HCT CO., LTD.

CERTIFICATE OF COMPLIANCE

FCC Certification

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

Address:
1000 Sylvan Avenue, Englewood Cliffs NJ 07632

Date of Issue:
March 19, 2014

Test Site/Location:
HCT CO., LTD., 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Korea

Report No.: HCT-R-1403-F010-3

HCT FRN: 0005866421

FCC ID	**: ZNFD315**
APPLICANT	**: LG Electronics MobileComm U.S.A., Inc.**

FCC Model(s):	LG-D315
Additional FCC Model(s):	D315, LGD315, LG-D315k, D315k, LGD315k
EUT Type:	Cellular/PCS GSM, PCS WCDMA Phone with Bluetooth/WLAN/NFC
RF Output Field Strength	12.42 dBuV/m
Frequency of Operation:	13.559365 MHz
Modulation type	ASK
FCC Classification:	Low Power Communication Device – Transmitter
FCC Rule Part(s):	FCC Part 15.225 Subpart C

Engineering Statement:

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
: Jae Chul Shin
Test engineer of RF Team

Approved by
: Kyoung Houn Seo
Manager of RF Team

Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-R-1403-F010	March 06, 2014	- First Approval Report
HCT-R-1403-F010-1	March 14, 2014	-Revised the test procedure on page 10 and note 5 on page 12 -Added field strength data for the 2nd Harmonic on page 11. -Revised the Powerline Conducted Emissions - Revised the EUT Type
HCT-R-1403-F010-2	March 17, 2014	-Added the description for ACIc configuration on page 19 and 21.
HCT-R-1403-F010-3	March 19, 2014	-Revised the test procedure of powerline conducted emissions on page 16 -Retested it under terminated antenna operating on page 21 to 24

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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:	ZNFD315
EUT Type:	Cellular/PCS GSM, PCS WCDMA Phone with Bluetooth/WLAN/NFC
Model name(s):	LG-D315
Additional Model name(s):	D315, LGD315, LG-D315k, D315k, LGD315k
Date(s) of Tests:	February 24, 2014 ~ March 19, 2014
Place of Tests:	HCT Co., Ltd. 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Korea. (IC Recognition No. : 5944A-3)
Applicant:	LG Electronics MobileComm U.S.A., Inc.

2. EUT DESCRIPTION

Product	Cellular/PCS GSM, PCS WCDMA Phone with Bluetooth/WLAN/NFC
FCC Model Name	LG-D315
Additional FCC Model Name	D315, LGD315, LG-D315k, D315k, LGD315k
Power Supply	DC 3.8 V
Battery Type	Li-ion Battery(Standard)
Frequency of Operation	13.559365 MHz
Transmit Power	12.42 dBuV/m
Modulation Type	ASK
Antenna Specification	Manufacturer: AT&C Co., LTD. Antenna type: FPCB Antenna

3. TEST METHODOLOGY

The measurement procedure described in the American National Standard for Testing Unlicensed Wireless Devices(ANSI C63.10-2009).

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 :2009) 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: 2009).

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.

3.5 STANDARDS

The following tests were conducted on a sample of the equipment for the purpose of demonstrating compliance With

FCC Part 15.Subpart C

Regulation	Measurement standard	Range
Title 47 of the CFR:2012, Part 15 Subpart (c), Clause 15.225(a)	ANSI C63.10:2009	13.553MHz to 13.567MHz
Title 47 of the CFR:2012, Part 15 Subpart (c), Clause 15.225(d)	ANSI C63.10:2009	outside of the 13.110-14.010 MHz band
Title 47 of the CFR:2012, Part 15 Subpart (c), Clause 15.209	ANSI C63.10:2009	9kHz to 30MHz
Title 47 of the CFR:2012, Part 15 Subpart (c), Clause 15.209	ANSI C63.10:2009	30MHz to 1GHz
Title 47 of the CFR:2012, Part 15 Subpart (c), Clause 15.207	ANSI C63.10:2009	150kHz to 30MHz
Title 47 of the CFR:2012, Part 15 Subpart (c), Clause 15.225(e)	ANSI C63.10:2009	0.01% of nominal
Title 47 of the CFR:2012, Part 15 Subpart (c), Clause 15.215(c)	ANSI C63.10:2009	-

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.

