



**FCC CFR47 PART 15 SUBPART C
INDUSTRY CANADA RSS-210 ISSUE 8**

CERTIFICATION TEST REPORT

FOR

Cellular/PCS CDMA and LTE PHONE with Bluetooth and WLAN

MODEL NUMBER: VS840, LG-VS840, LGVS840

FCC ID: ZNFVS840

REPORT NUMBER: 11U14141-7, Revision B

ISSUE DATE: December 21, 2011

Prepared for
**LG ELECTRONICS MOBILECOMM U.S.A., INC.
10101 OLD GROVE ROAD
SAN DIEGO, CA 92131**

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 Date	Revisions	Revised By
--	12/09/11	Initial Issue	F. Ibrahim
A	12/19/11	Added inductive cover data	F. Ibrahim
B	12/21/11	Added FCC ID for the Charging Pad in the Support Equipment List. Added photos to page 160	A. Zaffar

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS.....	5
2. TEST METHODOLOGY	6
3. FACILITIES AND ACCREDITATION.....	6
4. CALIBRATION AND UNCERTAINTY	6
4.1. MEASURING INSTRUMENT CALIBRATION.....	6
4.2. SAMPLE CALCULATION.....	6
4.3. MEASUREMENT UNCERTAINTY.....	6
5. EQUIPMENT UNDER TEST	7
5.1. DESCRIPTION OF EUT.....	7
5.2. MAXIMUM OUTPUT POWER.....	7
5.3. DESCRIPTION OF AVAILABLE ANTENNAS.....	7
5.4. SOFTWARE AND FIRMWARE.....	7
5.5. WORST-CASE CONFIGURATION AND MODE	8
5.6. DESCRIPTION OF TEST SETUP.....	9
6. TEST AND MEASUREMENT EQUIPMENT	12
7. ANTENNA PORT TEST RESULTS	13
7.1. 802.11b MODE IN THE 2.4 GHz BAND.....	13
7.1.1. 6 dB BANDWIDTH	13
7.1.2. 99% BANDWIDTH	17
7.1.3. OUTPUT POWER	21
7.1.4. AVERAGE POWER	25
7.1.5. POWER SPECTRAL DENSITY	26
7.1.6. CONDUCTED SPURIOUS EMISSIONS.....	30
7.2. 802.11g MODE IN THE 2.4 GHz BAND.....	37
7.2.1. 6 dB BANDWIDTH	37
7.2.2. 99% BANDWIDTH	41
7.2.3. OUTPUT POWER	45
7.2.4. AVERAGE POWER	49
7.2.5. POWER SPECTRAL DENSITY	50
7.2.6. CONDUCTED SPURIOUS EMISSIONS.....	54
7.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND.....	61
7.3.1. 6 dB BANDWIDTH	61
7.3.2. 99% BANDWIDTH	65
7.3.3. OUTPUT POWER	69
7.3.4. AVERAGE POWER	73
7.3.5. POWER SPECTRAL DENSITY	74
7.3.6. CONDUCTED SPURIOUS EMISSIONS.....	78

8. RADIATED TEST RESULTS	85
8.1. LIMITS AND PROCEDURE	85
8.2. TRANSMITTER ABOVE 1 GHz	86
8.2.1. TX ABOVE 1 GHz FOR 802.11b 1TX MODE IN THE 2.4 GHz BAND	86
8.2.2. TX ABOVE 1 GHz FOR 802.11g 1TX MODE IN THE 2.4 GHz BAND	101
8.2.3. TX ABOVE 1 GHz FOR 802.11n HT20 1TX MODE IN THE 2.4 GHz AND	116
8.3. WORST-CASE BELOW 1 GHz.....	131
9. AC POWER LINE CONDUCTED EMISSIONS.....	140
10. MAXIMUM PERMISSIBLE EXPOSURE	153
11. SETUP PHOTOS	157

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LG ELECTRONICS MOBILECOMM U.S.A., INC.
10101 OLD GROVE ROAD
SAN DIEGO, CA 92131

