



FCC CFR47 PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

**CELL PHONE WITH GSM/CDMA/WCDMA/LTE+BT LE+802.11ABGN (HT20)
WITH WIRELESS BACK COVER**

MODEL NUMBER: LG-VS930 and VS930

FCC ID: ZNFVS930

REPORT NUMBER: 12U14331-4

ISSUE DATE: APRIL 19, 2012

Prepared for
**LG ELECTRONICS INC.
60-39 GASAN-DONG, GEUMCHEON-GU
SEOUL, KOREA 153-801, SOUTH KOREA**

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NVLAP LAB CODE 200065-0

Revision History

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	4/21/12	Original	T. LEE

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LG ELECTRONICS INC.
 60-39 GASAN-DONG, GEUMCHEON-GU
 SEOUL, KOREA 153-801, SOUTH KOREA

EUT DESCRIPTION: CELL PHONE WITH GSM/CDMA/WCDMA/LTE+BT
 LE+802.11ABGN (HT20) W/ WIRELESS BACK COVER

MODEL: LG-VS930 and VS930

SERIAL NUMBER: 990000760004152

DATE TESTED: APRIL 17 TO 20, 2012

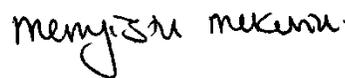
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15 SUBPART C	Pass
INDUSTRY CANADA RSS-210 Issue 8, Annex 2	Pass
INDUSTRY CANADA RSS-GEN Issue 3	Pass

Compliance Certification Services (UL CCS) tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL CCS based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL CCS and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL CCS will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For UL CCS By:

Tested By:

TIM LEE
 EMC SUPERVISOR
 UL CCS

MENGISTU MEKURIA
 EMC ENGINEER
 UL CCS

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2009, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 3, and RSS-210 Issue 8.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

UL CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://www.ccsemc.com>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\begin{aligned} \text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamp Gain (dB)} \\ 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} &= 28.9 \text{ dBuV/m} \end{aligned}$$

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 1000 MHz	4.94 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a smart phone that features GSM, CDMA, WCDMA, and LTE It also supports BLUETOOTH, WLAN and NFC operating at 13.56MHz.

5.2. MAXIMUM OUTPUT POWER

The transmitter maximum E-field at 10m distance is 28.02 dBuV/m

5.3. SOFTWARE AND FIRMWARE

The EUT driver software installed during testing was VS930_0311

The test utility software used during testing was NFC FCC Test.

The firmware used during testing was 3.0.8.00001_g114383

5.4. MODEL DIFFERNECE

Model LS-VS930 is identical to Model VS930 except for model designation.

5.5. WORST-CASE CONFIGURATION AND MODE

There are three configurations were tested, EUT with Standard cover, EUT with inductive cover, and EUT with inductive charger.

Since the EUT is a portable device, an X, Y, and Z orientations, and worst orientations among X, Y, and Z with Headset and/or AC Adapter were investigated to determine the worst case. After the investigation the worst case turned out to be Z-Orientation with an AC Adapter.

5.6. MODIFICATIONS

No modifications were made during testing.

5.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT (RF RADIATED TEST)

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	LG	MCS-01WT	TA1Z0000522	DoC
AC Adapter	LG	WCA-D01WT	TA120012180	DoC
Headset	LG	NA	NA	NA
Inductive Charger	LG	WCP-700	A1201WP000026	NA

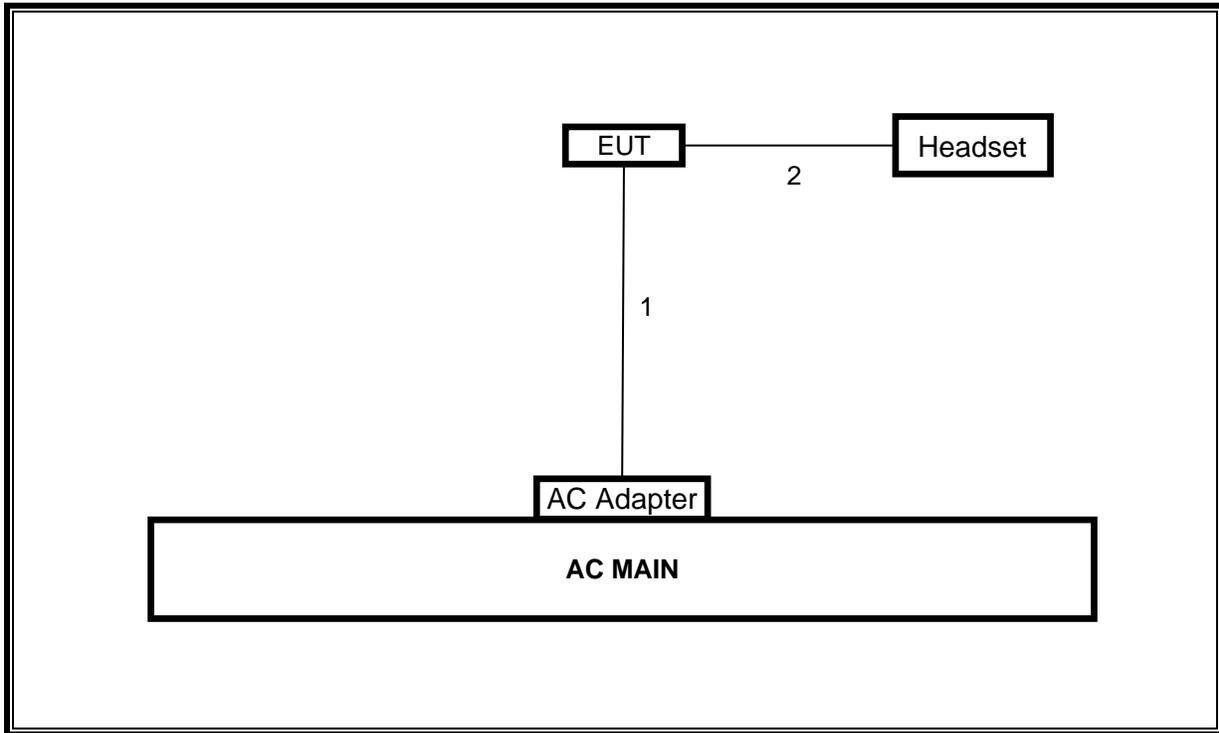
I/O CABLES (RF RADIATED TEST)

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	DC	1	USB	Un-shielded	1m	NA
2	DC	1	DC	Un-shielded	1.5m	For Inductive Charger
3	Jack	1	Earphone	Un-shielded	1.5m	NA

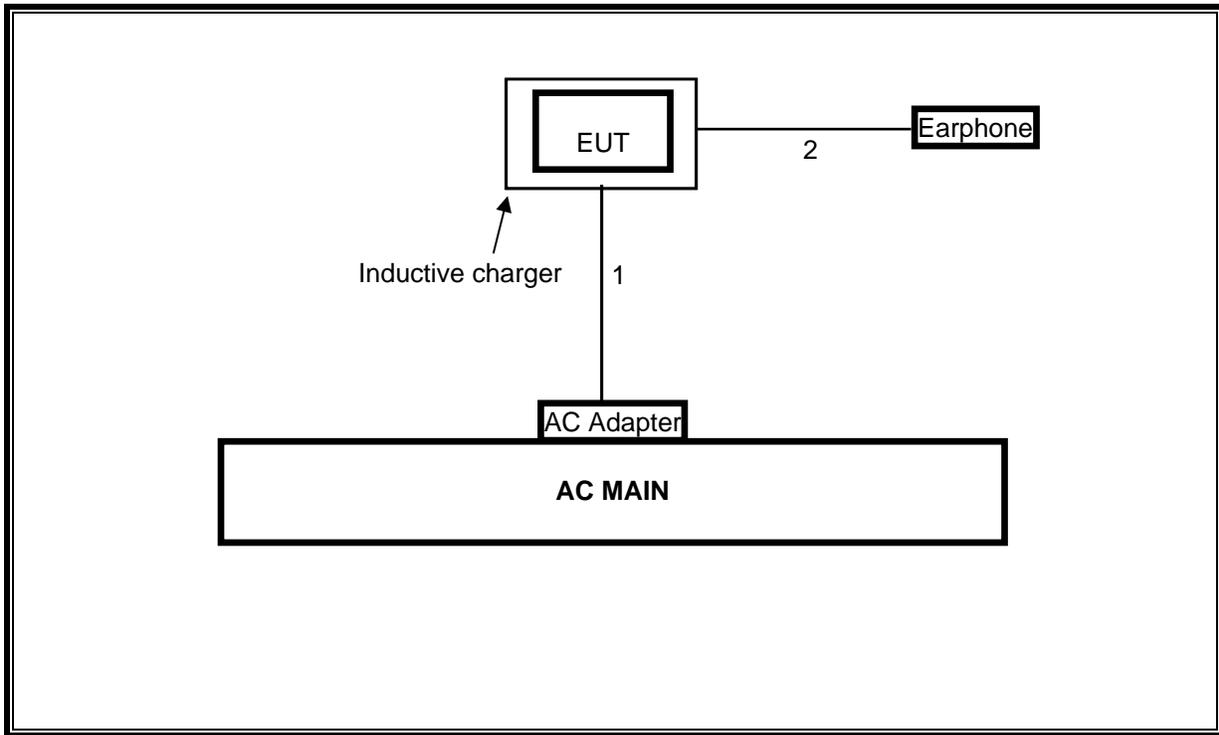
TEST SETUP

The EUT is a stand-alone device. A link is established between the EUT and the communication test set

INDUCTIVE/STANDARD COVER SETUP DIAGRAM FOR RF RADIATED TESTS



INDUCTIVE COVER + CHARGER SETUP DIAGRAM FOR RF RADIATED TESTS



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST				
Description	Manufacturer	Model	Asset	Cal Due
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01012	09/02/12
ESA-E Spectrum Analyzer, 9kHz-26.5 GHz	Agilent / HP	E4407B	C01098	03/29/13
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01159	08/11/12
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	08/19/13
Antenna, Loop, 30 MHz	EMCO	6502	C00593	02/10/13
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01171	07/16/12
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00558	11/11/12
LISN, 30 MHz	FCC	50/250-25-2	C00626	12/13/12

7. RADIATED EMISSION TEST RESULTS

7.1. LIMITS AND PROCEDURE

LIMIT

§15.225

IC RSS-210, Section 2.6 (Transmitter)

IC RSS-GEN, Section 6 (Receiver)

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

(d) The field strength of any emissions appearing outside of the 13.110– 14.010 MHz and shall not exceed the general radiated emission limits in § 15.209 as follows:

§15.209 (a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Limits for radiated disturbance of an intentional radiator		
Frequency range (MHz)	Limits (µV/m)	Measurement Distance (m)
0.009 – 0.490	2400 / F (kHz)	300
0.490 – 1.705	24000 / F (kHz)	30
1.705 – 30.0	30	30
30 – 88	100**	3
88 - 216	150**	3
216 – 960	200**	3
Above 960	500	3

** Except as provided in paragraph (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.

§15.209 (b) In the emission table above, the tighter limit applies at the band edges.