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. Detailed description of test facilities was submitted to the Commission and accepted dated June. 21, 2011 (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. TEST SUMMARY

The results in this report apply only to sample tested

Regulation	Test Type	Range	Result
Title 47 of the CFR:2012, Part 15 Subpart (c), Clause 15.225(a)	Radiated Electric Field Emissions	13.553MHz to 13.567MHz	Pass
Title 47 of the CFR:2012, 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:2012, Part 15 Subpart (c), Clause 15.225(c)	Radiated Electric Field Emissions	13.110 MHz to 13.410 MHz and 13.710 MHz to 14.010 MHz	Pass
Title 47 of the CFR:2012, Part 15 Subpart (c), Clause 15.209 (d)	Radiated Electric Field Emissions	9kHz to 30MHz	Pass
Title 47 of the CFR:2012, Part 15 Subpart (c), Clause 15.209	Radiated Electric Field Emissions	30MHz to 1GHz	Pass
Title 47 of the CFR:2012, Part 15 Subpart (c), Clause 15.207	AC power conducted emissions	150kHz to 30MHz	Pass
Title 47 of the CFR:2012, Part 15 Subpart (c), Clause 15.225(e)	Frequency Stability	0.01% of nominal	Pass
Title 47 of the CFR:2012, Part 15 Subpart (c), Clause 15.215(c)	20 dB Bandwidth	-	Pass

8. 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
	0.490 ~1.705	24000/F(kHz)uV/m@30
	1.705 ~ 30	30 uV/m@30
	30 ~ 88	100 ** uV/m@3m
	88 ~ 216	150 ** uV/m@3m
	216 ~ 960	200 ** uV/m@3m
	Above 960	500 uV/m@3m

** 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, 76-88MHz, 174-216MHz or 470-806MHz. 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 – 14.010 MHz.

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

(b) Within the bands 13.410-13.553 MHz and 13.567-13.710 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 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter (=40.5 dBuV/m) at 30 meters.

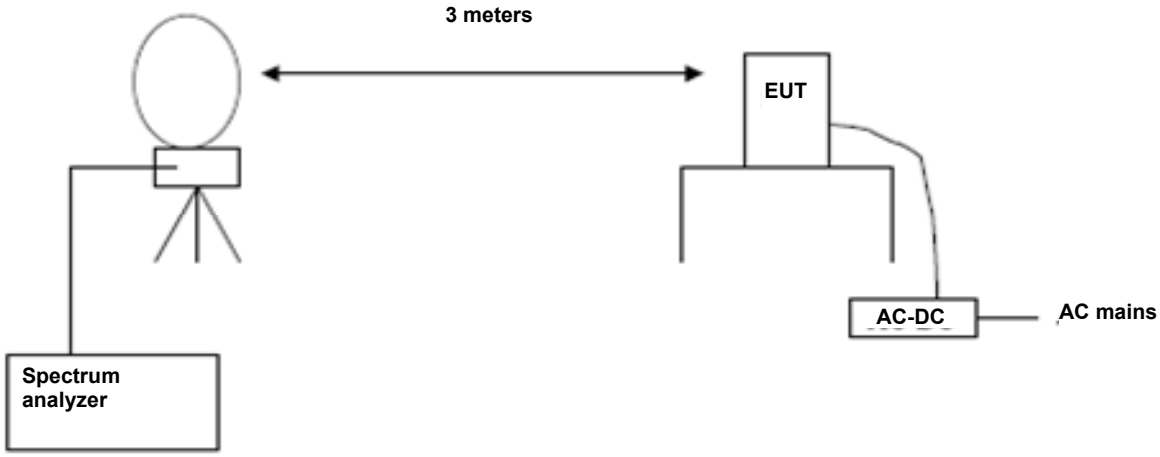
(d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in § 15.209.

(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.

8.1. RADIATED EMISSION 9 kHz – 30 MHz

Test Set-up



Test Procedure

The EUT was placed on a non-conductive table located on a large open test site.
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 ~ 1GHz

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

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

Test Results

13.553 MHz-13.567 MHz						
Frequency (MHz)	Read Level (dBuV)@3m	Ant.Factor+Cable Loss (dB/m)	Distance Correction (dB)	Result Level (dBuV/m)@30m	Limit (dBuV/m)@30m	Margin (dB)
13.559365	42.61(H)*	9.81	-40	12.42	84	71.58
13.559365	38.11(V)*	9.81	-40	7.92	84	76.08

13.410 MHz-13.553 MHz and 13.567 MHz-13.710 MHz						
Frequency (MHz)	Read Level (dBuV)@3m	Ant.Factor+Cable Loss (dB/m)	Distance Correction (dB)	Result Level (dBuV/m)@30m	Limit (dBuV/m)@30m	Margin (dB)
13.4534	32.09	9.81	-40	1.90	50.47	48.57
13.6673	30.85	9.81	-40	0.66	50.47	49.81

13.110 MHz – 13.410 MHz and 13.710 MHz-14.010 MHz						
Frequency (MHz)	Read Level (dBuV)@3m	Ant.Factor+Cable Loss (dB/m)	Distance Correction (dB)	Result Level (dBuV/m)@30m	Limit (dBuV/m)@30m	Margin (dB)
13.3494	27.67	9.81	-40	-2.52	40.51	43.03
13.7718	27.13	9.81	-40	-3.06	40.51	43.57

