



**FCC CFR47 PART 15 SUBPART C  
CLASS II PERMISSIVE CHANGE**

**CERTIFICATION TEST REPORT**

**FOR**

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

**MODEL NUMBER: LG-VS930 and VS930**

**FCC ID: ZNFVS930**

**REPORT NUMBER: 12U14433-3**

**ISSUE DATE: JUNE 6, 2012**

*Prepared for*  
**LG ELECTRONICS MOBILECOMM U.S.A., INC.  
1000 SYLVAN AVE.  
ENGLEWOOD CLIFFS, NJ  
UNITED STATES 07632**

*Prepared by*  
**COMPLIANCE CERTIFICATION SERVICES (UL CCS)  
47173 BENICIA STREET  
FREMONT, CA 94538, U.S.A.  
TEL: (510) 771-1000  
FAX: (510) 661-0888**



**NVLAP LAB CODE 200065-0**

Revision History

| Rev. | Issue<br>Date | Revisions | Revised By |
|------|---------------|-----------|------------|
|      | 06/06/12      | Original  | T. LEE     |

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## 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** LG ELECTRONICS MOBILECOMM U.S.A., INC.  
1000 SYLVAN AVE.  
ENGLEWOOD CLIFFS, NJ  
UNITED STATES 07632

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

**MODEL:** LG-VS930 and VS930

**SERIAL NUMBER:** 990000760004152

**DATE TESTED:** MAY 15-JUNE 6, 2012

| APPLICABLE STANDARDS     |              |
|--------------------------|--------------|
| STANDARD                 | TEST RESULTS |
| CFR 47 Part 15 Subpart C | 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  
STAFF ENGINEER  
UL CCS



TOM CHEN  
EMC ENGINEER  
UL CCS

## 1. TEST METHODOLOGY

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

## 2. 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>.

## 3. CALIBRATION AND UNCERTAINTY

### 3.1. 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.

### 3.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

### 3.3. 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%.

## **4. EQUIPMENT UNDER TEST**

### **4.1. DESCRIPTION OF EUT**

The EUT is a Cell Phone with GSM/CDMA/WCDMA/LTE + BT + 802.11abgn + NFC w/ Wireless Back Cover

The unit supports AFH mode. The manufacturer attested the following.

- It is in compliance with Bluetooth Specification 1.2 or later specification.
- The number of hopping channel in AFH mode is 79 channels
- The output power do not transmit over than 125 mW
- The channel separation is based upon 2/3 of 20 dB channel bandwidth

### **4.2. MAXIMUM OUTPUT POWER**

The measured average power values were within  $\pm 0.5$  dB of the original values. Refer to original report number "12U14331-3A FCC IC BLUETOOTH Report" for exact output power values and for all antenna port results.

### **4.3. DESCRIPTION OF CLASS II PERMISSIVE CHANGE**

The change filed under this application has the following changes.

- Changed BT/WIFI matching value.
- Changed Shield CAN structure.
- Changed minor HW for improvement of durability and reliability

### **4.4. DESCRIPTION OF AVAILABLE ANTENNAS**

The radio utilizes a PIFA (Planar Inverted F Antenna) with a maximum peak gain of -2.44 dBi .

### **4.5. SOFTWARE AND FIRMWARE**

The EUT driver software installed during testing was VS930\_0311

The test utility software used during testing was FCC Test - LG.

The firmware used during testing was 3.0.8.00001\_g114383

### **4.6. MODEL DIFFERNECE**

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

#### 4.7. WORST-CASE CONFIGURATION AND MODE

The worst-case channel is determined as the channel with the highest output power.

Radiated emissions below 1 GHz and power line conducted emissions were performed with the EUT set to the channel with highest output power.

For the fundamental investigation, since the EUT is a portable device that has three orientations; X, Y and Z orientations have been investigated, also with AC/DC adapter, and earphone, and the worst case was found to be at Y orientation with AC adapter and earphone

#### 4.8. DESCRIPTION OF TEST SETUP

##### RADIATED TESTS SUPPORT EQUIPMENT

##### STANDARD OR INDUCTIVE COVER

| PERIPHERAL SUPPORT EQUIPMENT LIST |                |          |               |
|-----------------------------------|----------------|----------|---------------|
| Description                       | Manufacturer   | Model    | Serial Number |
| AC ADAPTER                        | LG ELECTRONICS | MCS-01WT | TA1Z0000522   |
| HEADSET                           | LG ELECTRONICS | NA       | N/A           |

##### INDUCTIVE CHARGER WITH INDUCTIVE COVER

| PERIPHERAL SUPPORT EQUIPMENT LIST |                |          |               |
|-----------------------------------|----------------|----------|---------------|
| Description                       | Manufacturer   | Model    | Serial Number |
| AC ADAPTER                        | LG ELECTRONICS | WCAD01WT | TA120012180   |
| HEADSET                           | LG ELECTRONICS | NA       | N/A           |
| INDUCTIVE CHARGER PAD             | LG ELECTRONICS | WCP-700  | A1108WP000002 |

**CONDUCTED TESTS I/O CABLES**

| I/O CABLE LIST |      |                     |                |            |              |         |
|----------------|------|---------------------|----------------|------------|--------------|---------|
| Cable No.      | Port | # of Identica Ports | Connector Type | Cable Type | Cable Length | Remarks |
| 1              | DC   | 1                   | MINI USB       | UN-SHELDED | 1.0m         | N/A     |
| 2              | RF   | 1                   | RF             | SHELDED    | 0.1m         | N/A     |
| 3              | RF   | 1                   | SMA            | SHELDED    | 0.6 m        | N/A     |

**RADIATED TESTS I/O CABLES**

**STANDARD OR INDUCTIVE COVER**

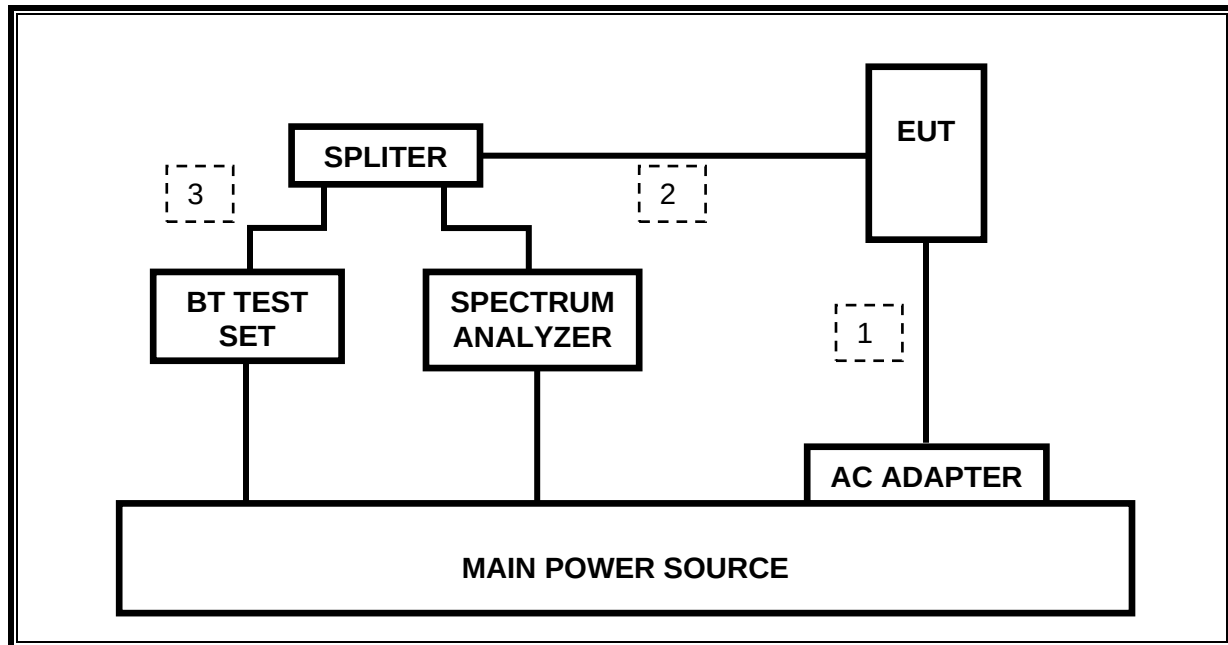
| I/O CABLE LIST |       |                     |                |            |              |                         |
|----------------|-------|---------------------|----------------|------------|--------------|-------------------------|
| Cable No.      | Port  | # of Identica Ports | Connector Type | Cable Type | Cable Length | Remarks                 |
| 1              | DC    | 1                   | MINI USB       | UN-SHELDED | 1.0m         | N/A                     |
| 2              | AUDIO | 1                   | MINI JACK      | UN-SHELDED | 1.0m         | Volume control on cable |

**INDUCTIVE CHARGER WITH INDUCTIVE COVER**

| I/O CABLE LIST |       |                     |                |            |              |                         |
|----------------|-------|---------------------|----------------|------------|--------------|-------------------------|
| Cable No.      | Port  | # of Identica Ports | Connector Type | Cable Type | Cable Length | Remarks                 |
| 1              | DC    | 1                   | MINI USB       | UN-SHELDED | 1.0m         | External ferrite added  |
| 2              | AUDIO | 1                   | MINI JACK      | UN-SHELDED | 1.0m         | Volume control on cable |

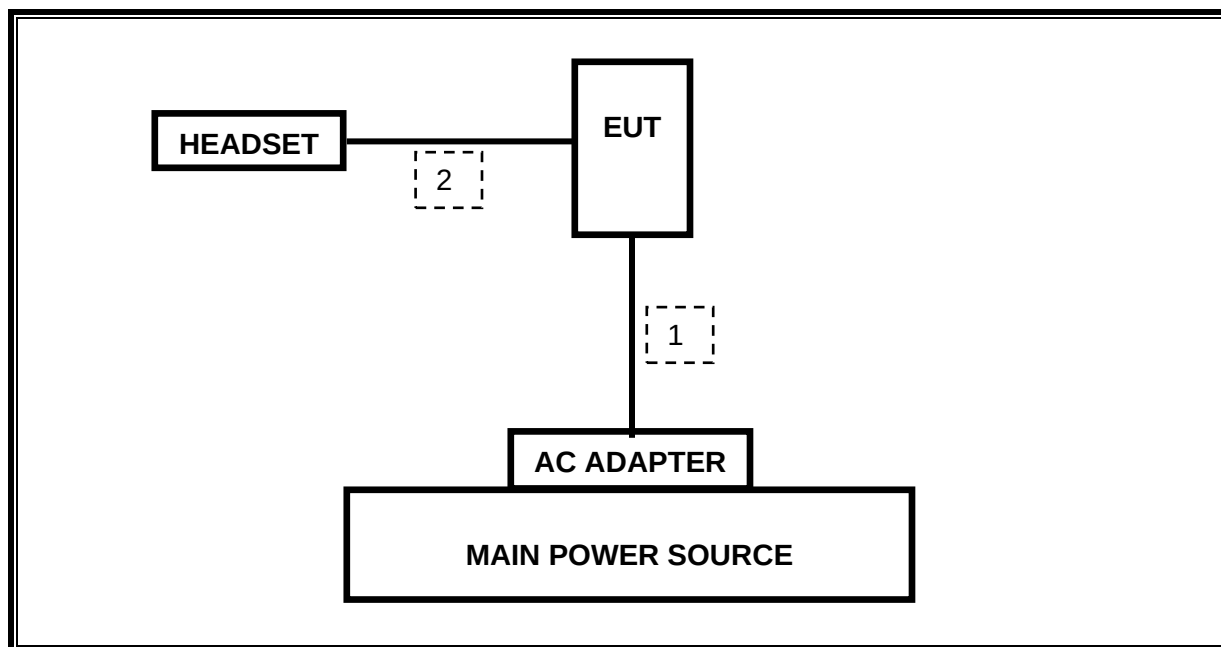
**CONDUCTED SETUP DIAGRAM FOR TESTS**

**STANDARD OR INDUCTIVE COVER**

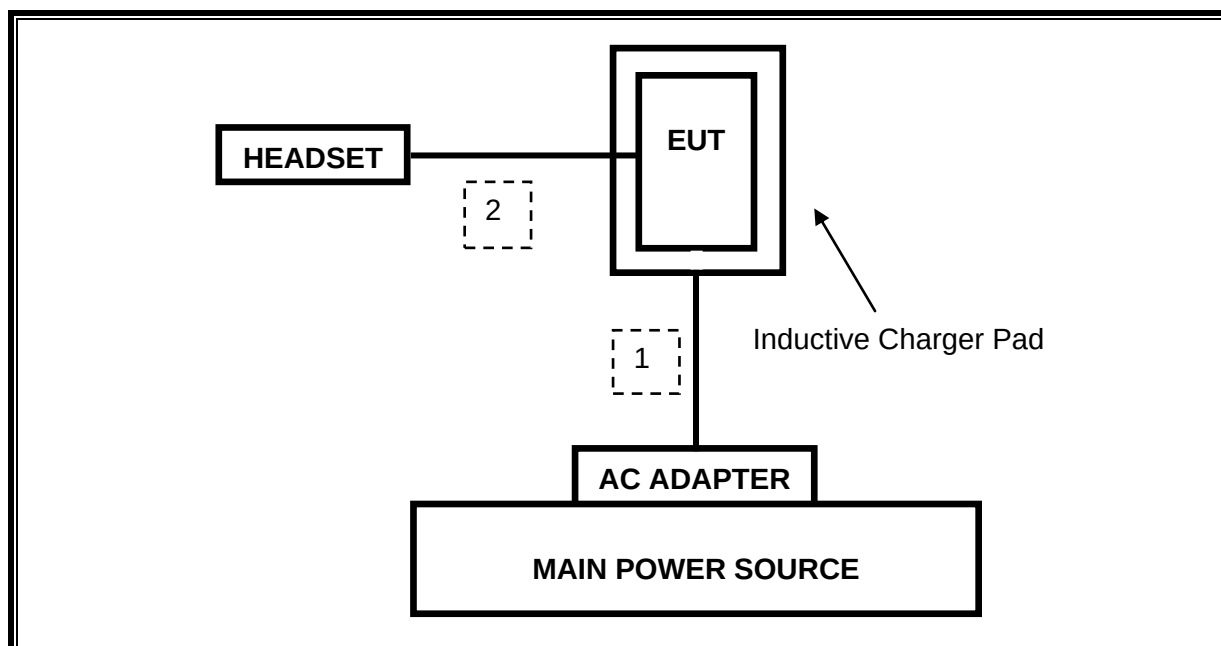


**RADIATED SETUP DIAGRAM FOR TESTS**

**STANDARD OR INDUCTIVE COVER**



**INDUCTIVE CHARGER AND INDUCTIVE COVER**



## 5. 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  |
| Preamplifier, 26.5 GHz         | Agilent / HP   | 8449B            | C01063  | 07/12/12 |
| Preamplifier, 1300 MHz         | Agilent / HP   | 8447D            | C00558  | 11/11/12 |
| Spectrum Analyzer, 44 GHz      | Agilent / HP   | E4446A           | C00986  | 03/22/13 |
| Antenna, Horn, 18 GHz          | EMCO           | 3115             | C00783  | 06/29/12 |
| Antenna, Horn, 40 GHz          | ARA            | MWH-2640/B       | C00981  | 06/14/12 |
| Antenna, Bilog, 2 GHz          | Sunol Sciences | JB1              | C01016  | 07/12/12 |
| Reject Filter, 2.4-2.5 GHz     | Micro-Tronics  | BRM50702         | N02685  | CNR      |
| LISN, 30 MHz                   | FCC            | LISN-50/250-25-2 | N02625  | 11/10/12 |
| EMI Test Receiver, 9 kHz-7 GHz | R & S          | ESCI 7           | 1000741 | 07/06/12 |
| Peak Power Meter               | Agilent / HP   | E4416A           | C00963  | 03/22/13 |
| Peak / Average Power Sensor    | Agilent / HP   | E9327A           | C00964  | 12/13/12 |
| BT Test set                    | Agilent / HP   | N4010A           | N/A     | 04/22/13 |
| Directional Coupler            | RF-Lambda      | RFDC5M06G15      | None    | CNR      |

## 6. RADIATED TEST RESULTS

### 6.1. LIMITS AND PROCEDURE

#### LIMITS

FCC §15.205 and §15.209

IC RSS-210 Clause 2.6 (Transmitter)

IC RSS-GEN Clause 6 (Receiver)

| Frequency Range (MHz) | Field Strength Limit (uV/m) at 3 m | Field Strength Limit (dBuV/m) at 3 m |
|-----------------------|------------------------------------|--------------------------------------|
| 30 - 88               | 100                                | 40                                   |
| 88 - 216              | 150                                | 43.5                                 |
| 216 - 960             | 200                                | 46                                   |
| Above 960             | 500                                | 54                                   |

#### TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.4. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

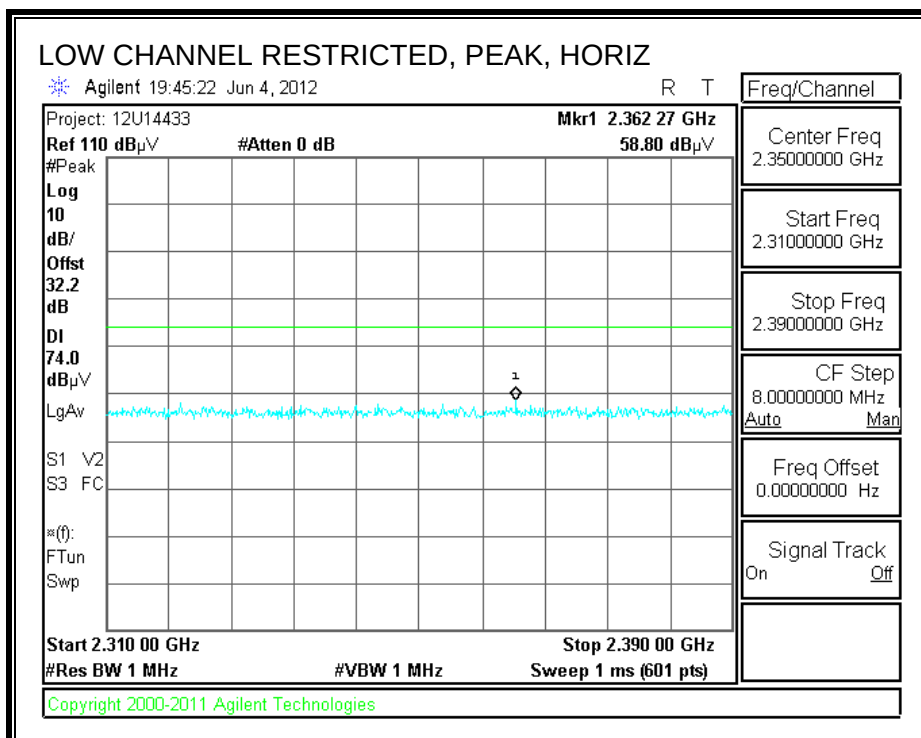
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

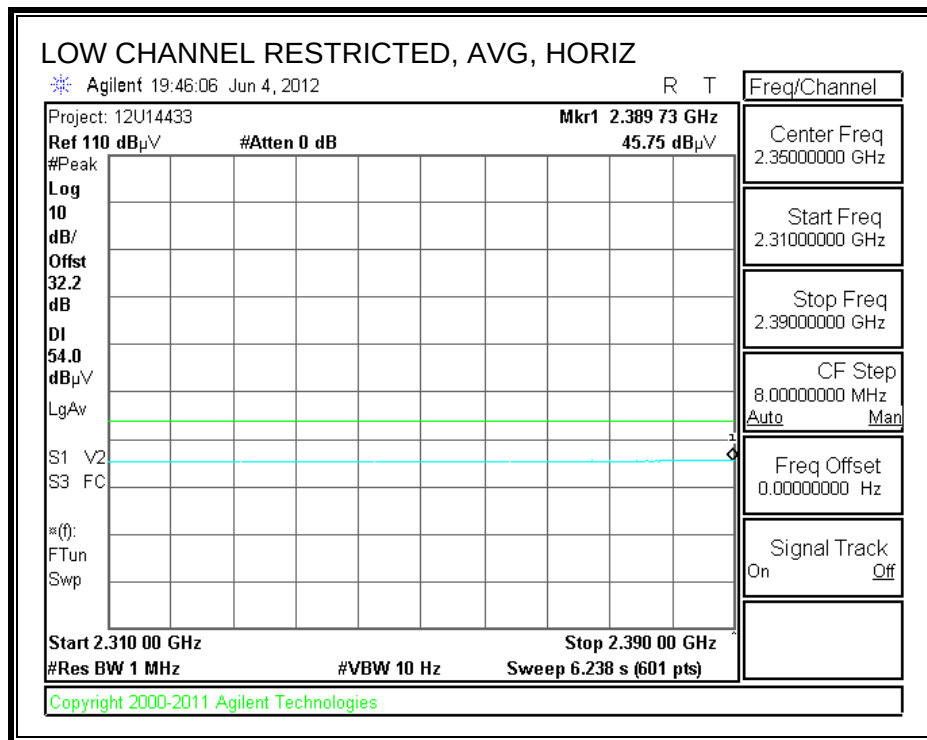
## 6.2. TRANSMITTER ABOVE 1 GHz

### 6.2.1. BASIC DATA RATE GFSK MODULATION

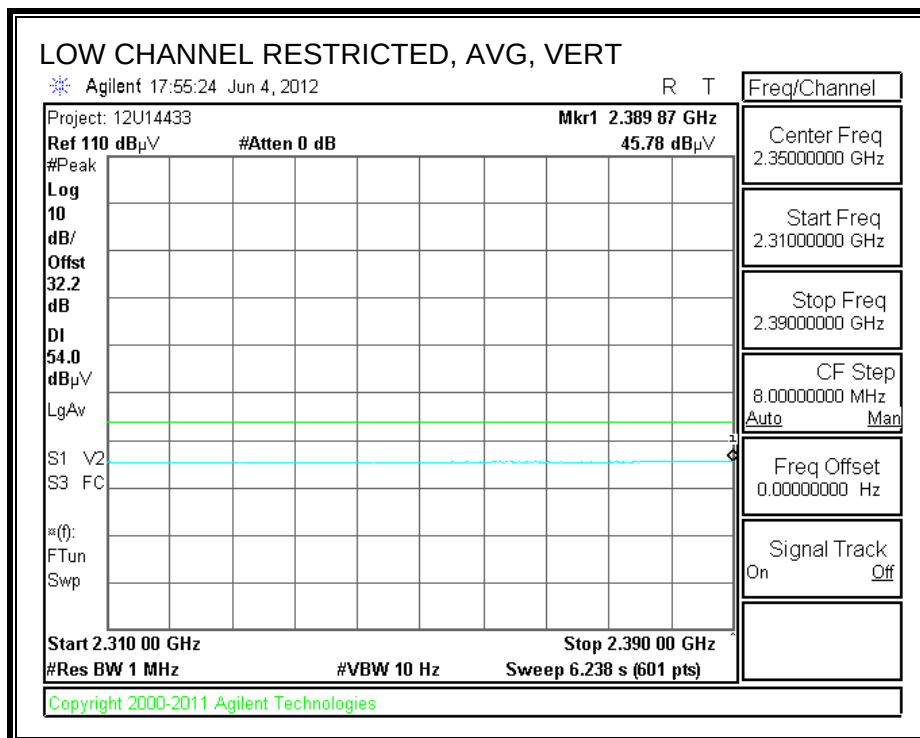
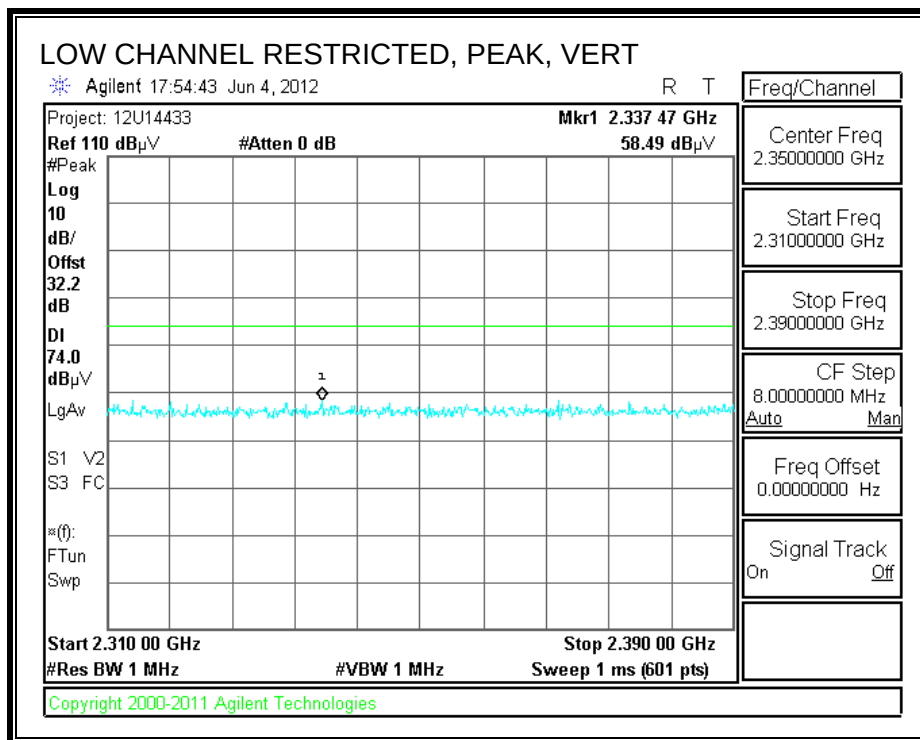
#### STANDARD COVER

#### RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

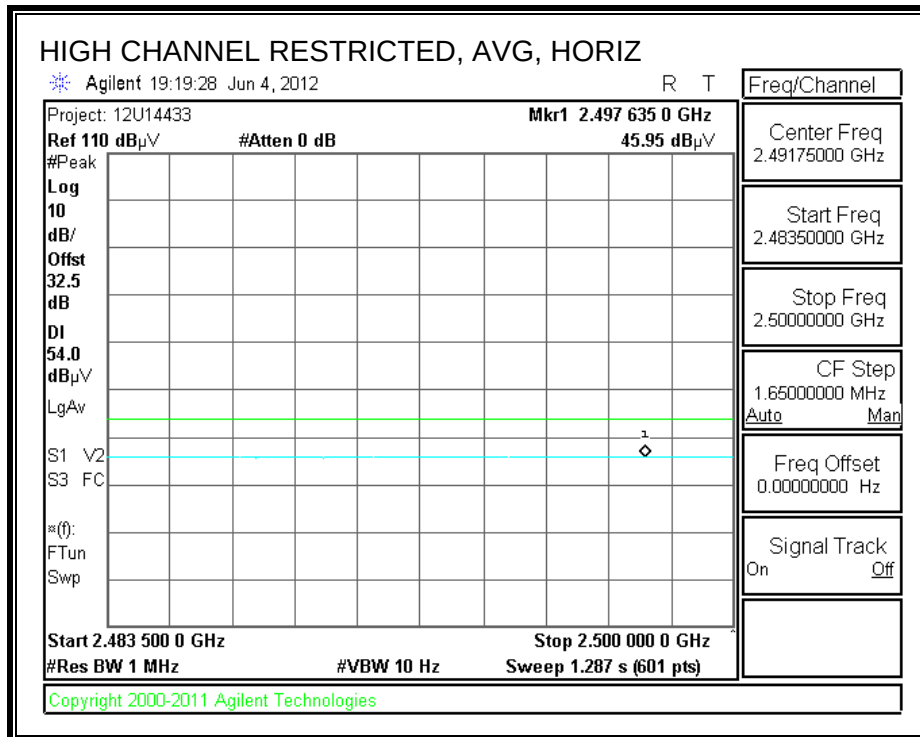
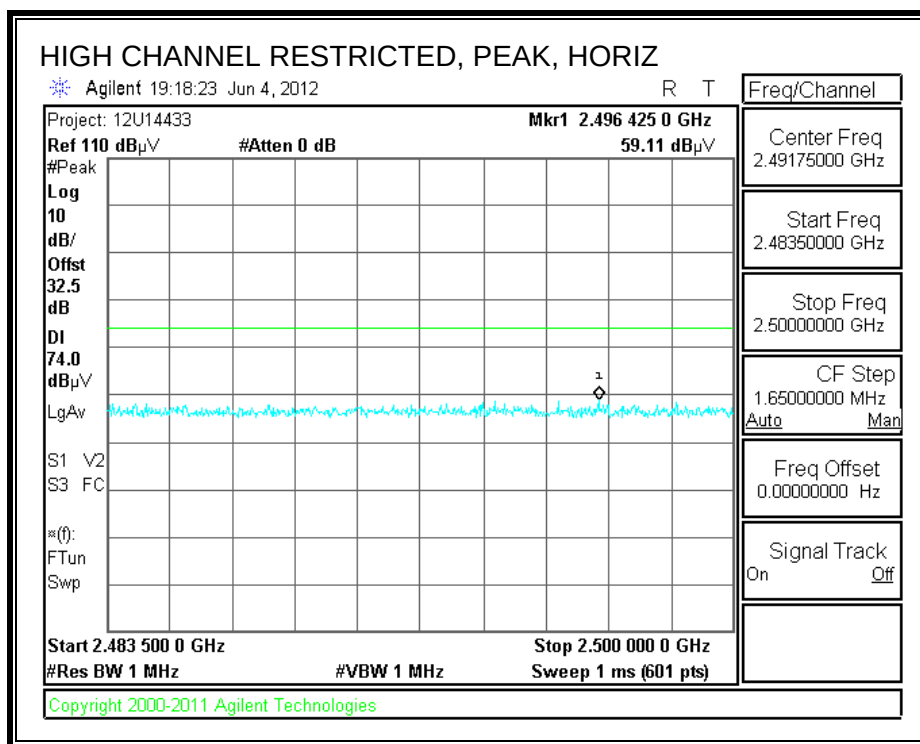




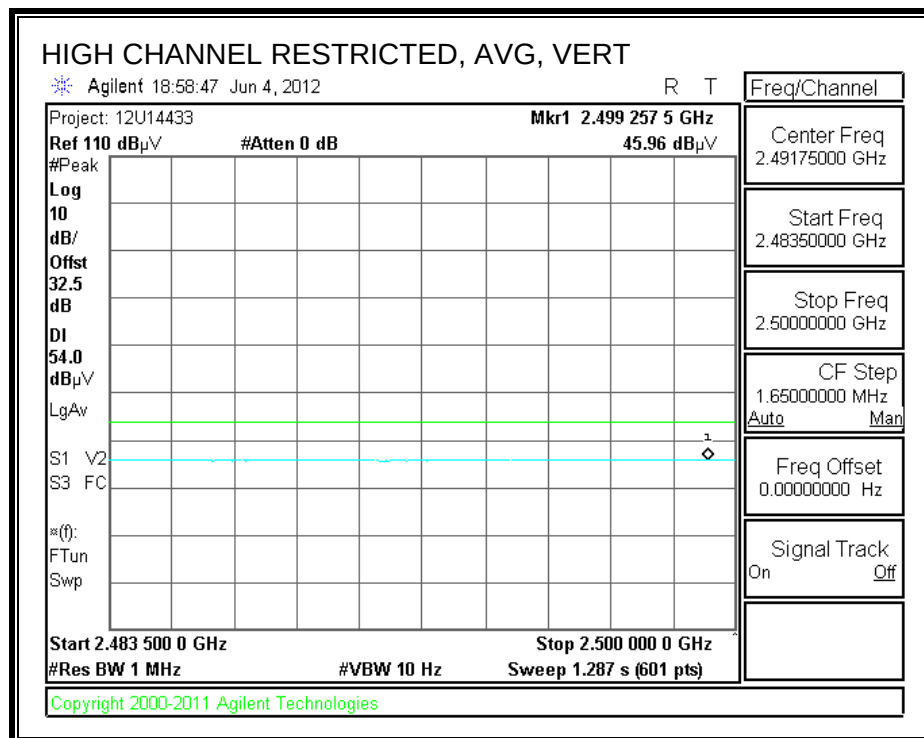
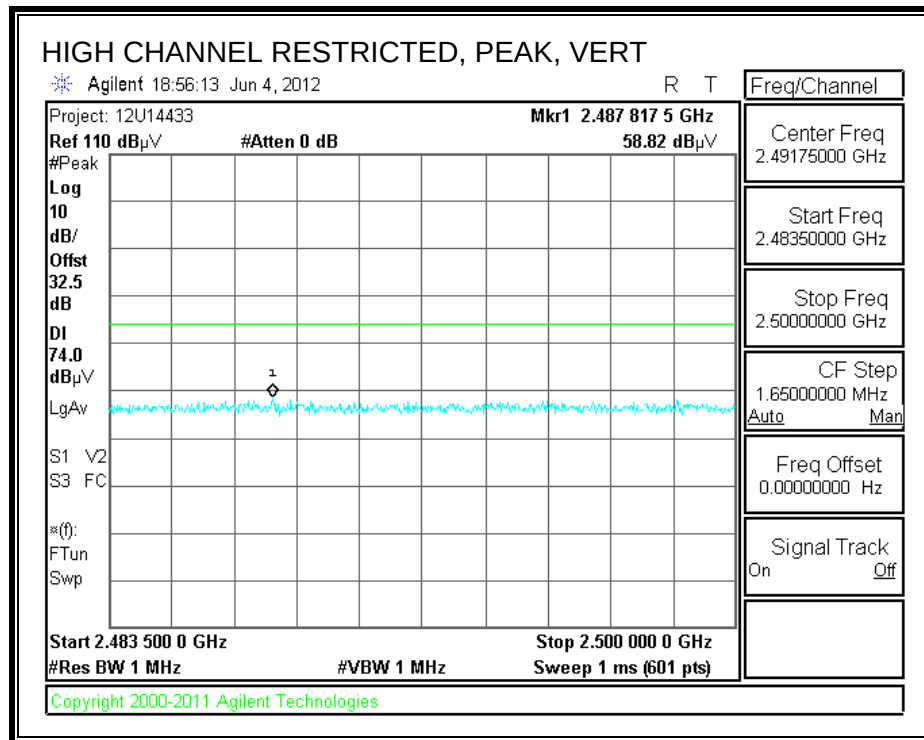
**RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)**