EUT DESCRIPTION: Cellular/PCS CDMA and LTE PHONE with Bluetooth and WLAN

MODEL: VS840, LG-VS840, LGVS840

SERIAL NUMBER: 75000112, 75000113

DATE TESTED: NOVEMBER 14 - DECEMBER 17, 2011

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Pass
INDUSTRY CANADA RSS-210 Issue 8 Annex 8	Pass
INDUSTRY CANADA RSS-GEN Issue 3	Pass

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

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

Approved & Released For UL CCS By:

Tested By:



FRANK IBRAHIM
EMC SUPERVISOR
UL CCS

TOM CHEN
EMC ENGINEER
UL CCS

2. TEST METHODOLOGY

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

3. FACILITIES AND ACCREDITATION

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

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

4.3. MEASUREMENT UNCERTAINTY

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

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

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a smart phone that features PCS/CDMA and LTE PHONE with BLUETOOTH AND WLAN.

The radio module is manufactured by Broadcom.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2412 - 2462	802.11b	17.09	51.17
2412 - 2462	802.11g	19.88	97.27
2412 - 2462	802.11n HT20 SISO	21.16	130.62

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a FPWB Antenna with a maximum peak gain of -3.16 dBi.

5.4. SOFTWARE AND FIRMWARE

The EUT software installed during testing was VS840Z09

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

5.5. WORST-CASE CONFIGURATION AND MODE

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 with dock charger and earphone and the worst case was found to be at X orientation with AC/USB adapter and earphone.

Worst-case data rates used based on an input from the client were as follows:

802.11b mode: 1 Mbps

802.11g mode: 6 Mbps

802.11n mode: MCS0

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

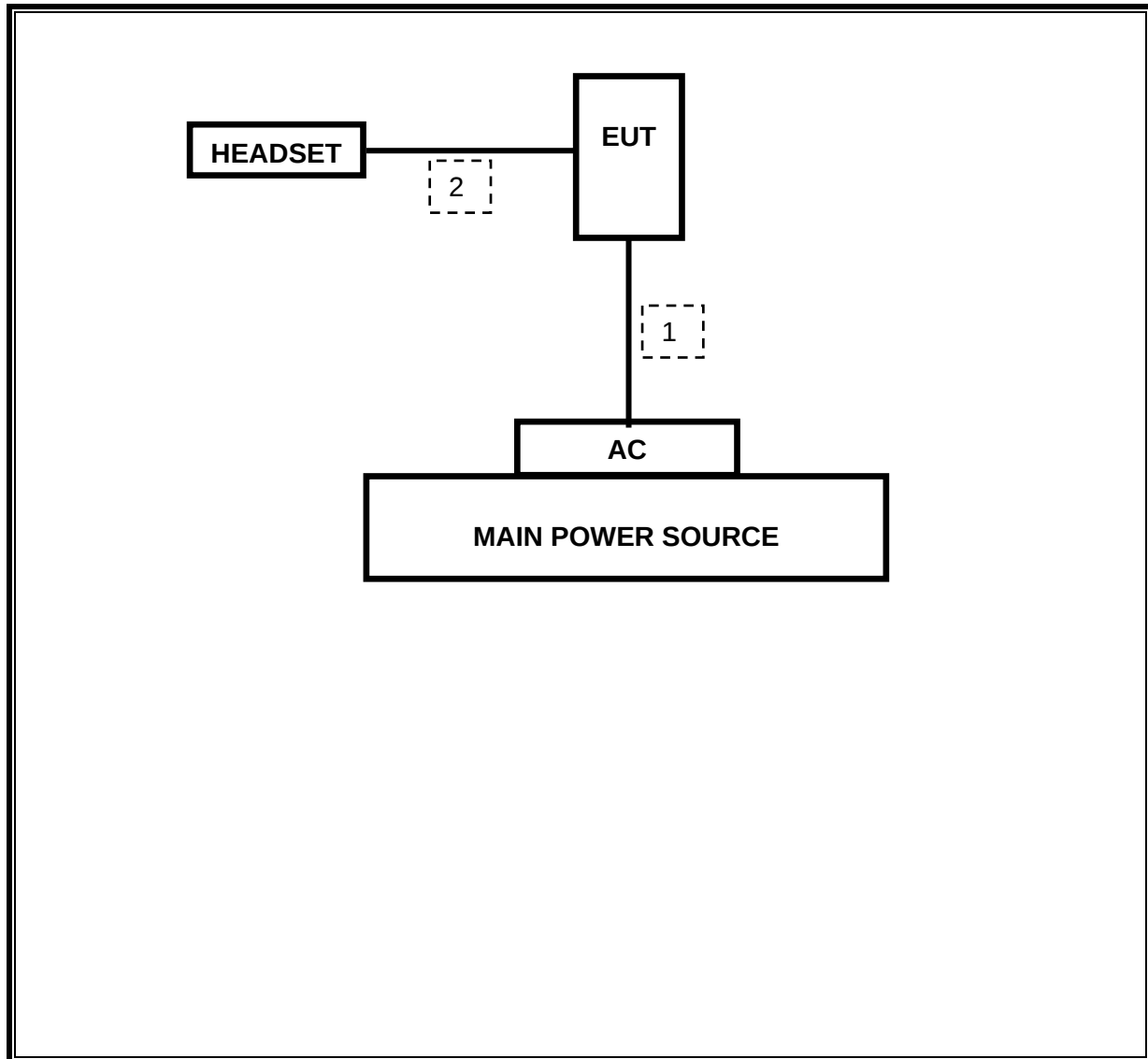
PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	LG Electronics	MCS-02WR	RA190000054	N/A
AC Adapter	LG Electronics	WCA-D01WT	TA170000002	N/A
Charging Pad	LG Electronics	WCP-700	A1106WP000029	BEJWCP700
Ear Phone	LG Electronics	N/A	N/A	N/A