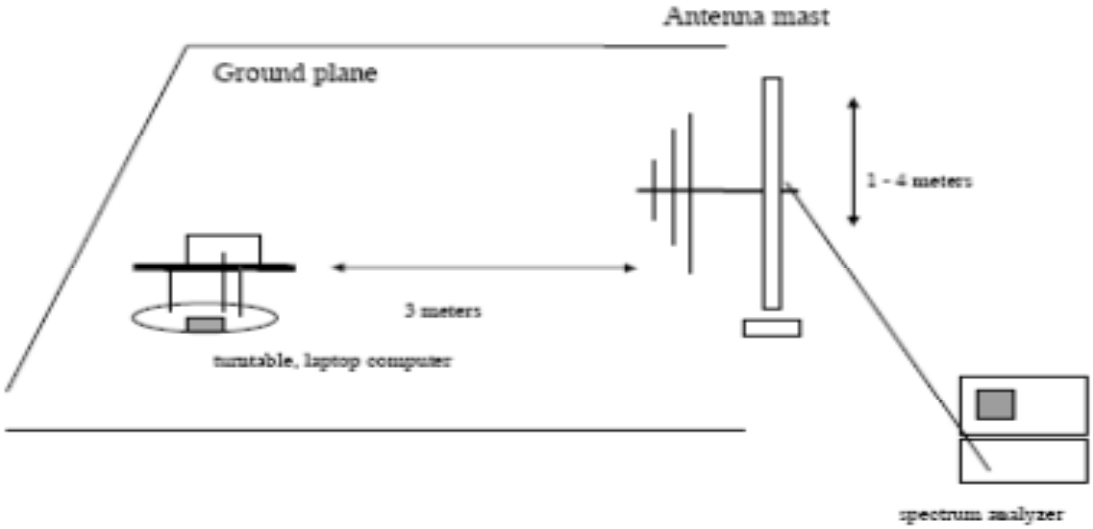
9 kHz -30 MHz						
Frequency (MHz)	Read Level (dBuV)@3m	Ant.Factor+Cable Loss (dB/m)	Distance Correction (dB)	Result Level (dBuV/m)@30m	Limit (dBuV/m)@30m	Margin (dB)
13.0353	18.72	9.81	-40	-11.47	29.54	41.01
14.0739	16.12	9.81	-40	-14.07	29.54	43.61
27.1186	17.68	9.81	-40	-12.51	29.54	42.05

Note :

1. Distance Correction Below 30MHz = 40log(3m/30m) = - 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 and horizontal and vertical polarization in detecting antenna.
6. Worst case of operating mode is type A, analog mode and 106 kbps.

8.2. 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.

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
MHz	dBμV	dB /m	dB	(H/V)	dBμV/m	dBμV/m	dB
33.30	21.58	12.5	0.5	H	34.08	40.0	5.92
36.74	22.84	12.5	0.5	H	35.34	40.0	4.66
44.04	22.37	13.3	0.6	V	35.67	40.0	4.33
76.14	23.67	11	0.9	H	34.67	40.0	5.33
149.27	24.57	12.7	1.2	H	37.27	43.5	6.23
161.54	23.67	12.7	1.2	V	36.37	43.5	7.13

Remark

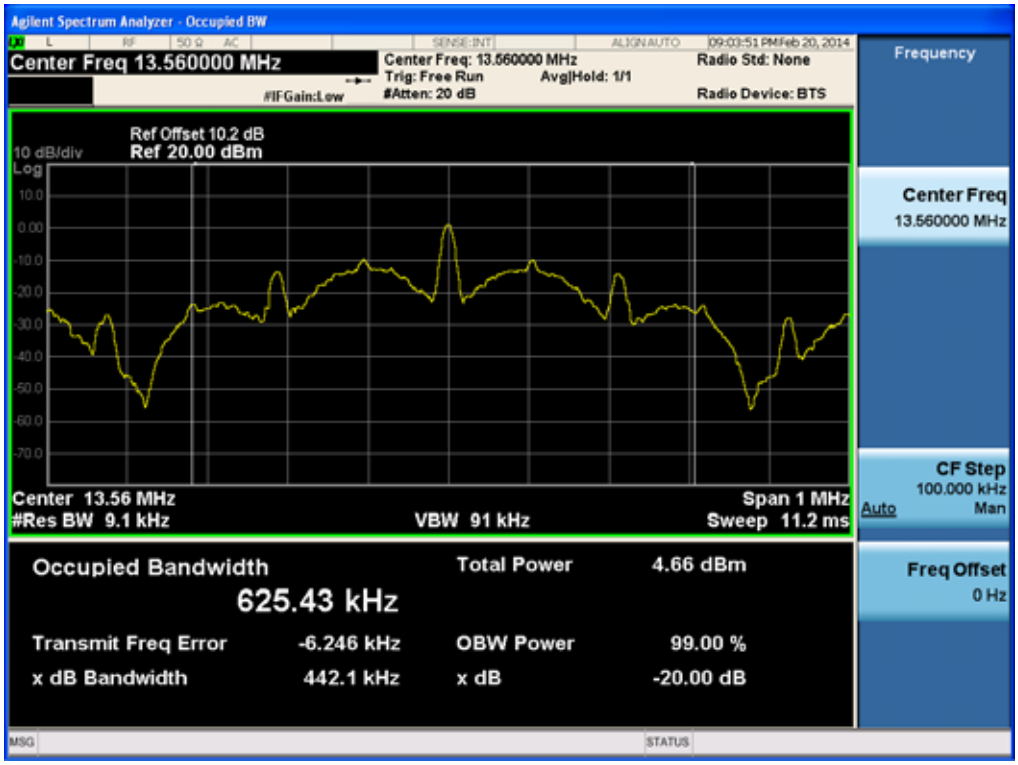
1. Result Level = Read Level + (Antenna Factor+ Cable Loss)
2. Margin = Limit – Result Level