Formula for converting the filed strength from uV/m to dBuV/m is:

Limit (dBuV/m) = 20 log limit (uV/m)

In addition:

§15.209 (d) The emission limits shown the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emissions limits in these three bands are based on measurements employing an average detector.

§15.209 (d) The provisions in §§ 15.225, measuring emissions at distances other than the distances specified in the above table, determining the frequency range over which radiated emissions are to be measured, and limiting peak emissions apply to all devices operated under this part.

TEST PROCEDURE

ANSI C63.4

The EUT is an intentional radiator that incorporates a digital device. The highest fundamental frequency generated or used in the device is 19.2 MHz. The frequency range was investigated from 30 MHz to the 10th harmonic of the highest fundamental frequency, or 1000 MHz, whichever is greater (1000MHz)

RESULTS

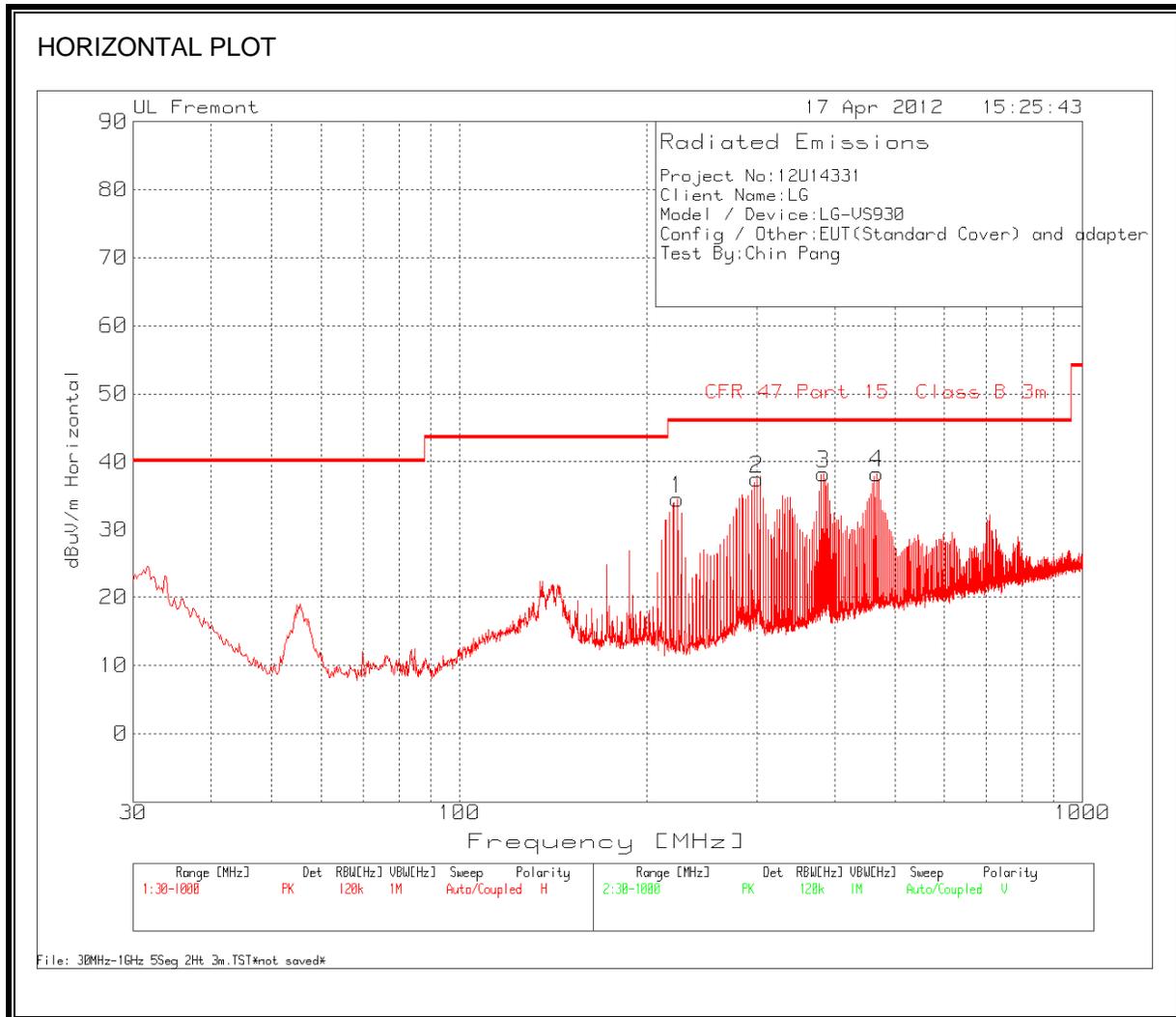
No non-compliance noted:

7.1.1. FUNDAMENTAL AND SPURIOUS EMISSIONS (0.15 – 30 MHz)

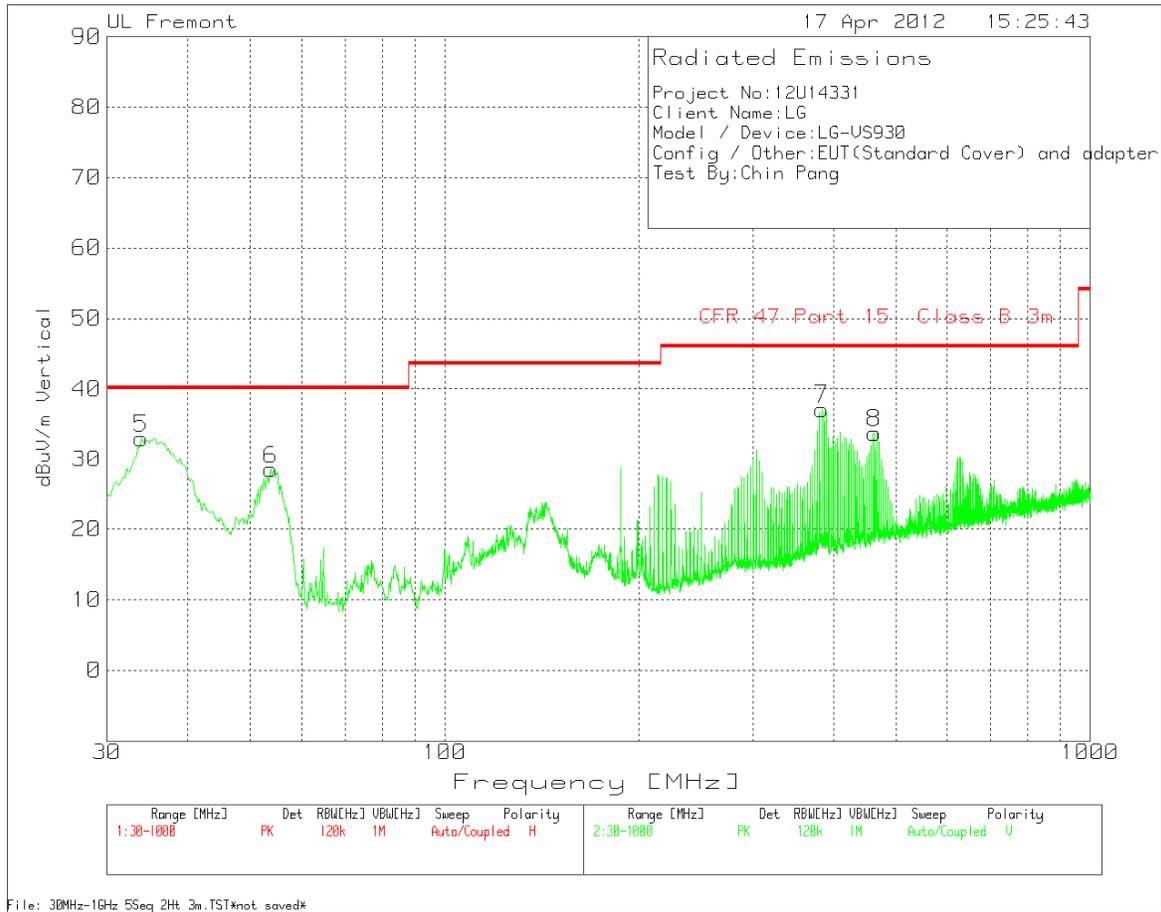
FCC Part 15, Subpart B & C												3 Meter Distance Measurement At Open Field	
Company: LG ELECTRONICS													
Project #: 12U14331													
Model #: VS930													
Tester: Mengistu Mekuria													
Date: 04/19/12													
Frequency (MHz)	PK (dBuV)	AV (dBuV)	AF (dB/m)	Distance Correction (dB)	PK Corrected Reading (dBuV/m)	AV Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	PK Margin (dB)	AV Margin (dB)	Notes		
STANDARD COVER													
Loop Antenna Face On:													
Y with AC Adapter-Position													
13.56	47.76	N/A	10.556	-40.00	18.32	N/A	84.00	N/A	-65.7	N/A	Fundamental @ 3m Dist		
Z with AC Adapter-Position													
13.56	47.80	N/A	10.556	-40.00	18.36	N/A	84.00	N/A	-65.6	N/A	Fundamental @ 3m Dist		
Loop Antenna Face Off:													
Y with AC Adapter-Position													
13.56	43.90	N/A	10.556	-40.00	14.46	N/A	84.00	N/A	-69.5	N/A	Fundamental @ 3m Dist		
Z with AC Adapter-Position													
13.56	44.20	N/A	10.556	-40.00	14.76	N/A	84.00	N/A	-69.2	N/A	Fundamental @ 3m Dist		
INDUCTIVE COVER													
Loop Antenna Face On:													
X-Position													
13.56	31.91	N/A	10.556	-40.00	2.47	N/A	84.00	N/A	-81.5	N/A	Fundamental @ 3m Dist		
Y-Position													
13.56	37.31	N/A	10.556	-40.00	7.87	N/A	84.00	N/A	-76.1	N/A	Fundamental @ 3m Dist		
Z-Position													
13.56	37.70	N/A	10.556	-40.00	8.26	N/A	84.00	N/A	-75.7	N/A	Fundamental @ 3m Dist		
Y with Headset-Position													
13.56	37.68	N/A	10.556	-40.00	8.24	N/A	84.00	N/A	-75.8	N/A	Fundamental @ 3m Dist		
Z with AC Adapter-Position													
13.56	39.40	N/A	10.556	-40.00	9.96	N/A	84.00	N/A	-74.0	N/A	Fundamental @ 3m Dist		
Loop Antenna Face Off:													
X-Position													
13.56	26.53	N/A	10.556	-40.00	-2.91	N/A	84.00	N/A	-86.9	N/A	Fundamental @ 3m Dist		
Y-Position													
13.56	32.65	N/A	10.556	-40.00	3.21	N/A	84.00	N/A	-80.8	N/A	Fundamental @ 3m Dist		
Z with AC Adapter-Position													
13.56	34.04	N/A	10.556	-40.00	4.60	N/A	84.00	N/A	-79.4	N/A	Fundamental @ 3m Dist		
INDUCTIVE CHARGER													
Loop Antenna Face On:													
X with Inductive Charger-Position													
13.56	33.65	N/A	10.556	-40.00	4.21	N/A	84.00	N/A	-79.8	N/A	Fundamental @ 3m Dist		
X with Inductive Charger and Headset-Position													
13.56	37.44	N/A	10.556	-40.00	8.00	N/A	84.00	N/A	-76.0	N/A	Fundamental @ 3m Dist		
Loop Antenna Face Off:													
X with Inductive Charger-Position													
13.56	29.27	N/A	10.556	-40.00	-0.17	N/A	84.00	N/A	-84.2	N/A	Fundamental @ 3m Dist		
X with Inductive Charger and Headset-Position													
13.56	36.5	N/A	10.556	-40.00	7.06	N/A	84.00	N/A	-76.9	N/A	Fundamental @ 3m Dist		
* No more emissions were found up to 30MHz													
Note: The emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 10000MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.													
P.K. = Peak													
Q.P. = Quasi Peak													
A.F. = Antenna factor													
Rev. 10.23.09													