# HARMONICS AND SPURIOUS EMISSIONS

## High Frequency Measurement

Compliance Certification Services, Fremont 5m Chamber

Test Engr: Tom Chen  
Date: 06/05/12  
Project #: 12U14433  
Company: LG Electronics Inc.  
Test Target: FCC Class B  
Mode Oper: Bluetooth GFSK, TX mode

f Measurement Frequency Amp Preamp Gain Average Field Strength Limit  
Dist Distance to Antenna D Corr Distance Correct to 3 meters Peak Field Strength Limit  
Read Analyzer Reading Avg Average Field Strength @ 3 m Margin vs. Average Limit  
AF Antenna Factor Peak Calculated Peak Field Strength Margin vs. Peak Limit  
CL Cable Loss HPF High Pass Filter

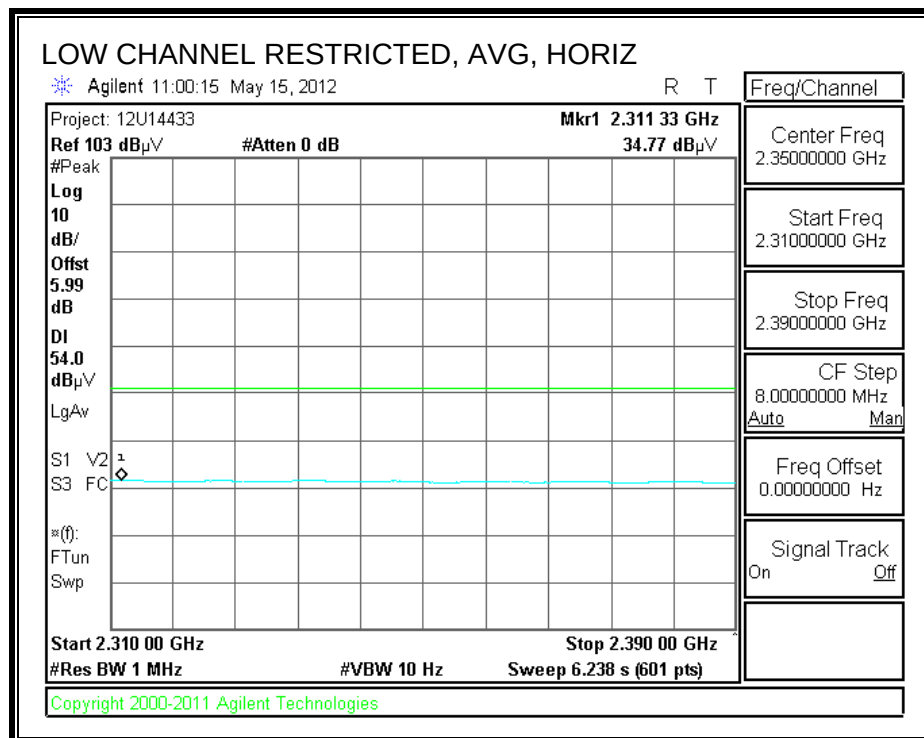
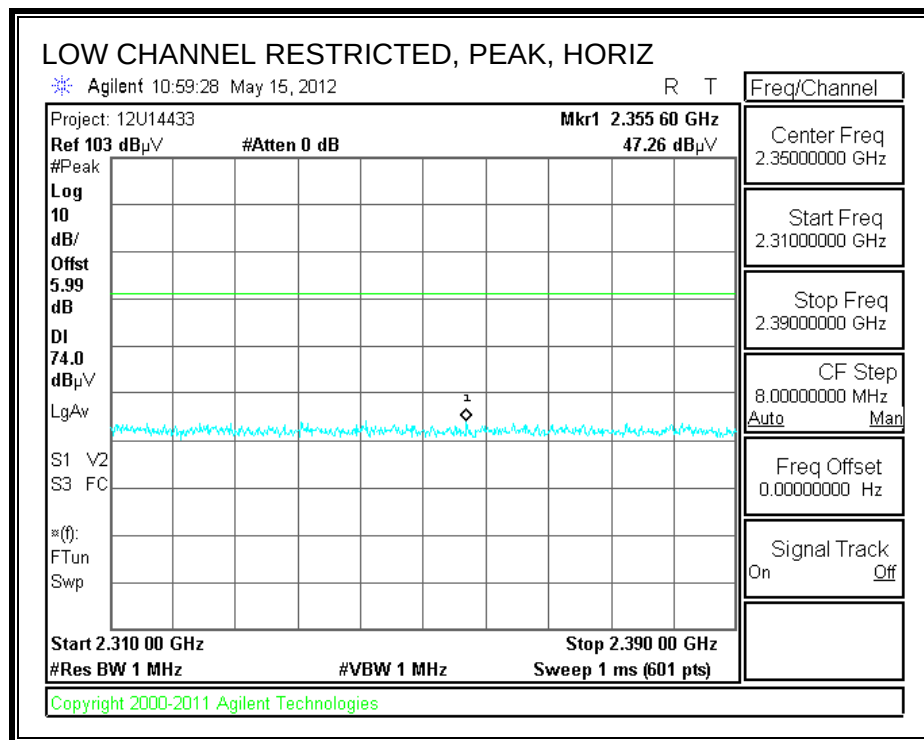
| f<br>GHz             | Dist<br>(m) | Read<br>dBuV | AF<br>dB/m | CL<br>dB | Amp<br>dB | D Corr<br>dB | Fltr<br>dB | Corr.<br>dBuV/m | Limit<br>dBuV/m | Margin<br>dB | Ant. Pol.<br>V/H | Det.<br>P/A/QP | Notes |
|----------------------|-------------|--------------|------------|----------|-----------|--------------|------------|-----------------|-----------------|--------------|------------------|----------------|-------|
| <b>2402 MHz GFSK</b> |             |              |            |          |           |              |            |                 |                 |              |                  |                |       |
| 4.804                | 3.0         | 40.9         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 45.4            | 74.0            | -28.6        | H                | P              |       |
| 4.804                | 3.0         | 32.7         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 37.2            | 54.0            | -16.8        | H                | A              |       |
| 4.804                | 3.0         | 44.7         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 49.3            | 74.0            | -24.7        | V                | P              |       |
| 4.804                | 3.0         | 37.7         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 42.2            | 54.0            | -11.8        | V                | A              |       |
| <b>2441 MHz GFSK</b> |             |              |            |          |           |              |            |                 |                 |              |                  |                |       |
| 4.882                | 3.0         | 43.5         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 48.2            | 74.0            | -25.9        | V                | P              |       |
| 4.882                | 3.0         | 36.5         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 41.1            | 54.0            | -12.9        | V                | A              |       |
| 4.882                | 3.0         | 45.7         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 50.4            | 74.0            | -23.6        | H                | P              |       |
| 4.882                | 3.0         | 38.9         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 43.5            | 54.0            | -10.5        | H                | A              |       |
| <b>2480 MHz GFSK</b> |             |              |            |          |           |              |            |                 |                 |              |                  |                |       |
| 4.960                | 3.0         | 47.3         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0        | 52.1            | 74.0            | -21.9        | H                | P              |       |
| 4.960                | 3.0         | 40.7         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0        | 45.4            | 54.0            | -8.6         | H                | A              |       |
| 4.960                | 3.0         | 44.4         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0        | 49.1            | 74.0            | -24.9        | V                | P              |       |
| 4.960                | 3.0         | 37.7         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0        | 42.4            | 54.0            | -11.6        | V                | A              |       |

Rev. 4.1.2.7

Note: No other emissions were detected above the system noise floor.

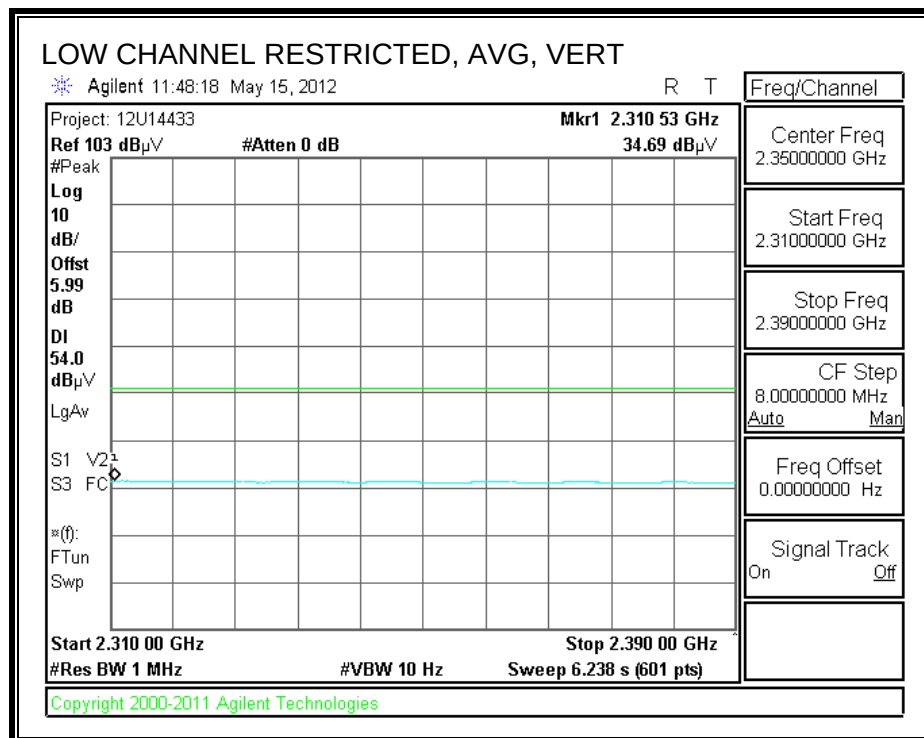
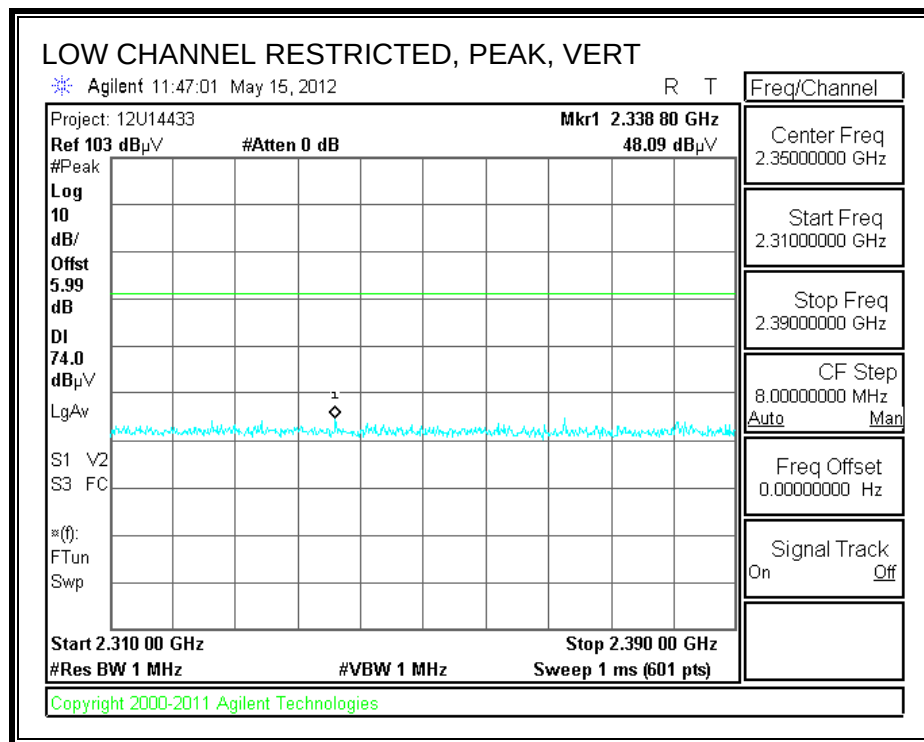
# **INDUCTIVE COVER**

## **RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)**

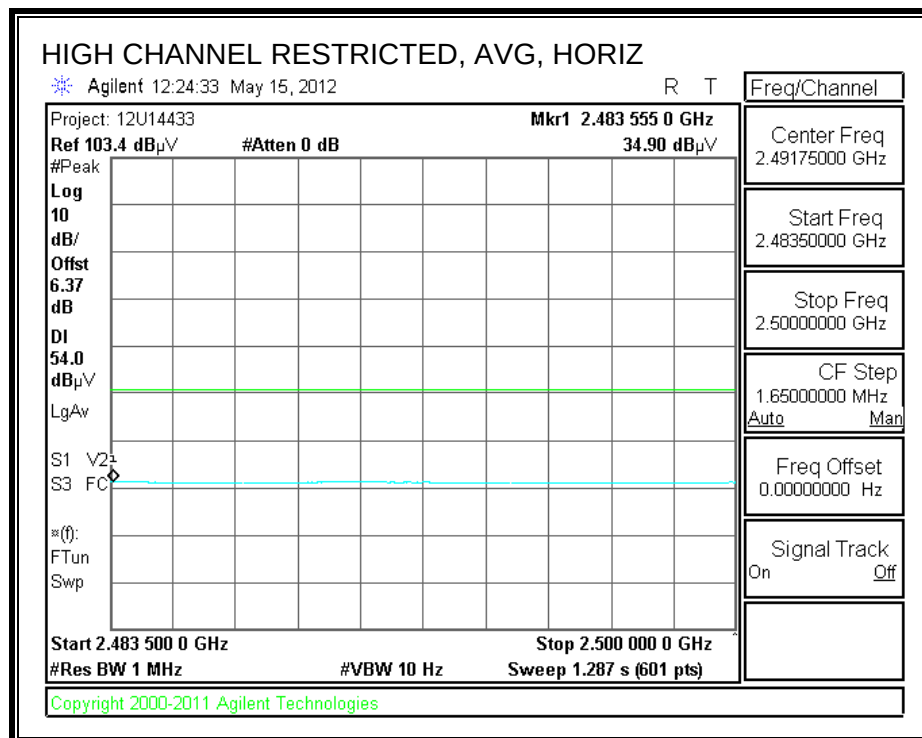
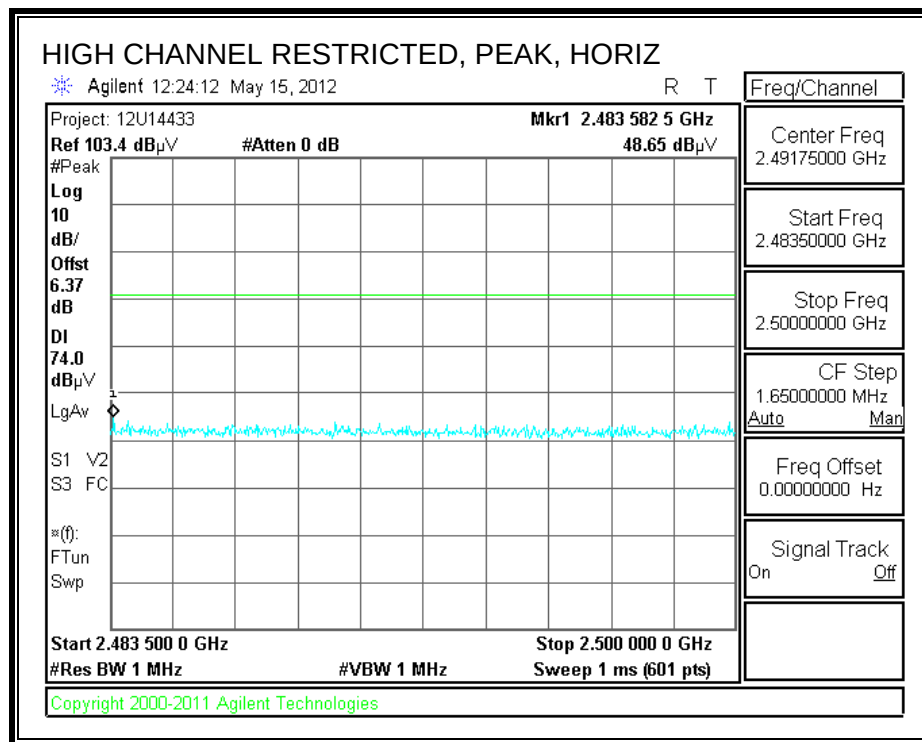




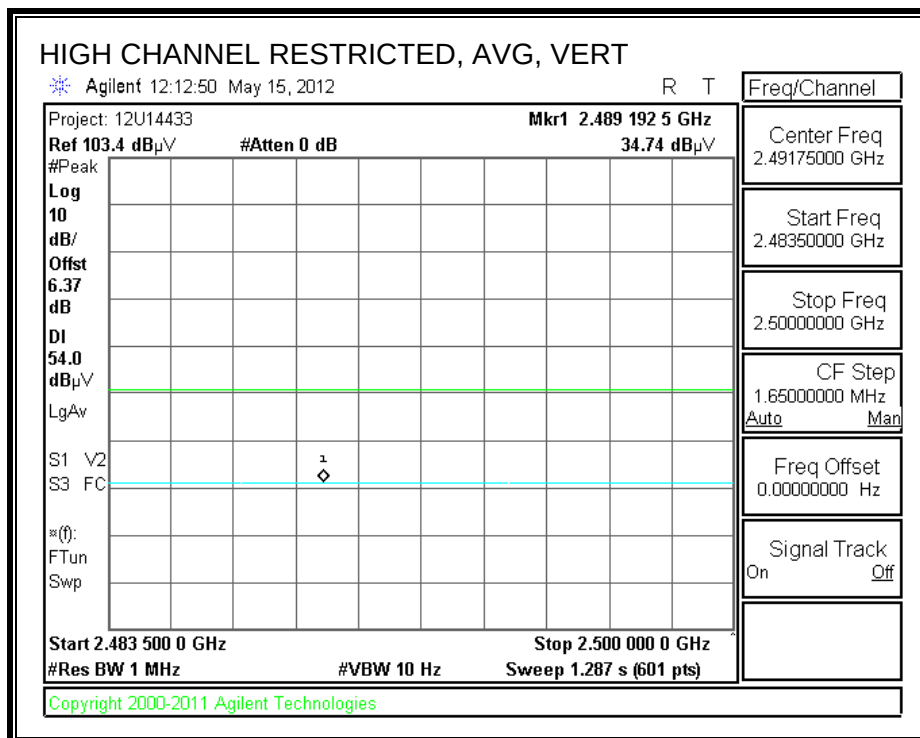
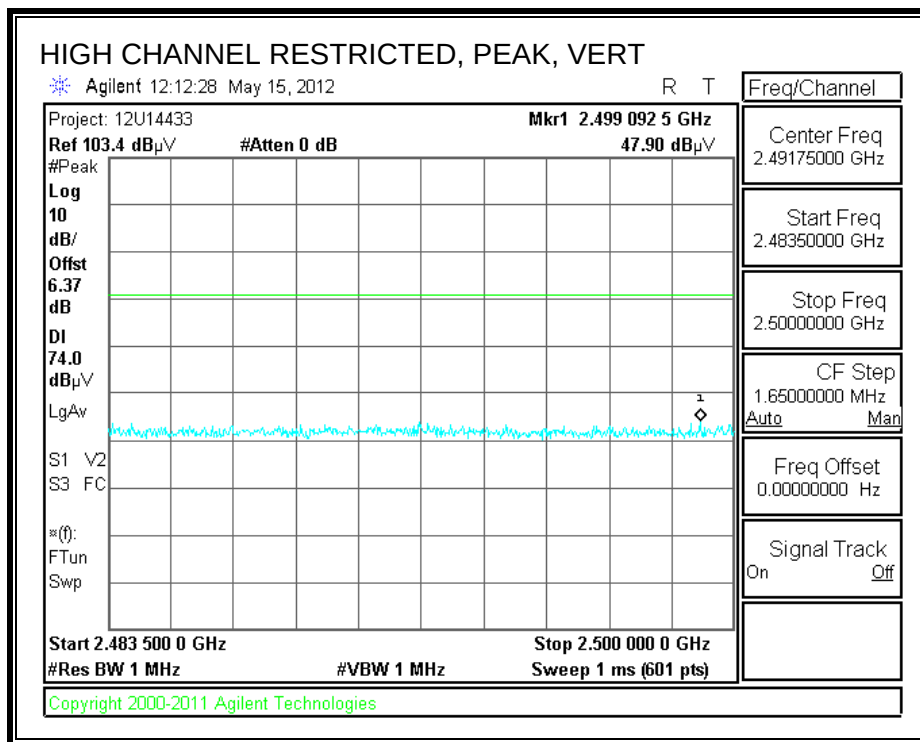
**RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)**



# HARMONICS AND SPURIOUS EMISSIONS

## High Frequency Measurement

Compliance Certification Services, Fremont 5m Chamber

Test Engr: Tom Chen  
Date: 05/17/12  
Project #: 12U14433  
Company: LG Electronics Inc.  
Test Target: FCC Class B  
Mode Oper: Bluetooth GFSK, TX mode

|      |                       |        |                                |                              |
|------|-----------------------|--------|--------------------------------|------------------------------|
| f    | Measurement Frequency | Amp    | Preamp Gain                    | Average Field Strength Limit |
| Dist | Distance to Antenna   | D Corr | Distance Correct to 3 meters   | Peak Field Strength Limit    |
| Read | Analyzer Reading      | Avg    | Average Field Strength @ 3 m   | Margin vs. Average Limit     |
| AF   | Antenna Factor        | Peak   | Calculated Peak Field Strength | Margin vs. Peak Limit        |
| CL   | Cable Loss            | HPF    | High Pass Filter               |                              |

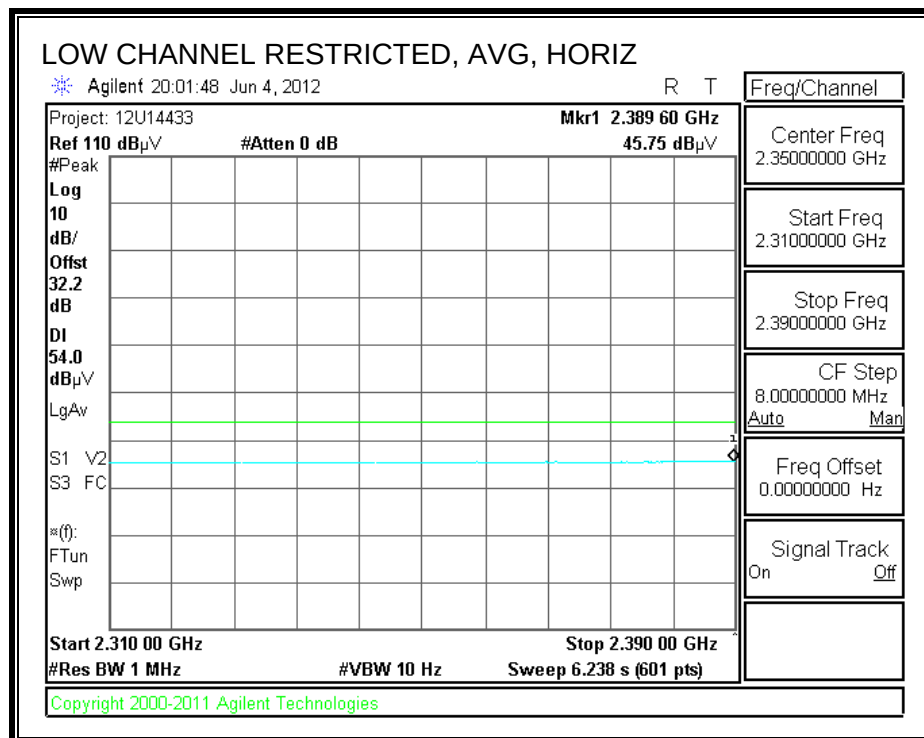
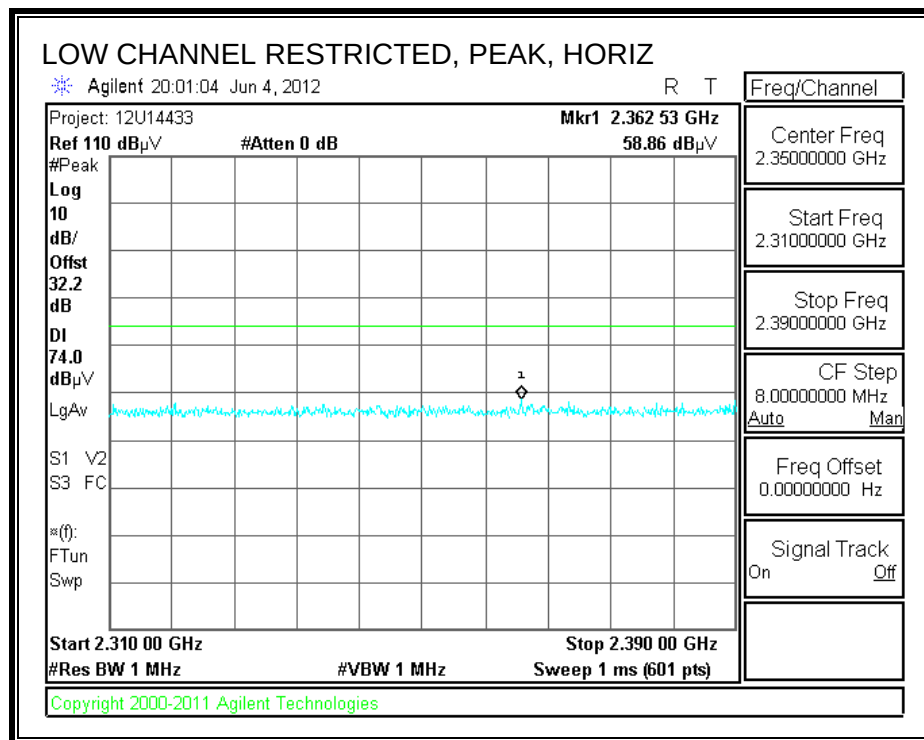
| f<br>GHz             | Dist<br>(m) | Read<br>dBuV | AF<br>dB/m | CL<br>dB | Amp<br>dB | D Corr<br>dB | Fltr<br>dB | Corr.<br>dBuV/m | Limit<br>dBuV/m | Margin<br>dB | Ant. Pol.<br>V/H | Det.<br>P/A/QP | Notes |
|----------------------|-------------|--------------|------------|----------|-----------|--------------|------------|-----------------|-----------------|--------------|------------------|----------------|-------|
| <b>2402 MHz GFSK</b> |             |              |            |          |           |              |            |                 |                 |              |                  |                |       |
| 4.804                | 3.0         | 42.2         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 46.8            | 74.0            | -27.2        | H                | P              |       |
| 4.804                | 3.0         | 34.0         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 38.6            | 54.0            | -15.4        | H                | A              |       |
| 4.804                | 3.0         | 46.1         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 50.6            | 74.0            | -23.4        | V                | P              |       |
| 4.804                | 3.0         | 39.0         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 43.6            | 54.0            | -10.4        | V                | A              |       |
| <b>2441 MHz GFSK</b> |             |              |            |          |           |              |            |                 |                 |              |                  |                |       |
| 4.882                | 3.0         | 44.8         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 49.5            | 74.0            | -24.5        | V                | P              |       |
| 4.882                | 3.0         | 37.8         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 42.4            | 54.0            | -11.6        | V                | A              |       |
| 4.882                | 3.0         | 47.1         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 51.7            | 74.0            | -22.3        | H                | P              |       |
| 4.882                | 3.0         | 40.2         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 44.9            | 54.0            | -9.2         | H                | A              |       |
| <b>2480 MHz GFSK</b> |             |              |            |          |           |              |            |                 |                 |              |                  |                |       |
| 4.960                | 3.0         | 48.6         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0        | 53.4            | 74.0            | -20.6        | H                | P              |       |
| 4.960                | 3.0         | 42.0         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0        | 46.8            | 54.0            | -7.2         | H                | A              |       |
| 4.960                | 3.0         | 45.7         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0        | 50.5            | 74.0            | -23.5        | V                | P              |       |
| 4.960                | 3.0         | 39.0         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0        | 43.8            | 54.0            | -10.2        | V                | A              |       |

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Note: No other emissions were detected above the system noise floor.

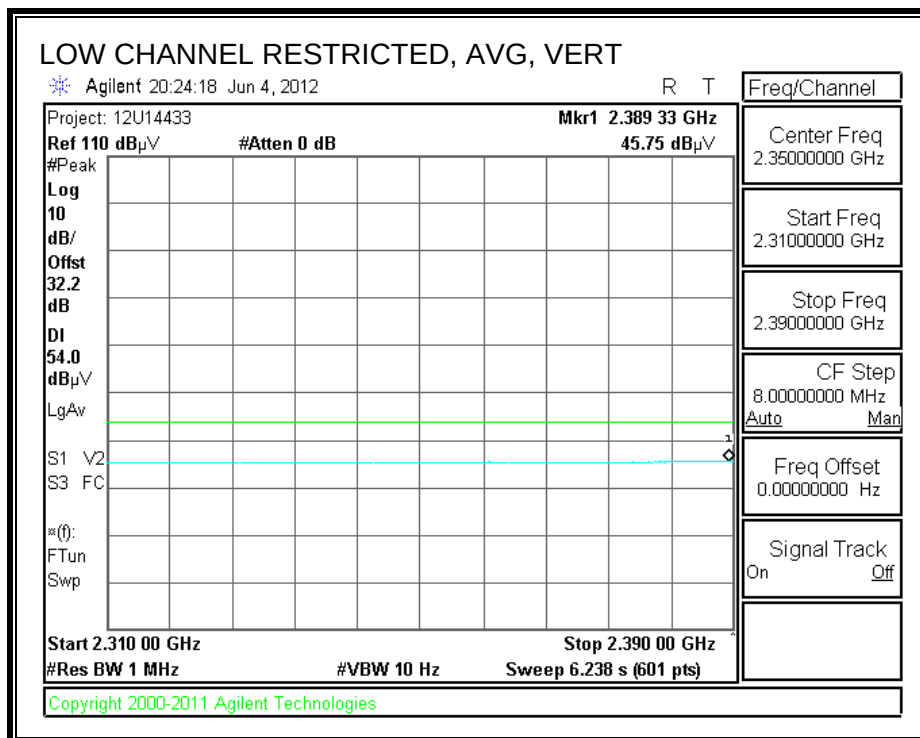
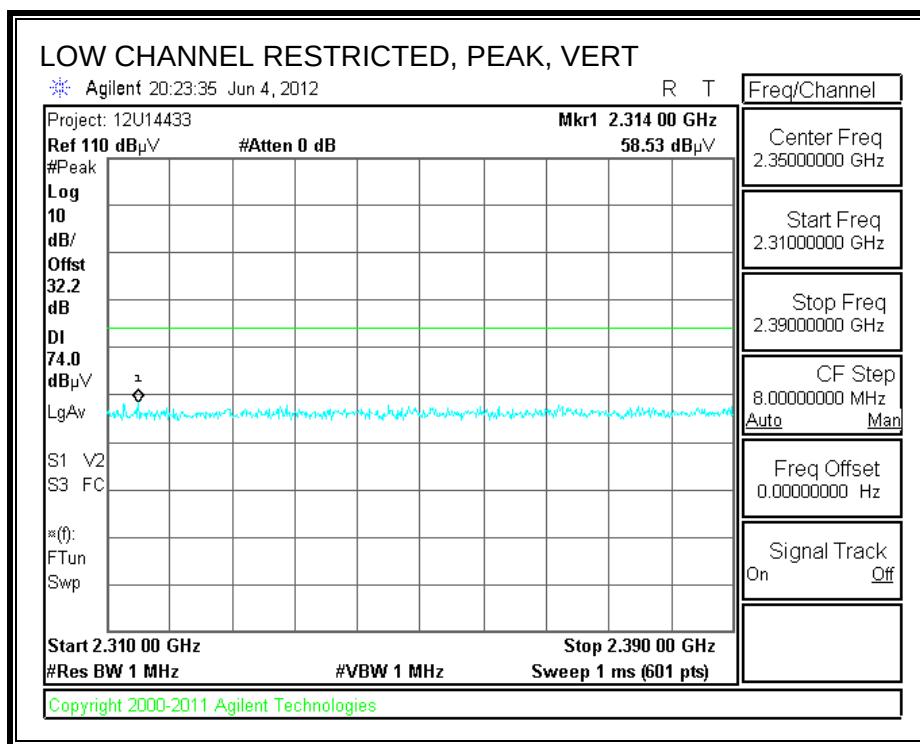
**INDUCTIVE CHARGER AND INDUCTIVE COVER**

**RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)**

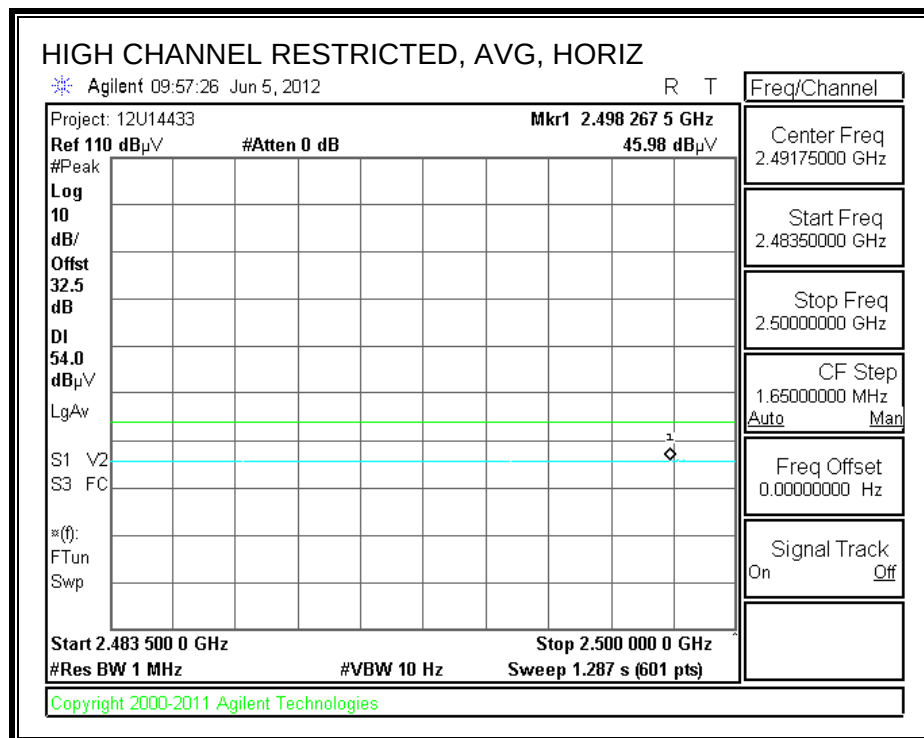
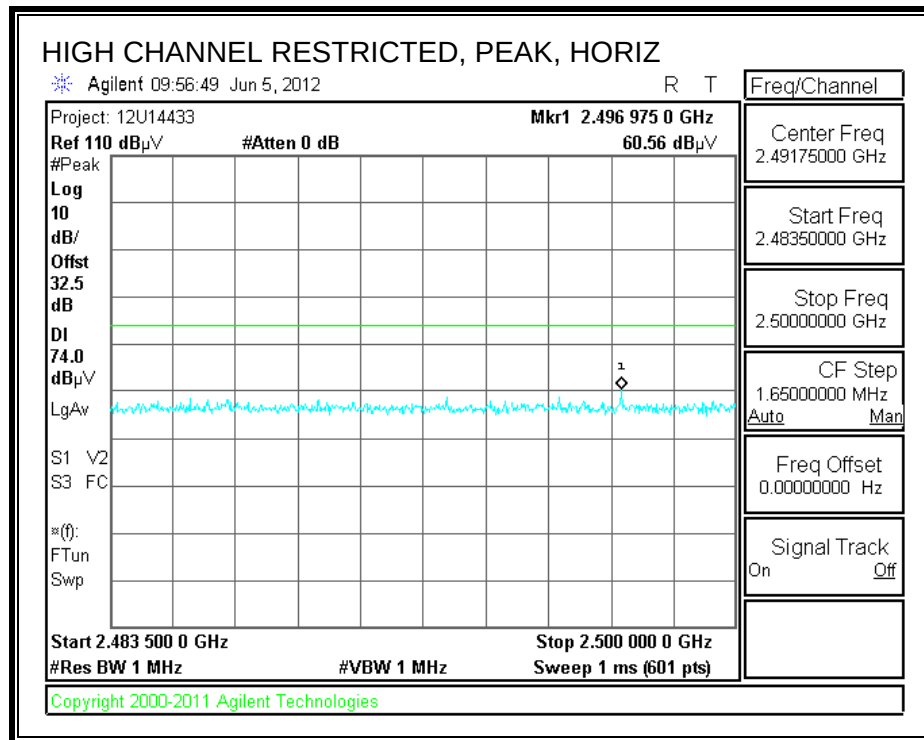




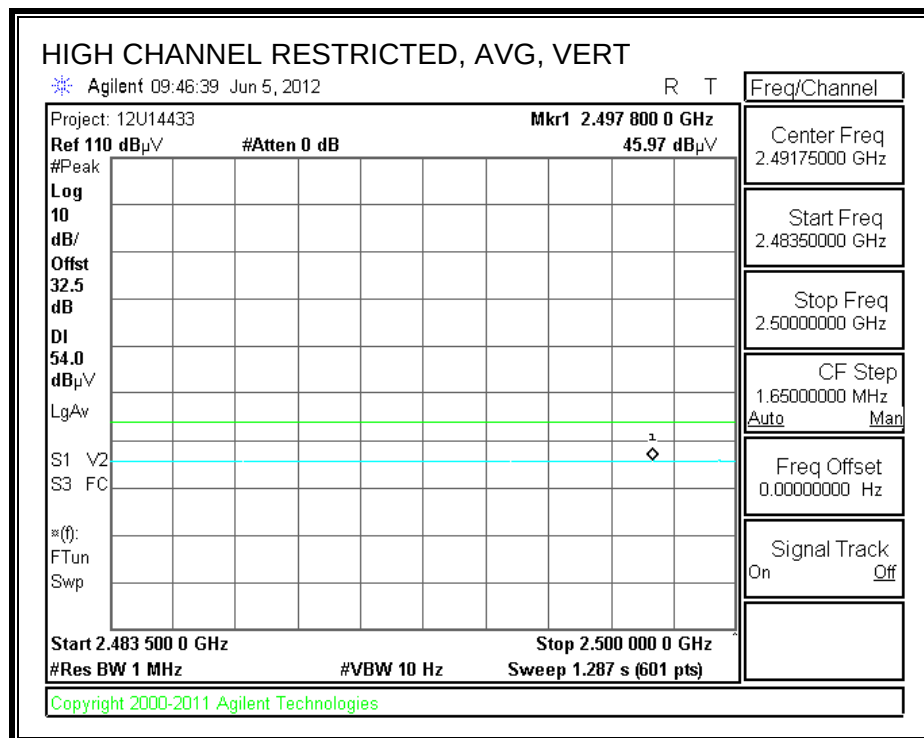
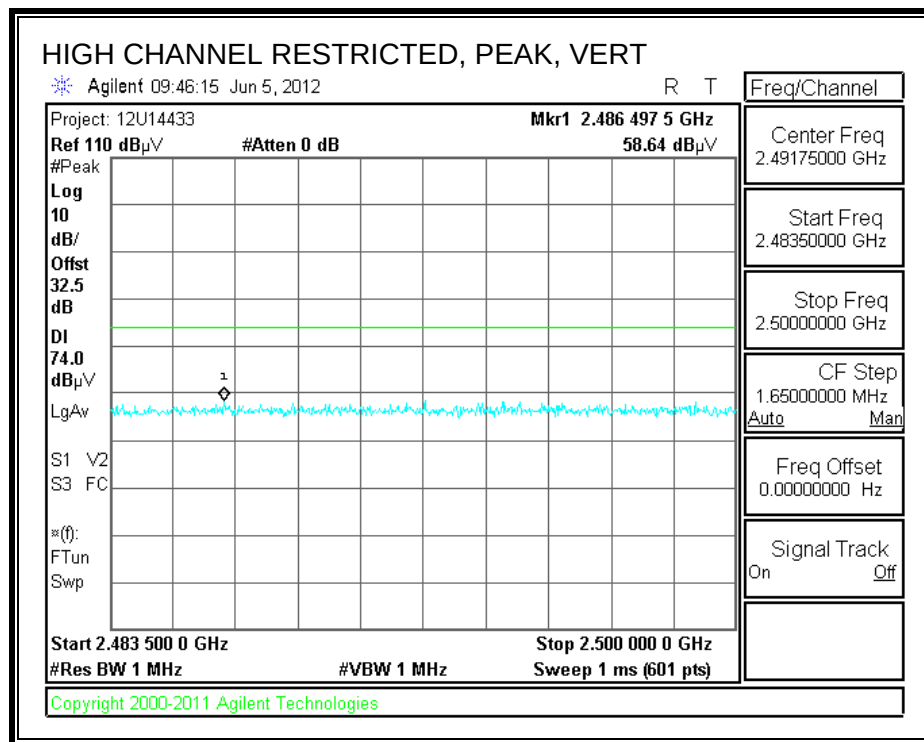
**RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)**



# HARMONICS AND SPURIOUS EMISSIONS

## High Frequency Measurement

Compliance Certification Services, Fremont 5m Chamber

Test Engr: Tom Chen  
Date: 06/05/12  
Project #: 12U14433  
Company: LG Electronics Inc.  
Test Target: FCC Class B  
Mode Oper: Bluetooth GFSK, TX mode

f Measurement Frequency Amp Preamp Gain Average Field Strength Limit  
Dist Distance to Antenna D Corr Distance Correct to 3 meters Peak Field Strength Limit  
Read Analyzer Reading Avg Average Field Strength @ 3 m Margin vs. Average Limit  
AF Antenna Factor Peak Calculated Peak Field Strength Margin vs. Peak Limit  
CL Cable Loss HPF High Pass Filter

| f<br>GHz             | Dist<br>(m) | Read<br>dBuV | AF<br>dB/m | CL<br>dB | Amp<br>dB | D Corr<br>dB | Fltr<br>dB | Corr.<br>dBuV/m | Limit<br>dBuV/m | Margin<br>dB | Ant. Pol.<br>V/H | Det.<br>P/A/QP | Notes |
|----------------------|-------------|--------------|------------|----------|-----------|--------------|------------|-----------------|-----------------|--------------|------------------|----------------|-------|
| <b>2402 MHz GFSK</b> |             |              |            |          |           |              |            |                 |                 |              |                  |                |       |
| 4.804                | 3.0         | 39.6         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 44.1            | 74.0            | -29.9        | H                | P              |       |
| 4.804                | 3.0         | 28.4         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 32.9            | 54.0            | -21.1        | H                | A              |       |
| 4.804                | 3.0         | 41.5         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 46.0            | 74.0            | -28.0        | V                | P              |       |
| 4.804                | 3.0         | 30.5         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 35.0            | 54.0            | -19.0        | V                | A              |       |
| <b>2441 MHz GFSK</b> |             |              |            |          |           |              |            |                 |                 |              |                  |                |       |
| 4.882                | 3.0         | 42.0         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 46.6            | 74.0            | -27.4        | V                | P              |       |
| 4.882                | 3.0         | 30.5         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 35.1            | 54.0            | -18.9        | V                | A              |       |
| 4.882                | 3.0         | 38.6         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 43.3            | 74.0            | -30.7        | H                | P              |       |
| 4.882                | 3.0         | 27.8         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 32.5            | 54.0            | -21.5        | H                | A              |       |
| <b>2480 MHz GFSK</b> |             |              |            |          |           |              |            |                 |                 |              |                  |                |       |
| 4.960                | 3.0         | 40.6         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0        | 45.4            | 74.0            | -28.6        | H                | P              |       |
| 4.960                | 3.0         | 28.9         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0        | 33.7            | 54.0            | -20.3        | H                | A              |       |
| 4.960                | 3.0         | 42.6         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0        | 47.4            | 74.0            | -26.6        | V                | P              |       |
| 4.960                | 3.0         | 31.4         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0        | 36.2            | 54.0            | -17.8        | V                | A              |       |

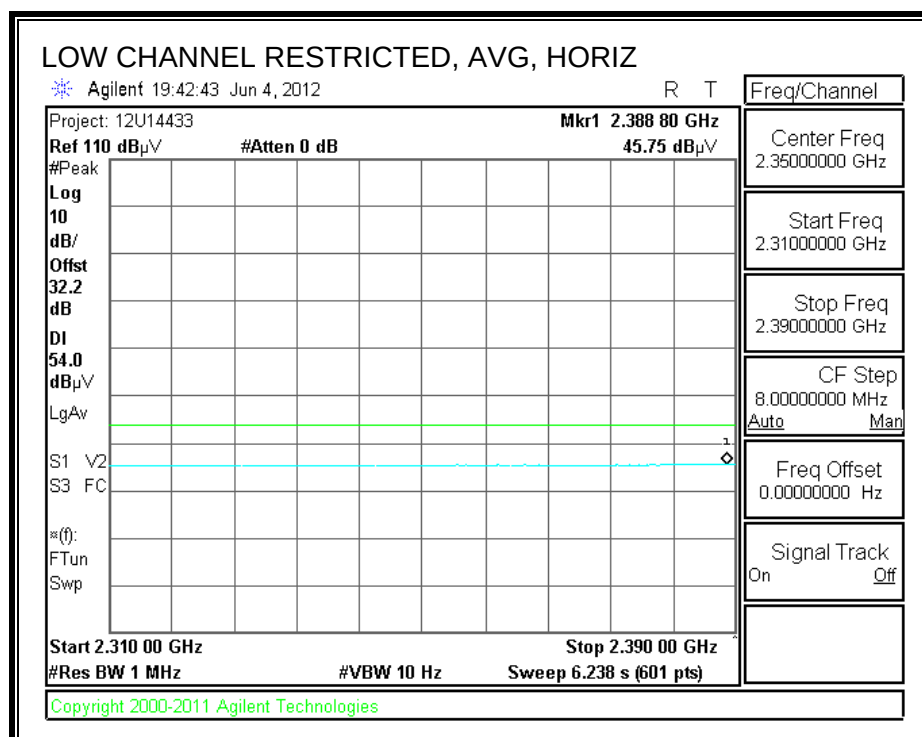
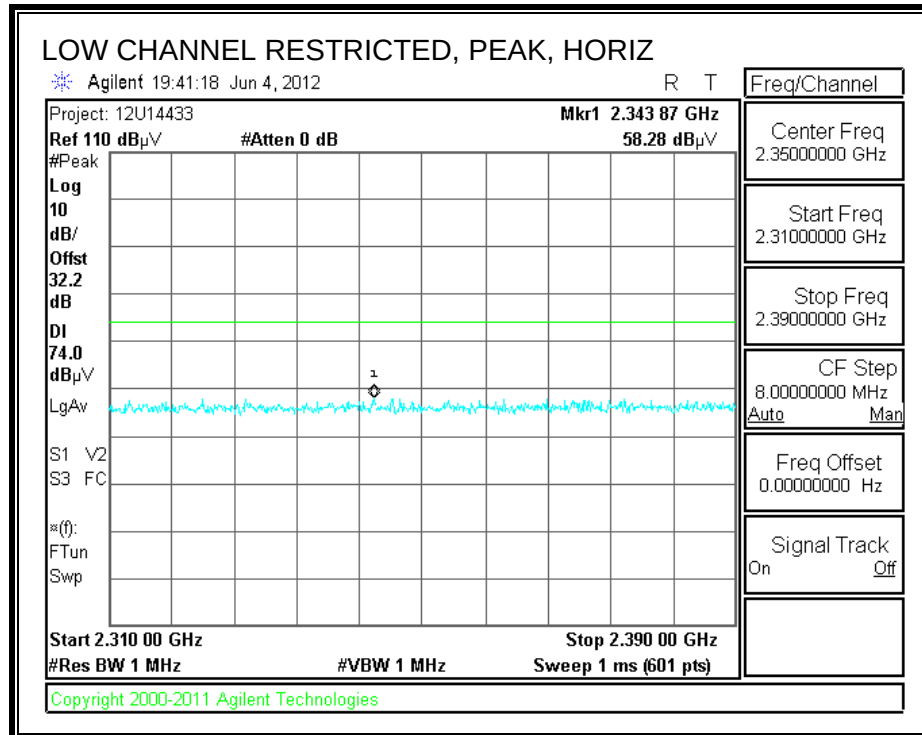
Rev. 4.1.2.7

Note: No other emissions were detected above the system noise floor.

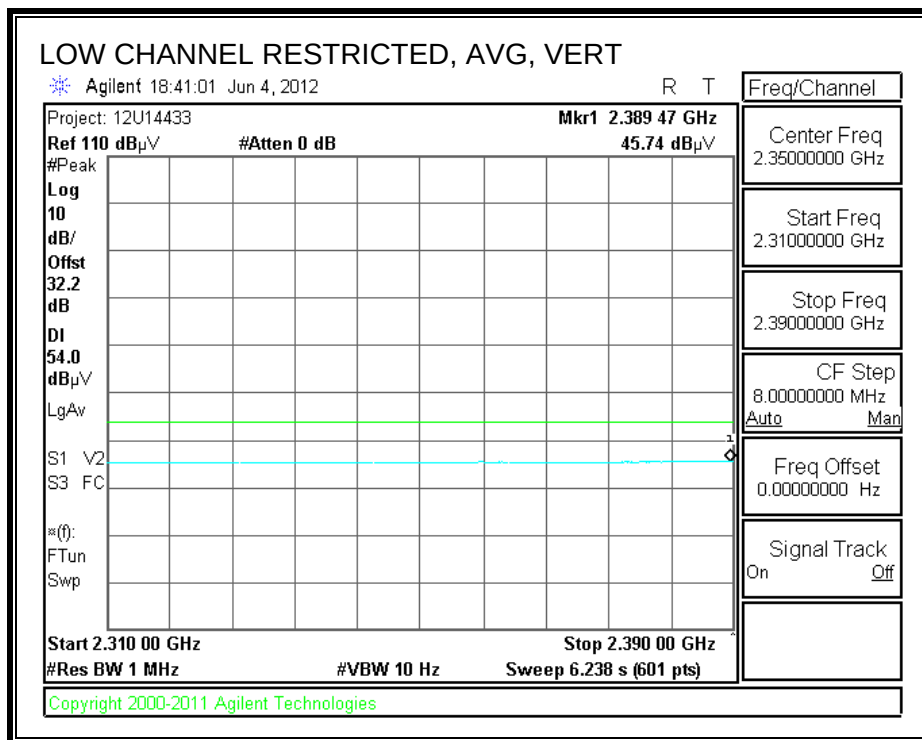
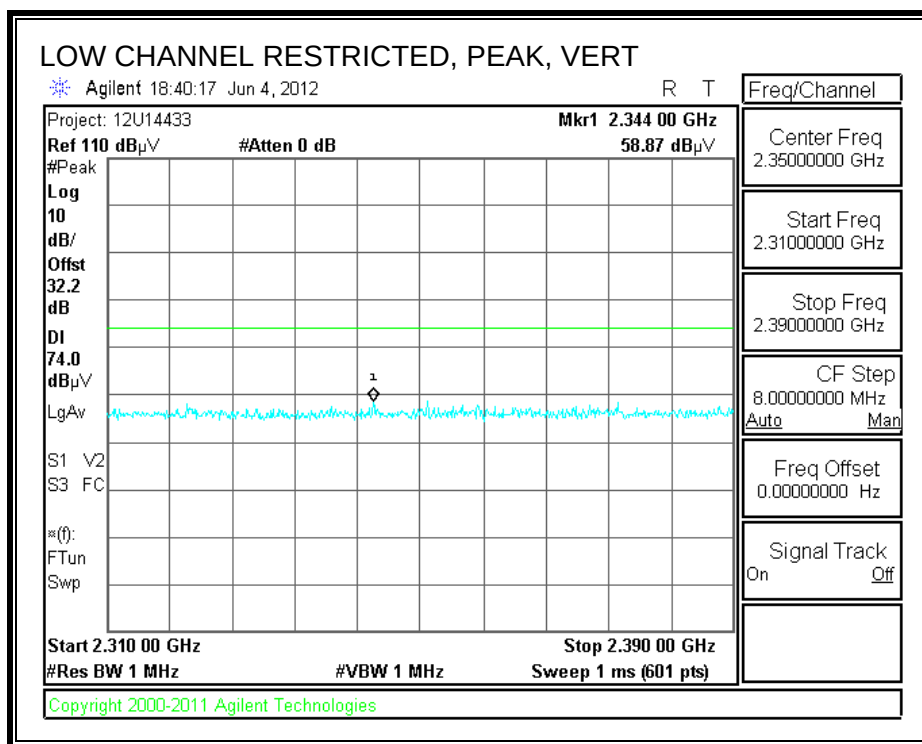
## 6.2.2. DQPSK MODULATION

### STANDARD COVER

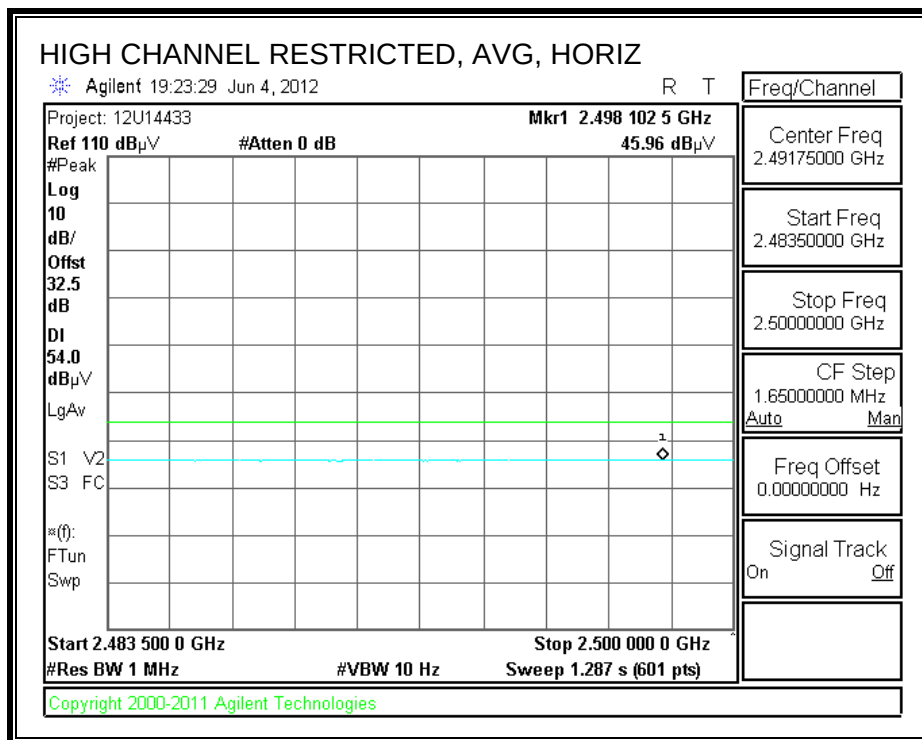
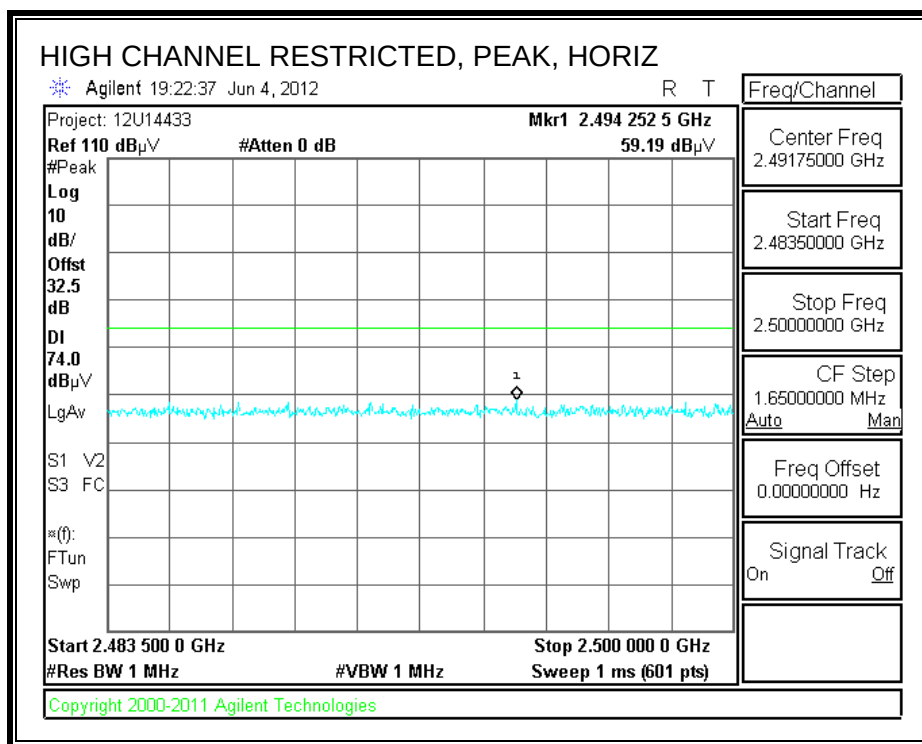
### RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



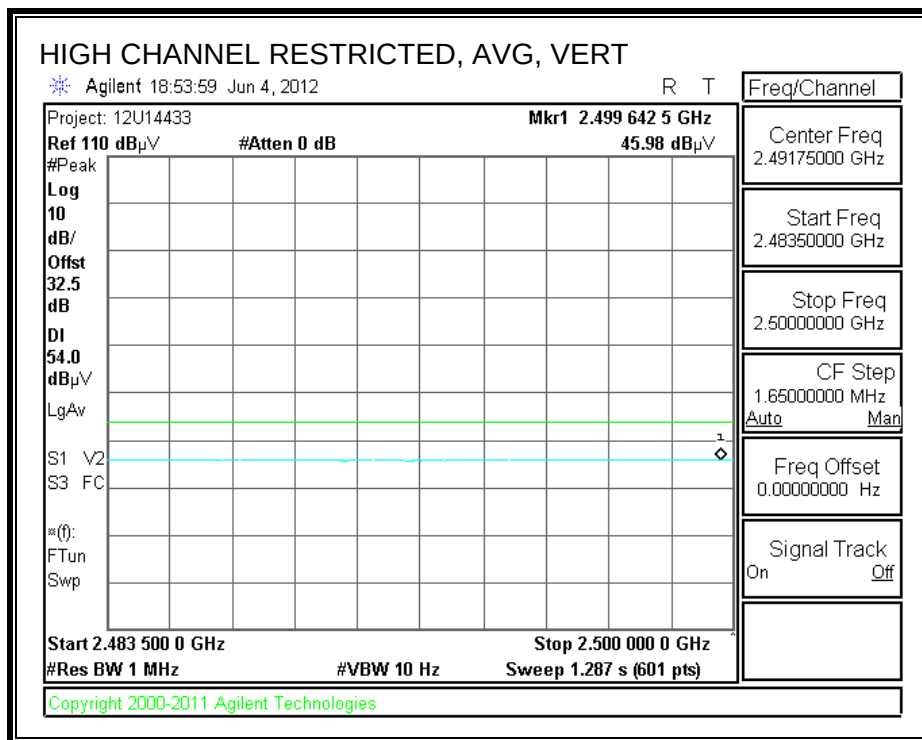
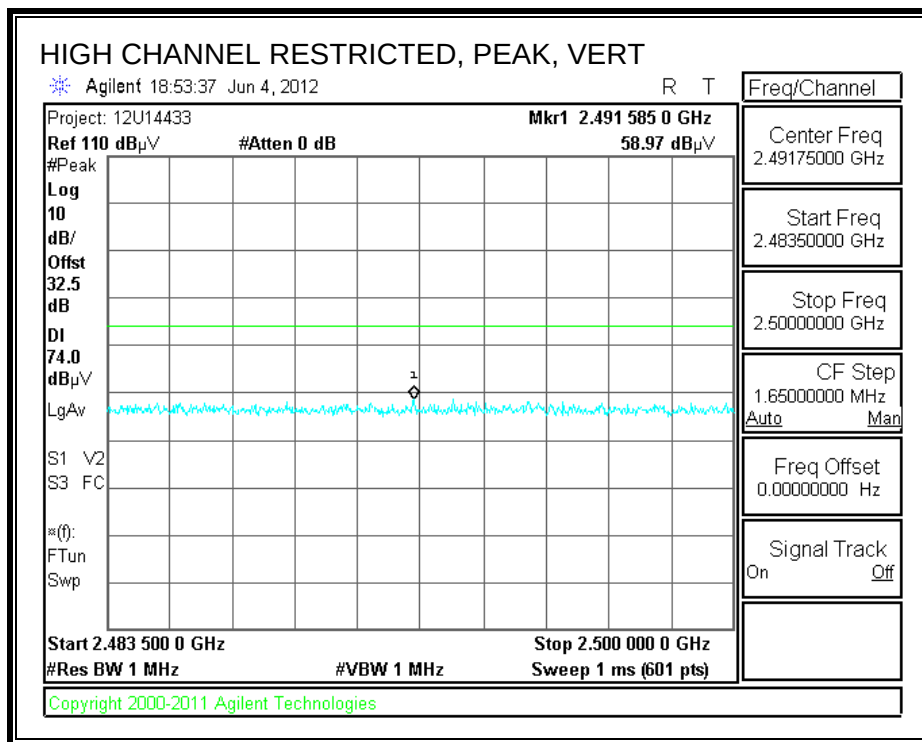
**RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)**



# HARMONICS AND SPURIOUS EMISSIONS

## High Frequency Measurement

Compliance Certification Services, Fremont 5m Chamber

Test Engr: Tom Chen  
Date: 06/05/12  
Project #: 12U14433  
Company: LG Electronics Inc.  
Test Target: FCC Class B  
Mode Oper: Bluetooth DQPSK, TX mode

f Measurement Frequency Amp Preamp Gain Average Field Strength Limit  
Dist Distance to Antenna D Corr Distance Correct to 3 meters Peak Field Strength Limit  
Read Analyzer Reading Avg Average Field Strength @ 3 m Margin vs. Average Limit  
AF Antenna Factor Peak Calculated Peak Field Strength Margin vs. Peak Limit  
CL Cable Loss HPF High Pass Filter

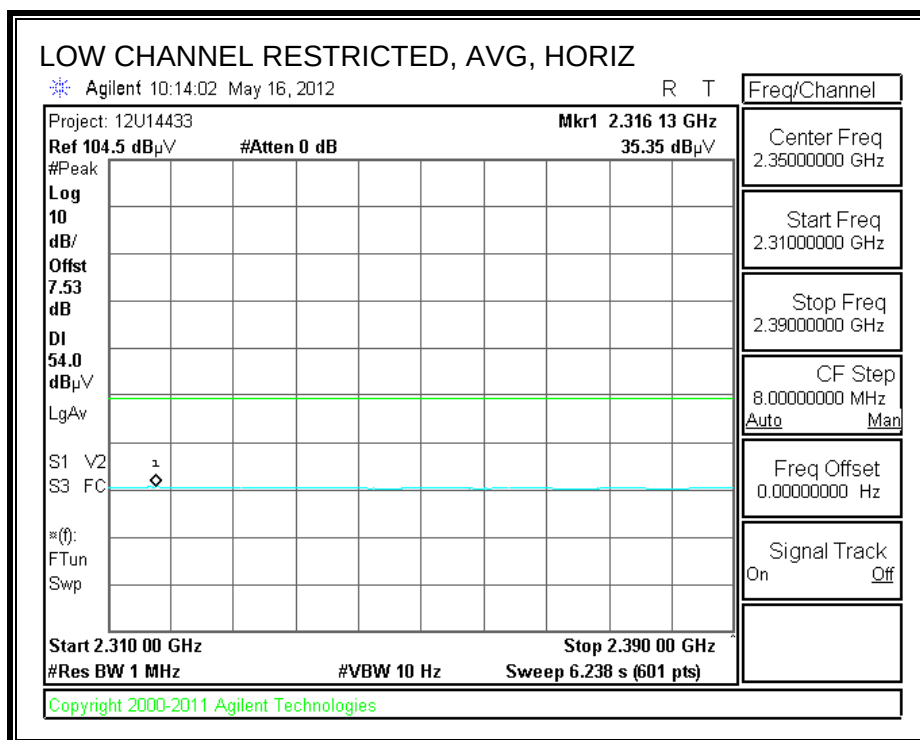
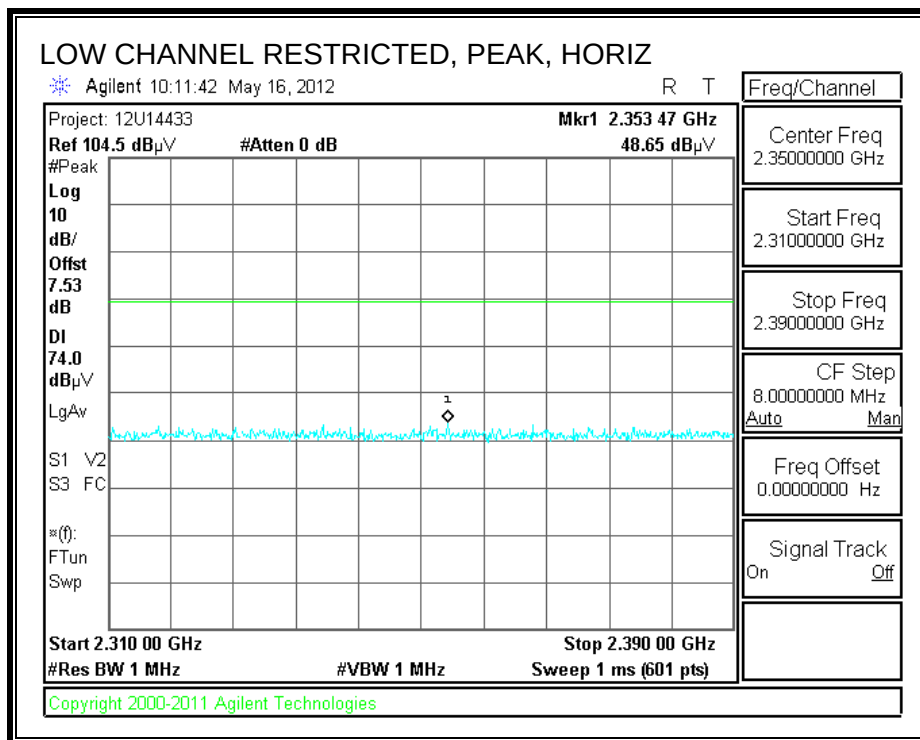
| f<br>GHz              | Dist<br>(m) | Read<br>dBuV | AF<br>dB/m | CL<br>dB | Amp<br>dB | D Corr<br>dB | Filtr<br>dB | Corr.<br>dBuV/m | Limit<br>dBuV/m | Margin<br>dB | Ant. Pol.<br>V/H | Det.<br>P/A/QP | Notes |
|-----------------------|-------------|--------------|------------|----------|-----------|--------------|-------------|-----------------|-----------------|--------------|------------------|----------------|-------|
| <b>2402 MHz DQPSK</b> |             |              |            |          |           |              |             |                 |                 |              |                  |                |       |
| 4.804                 | 3.0         | 42.3         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 46.8            | 74.0            | -27.2        | V                | P              |       |
| 4.804                 | 3.0         | 30.7         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 35.2            | 54.0            | -18.8        | V                | A              |       |
| 4.804                 | 3.0         | 44.5         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 49.0            | 74.0            | -25.0        | H                | P              |       |
| 4.804                 | 3.0         | 32.1         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 36.6            | 54.0            | -17.4        | H                | A              |       |
| <b>2441 MHz DQPSK</b> |             |              |            |          |           |              |             |                 |                 |              |                  |                |       |
| 4.882                 | 3.0         | 42.3         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 46.9            | 74.0            | -27.1        | H                | P              |       |
| 4.882                 | 3.0         | 30.7         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 35.3            | 54.0            | -18.7        | H                | A              |       |
| 4.882                 | 3.0         | 39.4         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 44.0            | 74.0            | -30.0        | V                | P              |       |
| 4.882                 | 3.0         | 28.7         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 33.4            | 54.0            | -20.6        | V                | A              |       |
| <b>2480 MHz DQPSK</b> |             |              |            |          |           |              |             |                 |                 |              |                  |                |       |
| 4.960                 | 3.0         | 41.2         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0         | 45.9            | 74.0            | -28.1        | V                | P              |       |
| 4.960                 | 3.0         | 29.9         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0         | 34.7            | 54.0            | -19.3        | V                | A              |       |
| 4.960                 | 3.0         | 43.5         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0         | 48.2            | 74.0            | -25.8        | H                | P              |       |
| 4.960                 | 3.0         | 31.2         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0         | 36.0            | 54.0            | -18.0        | H                | A              |       |