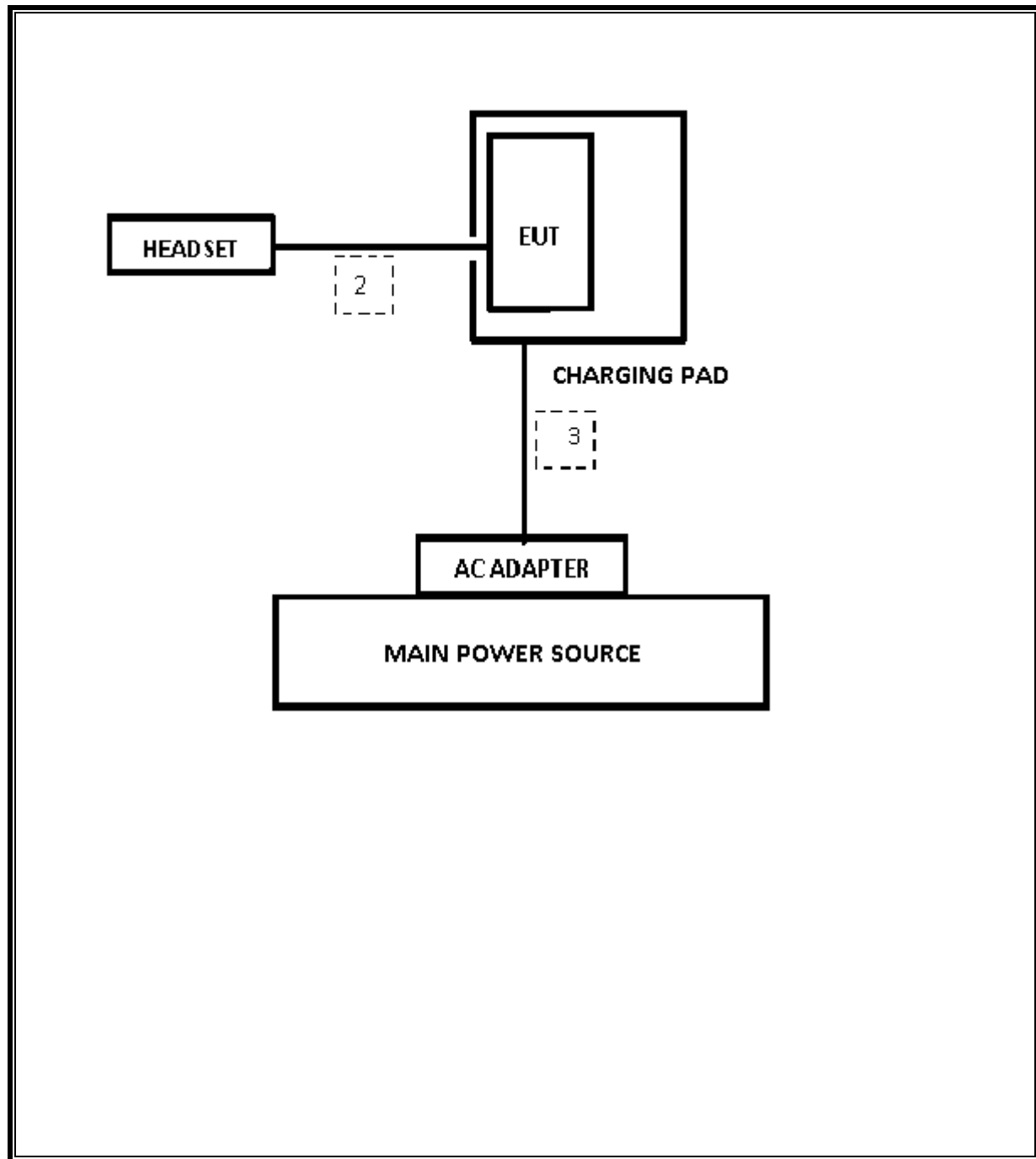
I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	DC	1	MINI USB	Un-Shielded	1.0m	External ferrite added
2	AUDIO	1	MINI JACK	Un-Shielded	1.0m	Volume control on cable
3	DC	1	MINI JACK	Un-Shielded	1.5m	to Charging Pad