7.1.2. TX SPURIOUS EMISSION 30 TO 1000 MHz (HORIZONTAL)

EUT WITH STANDARD COVER



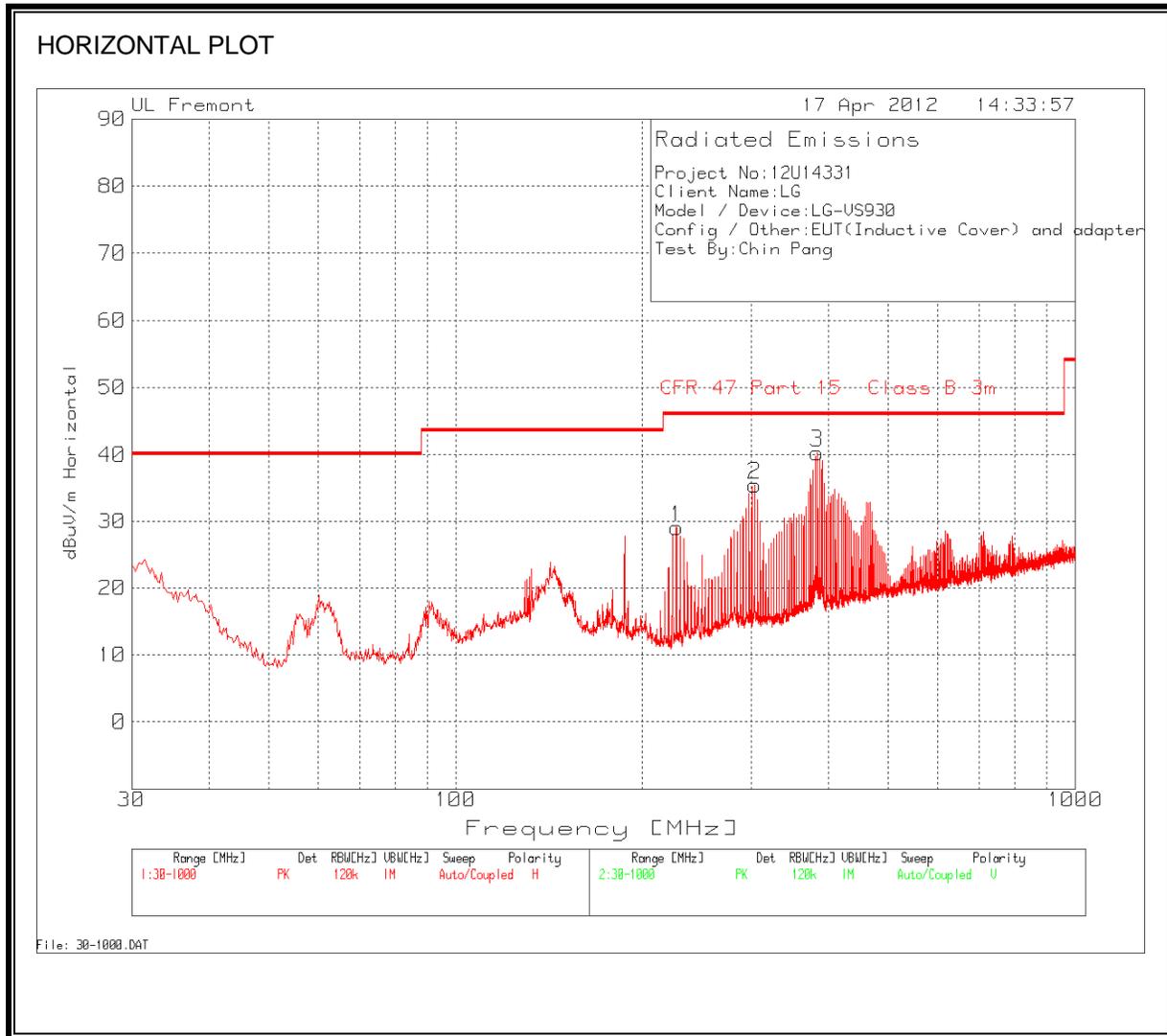
VERTICAL PLOT



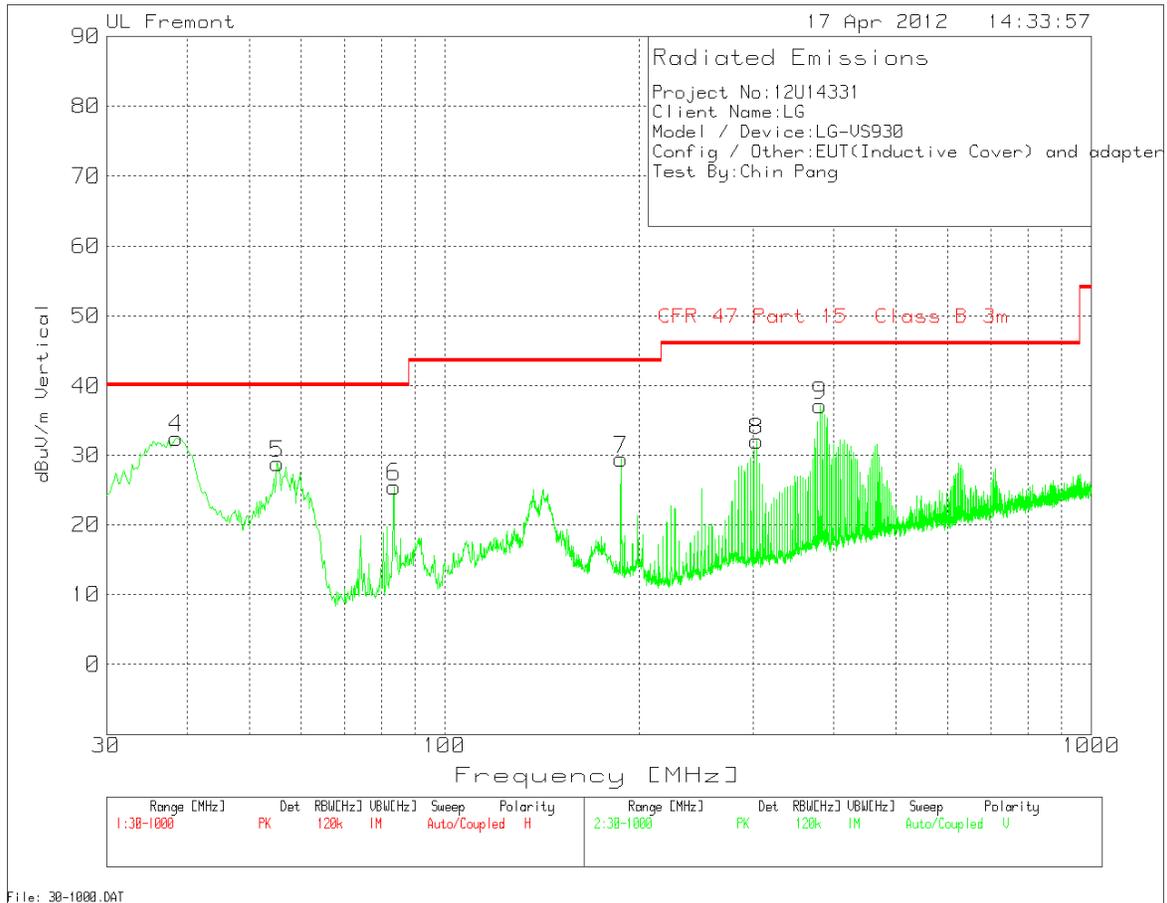
HORIZONTAL AND VERTICAL DATA

Project No:12U14331									
Client Name:LG									
Model / Device:LG-VS930									
Config / Other:EUT(Standard Cover) and adapter									
Test By:Chin Pang									
Range 1 30 - 1000MHz									
Test Frequency	Meter Reading	Detector	25MHz-1GHz ChmbrA Amplified.TX [dB]	T243 Sunol Bilog.TXT [dB]	dBuV/m	CFR 47 Part 15 Class B 3m	Margin	Height [cm]	Polarity
223.8449	49.94	PK	-26	10.6	34.54	46	-11.46	100	Horz
300.8014	50.08	PK	-25.8	13.2	37.48	46	-8.52	100	Horz
383.9608	48.56	PK	-25.3	15	38.26	46	-7.74	100	Horz
467.3141	46.31	PK	-25.1	17.1	38.31	46	-7.69	200	Horz
Range 2 30 - 1000MHz									
Test Frequency	Meter Reading	Detector	25MHz-1GHz ChmbrA Amplified.TX [dB]	T243 Sunol Bilog.TXT [dB]	dBuV/m	CFR 47 Part 15 Class B 3m	Margin	Height [cm]	Polarity
33.8769	42.17	PK	-27.6	18.4	32.97	40	-7.03	109	Vert
53.8429	48.43	PK	-27.3	7.3	28.43	40	-11.57	109	Vert
383.9608	47.45	PK	-25.3	15	37.15	46	-8.85	109	Vert
464.0188	41.9	PK	-25	16.9	33.8	46	-12.2	109	Vert