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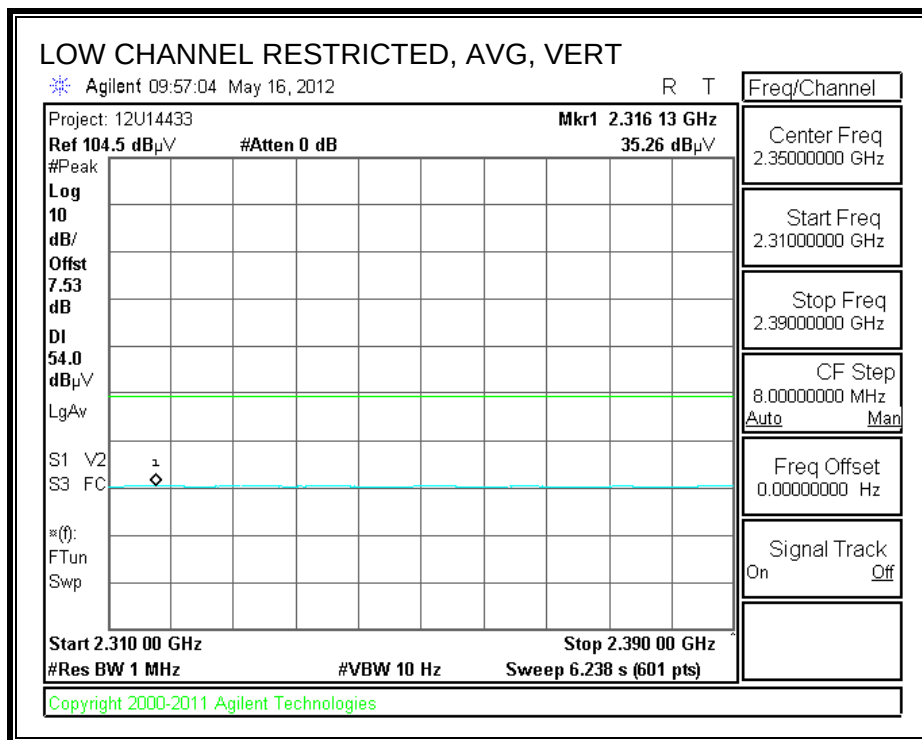
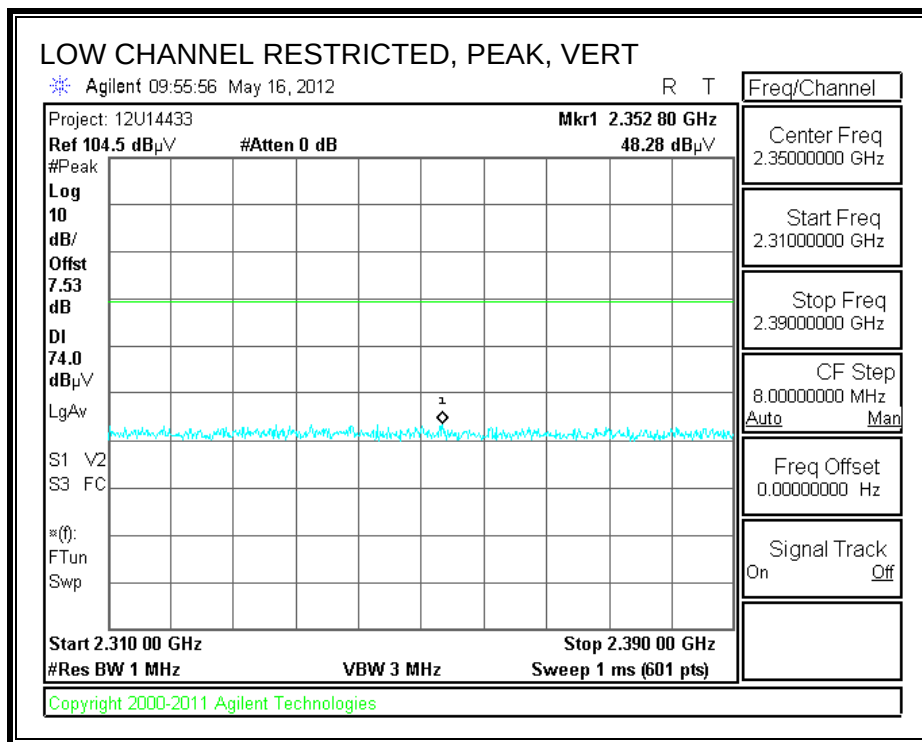
Note: No other emissions were detected above the system noise floor.

# **INDUCTIVE COVER**

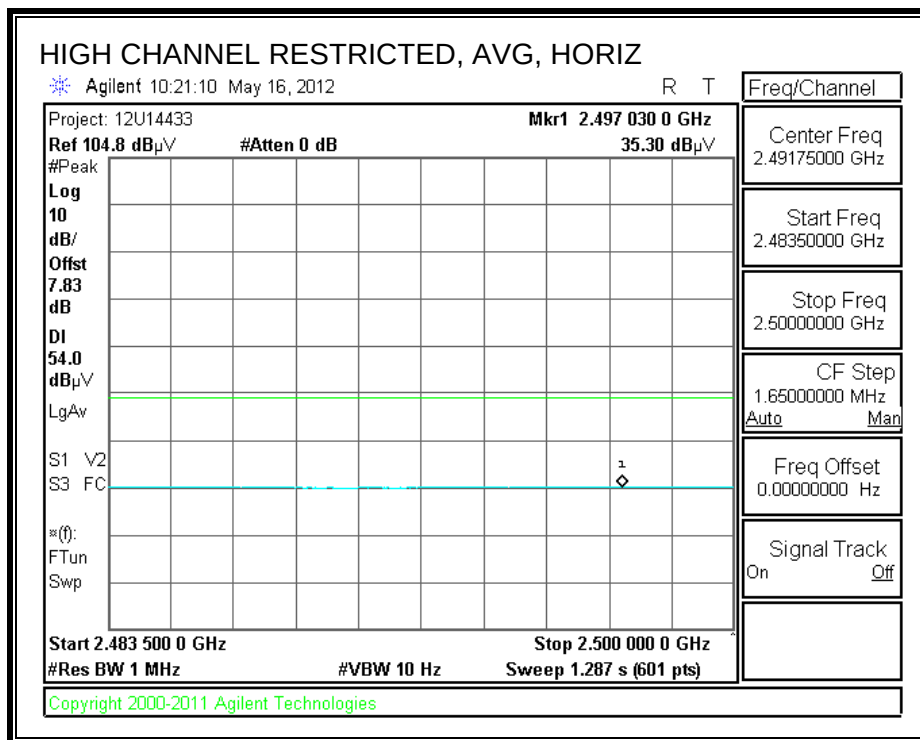
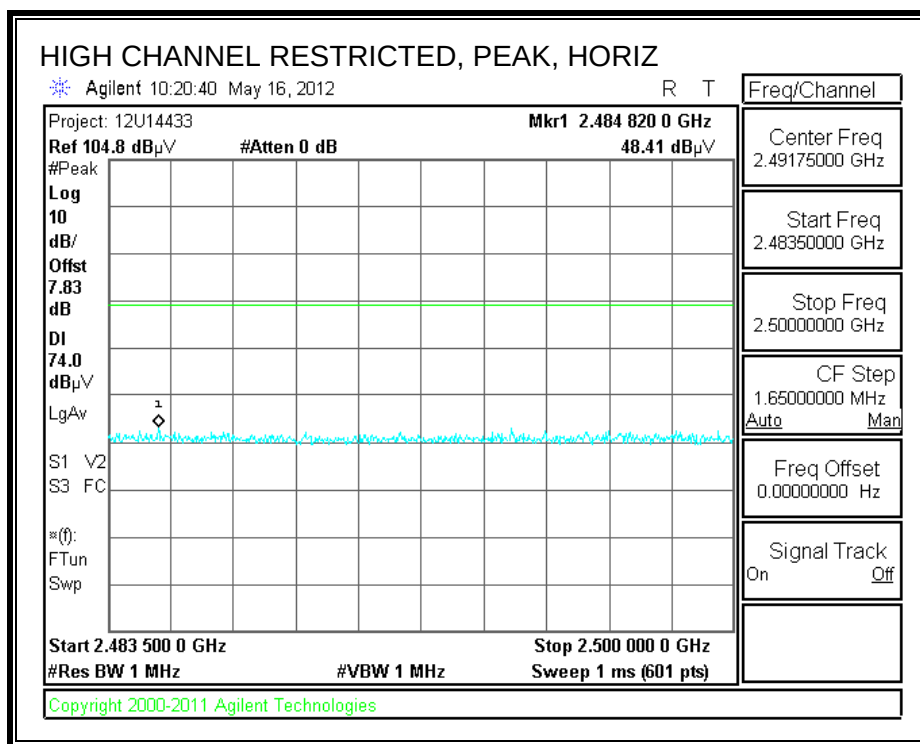
## **RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)**



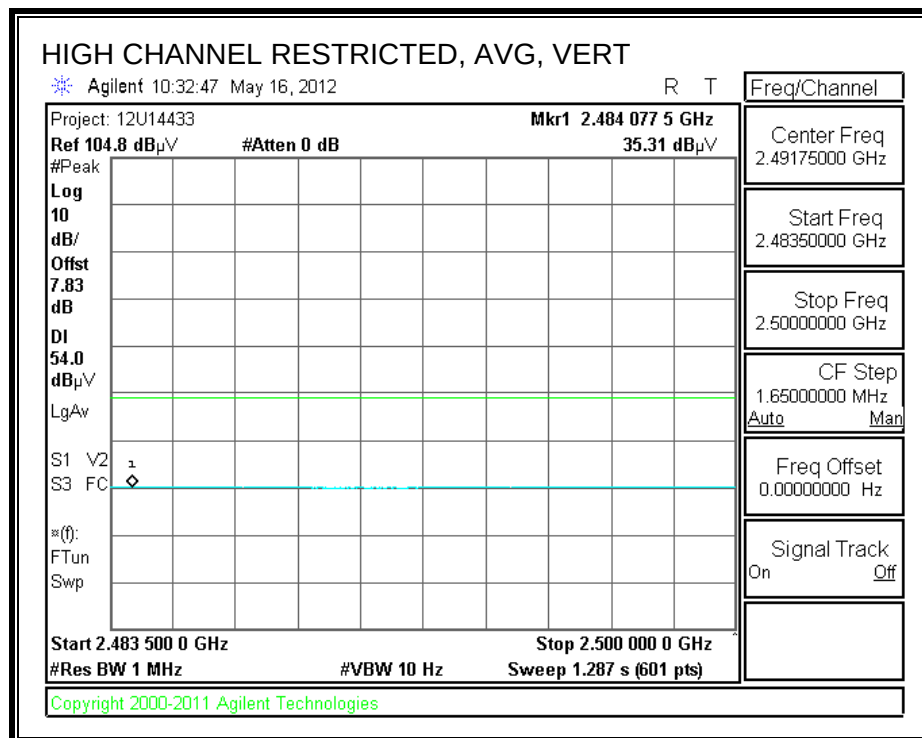
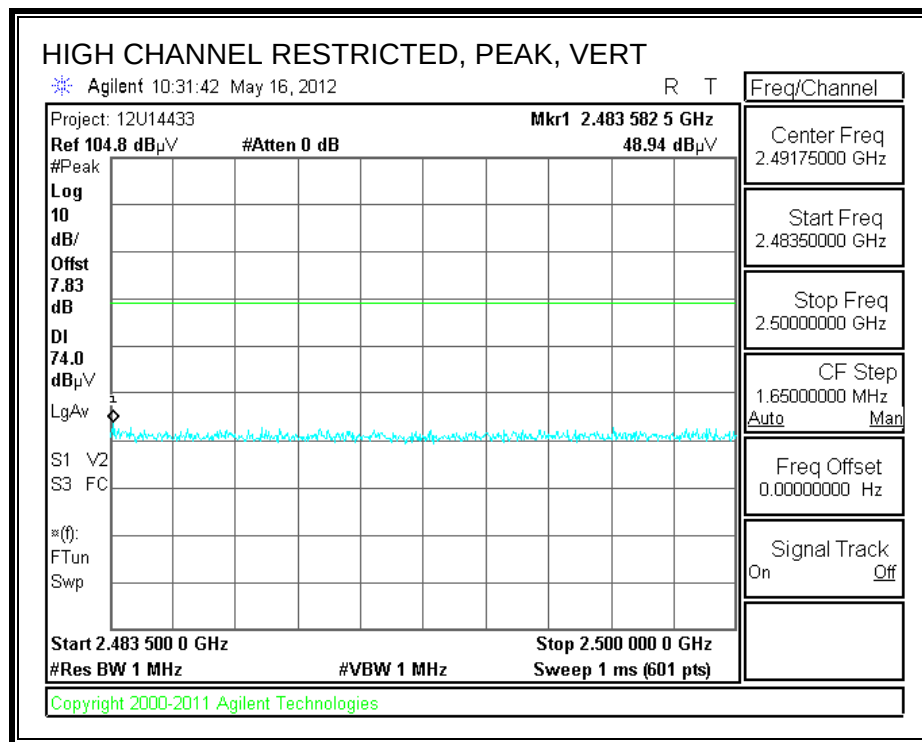
**RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)**



# HARMONICS AND SPURIOUS EMISSIONS

## High Frequency Measurement

Compliance Certification Services, Fremont 5m Chamber

Test Engr: Tom Chen  
Date: 06/05/12  
Project #: 12U14433  
Company: LG Electronics Inc.  
Test Target: FCC Class B  
Mode Oper: Bluetooth DQPSK, TX mode

|      |                       |        |                                |                              |
|------|-----------------------|--------|--------------------------------|------------------------------|
| f    | Measurement Frequency | Amp    | Preamp Gain                    | Average Field Strength Limit |
| Dist | Distance to Antenna   | D Corr | Distance Correct to 3 meters   | Peak Field Strength Limit    |
| Read | Analyzer Reading      | Avg    | Average Field Strength @ 3 m   | Margin vs. Average Limit     |
| AF   | Antenna Factor        | Peak   | Calculated Peak Field Strength | Margin vs. Peak Limit        |
| CL   | Cable Loss            | HPF    | High Pass Filter               |                              |

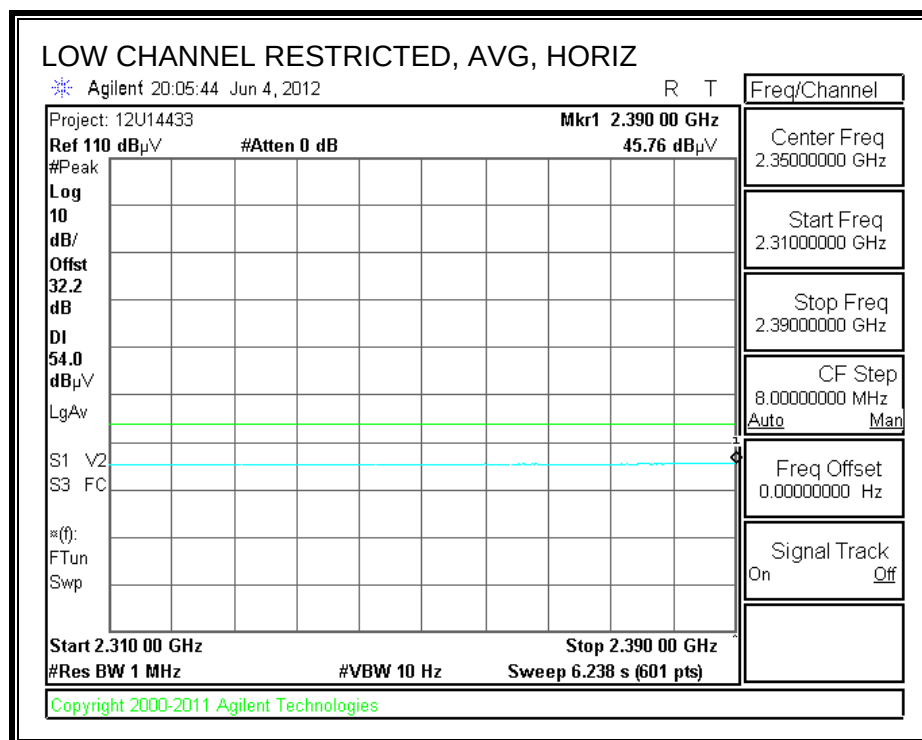
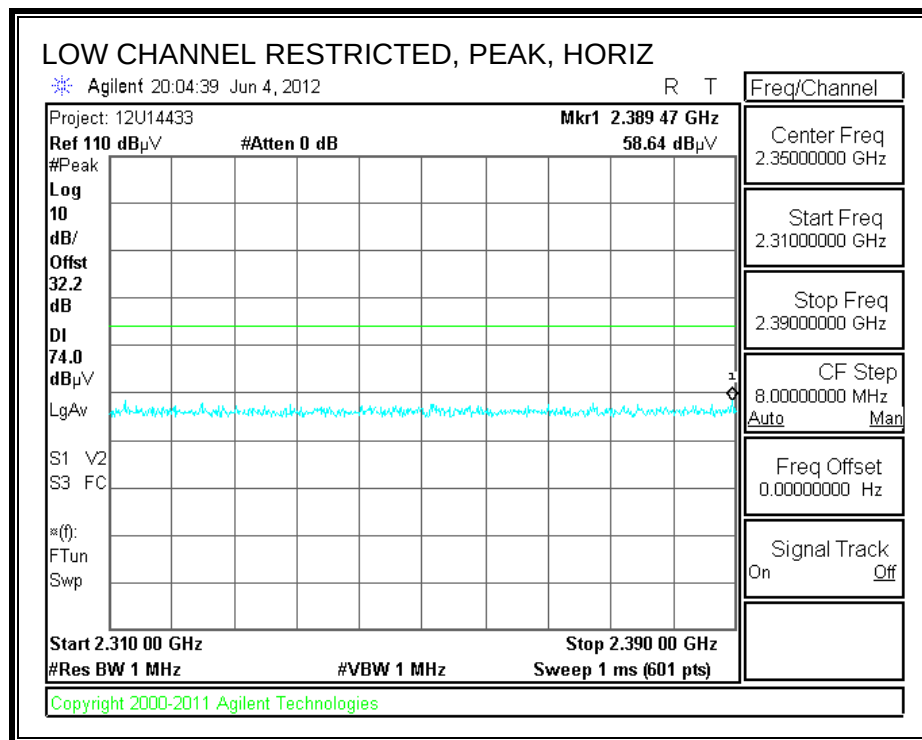
| f<br>GHz              | Dist<br>(m) | Read<br>dBuV | AF<br>dB/m | CL<br>dB | Amp<br>dB | D Corr<br>dB | Fltr<br>dB | Corr.<br>dBuV/m | Limit<br>dBuV/m | Margin<br>dB | Ant. Pol.<br>V/H | Det.<br>P/A/QP | Notes |
|-----------------------|-------------|--------------|------------|----------|-----------|--------------|------------|-----------------|-----------------|--------------|------------------|----------------|-------|
| <b>2402 MHz DQPSK</b> |             |              |            |          |           |              |            |                 |                 |              |                  |                |       |
| 4.804                 | 3.0         | 45.0         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 49.5            | 74.0            | -24.5        | V                | P              |       |
| 4.804                 | 3.0         | 33.3         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 37.9            | 54.0            | -16.1        | V                | A              |       |
| 4.804                 | 3.0         | 47.2         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 51.7            | 74.0            | -22.3        | H                | P              |       |
| 4.804                 | 3.0         | 34.7         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 39.3            | 54.0            | -14.7        | H                | A              |       |
| <b>2441 MHz DQPSK</b> |             |              |            |          |           |              |            |                 |                 |              |                  |                |       |
| 4.882                 | 3.0         | 44.9         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 49.6            | 74.0            | -24.4        | H                | P              |       |
| 4.882                 | 3.0         | 33.3         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 38.0            | 54.0            | -16.0        | H                | A              |       |
| 4.882                 | 3.0         | 42.0         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 46.7            | 74.0            | -27.3        | V                | P              |       |
| 4.882                 | 3.0         | 31.4         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 36.0            | 54.0            | -18.0        | V                | A              |       |
| <b>2480 MHz DQPSK</b> |             |              |            |          |           |              |            |                 |                 |              |                  |                |       |
| 4.960                 | 3.0         | 43.8         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0        | 48.6            | 74.0            | -25.4        | V                | P              |       |
| 4.960                 | 3.0         | 32.5         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0        | 37.3            | 54.0            | -16.7        | V                | A              |       |
| 4.960                 | 3.0         | 46.1         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0        | 50.9            | 74.0            | -23.1        | H                | P              |       |
| 4.960                 | 3.0         | 33.9         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0        | 38.7            | 54.0            | -15.3        | H                | A              |       |

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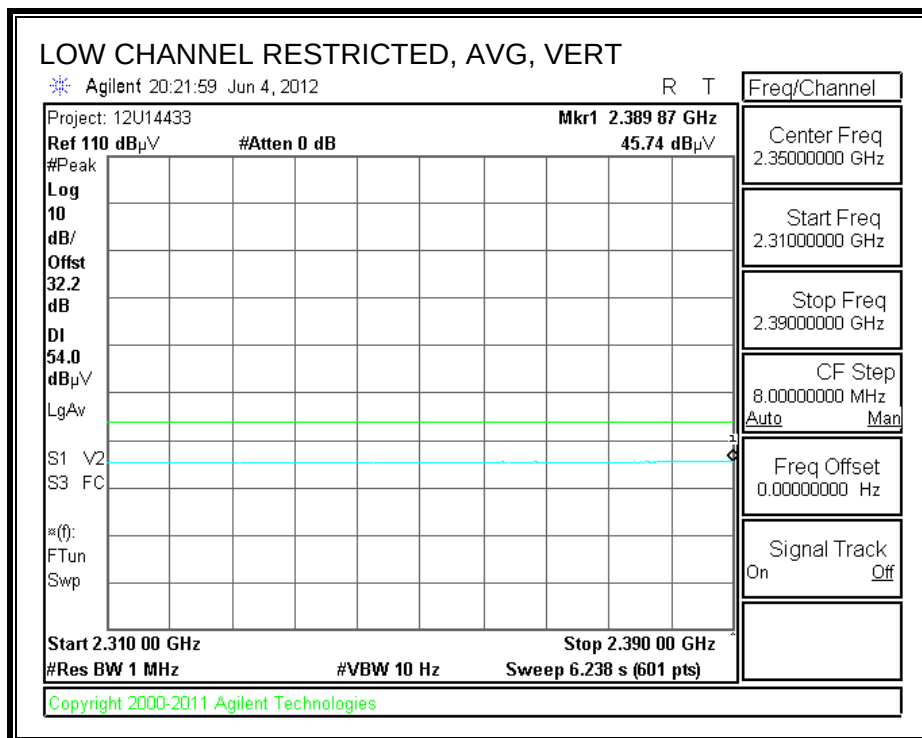
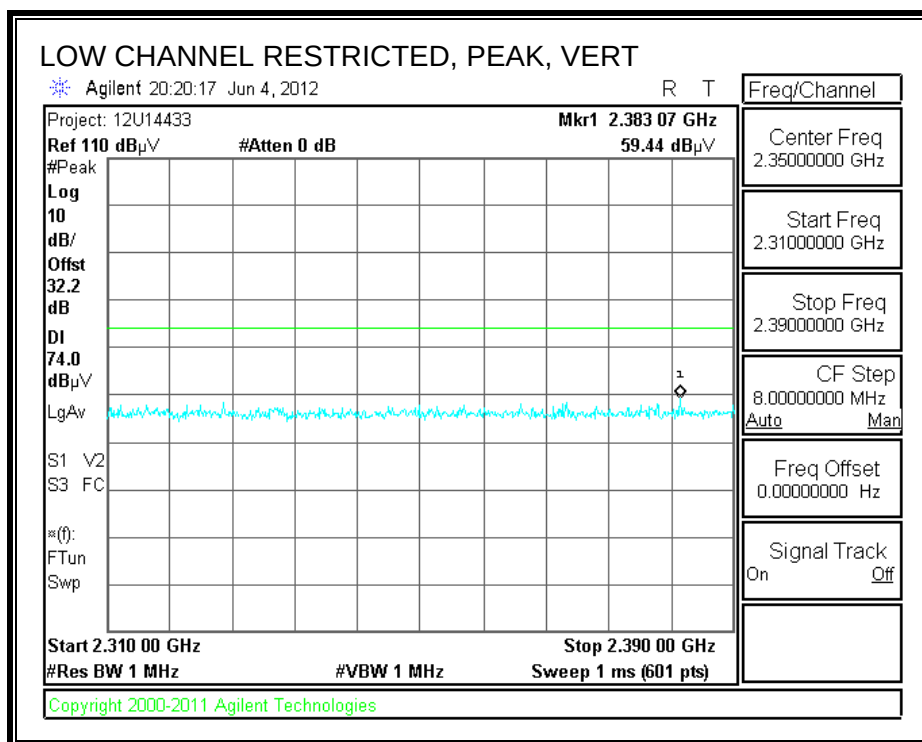
Note: No other emissions were detected above the system noise floor.

# **INDUCTIVE CHARGER AND INDUCTIVE COVER**

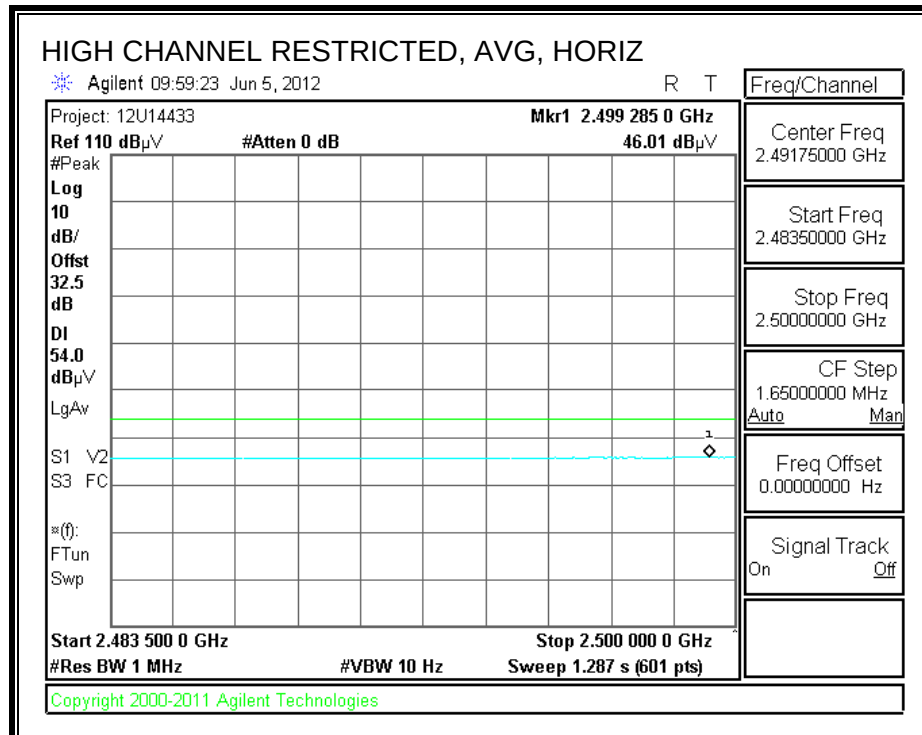
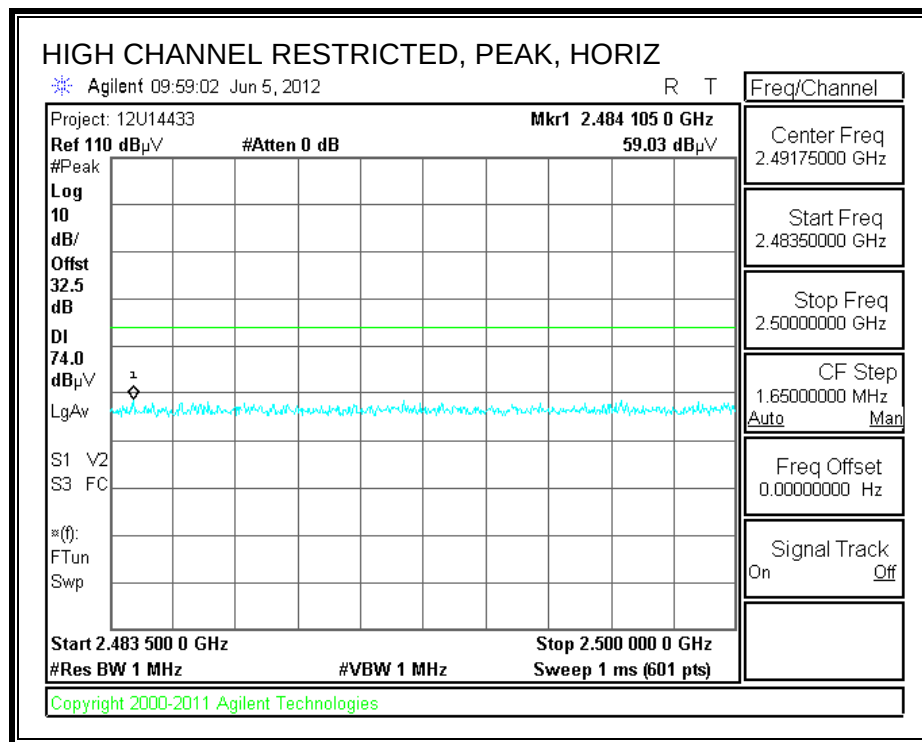
## **RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)**



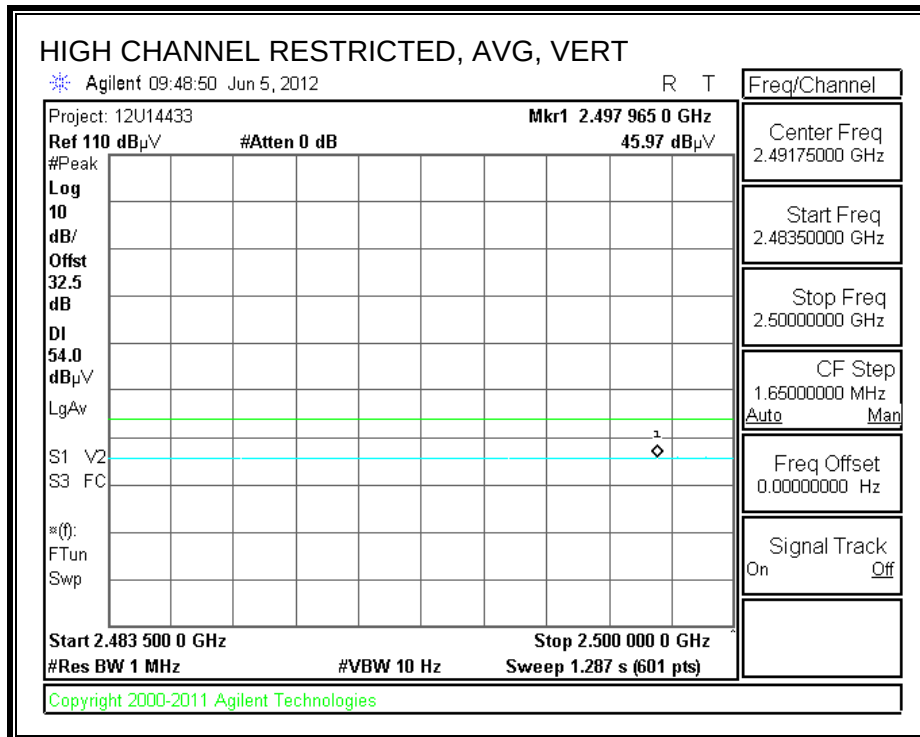
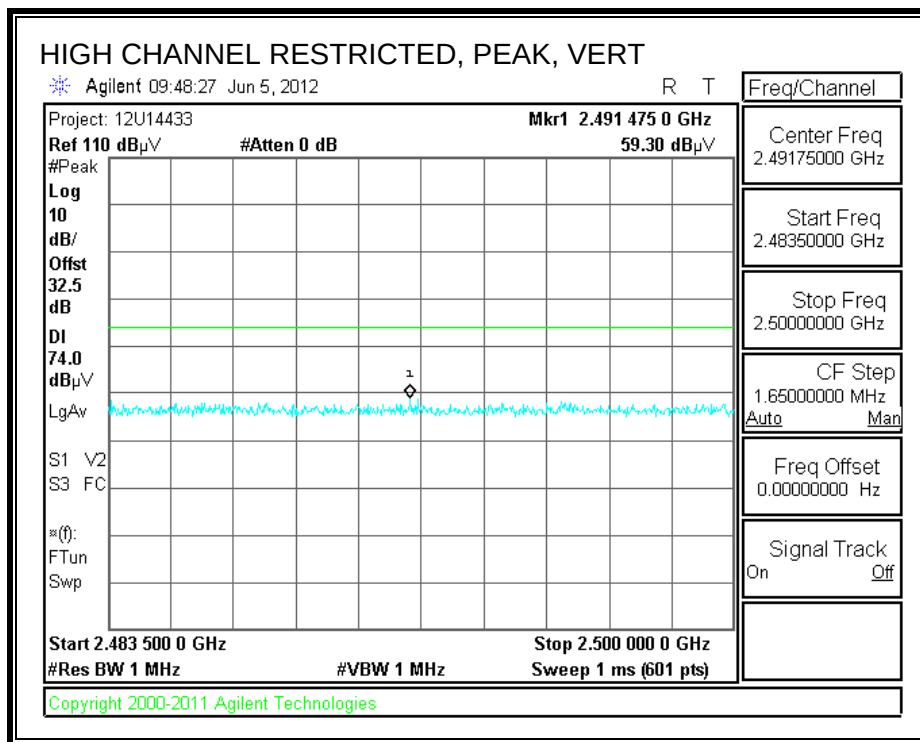
**RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)**