9. 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.



10. FREQUENCY TOLERANCE

Procedure: Part 15.225, ANSI 63.10

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.

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

Measurement Result:

VOLTAGE (%)	POWER (VDC)	Temperature (°C)	Frequency (MHz)	Frequency Error (Hz)
100%	3.8 V	-20	13.559575	210
100%		-10	13.559530	165
100%		0	13.559495	130
100%		10	13.559455	90
100%		20	13.559365	0
100%		30	13.559305	-60
100%		40	13.559280	-85
100%		50	13.559245	-120
115%	4.37	+20	13.559390	25
Batt. Endpoint	3.5	+20	13.559350	-15

11. 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 with a detachable antenna operating below 30 MHz.
   - For the unterminated Antenna, the AC line conducted tests are performed with the antenna connected
   - For the terminated Antenna, the AC line conducted tests are performed with a dummy load connected to the EUT antenna output terminal.

Test Plots

Unterminate Antenna

Conducted Emissions (Line 1)

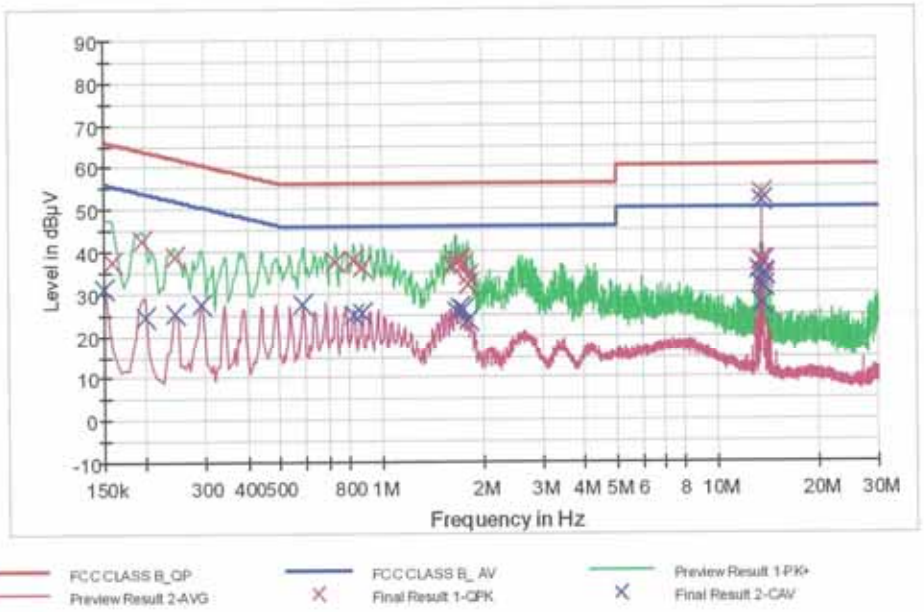
EMI Auto Test(1) 1 / 2

HCT TEST Report

Common Information

EUT:	LG-D315
Manufacturer:	LG
Test Site:	SHIELD ROOM
Operating Conditions:	NFC MODE(UNTERMINATED)
Operator Name:	JC SHIN

FCC CLASS B



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.159000	37.5	9.000	Off	N	9.7	28.0	65.5
0.195000	42.6	9.000	Off	N	9.7	21.2	63.8
0.244500	38.7	9.000	Off	N	9.7	23.2	61.9
0.734000	37.3	9.000	Off	N	9.8	18.7	56.0
0.833000	37.8	9.000	Off	N	9.8	18.2	56.0
0.878000	36.2	9.000	Off	N	9.8	19.8	56.0
1.616000	36.6	9.000	Off	N	9.8	19.4	56.0
1.665500	37.6	9.000	Off	N	9.9	18.4	56.0
1.710500	38.0	9.000	Off	N	9.9	18.0	56.0
1.755500	36.8	9.000	Off	N	9.9	19.2	56.0
1.800500	34.0	9.000	Off	N	9.9	22.0	56.0
1.814000	32.0	9.000	Off	N	9.9	24.0	56.0
13.455500	37.6	9.000	Off	N	10.6	22.4	60.0
13.559000	53.4	9.000	Off	N	10.6	6.6	60.0
13.613000	33.2	9.000	Off	N	10.6	26.8	60.0
13.622000	33.4	9.000	Off	N	10.6	26.6	60.0