EUT WITH INDUCTIVE COVER



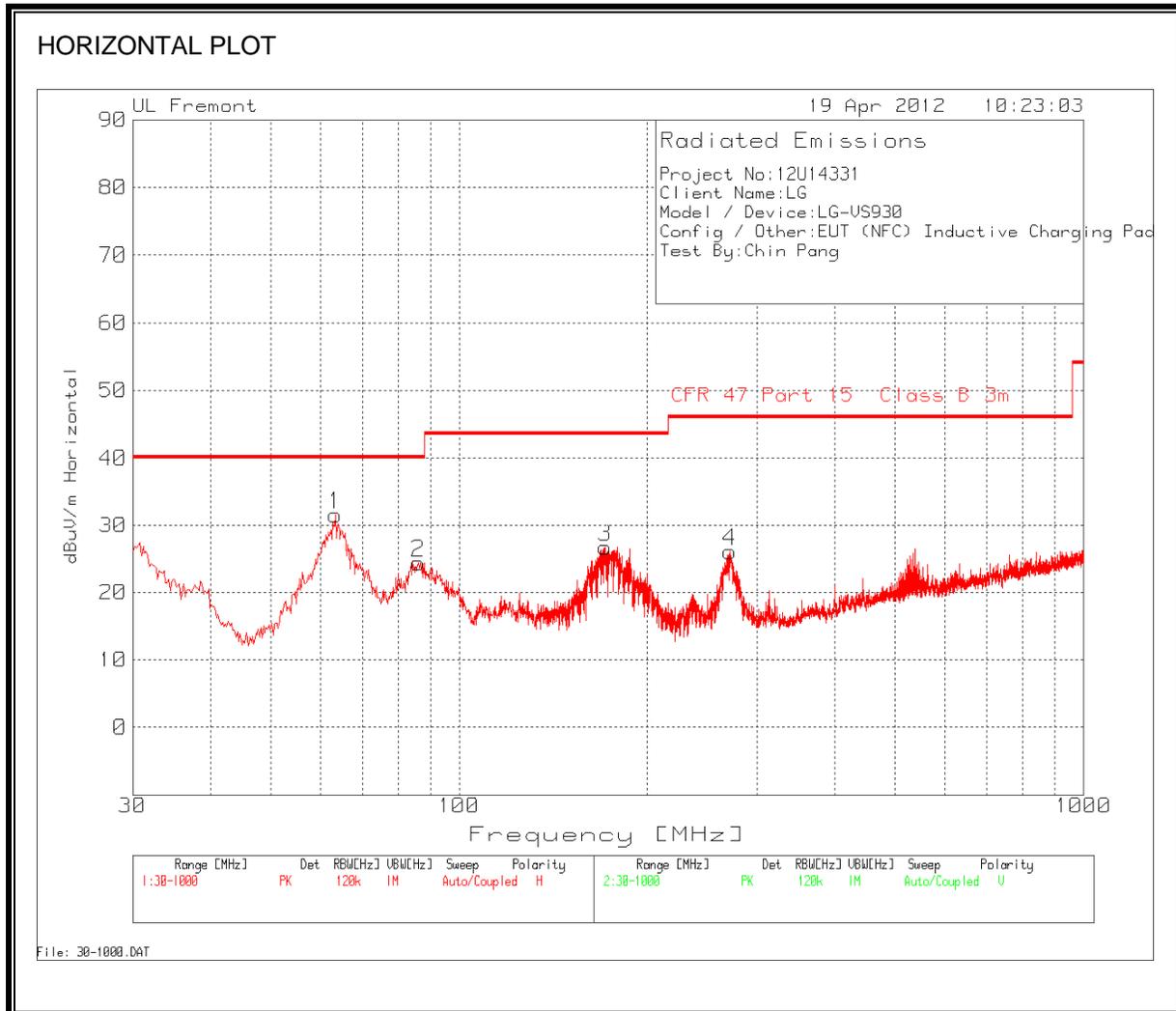
VERTICAL PLOT



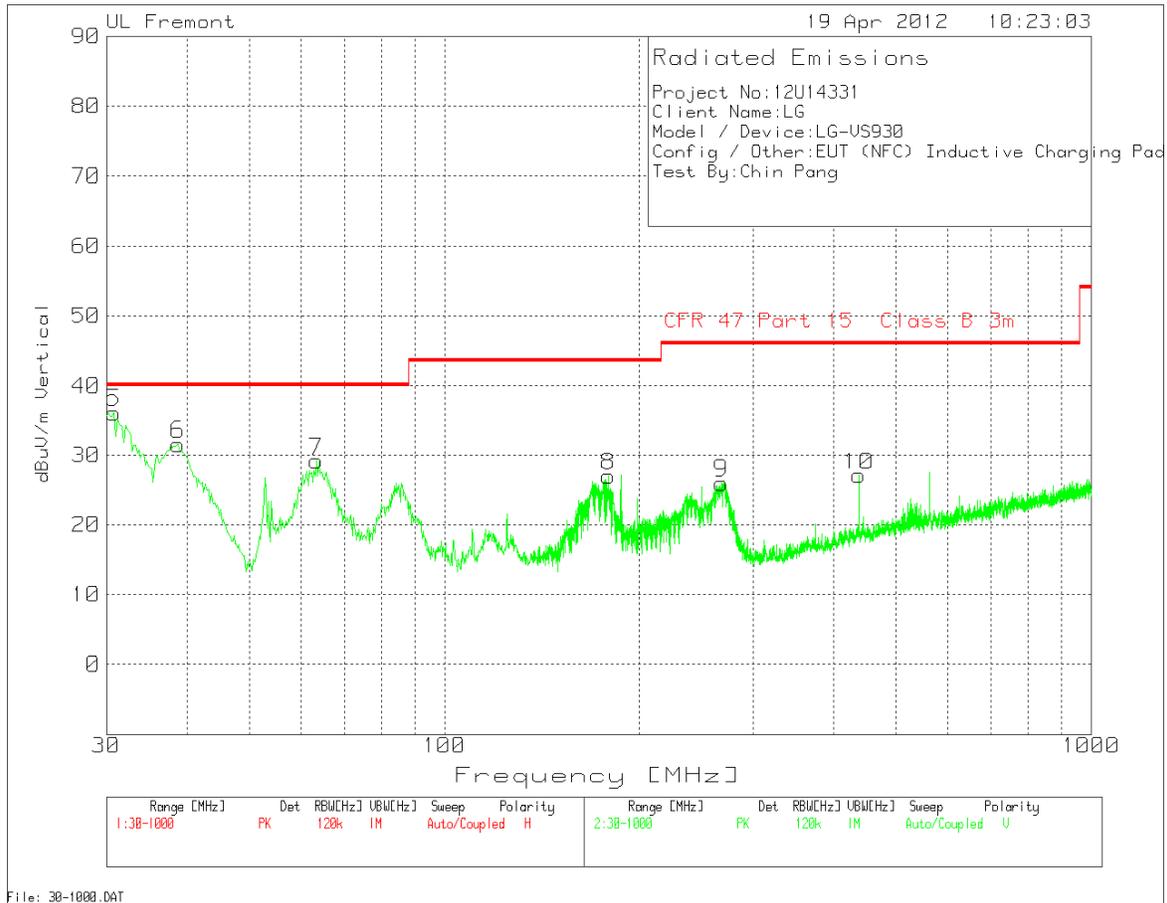
HORIZONTAL AND VERTICAL DATA

Project No:12U14331									
Client Name:LG									
Model / Device:LG-VS930									
Config / Other:EUT(Inductive Cover) and adapter									
Test By:Chin Pang									
Range 1 30 - 1000MHz									
Test Frequency	Meter Reading	Detector	25MHz-1GHz ChmbrA Amplified.TX [dB]	T243 Sunol Bilog.TXT [dB]	dBuV/m	CFR 47 Part 15 Class B 3m	Margin	Height [cm]	Polarity
227.3341	44.48	PK	-26.1	10.7	29.08	46	-16.92	91	Horz
303.9029	48.06	PK	-25.8	13.3	35.56	46	-10.44	91	Horz
383.9608	50.54	PK	-25.3	15	40.24	46	-5.76	91	Horz
Range 2 30 - 1000MHz									
Test Frequency	Meter Reading	Detector	25MHz-1GHz ChmbrA Amplified.TX [dB]	T243 Sunol Bilog.TXT [dB]	dBuV/m	CFR 47 Part 15 Class B 3m	Margin	Height [cm]	Polarity
38.5292	44.9	PK	-27.4	15	32.5	40	-7.5	100	Vert
55.1998	49	PK	-27.3	7.1	28.8	40	-11.2	200	Vert
83.5012	45	PK	-27	7.4	25.4	40	-14.6	200	Vert
187.4021	44.43	PK	-26.3	11.3	29.43	43.5	-14.07	200	Vert
303.9029	44.58	PK	-25.8	13.3	32.08	46	-13.92	100	Vert
380.6655	47.37	PK	-25.3	15.1	37.17	46	-8.83	100	Vert