# HARMONICS AND SPURIOUS EMISSIONS

## High Frequency Measurement

Compliance Certification Services, Fremont 5m Chamber

Test Engr: Tom Chen  
Date: 06/05/12  
Project #: 12U14433  
Company: LG Electronics Inc.  
Test Target: FCC Class B  
Mode Oper: Bluetooth DQPSK, TX mode

f Measurement Frequency Amp Preamp Gain Average Field Strength Limit  
Dist Distance to Antenna D Corr Distance Correct to 3 meters Peak Field Strength Limit  
Read Analyzer Reading Avg Average Field Strength @ 3 m Margin vs. Average Limit  
AF Antenna Factor Peak Calculated Peak Field Strength Margin vs. Peak Limit  
CL Cable Loss HPF High Pass Filter

| f<br>GHz              | Dist<br>(m) | Read<br>dBuV | AF<br>dB/m | CL<br>dB | Amp<br>dB | D Corr<br>dB | Filtr<br>dB | Corr.<br>dBuV/m | Limit<br>dBuV/m | Margin<br>dB | Ant. Pol.<br>V/H | Det.<br>P/A/QP | Notes |
|-----------------------|-------------|--------------|------------|----------|-----------|--------------|-------------|-----------------|-----------------|--------------|------------------|----------------|-------|
| <b>2402 MHz DQPSK</b> |             |              |            |          |           |              |             |                 |                 |              |                  |                |       |
| 4.804                 | 3.0         | 38.9         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 43.4            | 74.0            | -30.6        | H                | P              |       |
| 4.804                 | 3.0         | 27.1         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 31.7            | 54.0            | -22.3        | H                | A              |       |
| 4.804                 | 3.0         | 40.5         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 45.0            | 74.0            | -29.0        | V                | P              |       |
| 4.804                 | 3.0         | 28.7         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 33.2            | 54.0            | -20.8        | V                | A              |       |
| <b>2441 MHz DQPSK</b> |             |              |            |          |           |              |             |                 |                 |              |                  |                |       |
| 4.882                 | 3.0         | 39.8         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 44.4            | 74.0            | -29.6        | V                | P              |       |
| 4.882                 | 3.0         | 28.7         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 33.4            | 54.0            | -20.6        | V                | A              |       |
| 4.882                 | 3.0         | 38.7         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 43.4            | 74.0            | -30.6        | H                | P              |       |
| 4.882                 | 3.0         | 26.7         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 31.3            | 54.0            | -22.7        | H                | A              |       |
| <b>2480 MHz DQPSK</b> |             |              |            |          |           |              |             |                 |                 |              |                  |                |       |
| 4.960                 | 3.0         | 40.5         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0         | 45.3            | 74.0            | -28.7        | V                | P              |       |
| 4.960                 | 3.0         | 30.0         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0         | 34.8            | 54.0            | -19.2        | V                | A              |       |
| 4.960                 | 3.0         | 39.5         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0         | 44.3            | 74.0            | -29.7        | H                | P              |       |
| 4.960                 | 3.0         | 27.0         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0         | 31.7            | 54.0            | -22.3        | H                | A              |       |

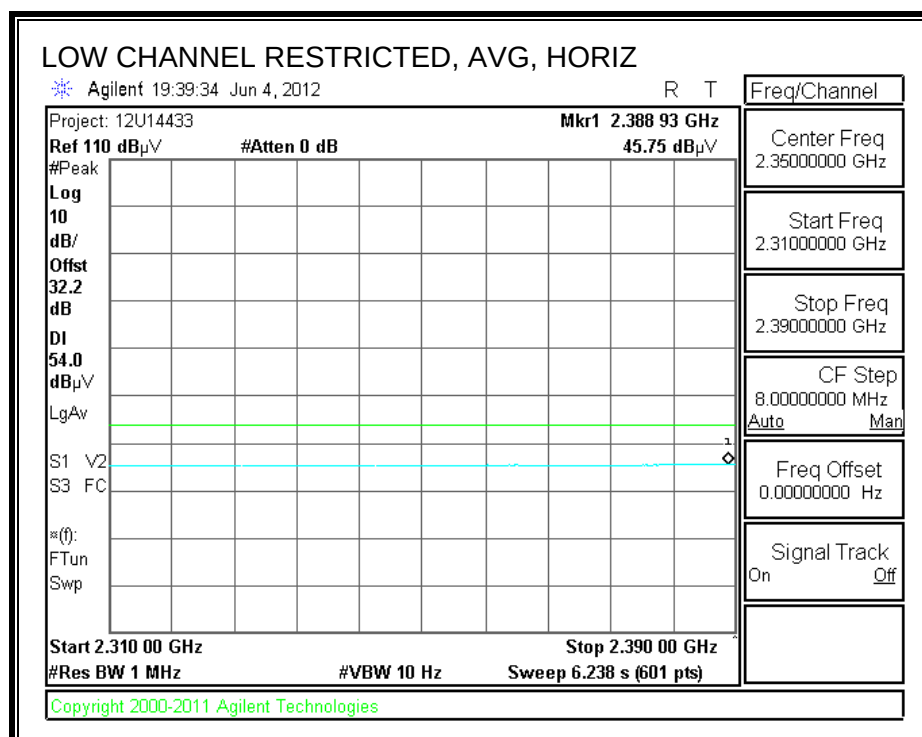
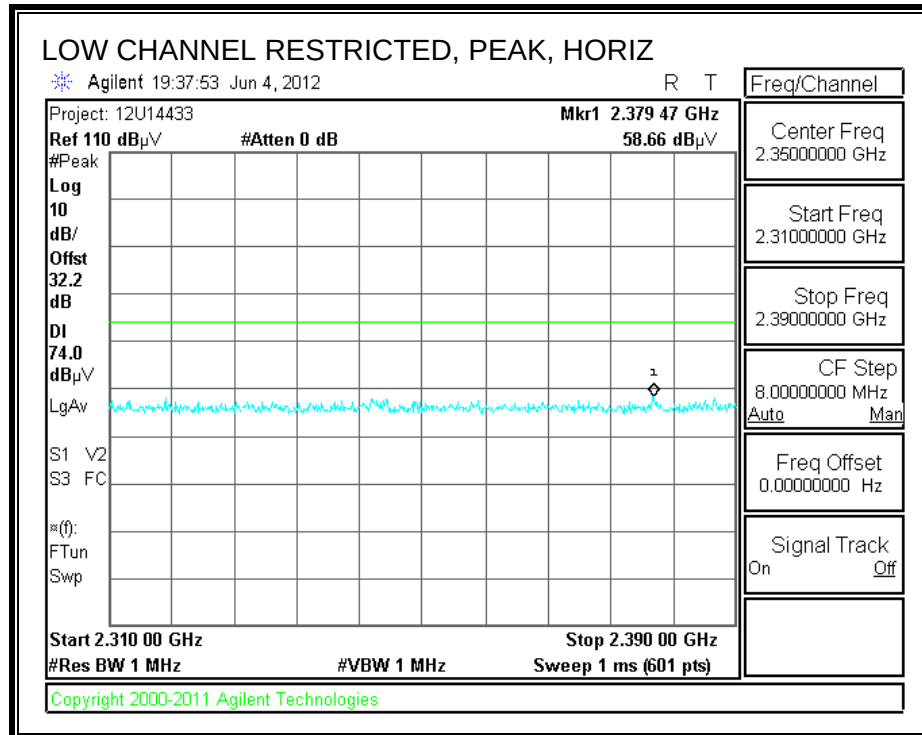
Rev. 4.1.2.7

Note: No other emissions were detected above the system noise floor.

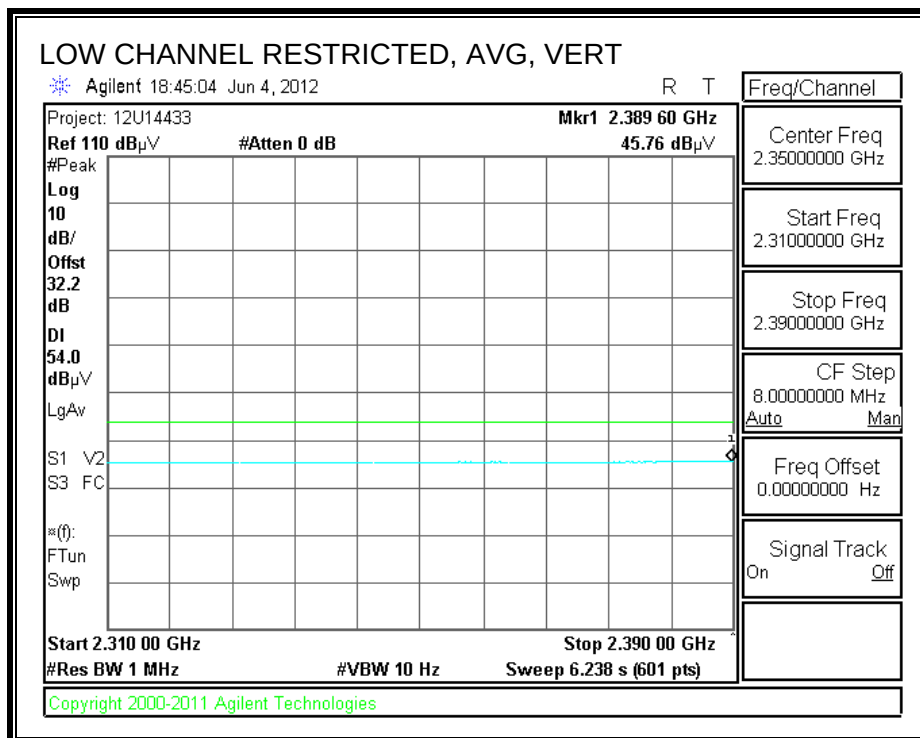
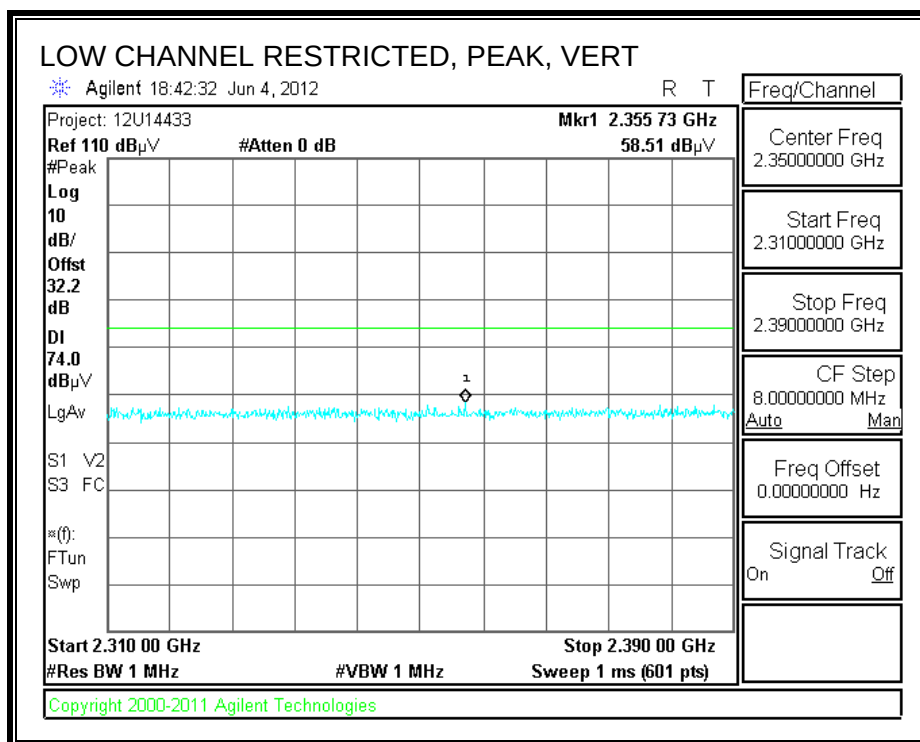
### 6.2.3. ENHANCED DATA RATE 8PSK MODULATION

#### STANDARD COVER

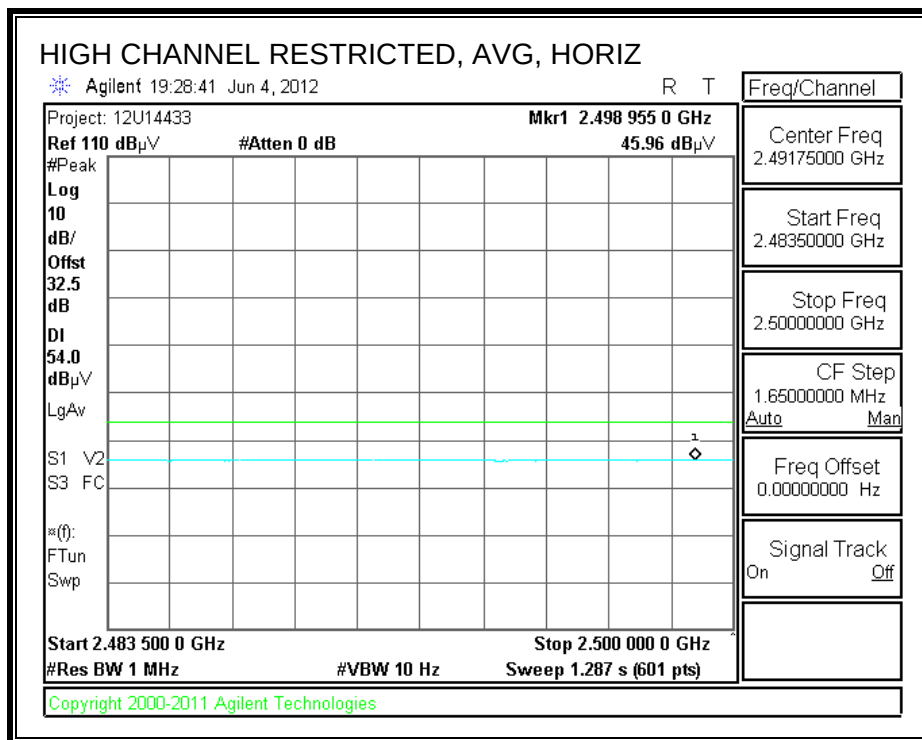
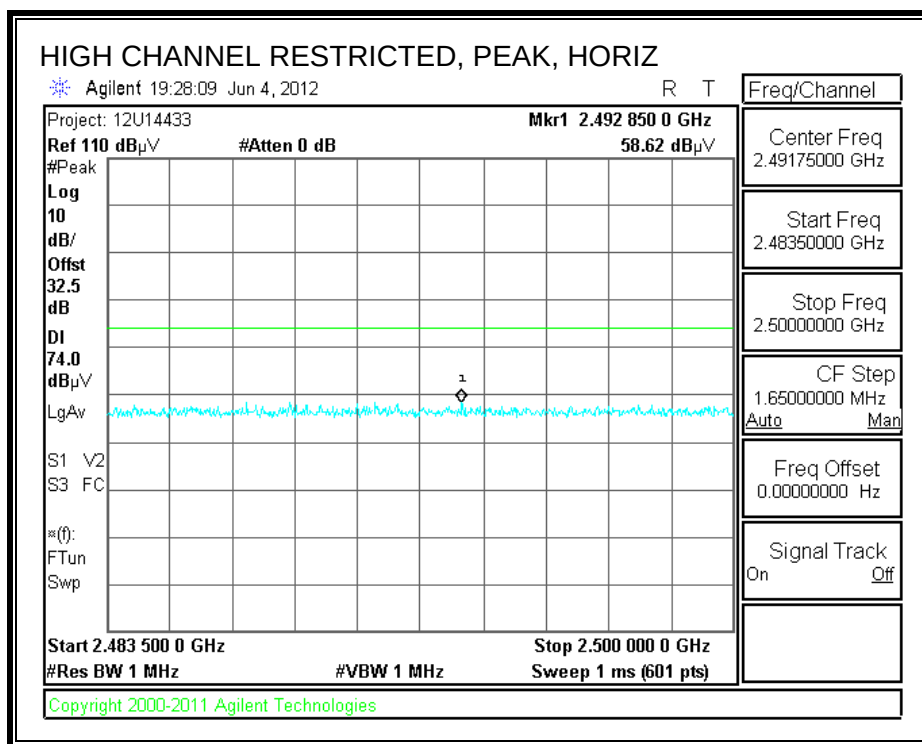
#### RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



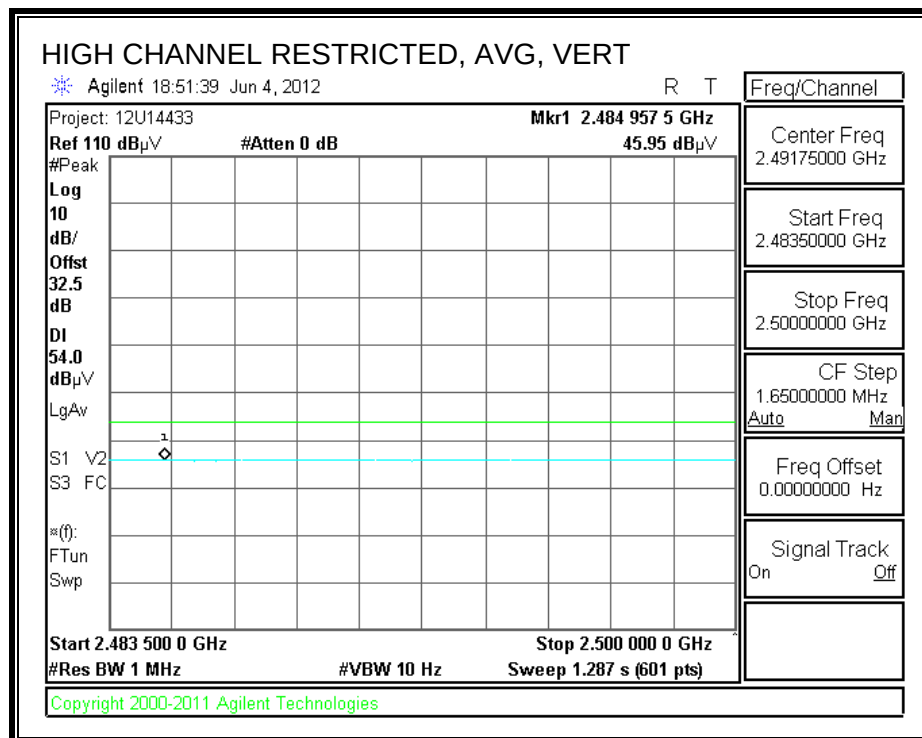
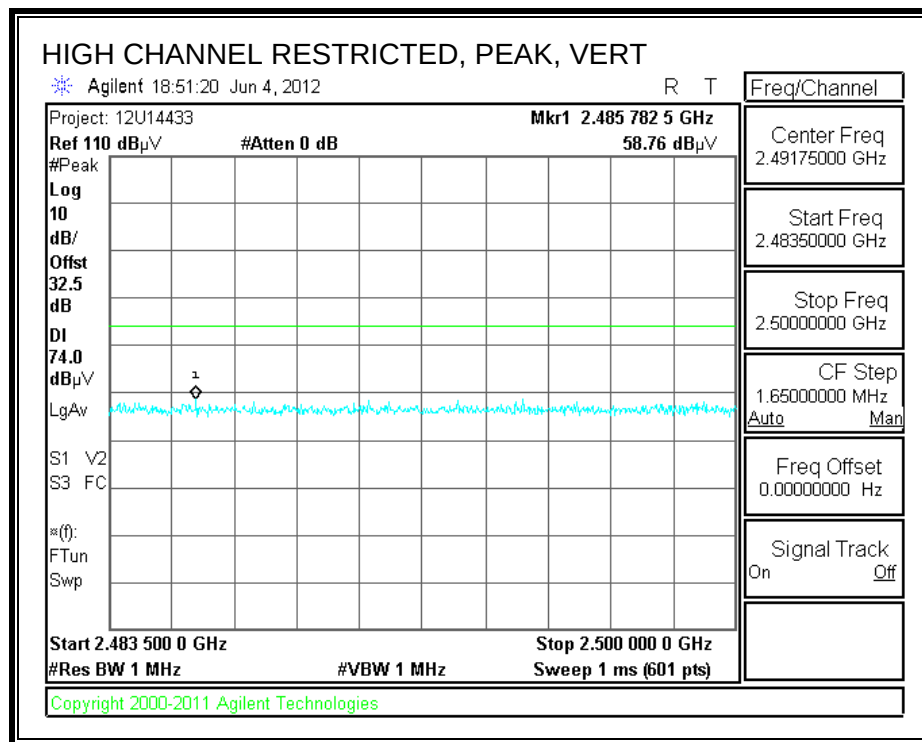
**RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)**



# HARMONICS AND SPURIOUS EMISSIONS

## High Frequency Measurement

Compliance Certification Services, Fremont 5m Chamber

Test Engr: Tom Chen  
Date: 06/05/12  
Project #: 12U14433  
Company: LG Electronics Inc.  
Test Target: FCC Class B  
Mode Oper: Bluetooth 8PSK, TX mode

f Measurement Frequency Amp Preamp Gain Average Field Strength Limit  
Dist Distance to Antenna D Corr Distance Correct to 3 meters Peak Field Strength Limit  
Read Analyzer Reading Avg Average Field Strength @ 3 m Margin vs. Average Limit  
AF Antenna Factor Peak Calculated Peak Field Strength Margin vs. Peak Limit  
CL Cable Loss HPF High Pass Filter

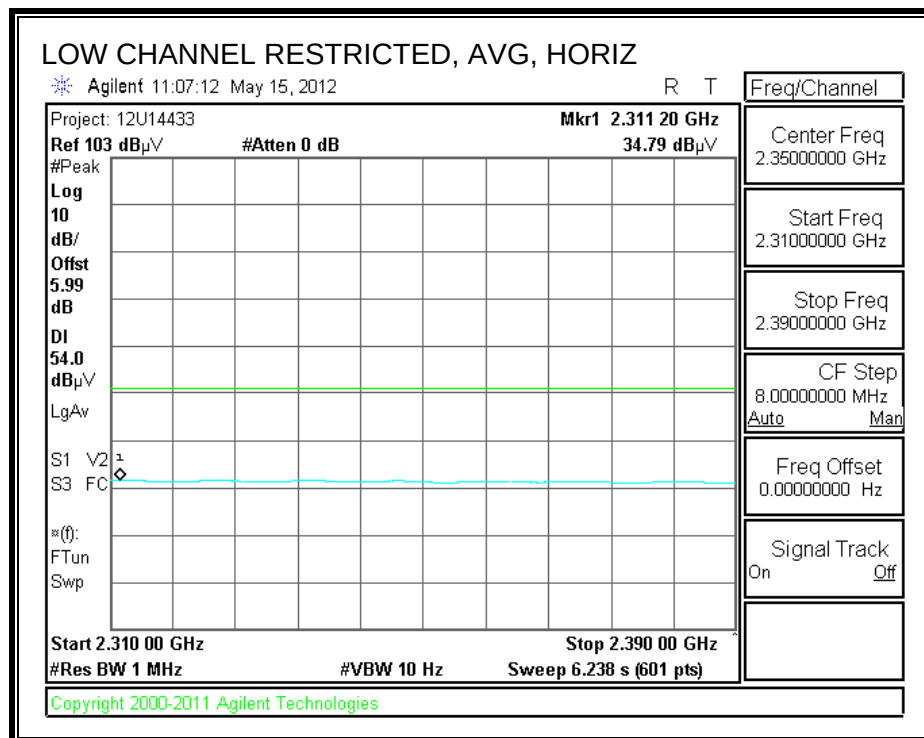
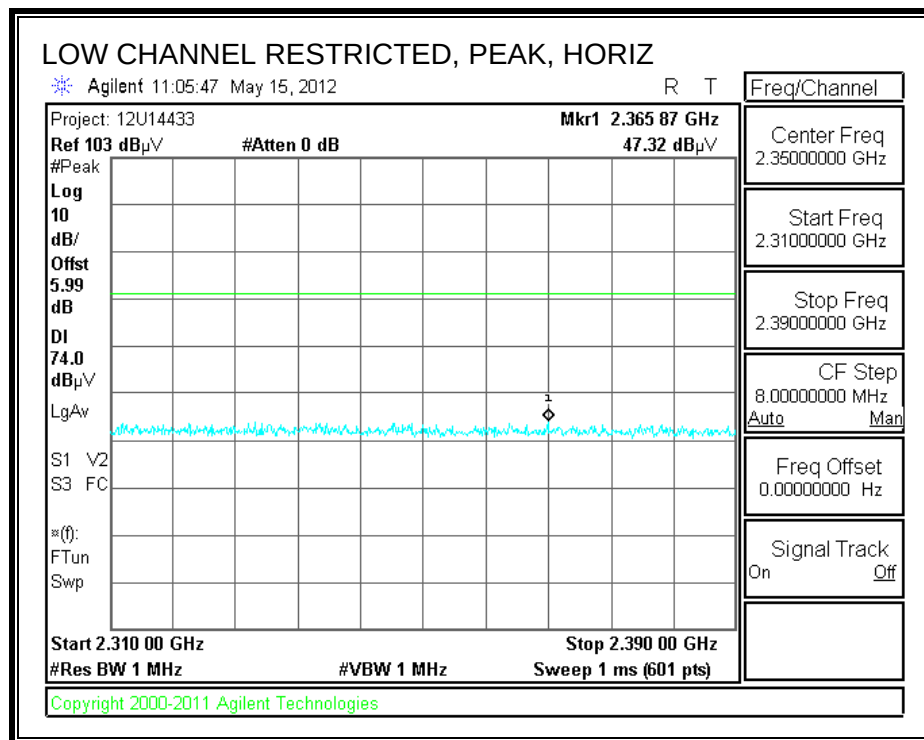
| f<br>GHz             | Dist<br>(m) | Read<br>dBuV | AF<br>dB/m | CL<br>dB | Amp<br>dB | D Corr<br>dB | Fltr<br>dB | Corr.<br>dBuV/m | Limit<br>dBuV/m | Margin<br>dB | Ant. Pol.<br>V/H | Det.<br>P/A/QP | Notes |
|----------------------|-------------|--------------|------------|----------|-----------|--------------|------------|-----------------|-----------------|--------------|------------------|----------------|-------|
| <b>2402 MHz 8PSK</b> |             |              |            |          |           |              |            |                 |                 |              |                  |                |       |
| 4.804                | 3.0         | 43.0         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 47.6            | 74.0            | -26.4        | V                | P              |       |
| 4.804                | 3.0         | 30.9         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 35.4            | 54.0            | -18.6        | V                | A              |       |
| 4.804                | 3.0         | 45.9         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 50.4            | 74.0            | -23.6        | H                | P              |       |
| 4.804                | 3.0         | 32.6         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 37.2            | 54.0            | -16.8        | H                | A              |       |
| <b>2441 MHz 8PSK</b> |             |              |            |          |           |              |            |                 |                 |              |                  |                |       |
| 4.882                | 3.0         | 44.5         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 49.1            | 74.0            | -24.9        | H                | P              |       |
| 4.882                | 3.0         | 31.4         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 36.0            | 54.0            | -18.0        | H                | A              |       |
| 4.882                | 3.0         | 41.3         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 45.9            | 74.0            | -28.1        | V                | P              |       |
| 4.882                | 3.0         | 29.2         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0        | 33.8            | 54.0            | -20.2        | V                | A              |       |
| <b>2480 MHz 8PSK</b> |             |              |            |          |           |              |            |                 |                 |              |                  |                |       |
| 4.960                | 3.0         | 44.3         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0        | 49.0            | 74.0            | -25.0        | H                | P              |       |
| 4.960                | 3.0         | 31.8         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0        | 36.6            | 54.0            | -17.4        | H                | A              |       |
| 4.960                | 3.0         | 42.8         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0        | 47.6            | 74.0            | -26.4        | V                | P              |       |
| 4.960                | 3.0         | 30.5         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0        | 35.2            | 54.0            | -18.8        | V                | A              |       |

Rev. 4.1.2.7

Note: No other emissions were detected above the system noise floor.