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EMI Auto Test(1) 2 / 2

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
13.667000	37.6	9.000	Off	N	10.6	22.4	60.0
13.689500	34.1	9.000	Off	N	10.6	25.9	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	31.1	9.000	Off	N	9.7	24.9	56.0
0.199500	24.3	9.000	Off	N	9.7	29.3	53.6
0.244500	25.3	9.000	Off	N	9.7	26.6	51.9
0.294000	27.4	9.000	Off	N	9.7	23.0	50.4
0.585500	27.6	9.000	Off	N	9.8	18.4	46.0
0.833000	25.0	9.000	Off	N	9.8	21.0	46.0
0.878000	25.4	9.000	Off	N	9.8	20.6	46.0
1.665500	25.8	9.000	Off	N	9.9	20.2	46.0
1.710500	26.8	9.000	Off	N	9.9	19.2	46.0
1.755500	26.0	9.000	Off	N	9.9	20.0	46.0
1.800500	23.7	9.000	Off	N	9.9	22.3	46.0
1.809500	23.6	9.000	Off	N	9.9	22.4	46.0
13.347500	35.4	9.000	Off	N	10.6	14.6	50.0
13.455500	32.1	9.000	Off	N	10.6	17.9	50.0
13.559000	51.9	9.000	Off	N	10.6	-1.9	50.0
13.622000	27.3	9.000	Off	N	10.6	22.7	50.0
13.662500	31.6	9.000	Off	N	10.6	18.4	50.0
13.770500	34.7	9.000	Off	N	10.6	15.3	50.0

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Conducted Emissions (Line 2)

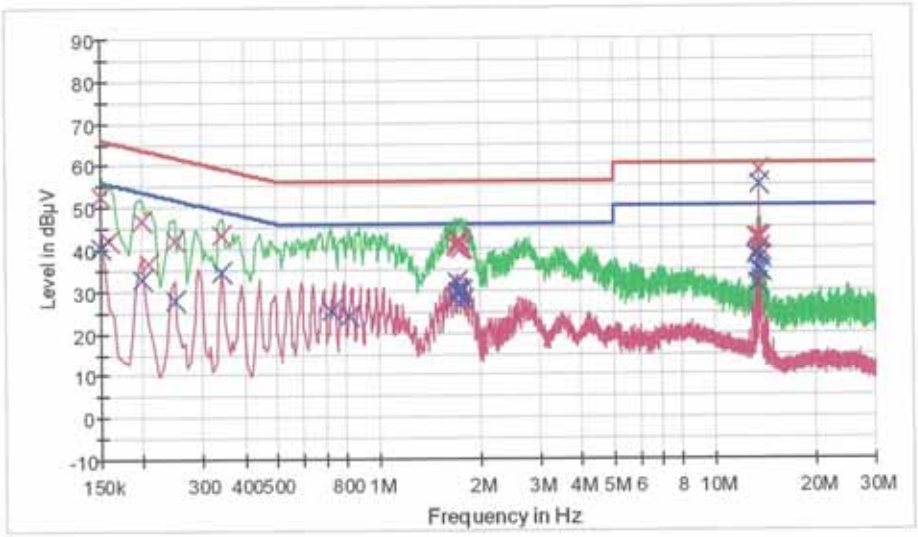
EMI Auto Test(1) 1 / 2

HCT TEST Report

Common Information

EUT:	LG-D315
Manufacturer:	LG
Test Site:	SHIELD ROOM
Operating Conditions:	NFC MODE(UNTERMINATED)
Operator Name:	JC SHIN

FCC CLASS B



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	52.8	9.000	Off	L1	9.7	13.2	66.0
0.159000	42.1	9.000	Off	L1	9.7	23.4	65.5
0.199500	46.5	9.000	Off	L1	9.7	17.1	63.6
0.208500	36.5	9.000	Off	L1	9.7	26.8	63.3
0.249000	42.0	9.000	Off	L1	9.7	19.8	61.8
0.343500	43.6	9.000	Off	L1	9.7	15.5	59.1
1.688000	40.7	9.000	Off	L1	9.8	15.3	56.0
1.706000	40.2	9.000	Off	L1	9.8	15.8	56.0
1.724000	41.8	9.000	Off	L1	9.8	14.2	56.0
1.733000	42.1	9.000	Off	L1	9.8	13.9	56.0
1.742000	40.1	9.000	Off	L1	9.8	15.9	56.0
1.769000	40.4	9.000	Off	L1	9.8	15.6	56.0
13.347500	42.4	9.000	Off	L1	10.6	17.6	60.0
13.455500	42.6	9.000	Off	L1	10.6	17.4	60.0
13.487000	39.0	9.000	Off	L1	10.6	21.0	60.0
13.559000	58.6	9.000	Off	L1	10.6	1.4	60.0