EUT WITH INDUCTIVE COVER + CHARGER



VERTICAL PLOT



HORIZONTAL AND VERTICAL DATA

Project No:12U14331									
Client Name:LG									
Model / Device:LG-VS930									
Config / Other:EUT (NFC) Inductive Charging Pad									
Test By:Chin Pang									
Range 1 30 - 1000MHz									
Test Frequency	Meter Reading	Detector	25MHz-1GHz ChmbrA Amplified.TX [dB]	T243 Sunol Bilog.TXT [dB]	dBuV/m	CFR 47 Part 15 Class B 3m	Margin	Height [cm]	Polarity
63.3413	51.23	PK	-27.2	7.6	31.63	40	-8.37	300	Horz
86.0212	44.01	PK	-27	7.4	24.41	40	-15.59	200	Horz
171.313	41.58	PK	-26.5	11.6	26.68	43.5	-16.82	200	Horz
271.7246	38.76	PK	-25.8	13.1	26.06	46	-19.94	100	Horz
Range 2 30 - 1000MHz									
Test Frequency	Meter Reading	Detector	25MHz-1GHz ChmbrA Amplified.TX [dB]	T243 Sunol Bilog.TXT [dB]	dBuV/m	CFR 47 Part 15 Class B 3m	Margin	Height [cm]	Polarity
30.7754	43.09	PK	-27.5	20.6	36.19	40	-3.81	100	Vert
38.723	44.18	PK	-27.4	14.9	31.68	40	-8.32	100	Vert
63.3413	48.79	PK	-27.2	7.6	29.19	40	-10.81	300	Vert
179.0667	42.13	PK	-26.4	11.2	26.93	43.5	-16.57	100	Vert
268.0416	38.8	PK	-25.8	12.9	25.9	46	-20.1	100	Vert
437.6559	35.63	PK	-25.3	16.7	27.03	46	-18.97	100	Vert

8. AC MAINS LINE CONDUCTED EMISSIONS

LIMITS

§15.207

IC RSS-GEN, Section 7.2.2

(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that 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 the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

Frequency range (MHz)	Limits (dB μ V)	
	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

Notes:

1. The lower limit shall apply at the transition frequencies
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

TEST PROCEDURE

ANSI C63.4

RESULTS

No non-compliance noted:

NOTE

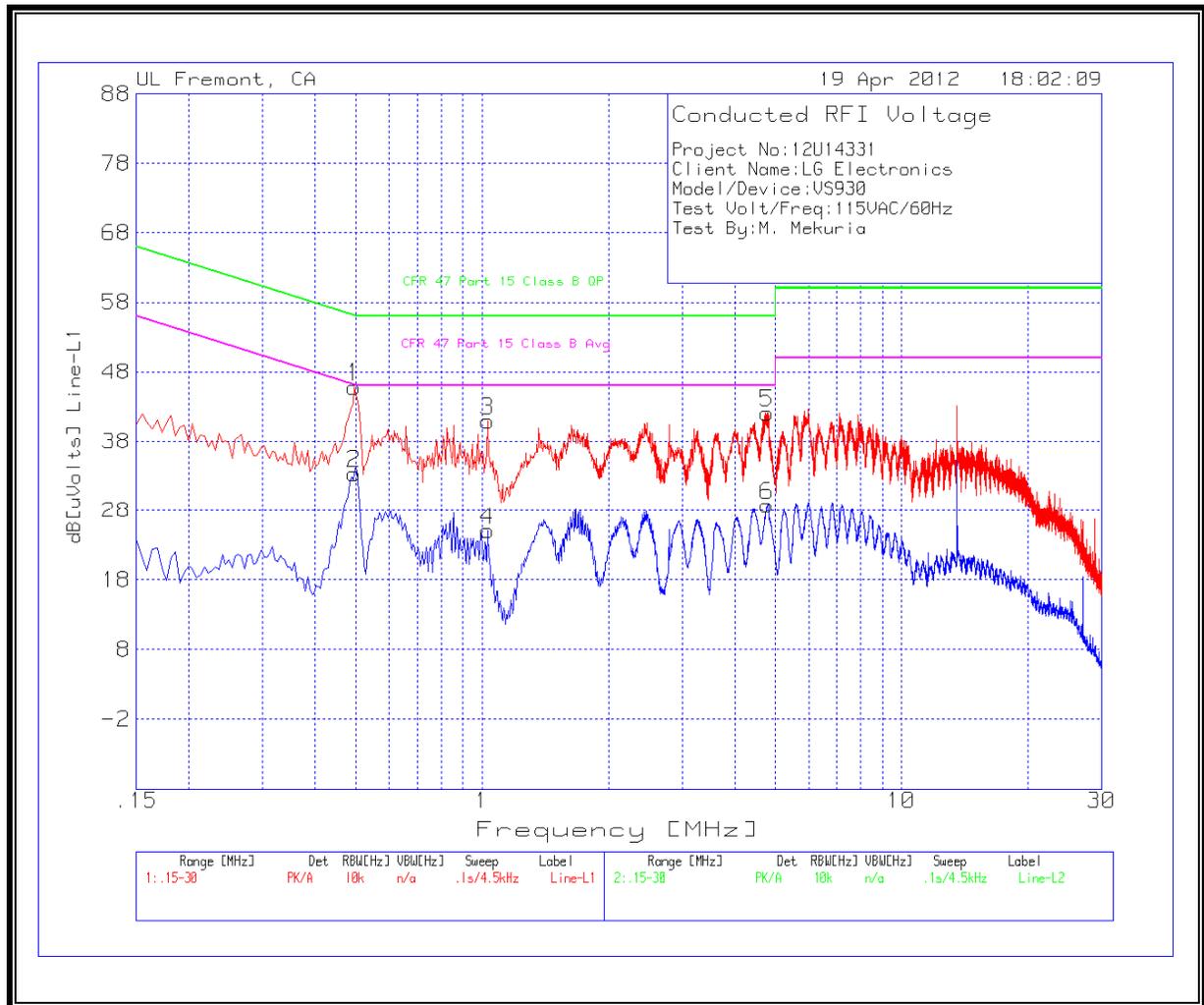
The configuration with inductive cover + charger was also tested with a 50 ohm load since the same configuration exceeded the limit at transmit frequency when tested with antenna.

EUT WITH STANDARD COVER

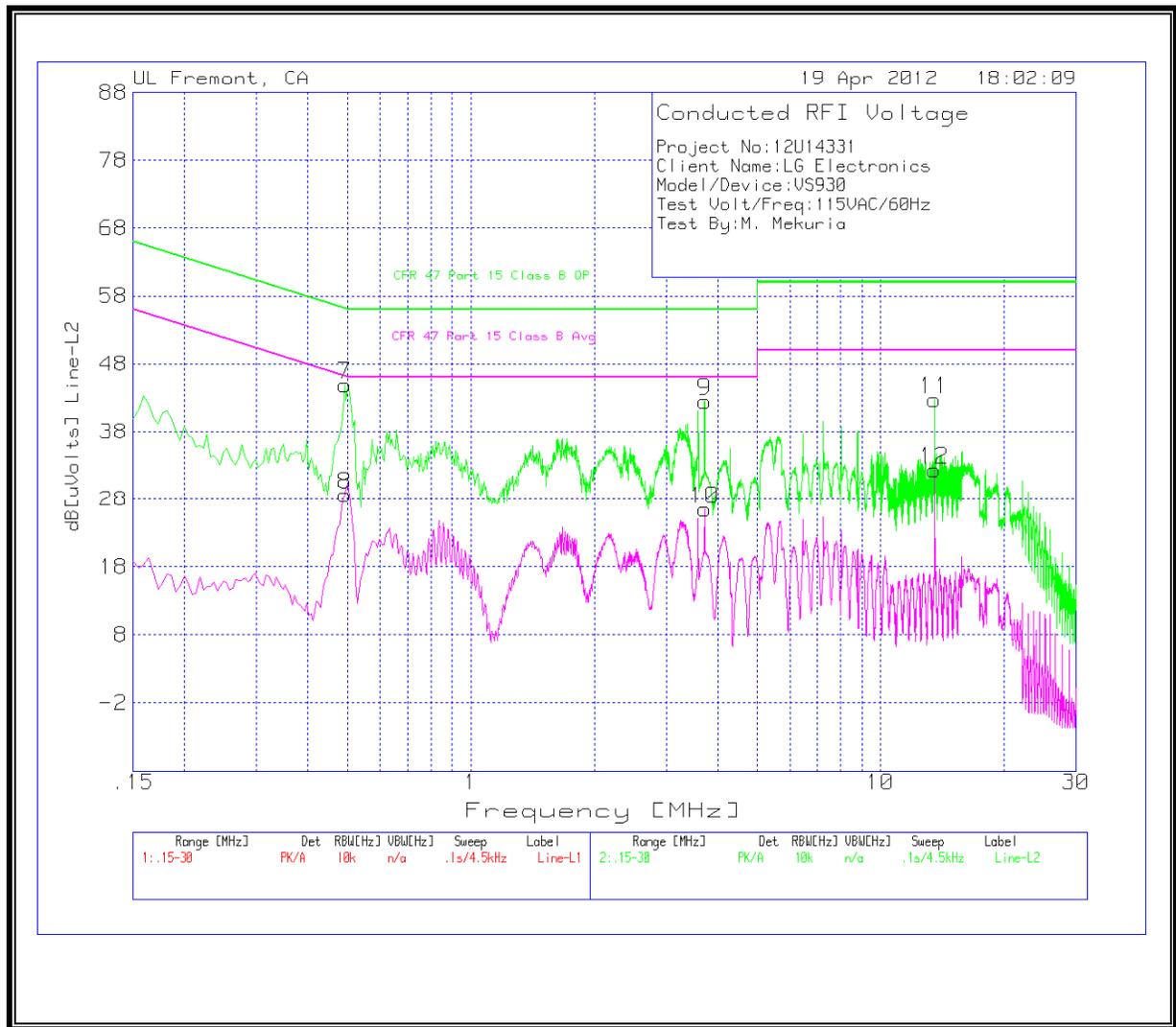
6 WORST EMISSIONS

Project No:12U14331										
Client Name:LG Electronics										
Model/Device:VS930										
Test Volt/Freq:115VAC/60Hz										
Test By:M. Mekuria										
Line-L1 .15 - 30MHz										
Test Frequency	Meter Reading	Detector	T24 IL L1.TXT [dB]	LC Cables 1&3.TXT [dB]	dB[uVolts]	CFR 47 Part 15 Class B QP	Margin	CFR 47 Part 15 Class B Avg	Margin	
0.4965	45.75	PK	0.1	0	45.85	56.1	-10.25	-	-	
0.4965	33.31	Av	0.1	0	33.41	-	-	46.1	-12.69	
1.032	40.84	PK	0.1	0	40.94	56	-15.06	-	-	
1.032	24.93	Av	0.1	0	25.03	-	-	46	-20.97	
4.776	41.84	PK	0.1	0.1	42.04	56	-13.96	-	-	
4.776	28.57	Av	0.1	0.1	28.77	-	-	46	-17.23	
Line-L2 .15 - 30MHz										
Test Frequency	Meter Reading	Detector	T24 IL L2.TXT [dB]	LC Cables 2&3.TXT [dB]	dB[uVolts]	CFR 47 Part 15 Class B QP	Margin	CFR 47 Part 15 Class B Avg	Margin	
0.492	44.8	PK	0.1	0	44.9	56.1	-11.2	-	-	
0.492	28.54	Av	0.1	0	28.64	-	-	46.1	-17.46	
3.7185	42.29	PK	0.1	0.1	42.49	56	-13.51	-	-	
3.7185	26.23	Av	0.1	0.1	26.43	-	-	46	-19.57	
13.56	42.32	PK	0.2	0.2	42.72	60	-17.28	-	-	
13.56	31.97	Av	0.2	0.2	32.37	-	-	50	-17.63	