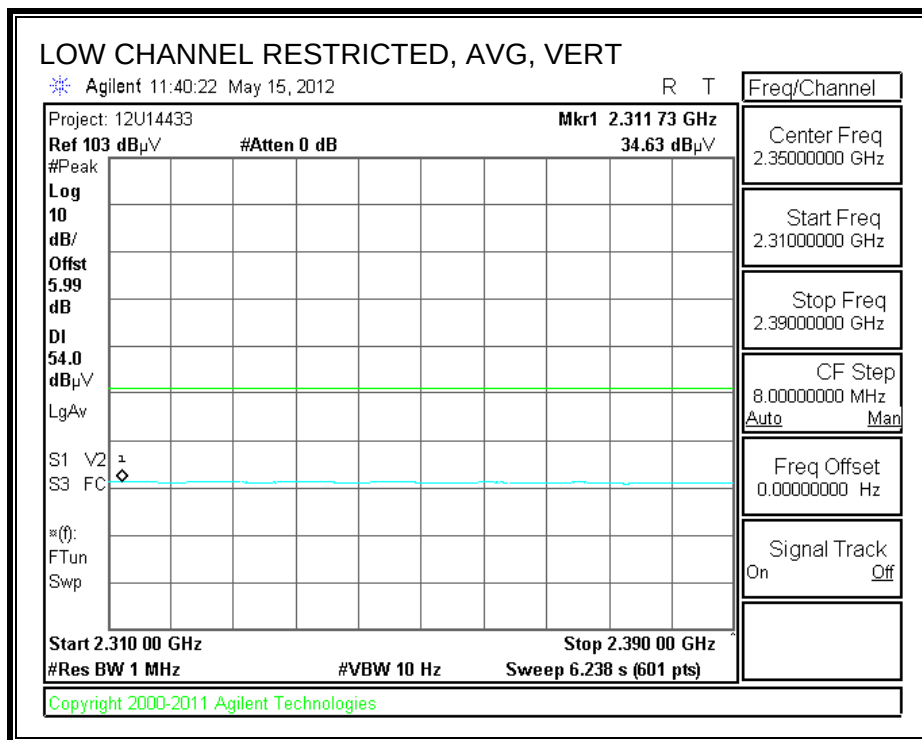
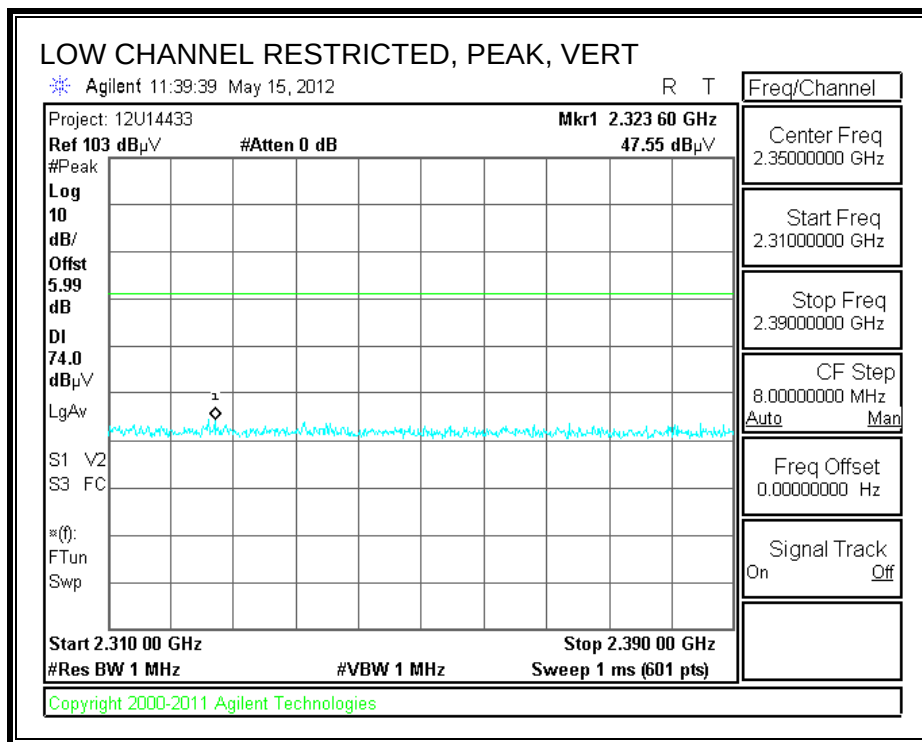
## INDUCTIVE COVER

### RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

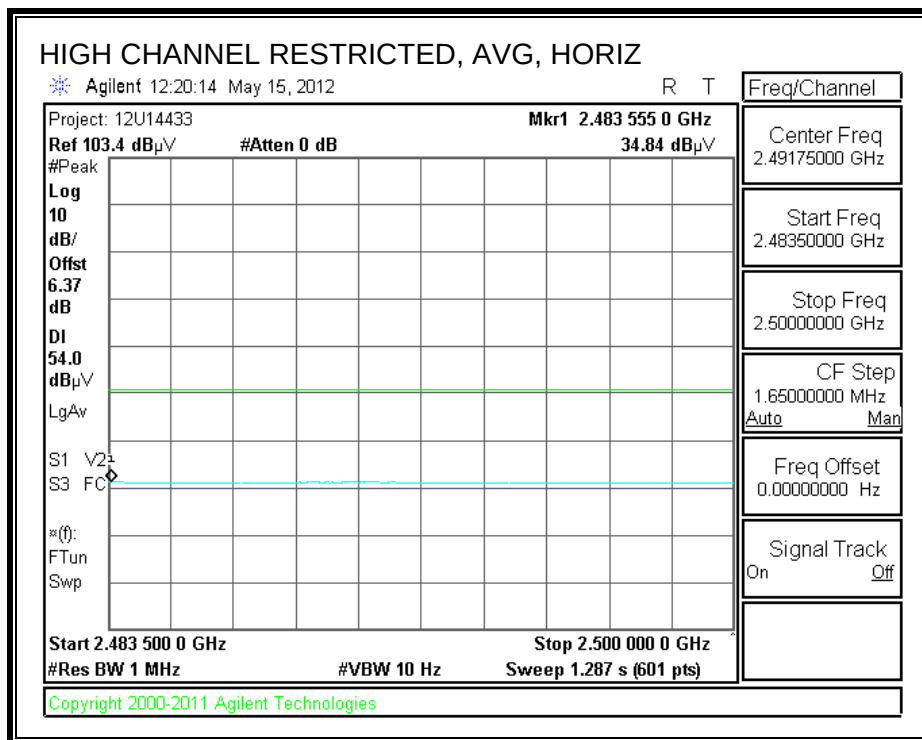
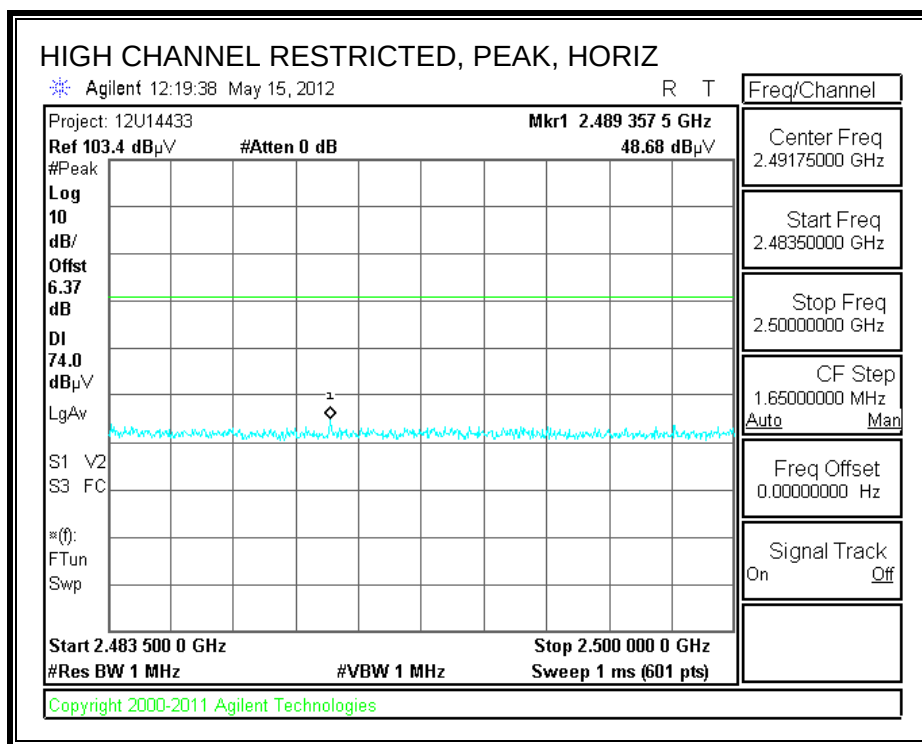




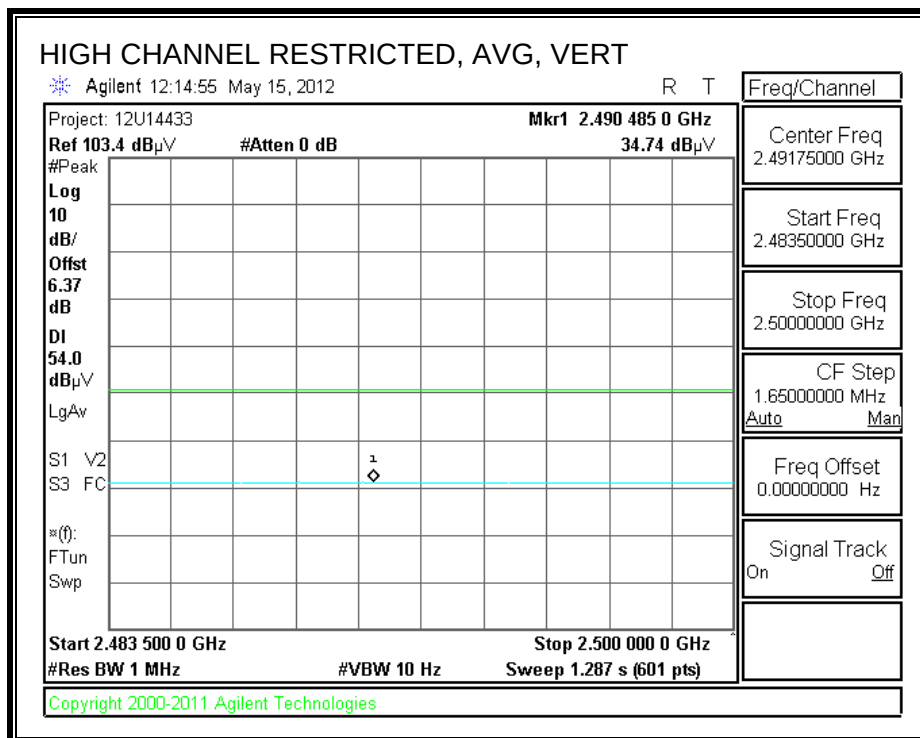
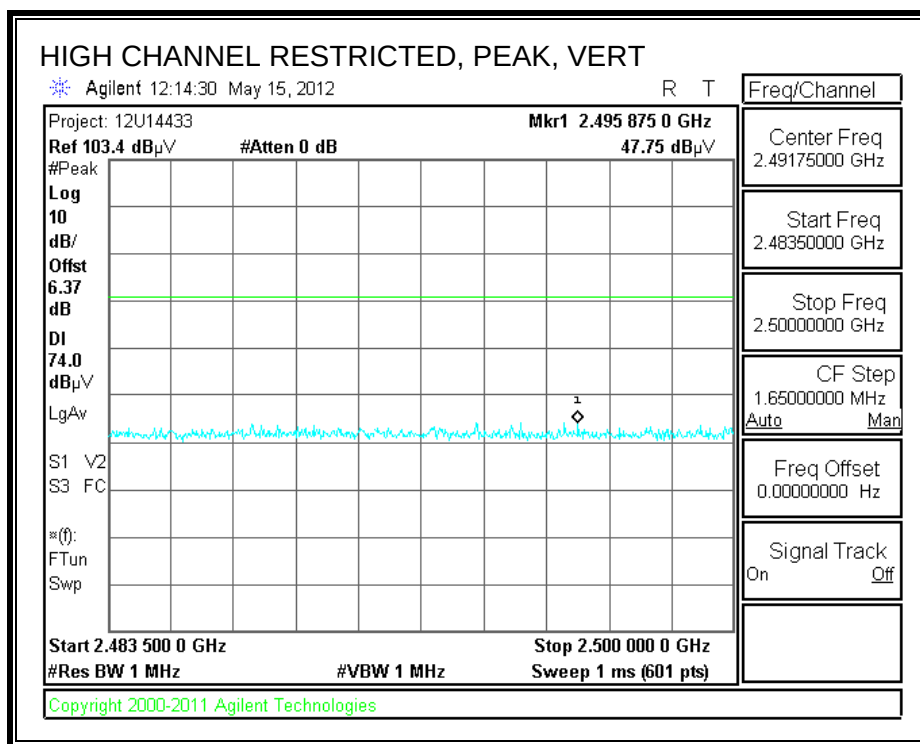
**RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)**



# HARMONICS AND SPURIOUS EMISSIONS

## High Frequency Measurement

Compliance Certification Services, Fremont 5m Chamber

Test Engr: Tom Chen  
Date: 06/05/12  
Project #: 12U14433  
Company: LG Electronics Inc.  
Test Target: FCC Class B  
Mode Oper: Bluetooth 8PSK, TX mode

f Measurement Frequency Amp Preamp Gain Average Field Strength Limit  
Dist Distance to Antenna D Corr Distance Correct to 3 meters Peak Field Strength Limit  
Read Analyzer Reading Avg Average Field Strength @ 3 m Margin vs. Average Limit  
AF Antenna Factor Peak Calculated Peak Field Strength Margin vs. Peak Limit  
CL Cable Loss HPF High Pass Filter

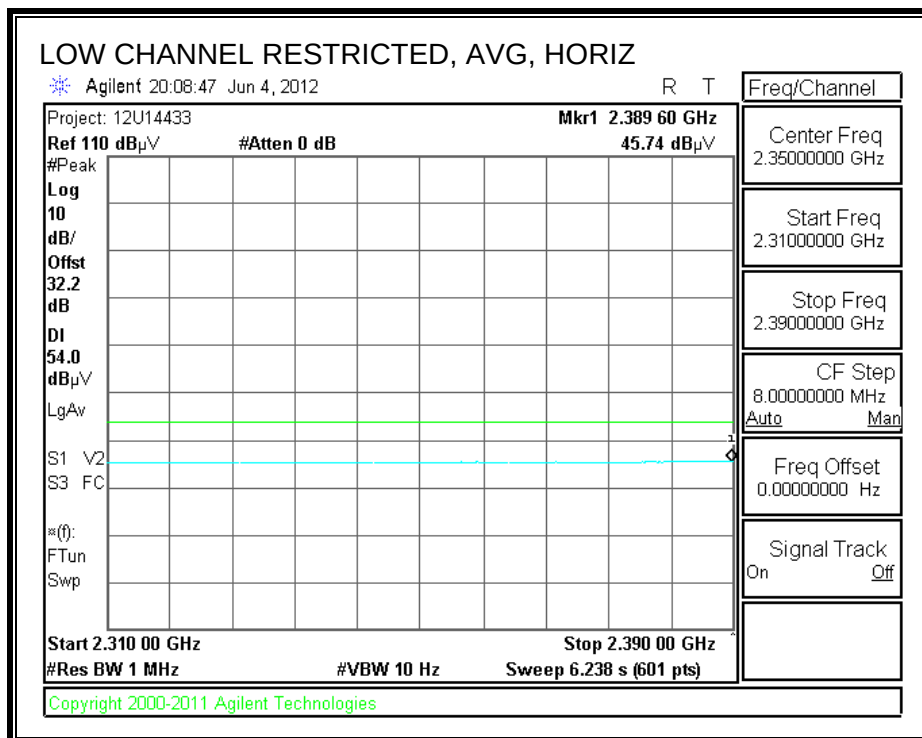
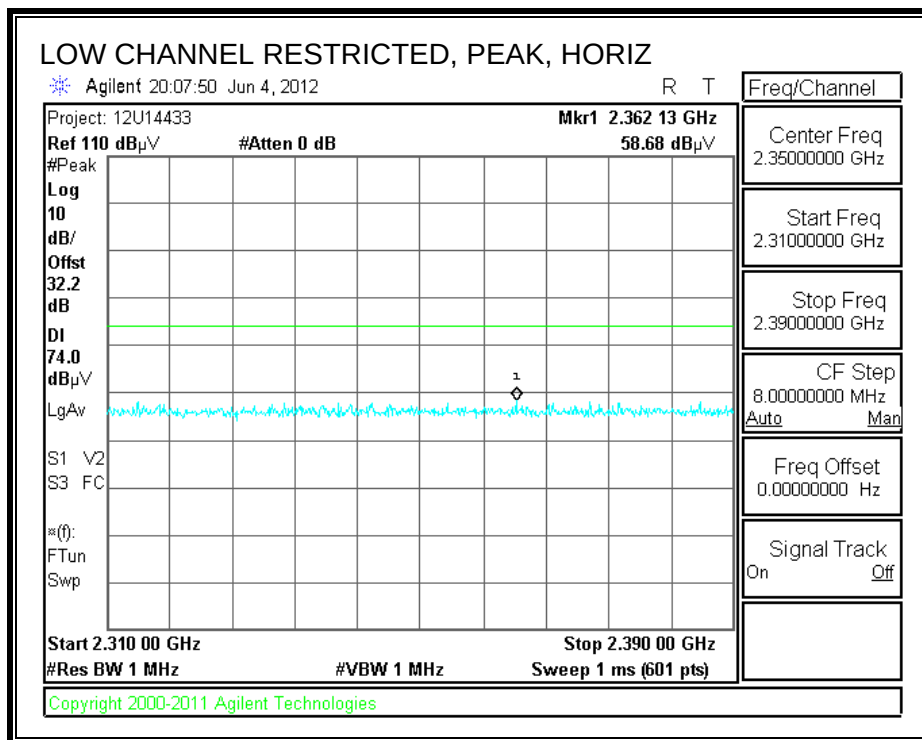
| f<br>CHz             | Dist<br>(m) | Read<br>dBuV | AF<br>dB/m | CL<br>dB | Amp<br>dB | D Corr<br>dB | Filtr<br>dB | Corr.<br>dBuV/m | Limit<br>dBuV/m | Margin<br>dB | Ant. Pol.<br>V/H | Det.<br>P/A/QP | Notes |
|----------------------|-------------|--------------|------------|----------|-----------|--------------|-------------|-----------------|-----------------|--------------|------------------|----------------|-------|
| <b>2402 MHz 8PSK</b> |             |              |            |          |           |              |             |                 |                 |              |                  |                |       |
| 4.804                | 3.0         | 44.4         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 48.9            | 74.0            | -25.1        | V                | P              |       |
| 4.804                | 3.0         | 32.2         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 36.8            | 54.0            | -17.2        | V                | A              |       |
| 4.804                | 3.0         | 47.2         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 51.7            | 74.0            | -22.3        | H                | P              |       |
| 4.804                | 3.0         | 34.0         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 38.5            | 54.0            | -15.5        | H                | A              |       |
| <b>2441 MHz 8PSK</b> |             |              |            |          |           |              |             |                 |                 |              |                  |                |       |
| 4.882                | 3.0         | 45.8         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 50.5            | 74.0            | -23.5        | H                | P              |       |
| 4.882                | 3.0         | 32.7         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 37.3            | 54.0            | -16.7        | H                | A              |       |
| 4.882                | 3.0         | 42.6         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 47.3            | 74.0            | -26.7        | V                | P              |       |
| 4.882                | 3.0         | 30.5         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 35.2            | 54.0            | -18.8        | V                | A              |       |
| <b>2480 MHz 8PSK</b> |             |              |            |          |           |              |             |                 |                 |              |                  |                |       |
| 4.960                | 3.0         | 45.6         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0         | 50.4            | 74.0            | -23.6        | H                | P              |       |
| 4.960                | 3.0         | 33.2         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0         | 38.0            | 54.0            | -16.0        | H                | A              |       |
| 4.960                | 3.0         | 44.1         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0         | 48.9            | 74.0            | -25.1        | V                | P              |       |
| 4.960                | 3.0         | 31.8         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0         | 36.6            | 54.0            | -17.4        | V                | A              |       |

Rev. 4.1.2.7

Note: No other emissions were detected above the system noise floor.

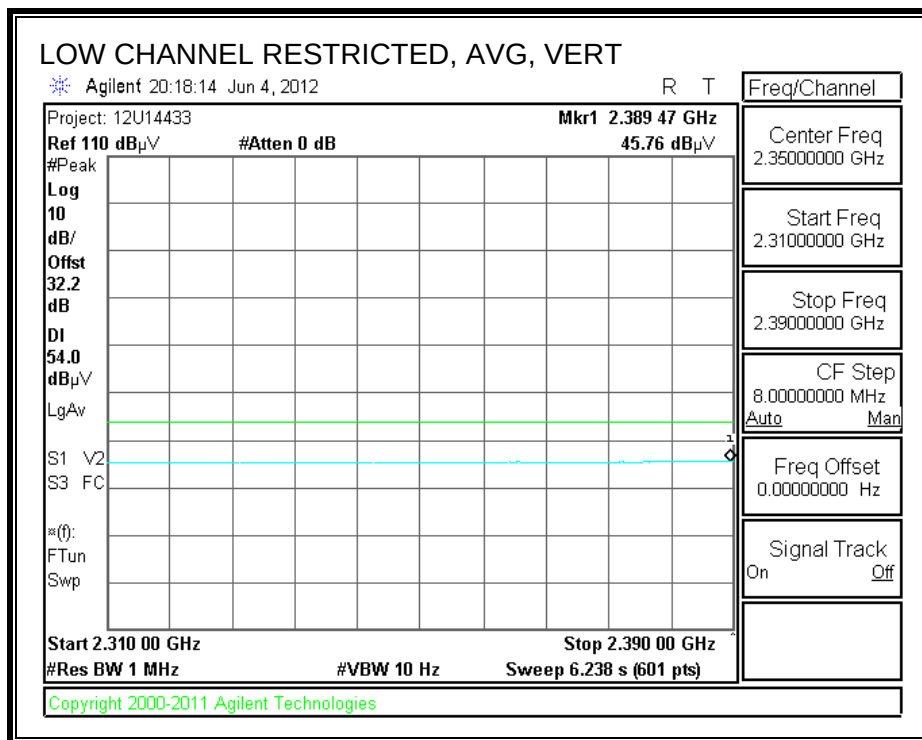
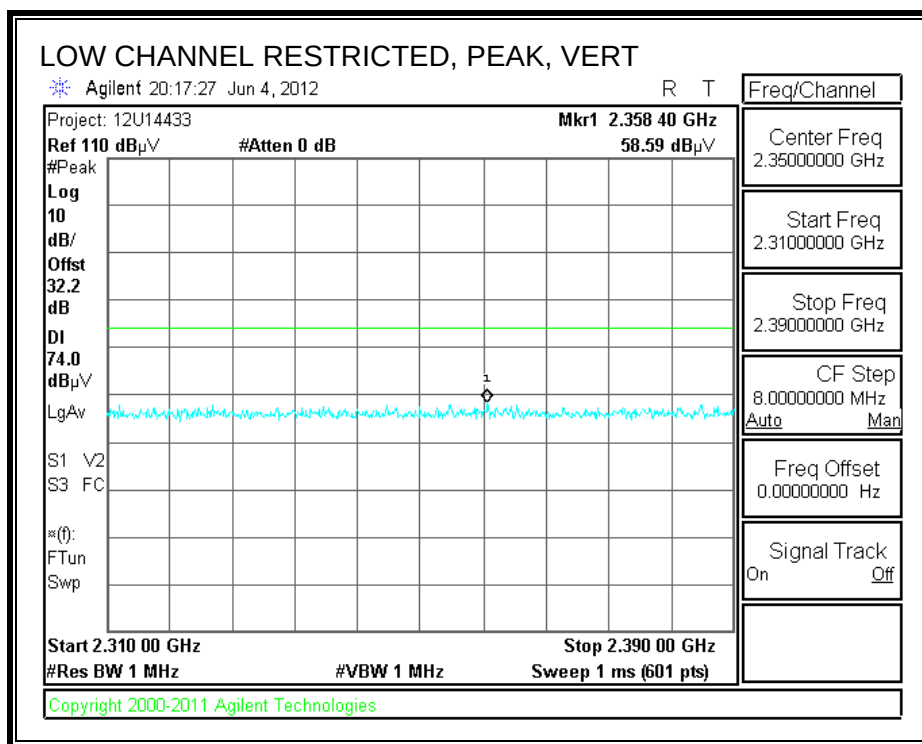
# **INDUCTIVE CHARGER AND INDUCTIVE COVER**

## **RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)**

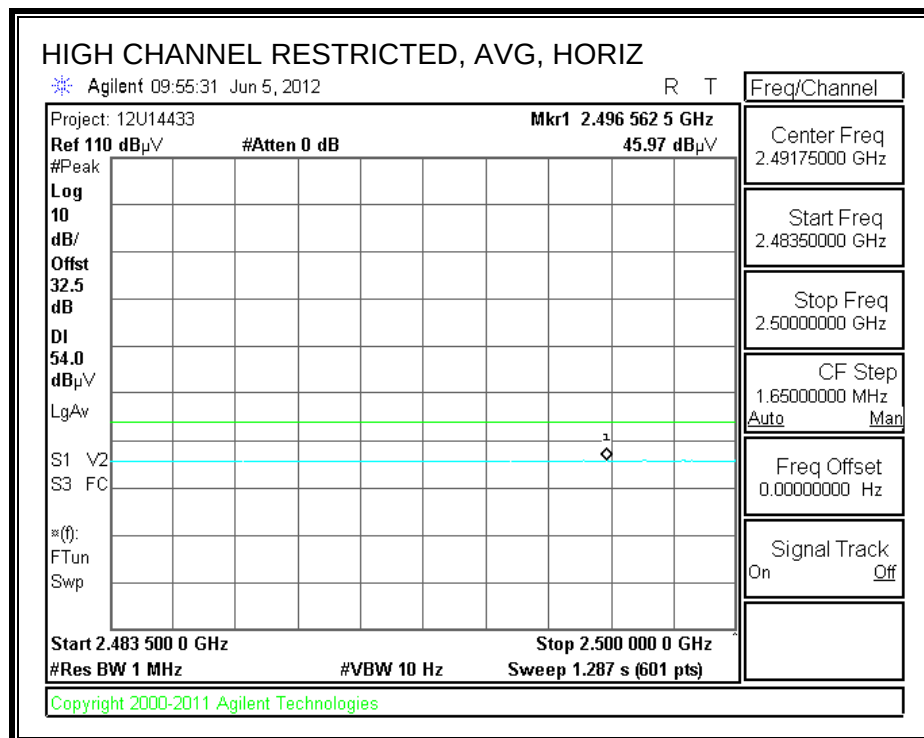
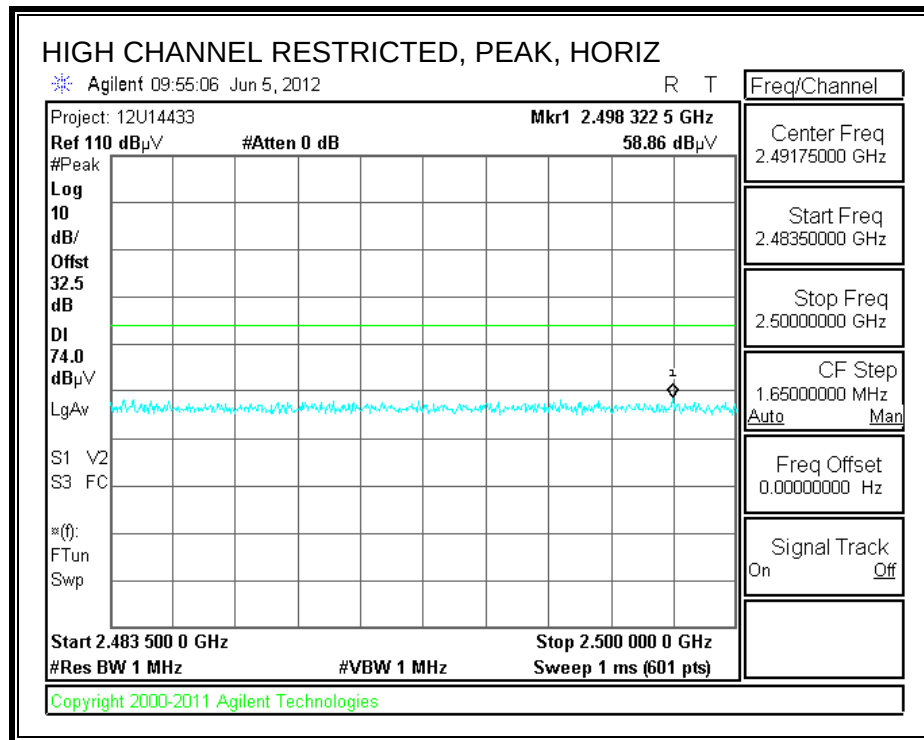




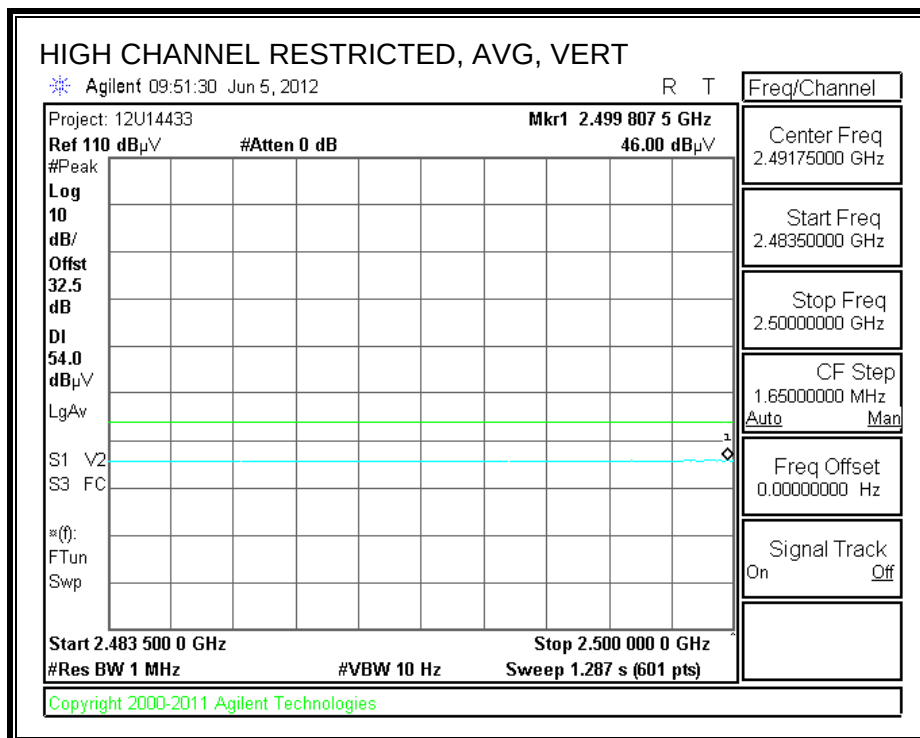
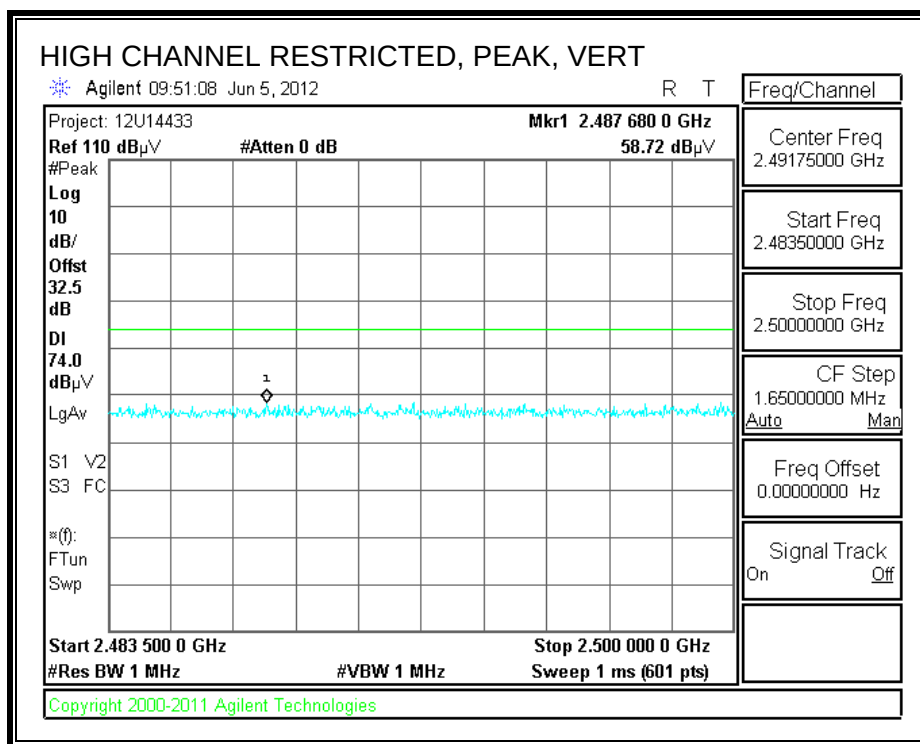
**RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)**



# HARMONICS AND SPURIOUS EMISSIONS

## High Frequency Measurement

Compliance Certification Services, Fremont 5m Chamber

Test Engr: Tom Chen  
Date: 06/05/12  
Project #: 12U14433  
Company: LG Electronics Inc.  
Test Target: FCC Class B  
Mode Oper: Bluetooth 8PSK, TX mode

|      |                       |        |                                |                              |
|------|-----------------------|--------|--------------------------------|------------------------------|
| f    | Measurement Frequency | Amp    | Preamp Gain                    | Average Field Strength Limit |
| Dist | Distance to Antenna   | D Corr | Distance Correct to 3 meters   | Peak Field Strength Limit    |
| Read | Analyzer Reading      | Avg    | Average Field Strength @ 3 m   | Margin vs. Average Limit     |
| AF   | Antenna Factor        | Peak   | Calculated Peak Field Strength | Margin vs. Peak Limit        |
| CL   | Cable Loss            | HPF    | High Pass Filter               |                              |

| f<br>GHz             | Dist<br>(m) | Read<br>dBuV | AF<br>dB/m | CL<br>dB | Amp<br>dB | D Corr<br>dB | Filtr<br>dB | Corr.<br>dBuV/m | Limit<br>dBuV/m | Margin<br>dB | Ant. Pol.<br>V/H | Det.<br>P/A/QP | Notes |
|----------------------|-------------|--------------|------------|----------|-----------|--------------|-------------|-----------------|-----------------|--------------|------------------|----------------|-------|
| <b>2402 MHz 8PSK</b> |             |              |            |          |           |              |             |                 |                 |              |                  |                |       |
| 4.804                | 3.0         | 38.8         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 43.3            | 74.0            | -30.7        | H                | P              |       |
| 4.804                | 3.0         | 27.0         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 31.5            | 54.0            | -22.5        | H                | A              |       |
| 4.804                | 3.0         | 40.4         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 45.0            | 74.0            | -29.0        | V                | P              |       |
| 4.804                | 3.0         | 28.7         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 33.2            | 54.0            | -20.8        | V                | A              |       |
| <b>2441 MHz 8PSK</b> |             |              |            |          |           |              |             |                 |                 |              |                  |                |       |
| 4.882                | 3.0         | 40.4         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 45.0            | 74.0            | -29.0        | V                | P              |       |
| 4.882                | 3.0         | 28.4         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 33.1            | 54.0            | -20.9        | V                | A              |       |
| 4.882                | 3.0         | 39.3         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 44.0            | 74.0            | -30.0        | H                | P              |       |
| 4.882                | 3.0         | 26.6         | 33.1       | 6.3      | -34.8     | 0.0          | 0.0         | 31.3            | 54.0            | -22.7        | H                | A              |       |
| <b>2480 MHz 8PSK</b> |             |              |            |          |           |              |             |                 |                 |              |                  |                |       |
| 4.960                | 3.0         | 39.8         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0         | 44.6            | 74.0            | -29.4        | H                | P              |       |
| 4.960                | 3.0         | 27.3         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0         | 32.1            | 54.0            | -21.9        | H                | A              |       |
| 4.960                | 3.0         | 41.8         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0         | 46.6            | 74.0            | -27.4        | V                | P              |       |
| 4.960                | 3.0         | 29.3         | 33.2       | 6.4      | -34.8     | 0.0          | 0.0         | 34.1            | 54.0            | -19.9        | V                | A              |       |

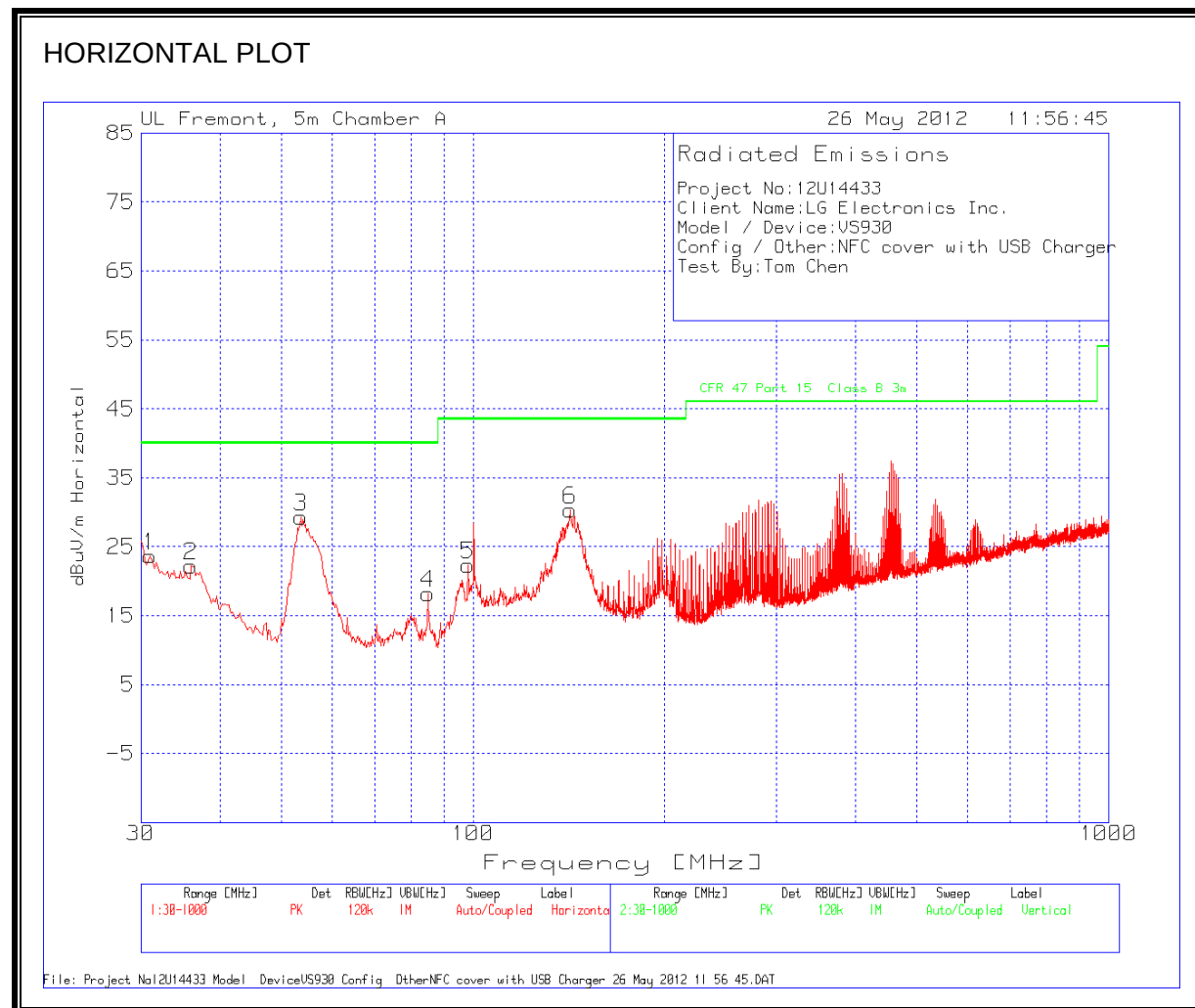
Rev. 4.1.2.7

Note: No other emissions were detected above the system noise floor.