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EMI Auto Test(1) 2 / 2

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
13.649000	40.1	9.000	Off	L1	10.6	19.9	60.0
13.667000	42.5	9.000	Off	L1	10.6	17.5	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	40.2	9.000	Off	L1	9.7	15.8	56.0
0.199500	32.7	9.000	Off	L1	9.7	20.9	53.6
0.249000	27.6	9.000	Off	L1	9.7	24.2	51.8
0.343500	34.5	9.000	Off	L1	9.7	14.6	49.1
0.725000	25.4	9.000	Off	L1	9.8	20.6	46.0
0.819500	24.2	9.000	Off	L1	9.8	21.8	46.0
1.688000	28.2	9.000	Off	L1	9.8	17.8	46.0
1.706000	32.1	9.000	Off	L1	9.8	13.9	46.0
1.724000	30.0	9.000	Off	L1	9.8	16.0	46.0
1.733000	29.6	9.000	Off	L1	9.8	16.4	46.0
1.773500	30.0	9.000	Off	L1	9.8	16.0	46.0
1.787000	27.8	9.000	Off	L1	9.8	18.2	46.0
13.347500	38.4	9.000	Off	L1	10.6	11.6	50.0
13.455500	35.1	9.000	Off	L1	10.6	14.9	50.0
13.487000	31.7	9.000	Off	L1	10.6	18.3	50.0
13.559000	55.0	9.000	Off	L1	10.6	-5.0	50.0
13.662500	34.7	9.000	Off	L1	10.6	15.3	50.0
13.770500	37.7	9.000	Off	L1	10.6	12.3	50.0

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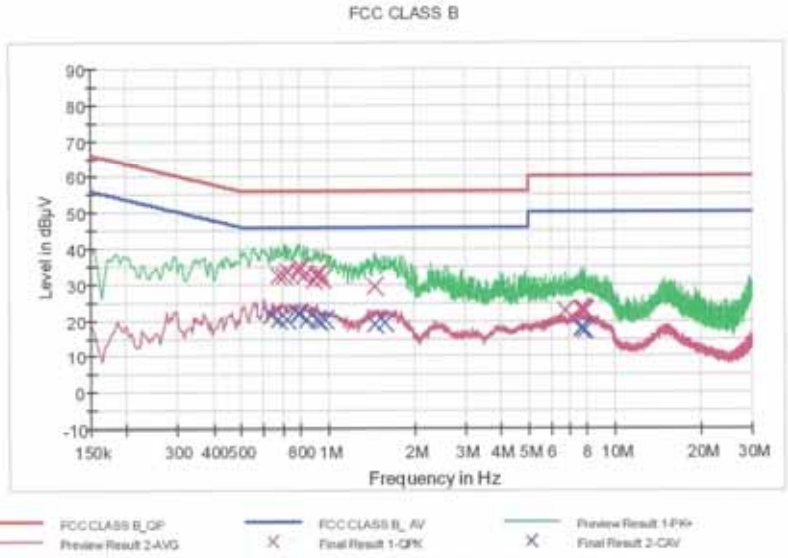
Terminate Antenna

Conducted Emissions (Line 1)

HCT TEST Report

Common Information

EUT:	LG-D315
Manufacturer:	LG
Test Site:	SHIELD ROOM
Operating Conditions:	NFC MODE (TERMINATED)
Operator Name:	JC SHIN



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.675500	32.6	9.000	Off	N	9.8	23.4	56.0
0.707000	32.4	9.000	Off	N	9.8	23.6	56.0
0.720500	33.5	9.000	Off	N	9.8	22.5	56.0
0.788000	33.8	9.000	Off	N	9.8	22.2	56.0
0.797000	35.0	9.000	Off	N	9.8	21.0	56.0
0.828500	32.5	9.000	Off	N	9.8	23.5	56.0
0.900500	31.0	9.000	Off	N	9.8	25.0	56.0
0.914000	32.3	9.000	Off	N	9.8	23.7	56.0
0.923000	32.7	9.000	Off	N	9.8	23.3	56.0
0.936500	33.1	9.000	Off	N	9.8	22.9	56.0
0.963500	31.8	9.000	Off	N	9.8	24.2	56.0
1.454000	29.7	9.000	Off	N	9.8	26.3	56.0
6.701000	22.6	9.000	Off	N	10.2	37.4	60.0
7.632500	23.4	9.000	Off	N	10.2	36.6	60.0
7.673000	23.3	9.000	Off	N	10.2	36.7	60.0
7.686500	23.3	9.000	Off	N	10.2	36.7	60.0