LINE 1 RESULTS



LINE 2 RESULTS

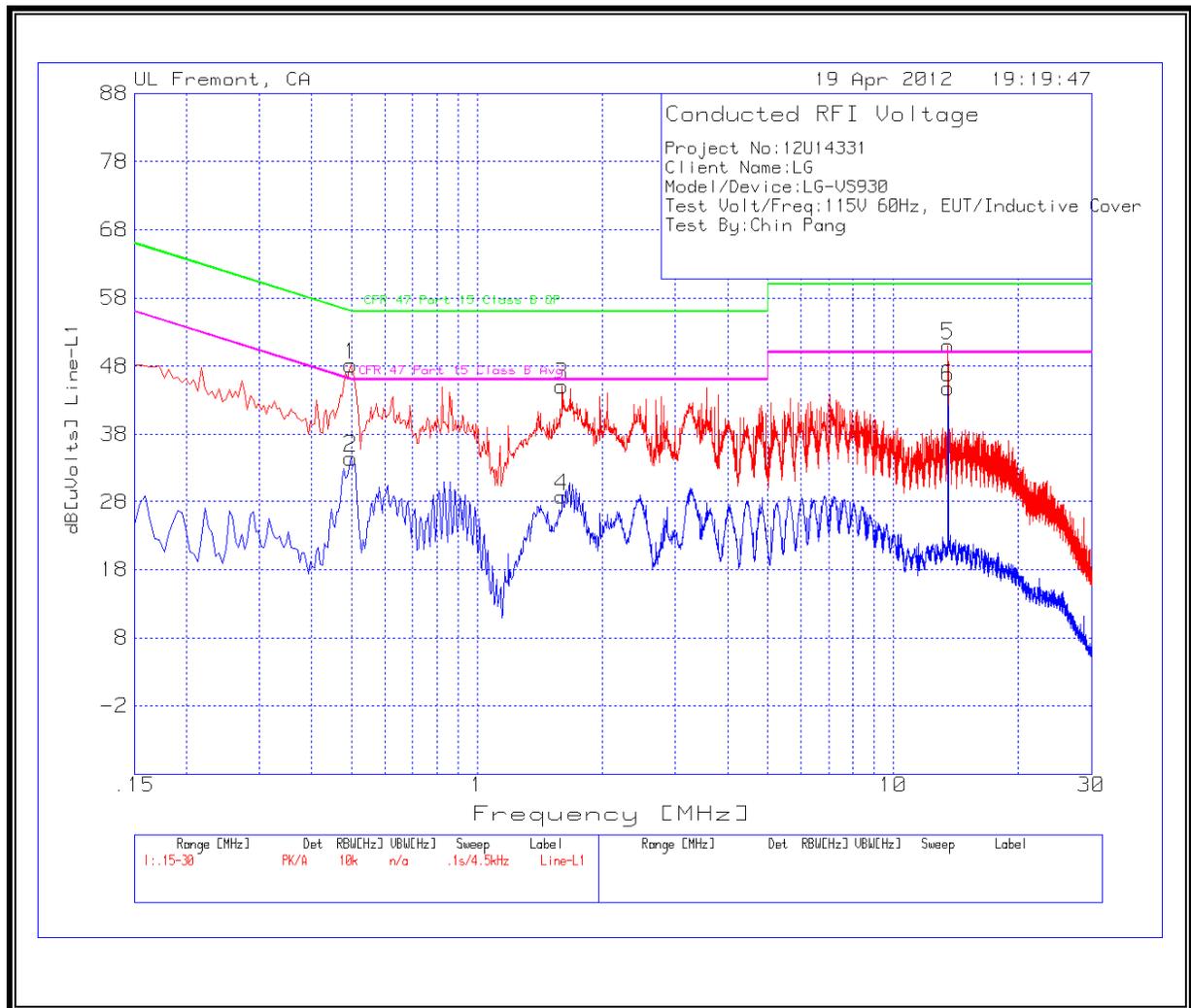


EUT WITH INDUCTIVE COVER

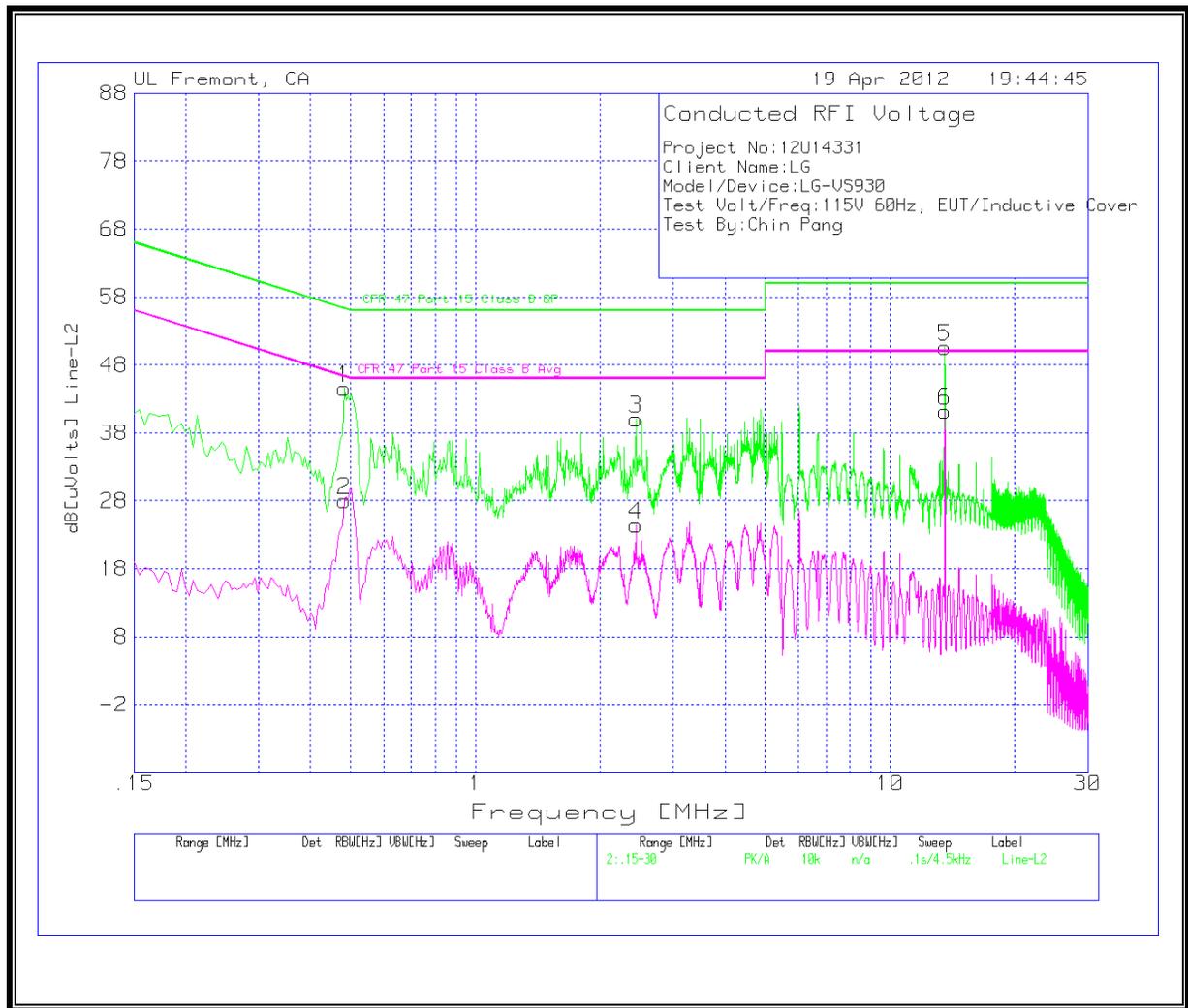
6 WORST EMISSIONS

Project No:12U14331									
Client Name:LG									
Model/Device:LG-VS930									
Test Volt/Freq:115V 60Hz, EUT/Inductive Cover									
Test By:Chin Pang									
Line-L1 .15 - 30MHz									
Test Frequency	Meter Reading	Detector	T24 IL L1.TXT [dB]	LC Cables 1&3.TXT [dB]	dB[uVolts]	CFR 47 Part 15 Class B QP	Margin	CFR 47 Part 15 Class B	Margin
0.4965	48	PK	0.1	0	48.1	56.1	-8	-	-
0.4965	34.36	Av	0.1	0	34.46	-	-	46.1	-11.64
1.599	44.88	PK	0.1	0.1	45.08	56	-10.92	-	-
1.599	28.68	Av	0.1	0.1	28.88	-	-	46	-17.12
13.56	50.64	PK	0.2	0.2	51.04	60	-8.96	-	-
13.56	44.42	Av	0.2	0.2	44.82	-	-	50	-5.18
Test Frequency	Meter Reading	Detector	T24 IL L1.TXT [dB]	LC Cables 1&3.TXT [dB]	dB[uVolts]	CFR 47 Part 15 Class B QP	Margin	CFR 47 Part 15 Class B	Margin
0.483	44.45	PK	0.1	0	44.55	56.3	-11.75	-	-
0.483	27.91	Av	0.1	0	28.01	-	-	46.3	-18.29
2.436	39.78	PK	0.1	0.1	39.98	56	-16.02	-	-
2.436	24.21	Av	0.1	0.1	24.41	-	-	46	-21.59
13.56	50.16	PK	0.2	0.2	50.56	60	-9.44	-	-
13.56	40.75	Av	0.2	0.2	41.15	-	-	50	-8.85