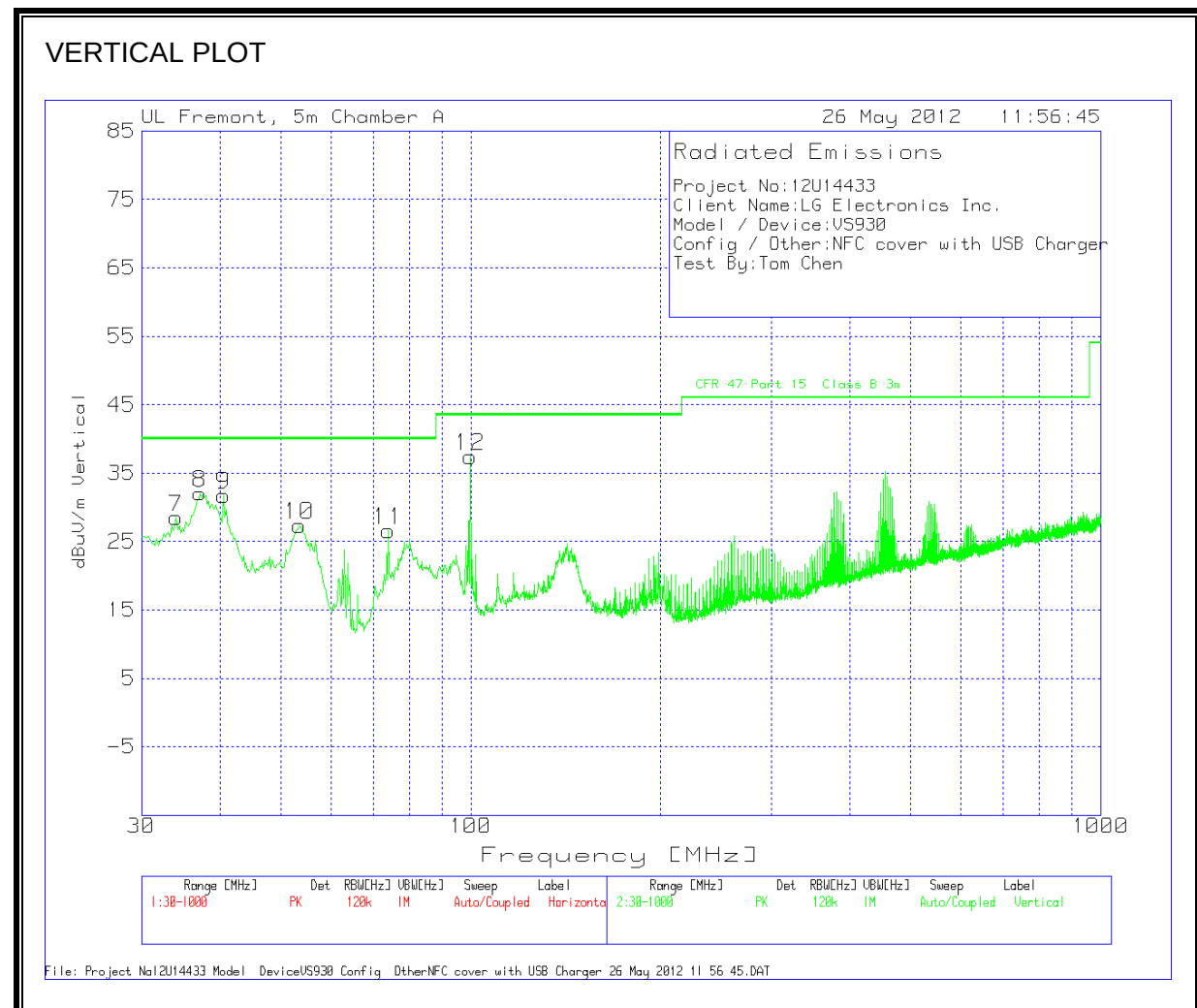
## 7. WORST-CASE BELOW 1 GHz

### STANDARD COVER

### SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)



**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)**



# HORIZONTAL AND VERTICAL DATA

|                                           |  |  |  |  |  |  |  |  |
|-------------------------------------------|--|--|--|--|--|--|--|--|
| Project No:12U14433                       |  |  |  |  |  |  |  |  |
| Client Name:LG Electronics Inc.           |  |  |  |  |  |  |  |  |
| Model / Device:VS930                      |  |  |  |  |  |  |  |  |
| Config / Other:NFC cover with USB Charger |  |  |  |  |  |  |  |  |
| Test By:Tom Chen                          |  |  |  |  |  |  |  |  |
|                                           |  |  |  |  |  |  |  |  |

## Horizontal 30 - 1000MHz

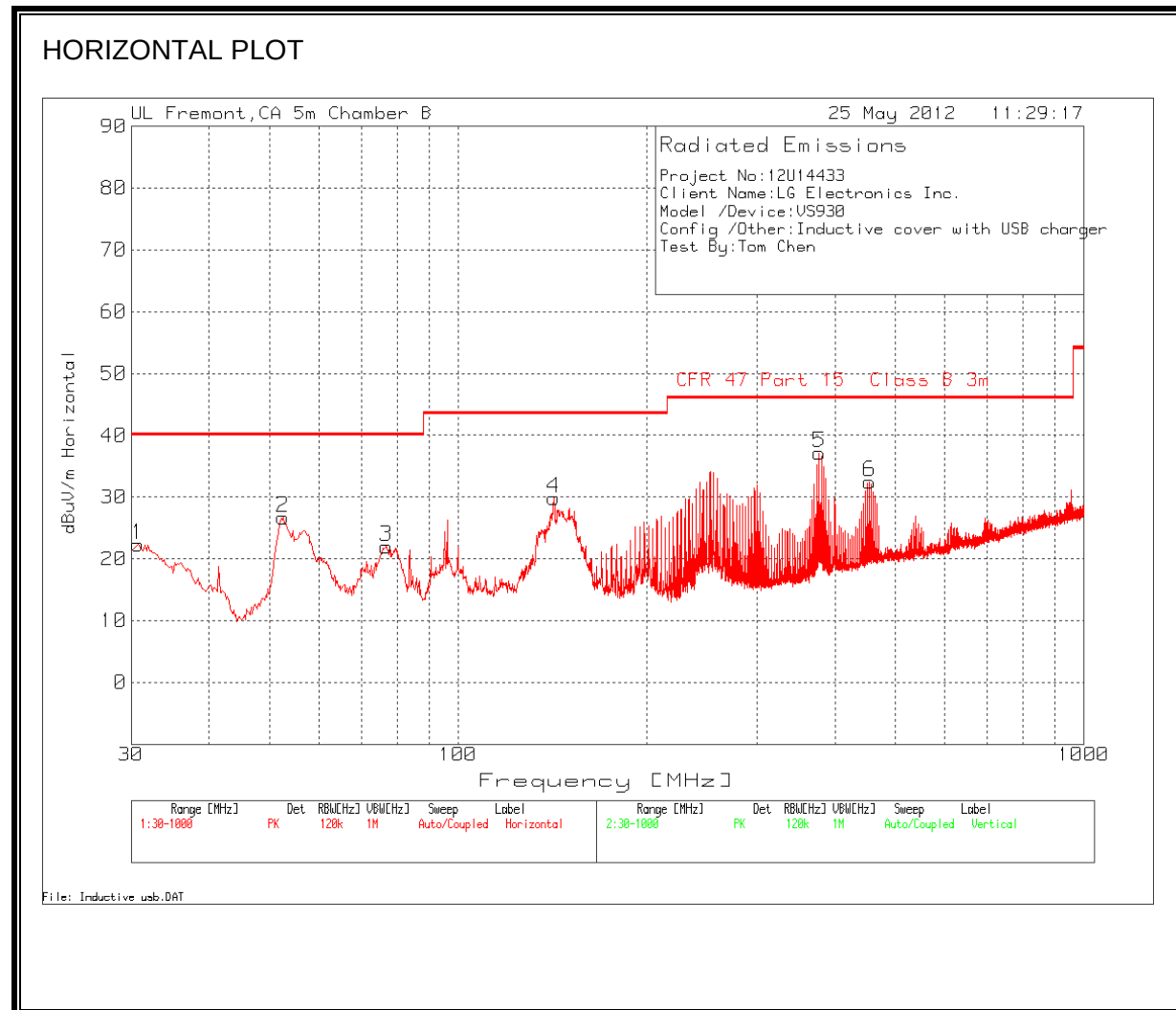
| Test Frequency | Meter Reading | Detector | 25MHz-1GHz ChmbrA Amplified.TX (dB) | T243 Sunol Bilog.TXT (dB) | dBuV/m | CFR 47 Part 15 Class B 3m | Margin | Polarity |
|----------------|---------------|----------|-------------------------------------|---------------------------|--------|---------------------------|--------|----------|
| 30.9692        | 30.79         | PK       | -27.5                               | 20.4                      | 23.69  | 40                        | -16.31 | Horz     |
| 36.0092        | 32.85         | PK       | -27.5                               | 16.9                      | 22.25  | 40                        | -17.75 | Horz     |
| 53.6491        | 49.25         | PK       | -27.3                               | 7.3                       | 29.25  | 40                        | -10.75 | Horz     |
| 84.8581        | 38.02         | PK       | -27.1                               | 7.3                       | 18.22  | 40                        | -21.78 | Horz     |
| 98.2334        | 39.54         | PK       | -26.9                               | 9.7                       | 22.34  | 43.5                      | -21.16 | Horz     |
| 142.2362       | 44.22         | PK       | -26.6                               | 12.7                      | 30.32  | 43.5                      | -13.18 | Horz     |

## Vertical 30 - 1000MHz

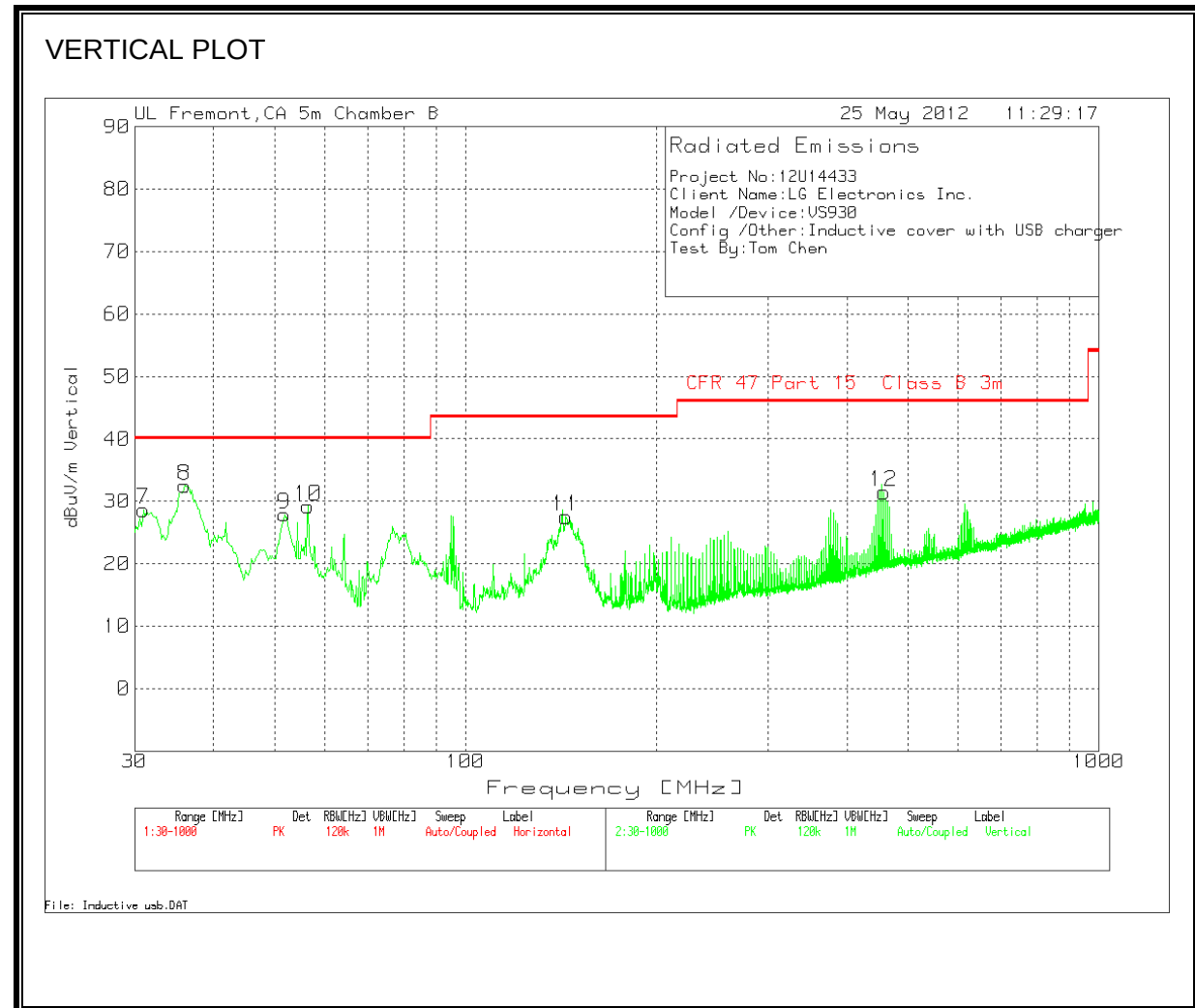
| Test Frequency | Meter Reading | Detector | 25MHz-1GHz ChmbrA Amplified.TX (dB) | T243 Sunol Bilog.TXT (dB) | dBuV/m | CFR 47 Part 15 Class B 3m | Margin | Polarity |
|----------------|---------------|----------|-------------------------------------|---------------------------|--------|---------------------------|--------|----------|
| 34.0707        | 37.77         | PK       | -27.6                               | 18.3                      | 28.47  | 40                        | -11.53 | Vert     |
| 37.1723        | 43.47         | PK       | -27.4                               | 16                        | 32.07  | 40                        | -7.93  | Vert     |
| 40.4676        | 45.46         | PK       | -27.3                               | 13.6                      | 31.76  | 40                        | -8.24  | Vert     |
| 53.4552        | 47.35         | PK       | -27.3                               | 7.3                       | 27.35  | 40                        | -12.65 | Vert     |
| 74.0028        | 45.69         | PK       | -27.1                               | 8                         | 26.59  | 40                        | -13.41 | Vert     |
| 99.7842        | 54.17         | PK       | -26.9                               | 10.1                      | 37.37  | 43.5                      | -6.13  | Vert     |

## INDUCTIVE COVER

### SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)



**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)**



# HORIZONTAL AND VERTICAL DATA

|                                                |  |  |  |  |  |  |  |  |
|------------------------------------------------|--|--|--|--|--|--|--|--|
| Project No:12U14433                            |  |  |  |  |  |  |  |  |
| Client Name:LG Electronics Inc.                |  |  |  |  |  |  |  |  |
| Model /Device:VS930                            |  |  |  |  |  |  |  |  |
| Config /Other:Inductive cover with USB charger |  |  |  |  |  |  |  |  |
| Test By:Tom Chen                               |  |  |  |  |  |  |  |  |
|                                                |  |  |  |  |  |  |  |  |

## Horizontal 30 - 1000MHz

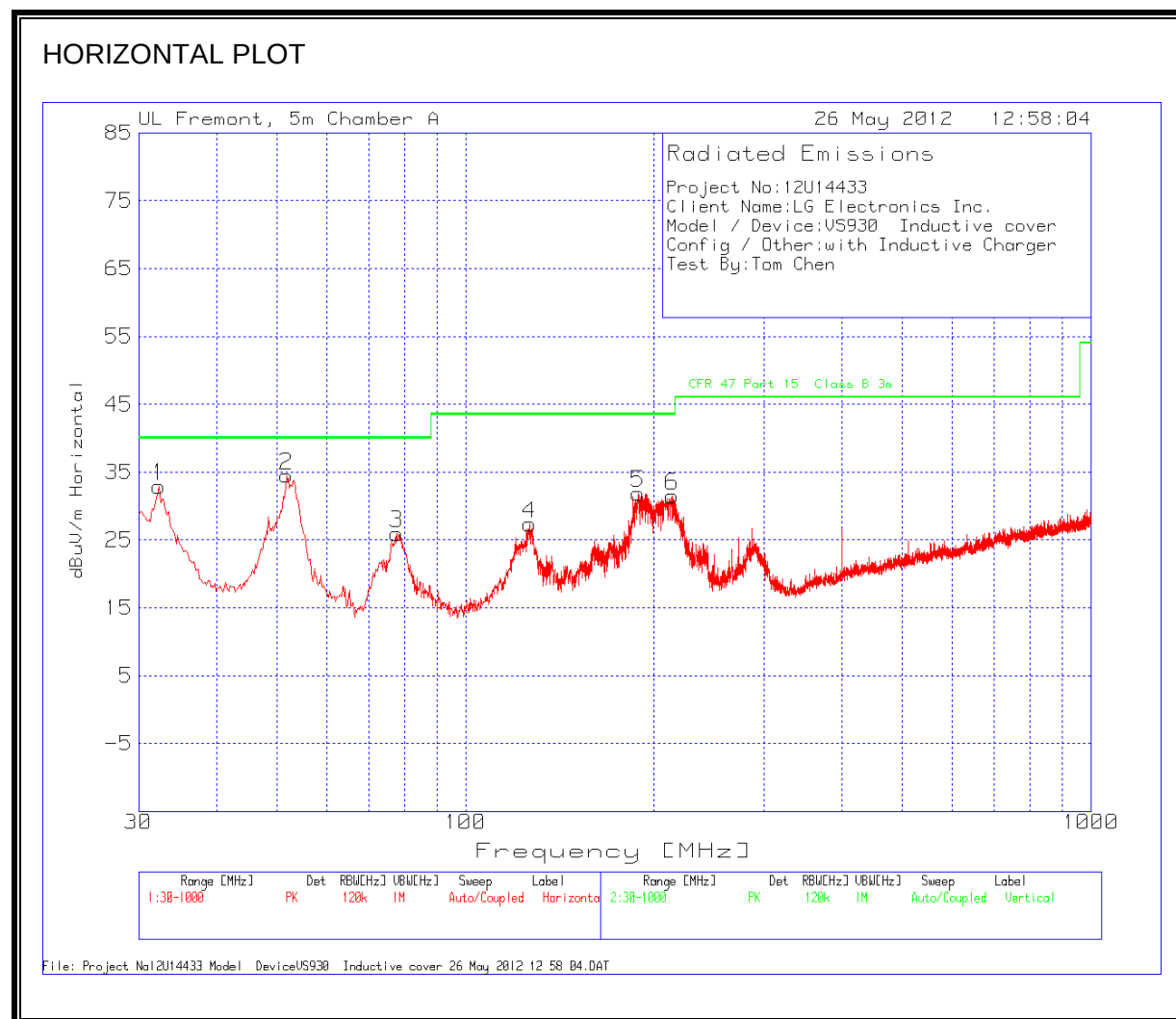
| Test Frequency | Meter Reading | Detector | T122 Sunol Bilog.TXT (dB) | 5mB Amp Path 30-1000MHz (dB) | dBuV/m | CFR 47 Part 15 Class B 3m | Margin | Polarity |
|----------------|---------------|----------|---------------------------|------------------------------|--------|---------------------------|--------|----------|
| 30.7754        | 30.71         | PK       | 20.9                      | -29.3                        | 22.31  | 40                        | -17.69 | Horz     |
| 52.486         | 48.09         | PK       | 7.6                       | -29                          | 26.69  | 40                        | -13.31 | Horz     |
| 76.7166        | 42.82         | PK       | 8                         | -28.8                        | 22.02  | 40                        | -17.98 | Horz     |
| 142.2362       | 44.96         | PK       | 13                        | -28.1                        | 29.86  | 43.5                      | -13.64 | Horz     |
| 377.5639       | 48.93         | PK       | 15                        | -26.8                        | 37.13  | 46                        | -8.87  | Horz     |
| 454.5204       | 42.55         | PK       | 16.9                      | -27                          | 32.45  | 46                        | -13.55 | Horz     |

## Vertical 30 - 1000MHz

| Test Frequency | Meter Reading | Detector | T122 Sunol Bilog.TXT (dB) | 5mB Amp Path 30-1000MHz (dB) | dBuV/m | CFR 47 Part 15 Class B 3m | Margin | Polarity |
|----------------|---------------|----------|---------------------------|------------------------------|--------|---------------------------|--------|----------|
| 30.9692        | 37.22         | PK       | 20.7                      | -29.3                        | 28.62  | 40                        | -11.38 | Vert     |
| 36.0092        | 44.92         | PK       | 16.8                      | -29.2                        | 32.52  | 40                        | -7.48  | Vert     |
| 51.7106        | 49.22         | PK       | 7.7                       | -29                          | 27.92  | 40                        | -12.08 | Vert     |
| 56.3629        | 51.03         | PK       | 7.2                       | -29                          | 29.23  | 40                        | -10.77 | Vert     |
| 143.9808       | 42.82         | PK       | 12.8                      | -28.1                        | 27.52  | 43.5                      | -15.98 | Vert     |
| 457.6219       | 41.44         | PK       | 17                        | -27                          | 31.44  | 46                        | -14.56 | Vert     |

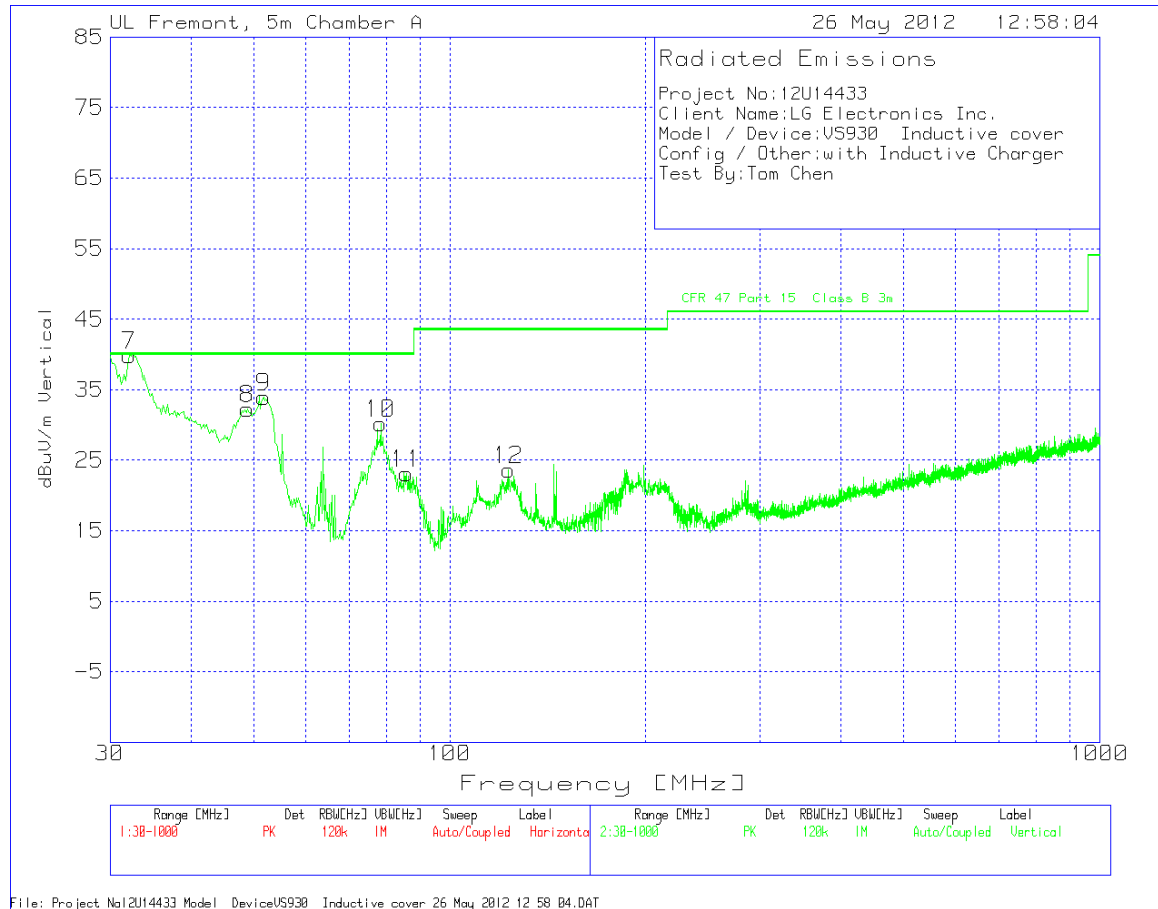
**INDUCTIVE CHARGER WITH INDUCTIVE COVER**

**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)**



**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)**

**VERTICAL PLOT**



# HORIZONTAL AND VERTICAL DATA

|                                                        |  |  |  |  |  |  |  |  |
|--------------------------------------------------------|--|--|--|--|--|--|--|--|
| Project No:12U14433                                    |  |  |  |  |  |  |  |  |
| Client Name:LG Electronics Inc.                        |  |  |  |  |  |  |  |  |
| Model / Device:VS930                                   |  |  |  |  |  |  |  |  |
| Config / Other: Inductive cover with Inductive Charger |  |  |  |  |  |  |  |  |
| Test By:Tom Chen                                       |  |  |  |  |  |  |  |  |
|                                                        |  |  |  |  |  |  |  |  |

## Horizontal 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 | Polarity |
|----------------|---------------|----------|-------------------------------------|---------------------------|--------|---------------------------|--------|----------|
| 32.3261        | 41.05         | PK       | -27.6                               | 19.5                      | 32.95  | 40                        | -7.05  | Horz     |
| 51.7106        | 54.12         | PK       | -27.2                               | 7.6                       | 34.52  | 40                        | -5.48  | Horz     |
| 77.6859        | 45.28         | PK       | -27.1                               | 7.8                       | 25.98  | 40                        | -14.02 | Horz     |
| 126.7286       | 40.31         | PK       | -26.8                               | 13.8                      | 27.31  | 43.5                      | -16.19 | Horz     |
| 188.759        | 46.89         | PK       | -26.3                               | 11.3                      | 31.89  | 43.5                      | -11.61 | Horz     |
| 214.3465       | 47.18         | PK       | -26.2                               | 10.5                      | 31.48  | 43.5                      | -12.02 | Horz     |

## Vertical 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 | Polarity |
|----------------|---------------|----------|-------------------------------------|---------------------------|--------|---------------------------|--------|----------|
| 32.086         | 47.53         | QP       | -27.5                               | 19.7                      | 39.73  | 40                        | -0.27  | Vert     |
| 48.803         | 51.02         | PK       | -27.3                               | 8.5                       | 32.22  | 40                        | -7.78  | Vert     |
| 51.7106        | 53.56         | PK       | -27.2                               | 7.6                       | 33.96  | 40                        | -6.04  | Vert     |
| 78.2674        | 49.49         | PK       | -27.1                               | 7.8                       | 30.19  | 40                        | -9.81  | Vert     |
| 85.8273        | 42.77         | PK       | -27                                 | 7.4                       | 23.17  | 40                        | -16.83 | Vert     |
| 123.2394       | 36.36         | PK       | -26.7                               | 14                        | 23.66  | 43.5                      | -19.84 | Vert     |

## 8. AC POWER LINE CONDUCTED EMISSIONS

### LIMITS

FCC §15.207 (a)

RSS-Gen 7.2.2

| Frequency of Emission (MHz) | Conducted Limit (dBuV) |                       |
|-----------------------------|------------------------|-----------------------|
|                             | Quasi-peak             | Average               |
| 0.15-0.5                    | 66 to 56 <sup>*</sup>  | 56 to 46 <sup>*</sup> |
| 0.5-5                       | 56                     | 46                    |
| 5-30                        | 60                     | 50                    |

<sup>\*</sup> Decreases with the logarithm of the frequency.