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EMI Auto Test(2) 2 / 2

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
7.826000	23.0	9.000	Off	N	10.2	37.0	60.0
7.916000	22.9	9.000	Off	N	10.2	37.1	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.639500	21.4	9.000	Off	N	9.8	24.6	46.0
0.675500	20.3	9.000	Off	N	9.8	25.7	46.0
0.720500	20.2	9.000	Off	N	9.8	25.8	46.0
0.788000	22.0	9.000	Off	N	9.8	24.0	46.0
0.797000	21.9	9.000	Off	N	9.8	24.1	46.0
0.851000	20.2	9.000	Off	N	9.8	25.8	46.0
0.914000	20.4	9.000	Off	N	9.8	25.6	46.0
0.923000	20.3	9.000	Off	N	9.8	25.7	46.0
0.936500	20.0	9.000	Off	N	9.8	26.0	46.0
0.981500	20.3	9.000	Off	N	9.8	25.7	46.0
1.454000	18.8	9.000	Off	N	9.8	27.2	46.0
1.580000	19.3	9.000	Off	N	9.8	26.7	46.0
7.601000	17.6	9.000	Off	N	10.2	32.4	50.0
7.632500	17.8	9.000	Off	N	10.2	32.2	50.0
7.673000	17.7	9.000	Off	N	10.2	32.3	50.0
7.686500	17.6	9.000	Off	N	10.2	32.4	50.0
7.844000	17.5	9.000	Off	N	10.2	32.5	50.0
7.916000	17.4	9.000	Off	N	10.2	32.6	50.0

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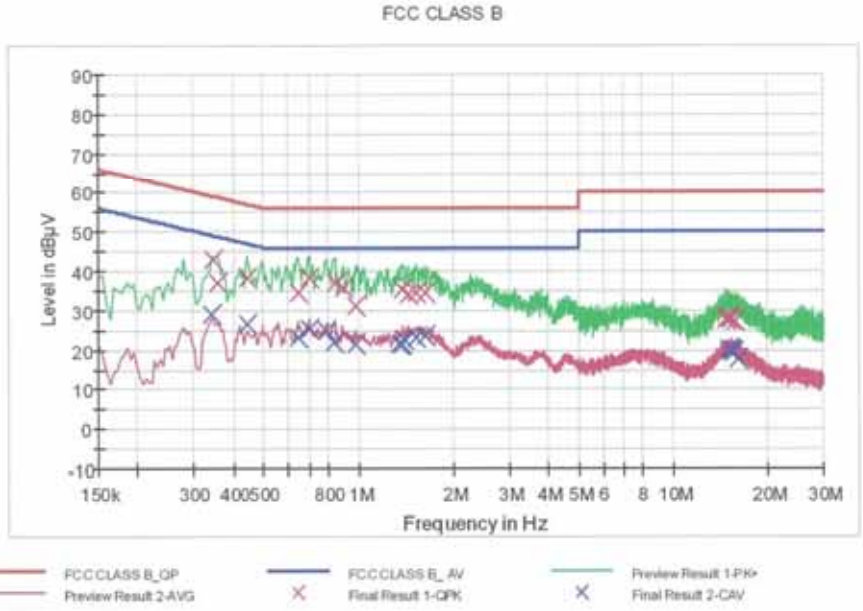
Conducted Emissions (Line 2)

EMI Auto Test(2) 1 / 2

HCT TEST Report

Common Information

EUT:	LG-D315
Manufacturer:	LG
Test Site:	SHIELD ROOM
Operating Conditions:	NFC MODE (TERMINATED)
Operator Name:	JC SHIN



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.348000	43.0	9.000	Off	L1	9.7	16.0	59.0
0.357000	37.0	9.000	Off	L1	9.7	21.8	58.8
0.442500	38.3	9.000	Off	L1	9.7	18.7	57.0
0.644000	34.4	9.000	Off	L1	9.8	21.6	56.0
0.698000	38.5	9.000	Off	L1	9.8	17.5	56.0
0.846500	37.0	9.000	Off	L1	9.8	19.0	56.0
0.896000	35.6	9.000	Off	L1	9.8	20.4	56.0
0.981500	31.1	9.000	Off	L1	9.8	24.9	56.0
1.373000	35.5	9.000	Off	L1	9.8	20.5	56.0
1.436000	34.1	9.000	Off	L1	9.8	21.9	56.0
1.521500	34.6	9.000	Off	L1	9.8	21.4	56.0
1.629500	34.3	9.000	Off	L1	9.8	21.7	56.0
14.733500	27.8	9.000	Off	L1	10.7	32.2	60.0
14.873000	28.2	9.000	Off	L1	10.7	31.8	60.0
15.012500	28.3	9.000	Off	L1	10.7	31.7	60.0
15.089000	28.2	9.000	Off	L1	10.7	31.8	60.0