LINE 1 RESULTS



LINE 2 RESULTS

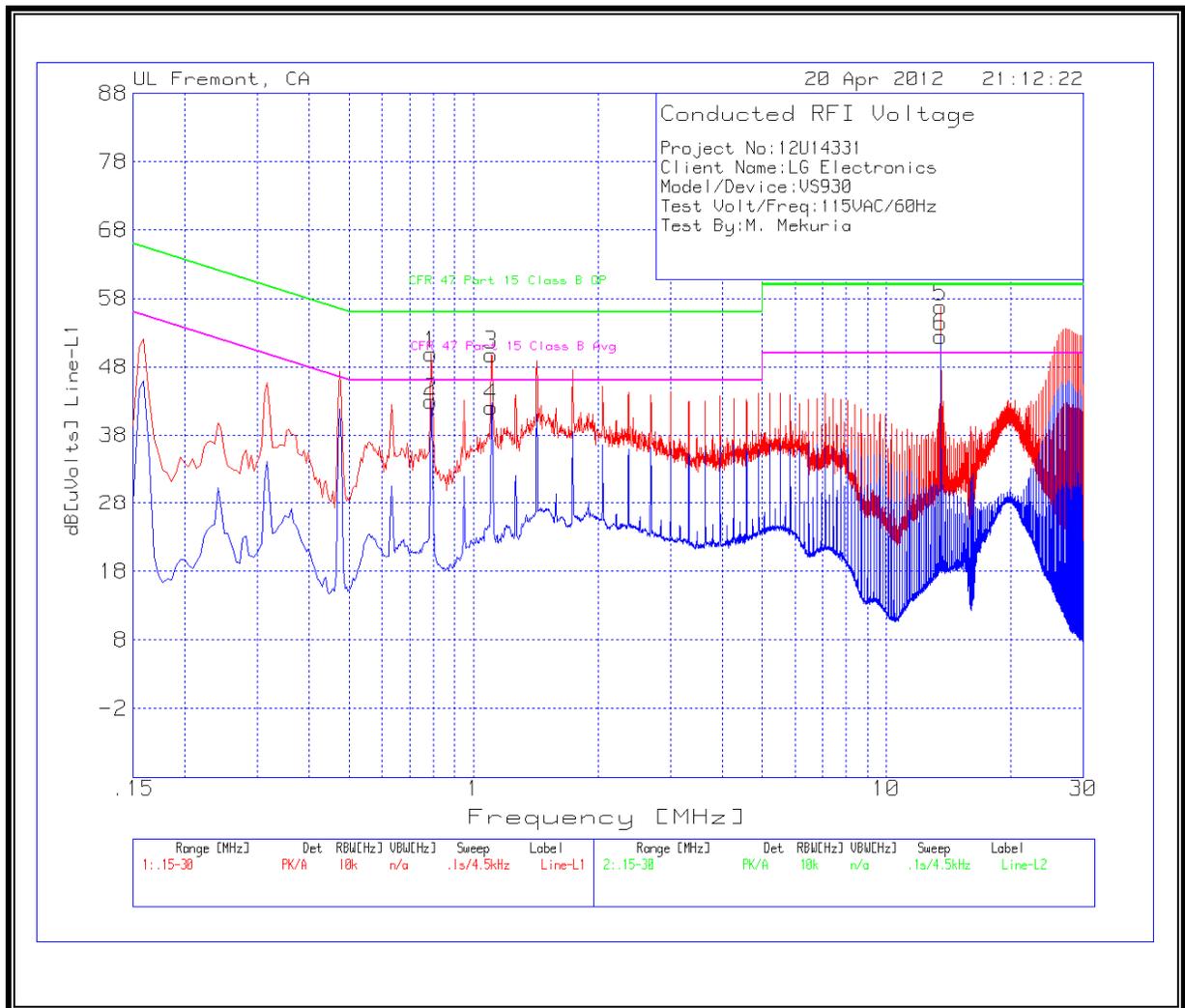


EUT WITH INDUCTIVE COVER + CHARGER

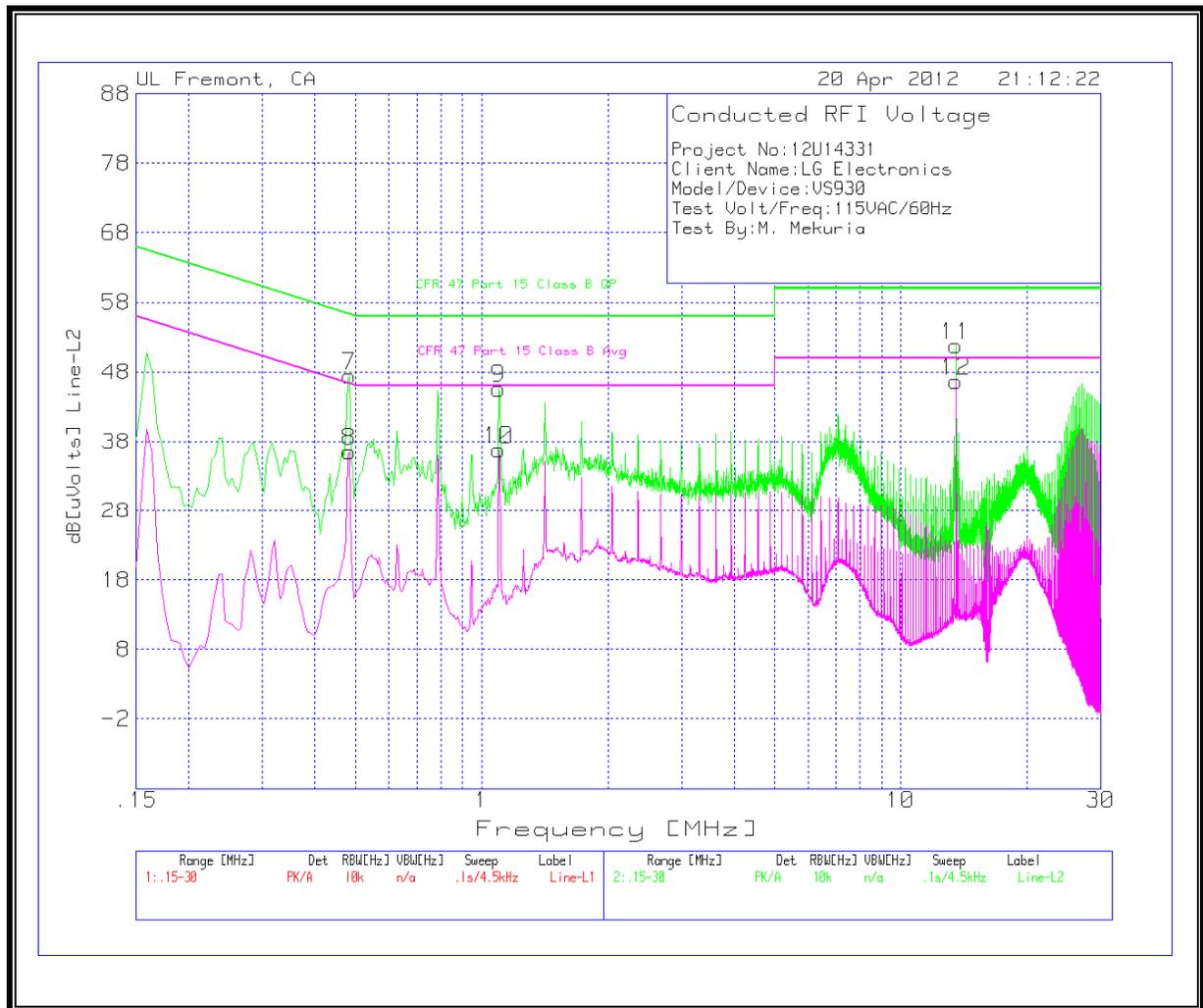
6 WORST EMISSIONS

Project No:12U14331									
Client Name:LG Electronics									
Model/Device:VS930									
Test Volt/Freq:115VAC/60Hz									
Test By:M. Mekuria									
Line-L1 .15 - 30MHz									
Test Frequency	Meter Reading	Detector	T24 IL L1.TXT [dB]	LC Cables 1&3.TXT [dB]	dB[uVolts]	CFR 47 Part 15 Class B QP	Margin	CFR 47 Part 15 Class B Avg	Margin
0.789	49.83	PK	0.1	0	49.93	56	-6.07	-	-
0.789	42.89	Av	0.1	0	42.99	-	-	46	-3.01
1.104	49.71	PK	0.1	0	49.81	56	-6.19	-	-
1.104	42.04	Av	0.1	0	42.14	-	-	46	-3.86
13.56	56.35	PK	0.2	0.2	56.75	60	-3.25	-	-
13.56	52.01	Av	0.2	0.2	52.41	-	-	50	2.41
Line-L2 .15 - 30MHz									
Test Frequency	Meter Reading	Detector	T24 IL L2.TXT [dB]	LC Cables 2&3.TXT [dB]	dB[uVolts]	CFR 47 Part 15 Class B QP	Margin	CFR 47 Part 15 Class B Avg	Margin
0.483	47.4	PK	0.1	0	47.5	56.3	-8.8	-	-
0.483	36.51	Av	0.1	0	36.61	-	-	46.3	-9.69
1.0995	45.4	PK	0.1	0.1	45.6	56	-10.4	-	-
1.0995	36.67	Av	0.1	0.1	36.87	-	-	46	-9.13
13.56	51.45	PK	0.2	0.2	51.85	60	-8.15	-	-
13.56	46.33	Av	0.2	0.2	46.73	-	-	50	-3.27