### TEST PROCEDURE

ANSI C63.4

## RESULTS

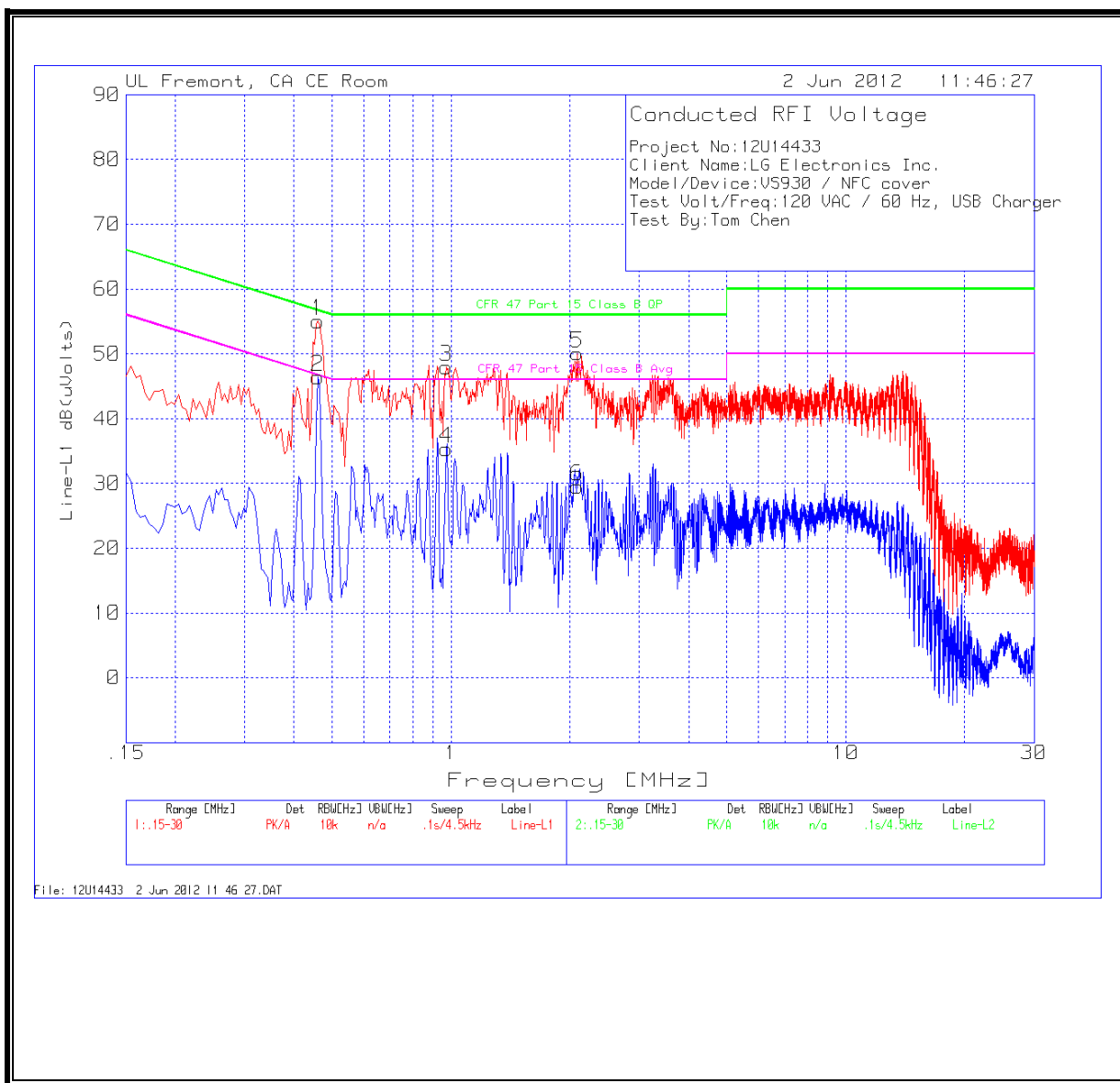
### STANDARD COVER

### 6 WORST EMISSIONS

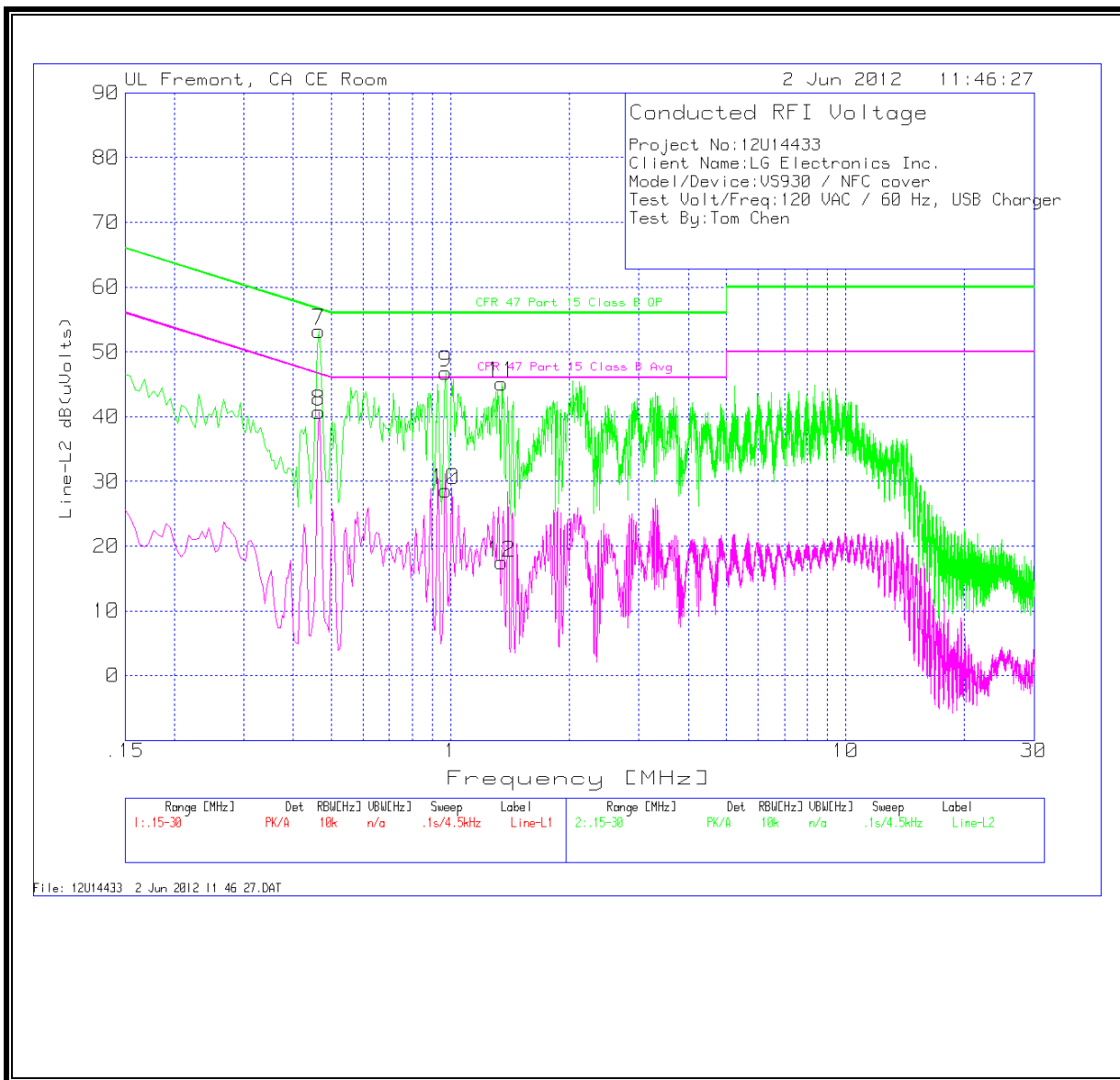
| Project No:12U14433                         |               |          |                    |                        |            |                           |        |                            |        |
|---------------------------------------------|---------------|----------|--------------------|------------------------|------------|---------------------------|--------|----------------------------|--------|
| Client Name:LG Electronics Inc.             |               |          |                    |                        |            |                           |        |                            |        |
| Model/Device:VS930 / NFC cover              |               |          |                    |                        |            |                           |        |                            |        |
| Test Volt/Freq:120 VAC / 60 Hz, USB Charger |               |          |                    |                        |            |                           |        |                            |        |
| Test By:Tom Chen                            |               |          |                    |                        |            |                           |        |                            |        |
| 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 |
| 0.4605                                      | 54.91         | PK       | 0.1                | 0                      | 55.01      | 56.7                      | -1.69  | -                          | -      |
| 0.4605                                      | 46.34         | Av       | 0.1                | 0                      | 46.44      | -                         | -      | 46.7                       | -0.26  |
| 0.9735                                      | 47.82         | PK       | 0.1                | 0                      | 47.92      | 56                        | -8.08  | -                          | -      |
| 0.9735                                      | 35.23         | Av       | 0.1                | 0                      | 35.33      | -                         | -      | 46                         | -10.67 |
| 2.085                                       | 49.89         | PK       | 0.1                | 0.1                    | 50.09      | 56                        | -5.91  | -                          | -      |
| 2.085                                       | 29.36         | Av       | 0.1                | 0.1                    | 29.56      | -                         | -      | 46                         | -16.44 |
| 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 |
| 0.465                                       | 53.1          | PK       | 0.1                | 0                      | 53.2       | 56.6                      | -3.4   | -                          | -      |
| 0.465                                       | 40.67         | Av       | 0.1                | 0                      | 40.77      | -                         | -      | 46.6                       | -5.83  |
| 0.9735                                      | 46.56         | PK       | 0.1                | 0.1                    | 46.76      | 56                        | -9.24  | -                          | -      |
| 0.9735                                      | 28.43         | Av       | 0.1                | 0.1                    | 28.63      | -                         | -      | 46                         | -17.37 |
| 1.347                                       | 44.98         | PK       | 0.1                | 0.1                    | 45.18      | 56                        | -10.82 | -                          | -      |
| 1.347                                       | 17.28         | Av       | 0.1                | 0.1                    | 17.48      | -                         | -      | 46                         | -28.52 |

# STANDARD COVER

## LINE 1 RESULTS



## LINE 2 RESULTS



## RESULTS

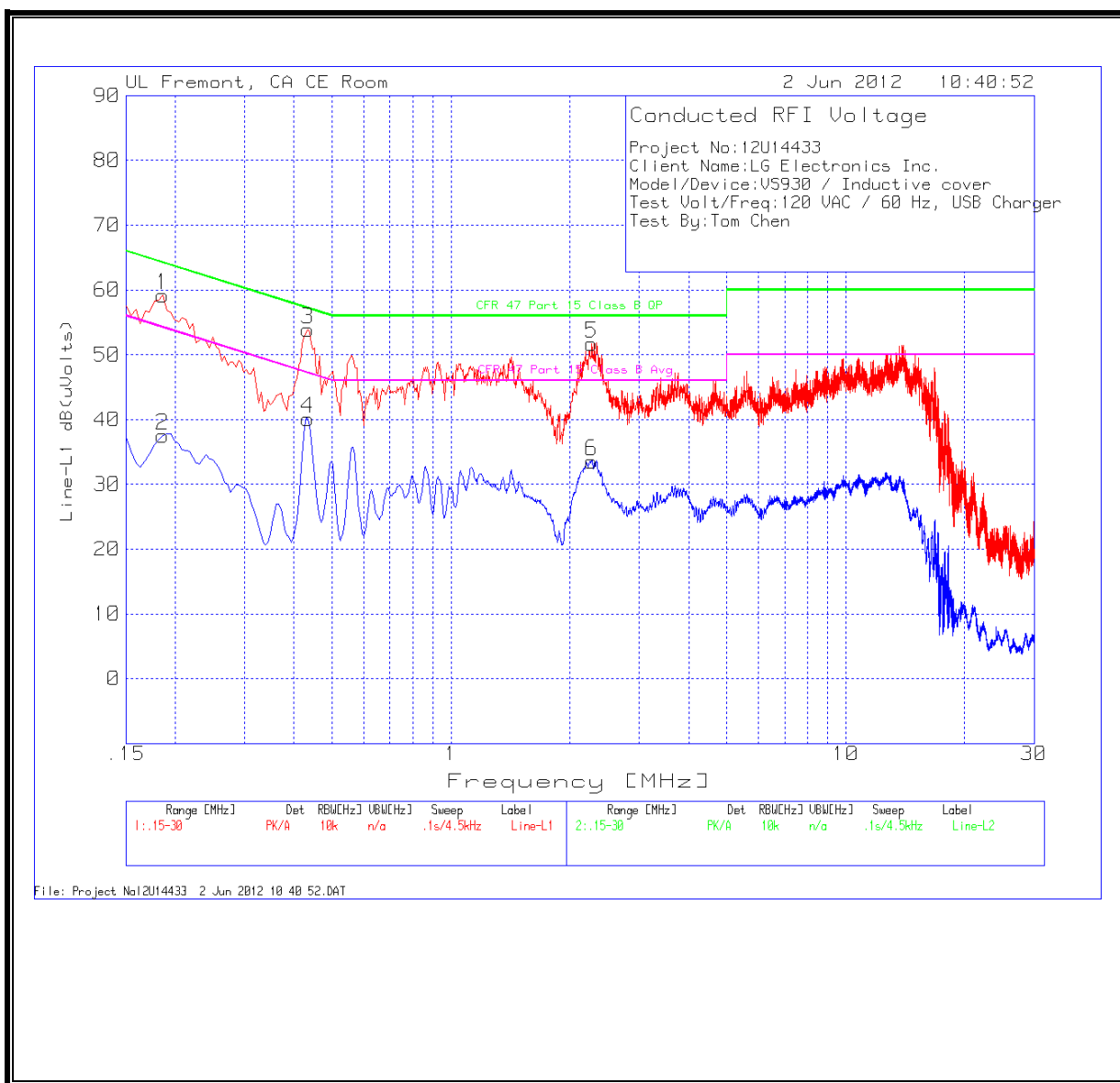
### INDUCTIVE COVER

#### 6 WORST EMISSIONS

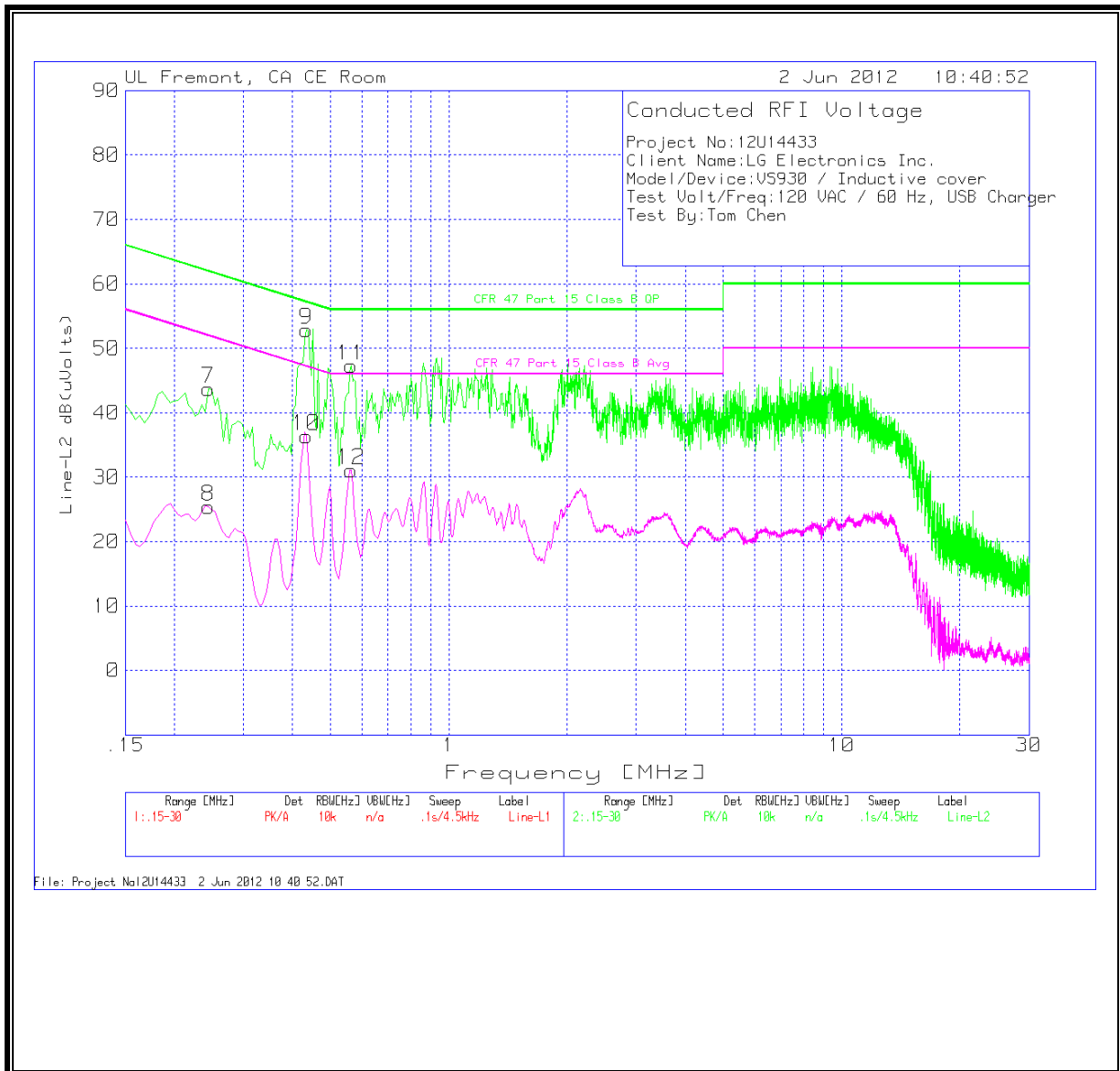
| Project No:12U14433                               |               |          |                    |                        |            |                           |        |                            |        |
|---------------------------------------------------|---------------|----------|--------------------|------------------------|------------|---------------------------|--------|----------------------------|--------|
| Client Name:LG Electronics Inc.                   |               |          |                    |                        |            |                           |        |                            |        |
| Model/Device:VS930 / Inductive cover, USB charger |               |          |                    |                        |            |                           |        |                            |        |
| Test Volt/Freq:120 VAC / 60 Hz                    |               |          |                    |                        |            |                           |        |                            |        |
| Test By:Tom Chen                                  |               |          |                    |                        |            |                           |        |                            |        |
| 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 |
| 0.186                                             | 59.04         | PK       | 0.1                | 0                      | 59.14      | 64.2                      | -5.06  | -                          | -      |
| 0.186                                             | 37.37         | Av       | 0.1                | 0                      | 37.47      | -                         | -      | 54.2                       | -16.73 |
| 0.4335                                            | 53.83         | PK       | 0.1                | 0                      | 53.93      | 57.2                      | -3.27  | -                          | -      |
| 0.4335                                            | 39.99         | Av       | 0.1                | 0                      | 40.09      | -                         | -      | 47.2                       | -7.11  |
| 2.274                                             | 51.51         | PK       | 0.1                | 0.1                    | 51.71      | 56                        | -4.29  | -                          | -      |
| 2.274                                             | 33.31         | Av       | 0.1                | 0.1                    | 33.51      | -                         | -      | 46                         | -12.49 |
| 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 |
| 0.2445                                            | 43.57         | PK       | 0.1                | 0                      | 43.67      | 61.9                      | -18.23 | -                          | -      |
| 0.2445                                            | 25.36         | Av       | 0.1                | 0                      | 25.46      | -                         | -      | 51.9                       | -26.44 |
| 0.4335                                            | 52.74         | PK       | 0.1                | 0                      | 52.84      | 57.2                      | -4.36  | -                          | -      |
| 0.4335                                            | 36.22         | Av       | 0.1                | 0                      | 36.32      | -                         | -      | 47.2                       | -10.88 |
| 0.564                                             | 47.16         | PK       | 0.1                | 0                      | 47.26      | 56                        | -8.74  | -                          | -      |
| 0.564                                             | 30.94         | Av       | 0.1                | 0                      | 31.04      | -                         | -      | 46                         | -14.96 |

**INDUCTIVE COVER**

**LINE 1 RESULTS**



## LINE 2 RESULTS



## RESULTS

### INDUCTIVE CHARGER PAD

#### EUT WITH ANTENNA

#### 6 WORST EMISSIONS

| Project No:12U14433                      |               |          |                    |                        |            |                           |        |                            |        |
|------------------------------------------|---------------|----------|--------------------|------------------------|------------|---------------------------|--------|----------------------------|--------|
| Client Name:LG Electronics Inc.          |               |          |                    |                        |            |                           |        |                            |        |
| Model/Device:VS930 / Inductive cover,pad |               |          |                    |                        |            |                           |        |                            |        |
| Test Volt/Freq:120 VAC / 60 Hz, NFC on   |               |          |                    |                        |            |                           |        |                            |        |
| Test By:Tom Chen                         |               |          |                    |                        |            |                           |        |                            |        |
| 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 |
| 1.2255                                   | 49.73         | PK       | 0.1                | 0.1                    | 49.93      | 56                        | -6.07  | -                          | -      |
| 1.2255                                   | 41.85         | Av       | 0.1                | 0.1                    | 42.05      | -                         | -      | 46                         | -3.95  |
| 1.4955                                   | 49.25         | PK       | 0.1                | 0.1                    | 49.45      | 56                        | -6.55  | -                          | -      |
| 1.4955                                   | 40.74         | Av       | 0.1                | 0.1                    | 40.94      | -                         | -      | 46                         | -5.06  |
| 13.56                                    | 62.01         | PK       | 0.2                | 0.2                    | 62.41      | 60                        | 2.41   | -                          | -      |
| 13.56                                    | 56.46         | Av       | 0.2                | 0.2                    | 56.86      | -                         | -      | 50                         | 6.86   |
| 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 |
| 1.2345                                   | 47.35         | PK       | 0.1                | 0.1                    | 47.55      | 56                        | -8.45  | -                          | -      |
| 1.2345                                   | 37.24         | Av       | 0.1                | 0.1                    | 37.44      | -                         | -      | 46                         | -8.56  |
| 1.5135                                   | 47.23         | PK       | 0.1                | 0.1                    | 47.43      | 56                        | -8.57  | -                          | -      |
| 1.5135                                   | 37.29         | Av       | 0.1                | 0.1                    | 37.49      | -                         | -      | 46                         | -8.51  |
| 13.6635                                  | 51.36         | PK       | 0.2                | 0.2                    | 51.76      | 60                        | -8.24  | -                          | -      |
| 13.6635                                  | 36.45         | Av       | 0.2                | 0.2                    | 36.85      | -                         | -      | 50                         | -13.15 |

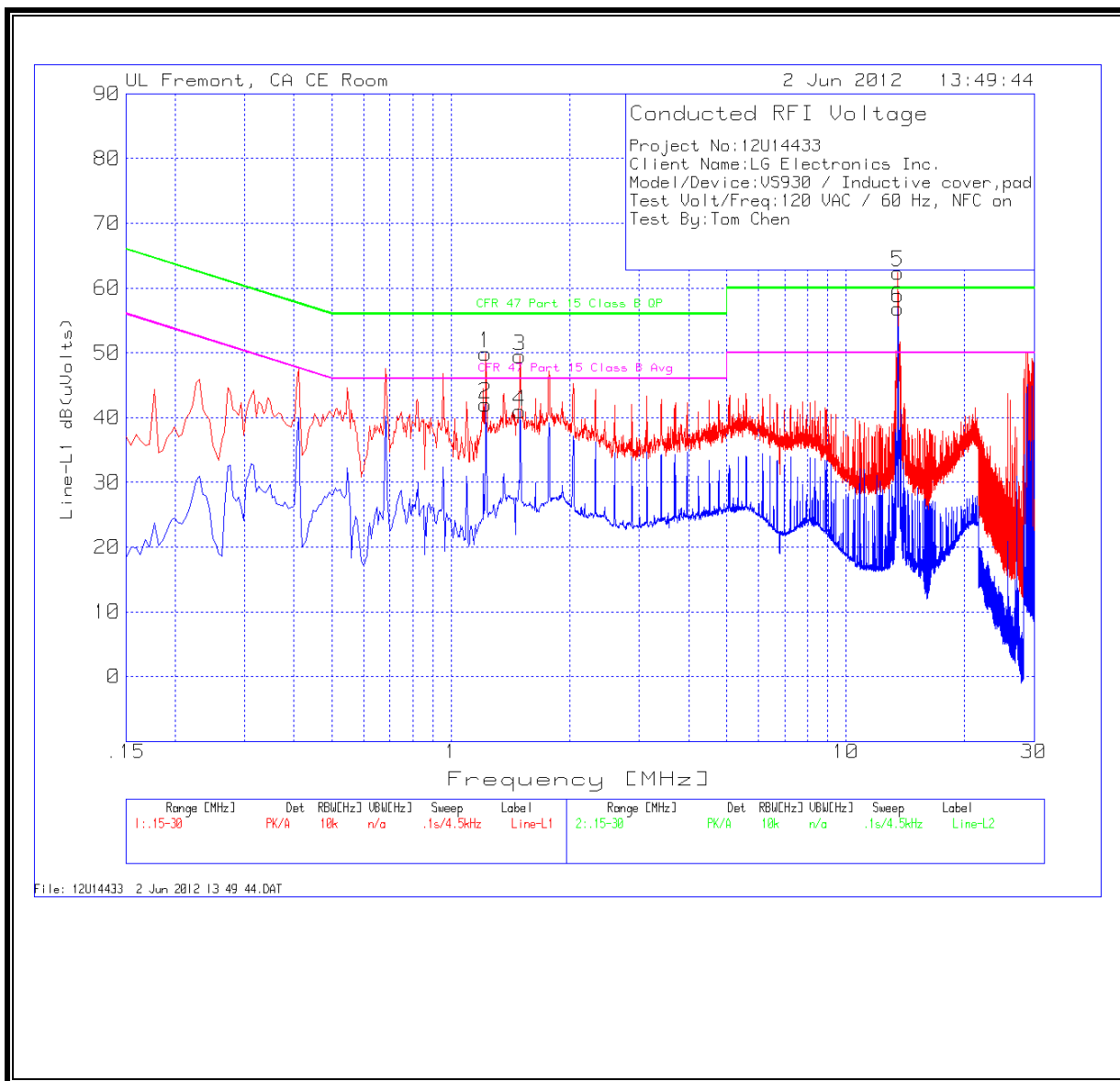
**EUT WITH 50 OHM TERMINATOR**

**6 WORST EMISSIONS**

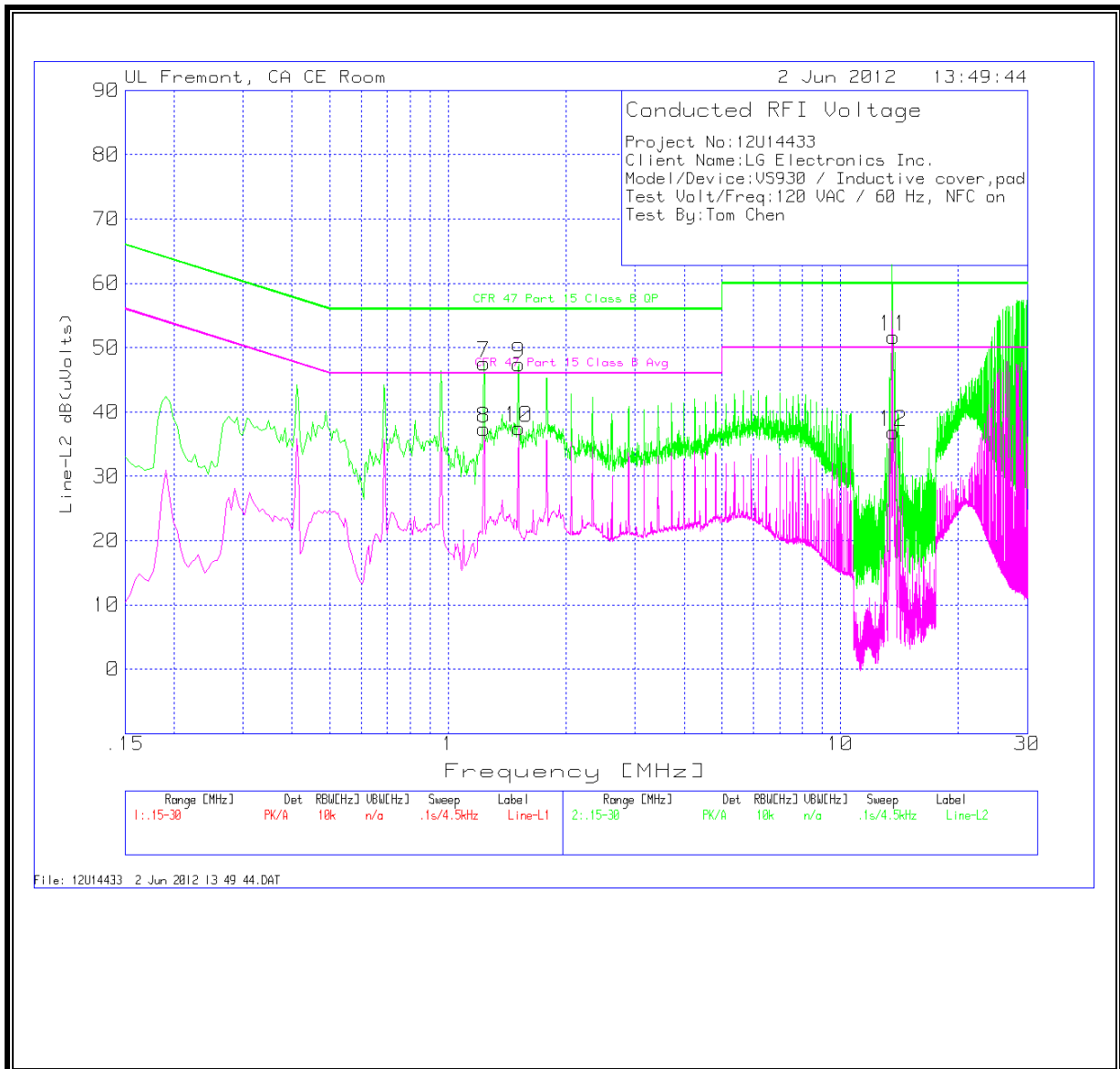
| Project No:12U14433                      |               |          |                    |                        |            |                           |        |                            |        |
|------------------------------------------|---------------|----------|--------------------|------------------------|------------|---------------------------|--------|----------------------------|--------|
| Client Name:LG Electronics Inc.          |               |          |                    |                        |            |                           |        |                            |        |
| Model/Device:VS930 / Inductive cover,pad |               |          |                    |                        |            |                           |        |                            |        |
| Test Volt/Freq:120 VAC / 60 Hz, NFC on   |               |          |                    |                        |            |                           |        |                            |        |
| Test By:Tom Chen                         |               |          |                    |                        |            |                           |        |                            |        |
| 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 |
| 0.4605                                   | 41.94         | PK       | 0.1                | 0                      | 42.04      | 56.7                      | -14.66 | -                          | -      |
| 0.4605                                   | 28.71         | Av       | 0.1                | 0                      | 28.81      | -                         | -      | 46.7                       | -17.89 |
| 1.2615                                   | 45.67         | PK       | 0.1                | 0.1                    | 45.87      | 56                        | -10.13 | -                          | -      |
| 1.2615                                   | 28.12         | Av       | 0.1                | 0.1                    | 28.32      | -                         | -      | 46                         | -17.68 |
| 13.56                                    | 54.98         | PK       | 0.2                | 0.2                    | 55.38      | 60                        | -4.62  | -                          | -      |
| 13.56                                    | 49.5          | Av       | 0.2                | 0.2                    | 49.9       | -                         | -      | 50                         | -0.1   |
| 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 |
| 0.456                                    | 37.69         | PK       | 0.1                | 0                      | 37.79      | 56.8                      | -19.01 | -                          | -      |
| 0.456                                    | 24.42         | Av       | 0.1                | 0                      | 24.52      | -                         | -      | 46.8                       | -22.28 |
| 1.554                                    | 33.47         | PK       | 0.1                | 0.1                    | 33.67      | 56                        | -22.33 | -                          | -      |
| 1.554                                    | 14.62         | Av       | 0.1                | 0.1                    | 14.82      | -                         | -      | 46                         | -31.18 |
| 13.7175                                  | 29.67         | PK       | 0.2                | 0.2                    | 30.07      | 60                        | -29.93 | -                          | -      |
| 13.7175                                  | 7.36          | Av       | 0.2                | 0.2                    | 7.76       | -                         | -      | 50                         | -42.24 |

**INDUCTIVE CHARGER PAD WITH ANTENNA**

**LINE 1 RESULTS**

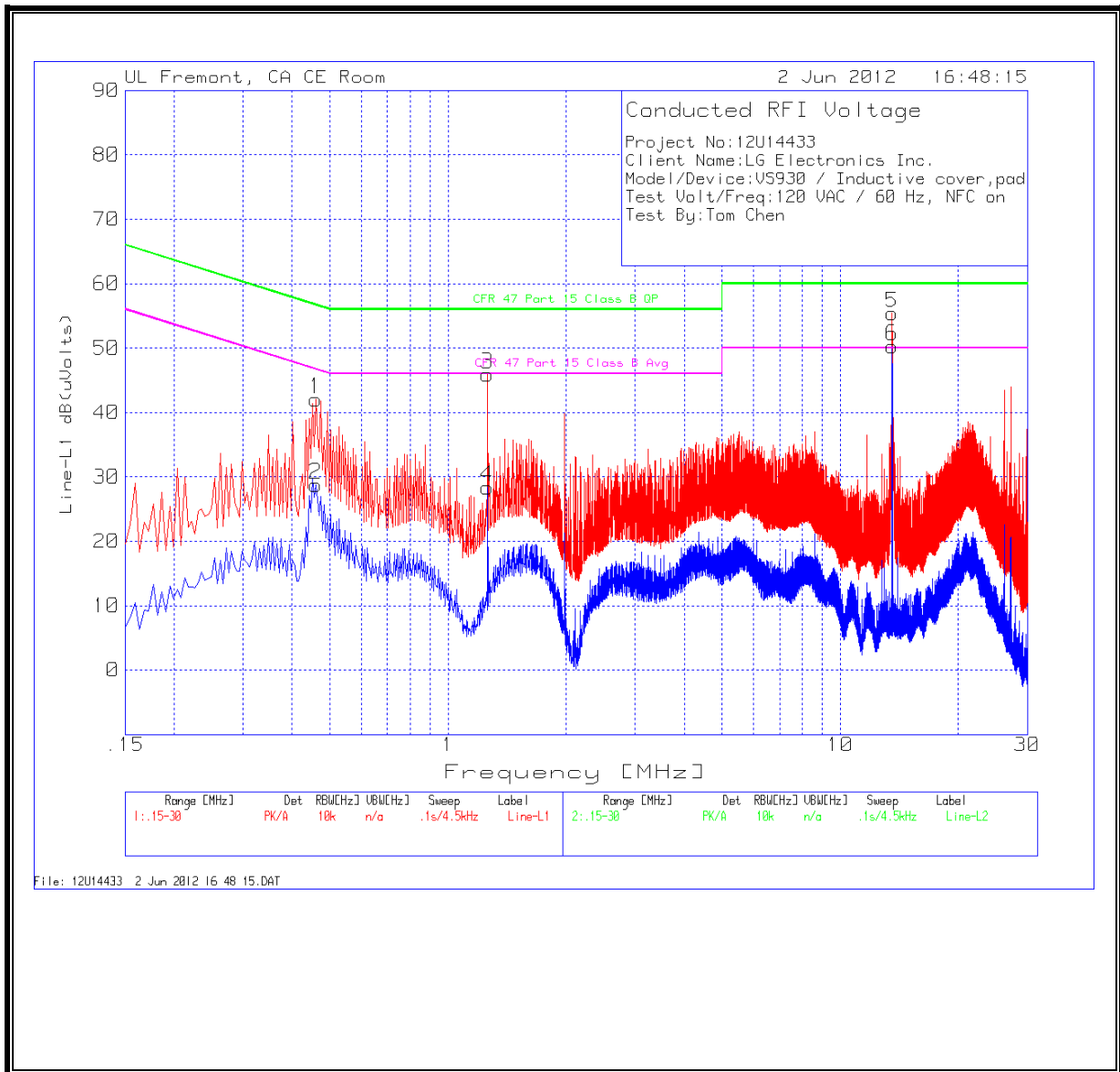


**LINE 2 RESULTS**



**INDUCTIVE CHARGER PAD WITH 50 Ohm Terminator**

**LINE 1 RESULTS**



## LINE 2 RESULTS

