	41.9	55.3
0.364000	27.9	9.000	Off	N	9.7	20.8	48.6
0.600000	22.2	9.000	Off	N	9.7	23.8	46.0
0.624000	23.6	9.000	Off	N	9.7	22.4	46.0
0.632000	23.5	9.000	Off	N	9.7	22.5	46.0
0.648000	24.9	9.000	Off	N	9.7	21.1	46.0
1.070000	26.6	9.000	Off	N	9.7	19.4	46.0
1.074000	26.6	9.000	Off	N	9.7	19.4	46.0
1.082000	26.3	9.000	Off	N	9.7	19.7	46.0
1.090000	26.5	9.000	Off	N	9.7	19.5	46.0
1.120000	26.2	9.000	Off	N	9.7	19.8	46.0
1.134000	25.2	9.000	Off	N	9.7	20.8	46.0
5.286000	9.9	9.000	Off	N	9.9	40.1	50.0
7.036000	9.1	9.000	Off	N	10.0	40.9	50.0
8.350000	8.3	9.000	Off	N	10.0	41.7	50.0
10.070000	9.6	9.000	Off	N	10.1	40.4	50.0
10.078000	9.5	9.000	Off	N	10.1	40.5	50.0
11.410000	8.9	9.000	Off	N	10.2	41.1	50.0

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13. LIST OF TEST EQUIPMENT

13.1 LIST OF TEST EQUIPMENT(Conducted Test)

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Serial No.
Rohde & Schwarz	ENV216 / LISN	12/23/2016	Annual	100073
Rohde & Schwarz	ESCI / Test Receiver	12/23/2016	Annual	100584
Agilent	N9020A / Signal Analyzer	06/24/2016	Annual	MY51110085
Agilent	N1911A / Power Meter	03/11/2016	Annual	MY45100523
Agilent	N1921A / Power Sensor	03/11/2016	Annual	MY52260025
Agilent	87300B / Directional Coupler	11/23/2016	Annual	3116A03621
Hewlett Packard	11667B / Power Splitter	06/14/2016	Annual	05001
Hewlett Packard	E3632A / DC Power Supply	03/09/2016	Annual	KR75303962
Agilent	8493C / Attenuator(10 dB)	07/15/2016	Annual	07560

13.2 LIST OF TEST EQUIPMENT(Radiated Test)

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Serial No.
Audix	AM4000 / Antenna Position Tower	N/A	N/A	N/A
Audix	Turn Table	N/A	N/A	N/A
Audix	EM1000 / Controller	N/A	N/A	060520
Rohde & Schwarz	Loop Antenna	02/23/2016	Biennial	1513-175
Schwarzbeck	VULB 9168 / Hybrid Antenna	04/15/2015	Biennial	255
Schwarzbeck	BBHA 9120D / Horn Antenna	05/07/2015	Biennial	937
Schwarzbeck	BBHA9170 / Horn Antenna(15 GHz ~ 40 GHz)	09/03/2015	Biennial	BBHA9170541
Rohde & Schwarz	FSP / Spectrum Analyzer	09/10/2016	Annual	100688
Rohde & Schwarz	FSV40-N / Spectrum Analyzer	09/23/2016	Annual	101068-SZ
Wainwright Instruments	WHK3.0/18G-10EF / High Pass Filter	06/24/2016	Annual	8
Wainwright Instruments	WHFX7.0/18G-8SS / High Pass Filter	05/13/2016	Annual	29
Wainwright Instruments	WRCJV2400/2483.5-2370/2520-60/12SS / Band Reject Filter	07/06/2016	Annual	2
Wainwright Instruments	WRCJV5100/5850-40/50-8EEK / Band Reject Filter	01/26/2016	Annual	2
Agilent	8493C-10 / Attenuator(10 dB)	08/11/2016	Annual	76649
CERNEX	CBLU1183540 / Power Amplifier	07/15/2016	Annual	22964
CERNEX	CBL06185030 / Power Amplifier	07/15/2016	Annual	22965
CERNEX	CBL18265035 / Power Amplifier	07/11/2016	Annual	22966
CERNEX	CBL26405040 / Power Amplifier	07/11/2016	Annual	25956