LINE 1 RESULTS



LINE 2 RESULTS

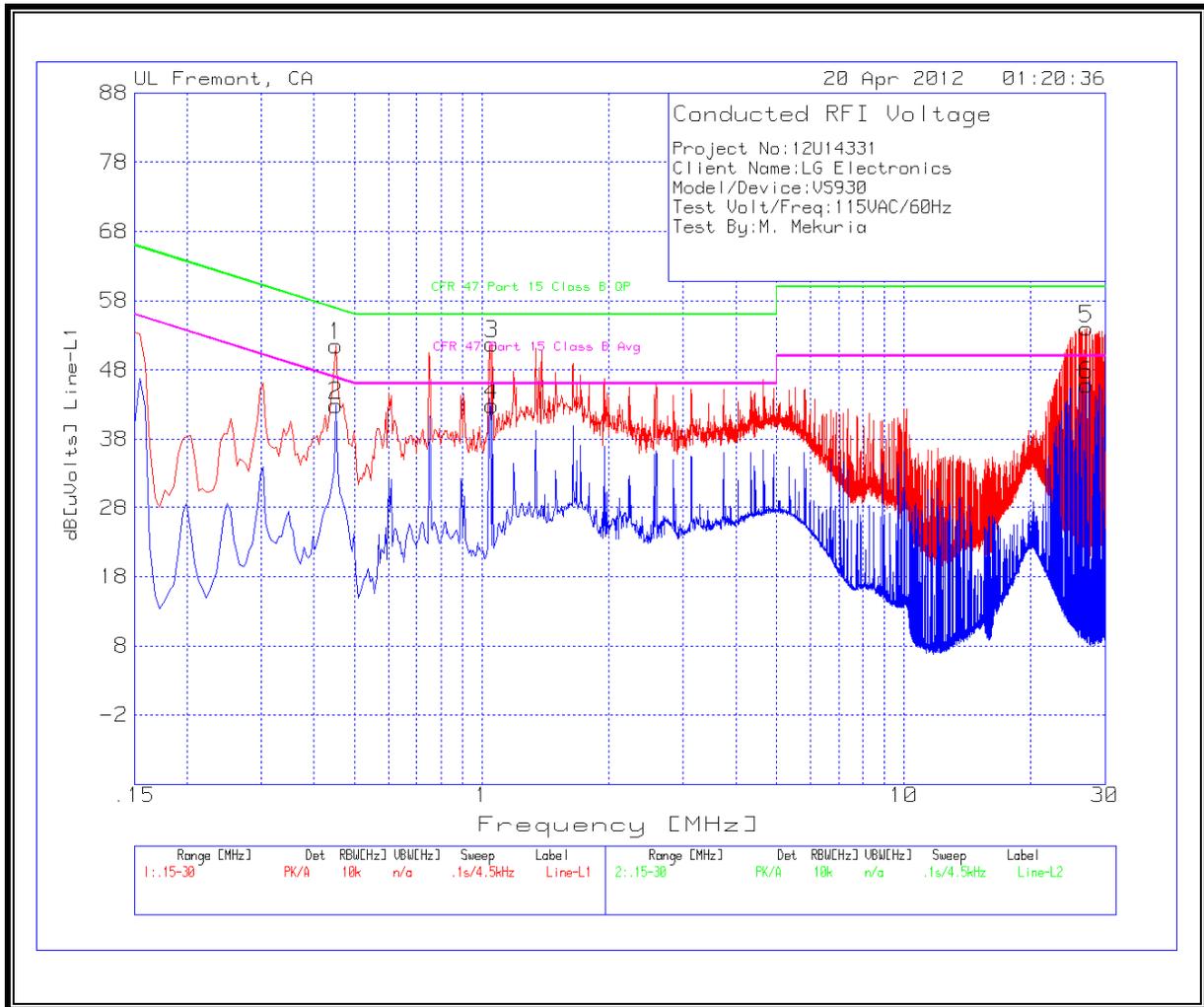


EUT WITH INDUCTIVE CHARGER (ANTENNA PORT TERMINATED)

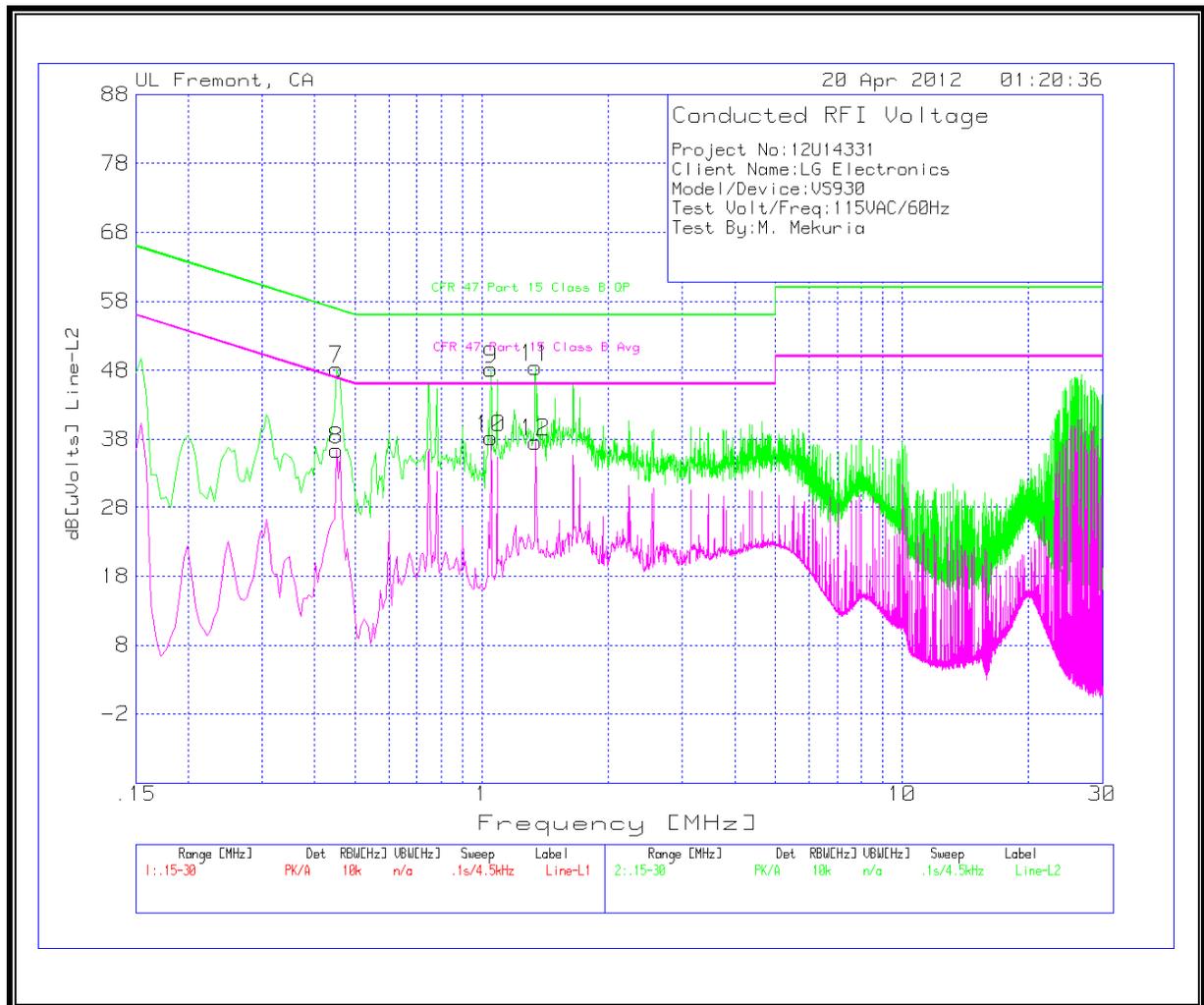
6 WORST EMISSIONS

Project No:12U14331									
Client Name:LG Electronics									
Model/Device:VS930									
Test Volt/Freq:115VAC/60Hz									
Test By:M. Mekuria									
Line-L1 .15 - 30MHz									
Test Frequency	Meter Reading	Detector	T24 IL L1.TXT [dB]	LC Cables 1&3.TXT [dB]	dB[uVolts]	CFR 47 Part 15 Class B QP	Margin	CFR 47 Part 15 Class B Avg	Margin
0.4515	51.38	PK	0.1	0	51.48	56.8	-5.32	-	-
0.4515	42.77	Av	0.1	0	42.87	-	-	46.8	-3.93
1.059	51.72	PK	0.1	0	51.82	56	-4.18	-	-
1.059	42.79	Av	0.1	0	42.89	-	-	46	-3.11
27.1275	53.22	PK	0.5	0.3	54.02	60	-5.98	-	-
27.1275	45.01	Av	0.5	0.3	45.81	-	-	50	-4.19
Line-L2 .15 - 30MHz									
Test Frequency	Meter Reading	Detector	T24 IL L1.TXT [dB]	LC Cables 1&3.TXT [dB]	dB[uVolts]	CFR 47 Part 15 Class B QP	Margin	CFR 47 Part 15 Class B Avg	Margin
0.4515	48.03	PK	0.1	0	48.13	56.8	-8.67	-	-
0.4515	36.34	Av	0.1	0	36.44	-	-	46.8	-10.36
1.05	48.05	PK	0.1	0	48.15	56	-7.85	-	-
1.05	38.07	Av	0.1	0	38.17	-	-	46	-7.83
1.3425	48.33	PK	0.1	0	48.43	56	-7.57	-	-
1.3425	37.48	Av	0.1	0	37.58	-	-	46	-8.42

LINE 1 RESULTS



LINE 2 RESULTS



9. FREQUENCY STABILITY

LIMIT

§15.225 (e) The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ 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.

TEST PROCEDURE

ANSI / TIA / EIA 603 Clause 2.3.1 and 2.3.2

RESULTS

No non-compliance noted.

Reference Frequency: EUT Channel 13.56 MHz @ 20°C				
Limit: ± 100 ppm = 135.606 kHz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	13.5605327	0.051	± 100
3.80	40	13.5605184	0.062	± 100
3.80	30	13.5605087	0.069	± 100
3.8	20	13.5606024	0.000	± 100
3.80	10	13.5606102	-0.006	± 100
3.80	0	13.5606154	-0.010	± 100
3.80	-10	13.5607785	-0.130	± 100
3.80	-20	13.5606966	-0.070	± 100
3.23	20	13.5605774	0.018	± 100
4.37	20	13.5606147	-0.009	± 100