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EMI Auto Test(2) 2 / 2

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
15.219500	28.0	9.000	Off	L1	10.7	32.0	60.0
15.665000	27.3	9.000	Off	L1	10.7	32.7	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.343500	29.3	9.000	Off	L1	9.7	19.8	49.1
0.442500	26.4	9.000	Off	L1	9.7	20.6	47.0
0.644000	23.1	9.000	Off	L1	9.8	22.9	46.0
0.698000	25.4	9.000	Off	L1	9.8	20.6	46.0
0.788000	24.8	9.000	Off	L1	9.8	21.2	46.0
0.837500	21.9	9.000	Off	L1	9.8	24.1	46.0
0.981500	21.6	9.000	Off	L1	9.8	24.4	46.0
1.350500	21.5	9.000	Off	L1	9.8	24.5	46.0
1.386500	21.6	9.000	Off	L1	9.8	24.4	46.0
1.395500	22.7	9.000	Off	L1	9.8	23.3	46.0
1.521500	23.0	9.000	Off	L1	9.8	23.0	46.0
1.629500	23.4	9.000	Off	L1	9.8	22.6	46.0
15.012500	20.0	9.000	Off	L1	10.7	30.0	50.0
15.089000	20.2	9.000	Off	L1	10.7	29.8	50.0
15.219500	20.0	9.000	Off	L1	10.7	30.0	50.0
15.408500	19.8	9.000	Off	L1	10.7	30.2	50.0
15.611000	19.2	9.000	Off	L1	10.7	30.8	50.0
16.182500	17.6	9.000	Off	L1	10.8	32.4	50.0

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12. LIST OF TEST EQUIPMENT

Manufacturer	Model / Equipment	Calibration Interval	Calibration Due	Serial No.
Rohde & Schwarz	ENV216/ LISN	Annual	01/29/2015	100073
Schwarzbeck	VULB 9160/ TRILOG Antenna	Biennial	12/17/2014	3150
Rohde & Schwarz	ESI 40 / EMI TEST RECEIVER	Annual	04/16/2014	831564103
Agilent	E4440A/ Spectrum Analyzer	Annual	04/25/2014	US45303008
Agilent	N9020A/ SIGNAL ANALYZER	Annual	05/14/2014	MY51110063
HD	MA240/ Antenna Position Tower	N/A	N/A	556
EMCO	1050/ Turn Table	N/A	N/A	114
HD GmbH	HD 100/ Controller	N/A	N/A	13
HD GmbH	KMS 560/ SlideBar	N/A	N/A	12
Rohde & Schwarz	SCU-18/ Signal Conditioning Unit	Annual	09/10/2014	10094
CERNEX	CBL18265035 / POWER AMP	Annual	07/24/2014	22966
CERNEX	CBL26405040 / POWER AMP	Annual	04/16/2014	19660
Schwarzbeck	BBHA 9120D/ Horn Antenna	Biennial	07/05/2015	1151
Schwarzbeck	BBHA9170 / Horn Antenna(15 GHz ~ 40 GHz)	Biennial	10/30/2014	BBHA9170124
Rohde & Schwarz	FSP / Spectrum Analyzer	Annual	01/24/2015	839117/011
Agilent	N1911A/Power Meter	Annual	01/24/2015	MY45100523
Agilent	N1921A /POWER SENSOR	Annual	07/11/2014	MY45241059
Wainwright Instrument	WHF3.0/18G-10EF / High Pass Filter	Annual	02/03/2015	F6
Wainwright Instrument	WHNX6.0/26.5G-6SS / High Pass Filter	Annual	04/16/2014	1
Wainwright Instrument	WHNX7.0/18G-8SS / High Pass Filter	Annual	04/16/2014	29
Wainwright Instrument	WRCJ2400/2483.5-2370/2520-60/14SS / Band Reject Filter	Annual	06/24/2014	1
Hewlett Packard	11636B/Power Divider	Annual	10/22/2014	11377
Agilent	87300B/Directional Coupler	Annual	12/18/2014	3116A03621
Hewlett Packard	11667B / Power Splitter	Annual	05/29/2014	05001
DIGITAL	EP-3010 /DC POWER SUPPLY	Annual	10/29/2014	3110117
ITECH	IT6720 / DC POWER SUPPLY	Annual	11/05/2014	010002156287001199
TESCOM	TC-3000C / BLUETOOTH TESTER	Annual	04/24/2014	3000C000276
Rohde & Schwarz	CBT / BLUETOOTH TESTER	Annual	04/25/2014	100422
EMCO	6502.LOOP ANTENNA	Biennial	01/27/2016	9009-2536
Agilent	8493C / Attenuator(10 dB)	Annual	07/24/2014	76649
WEINSCHEL	2-3 / Attenuator(3 dB)	Annual	10/28/2014	BR0617
CERNEX	CBL06185030 / POWER AMP	Annual	07/24/2014	22965
CERNEX	CBLU1183540 / POWER AMP	Annual	07/24/2014	22964