TEST SETUP

The EUT is a stand-alone device and was tested with AC/USB adapter and earphone.

SETUP DIAGRAM FOR TESTS

SETUP DIAGRAM EUT with CHARGING PAD

6. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST				
Description	Manufacturer	Model	Asset	Cal Due
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01012	09/02/12
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C00749	07/18/12
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00558	01/27/12
Antenna, Horn, 18 GHz	EMCO	3115	C00872	09/20/12
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01171	07/16/12
Reject Filter, 2.4-2.5 GHz	Micro-Tronics	BRM50702	N02685	CNR
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01159	08/11/12
P-Seies single channel Power	Agilent / HP	N1911A		08/04/12
Peak / Average Power Sensor	Agilent / HP	E9323A		08/04/12
EMI Test Receiver, 9 kHz-7 GHz	R & S	ESCI 7	1000741	07/06/12
LISN, 30 MHz	FCC	LISN-50/250-25-2	N02625	11/14/12

7. ANTENNA PORT TEST RESULTS

7.1. 802.11b MODE IN THE 2.4 GHz BAND

7.1.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

IC RSS-210 A8.2 (a)

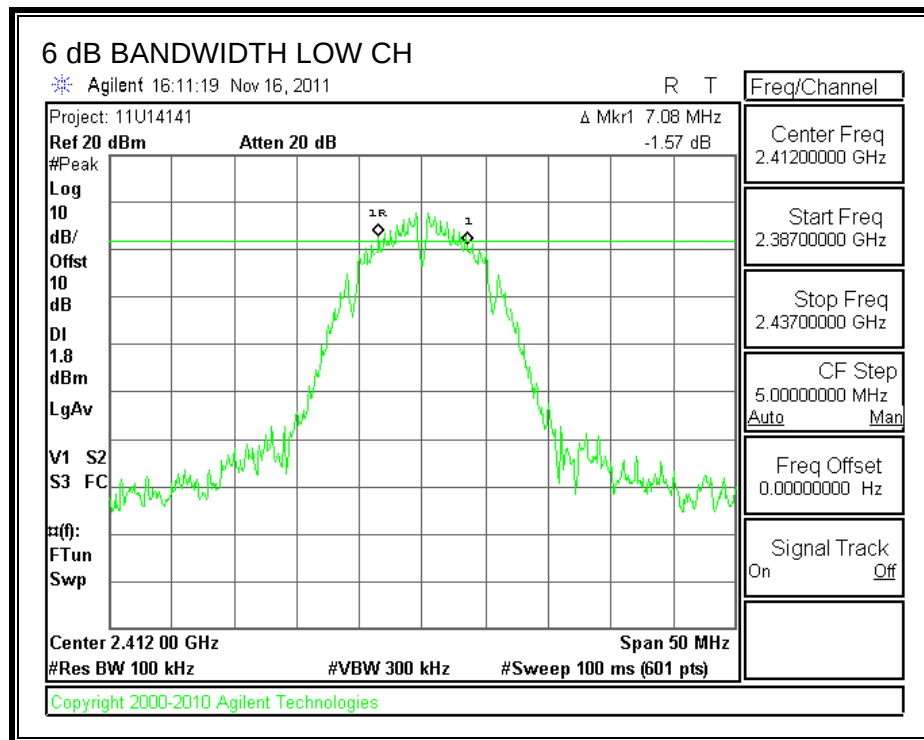
The minimum 6 dB bandwidth shall be at least 500 kHz.

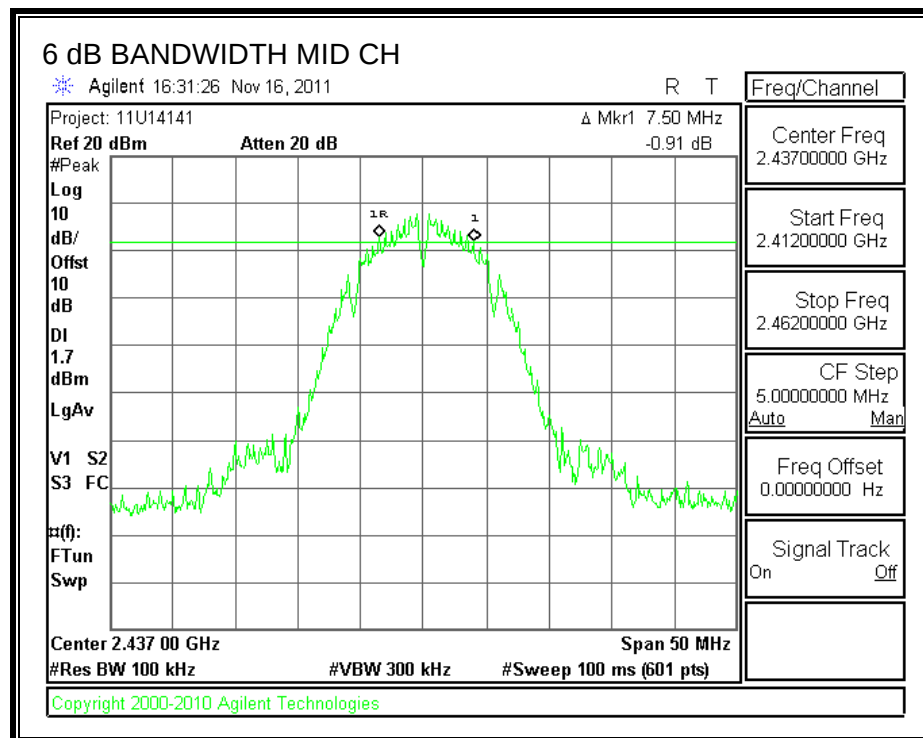
TEST PROCEDURE

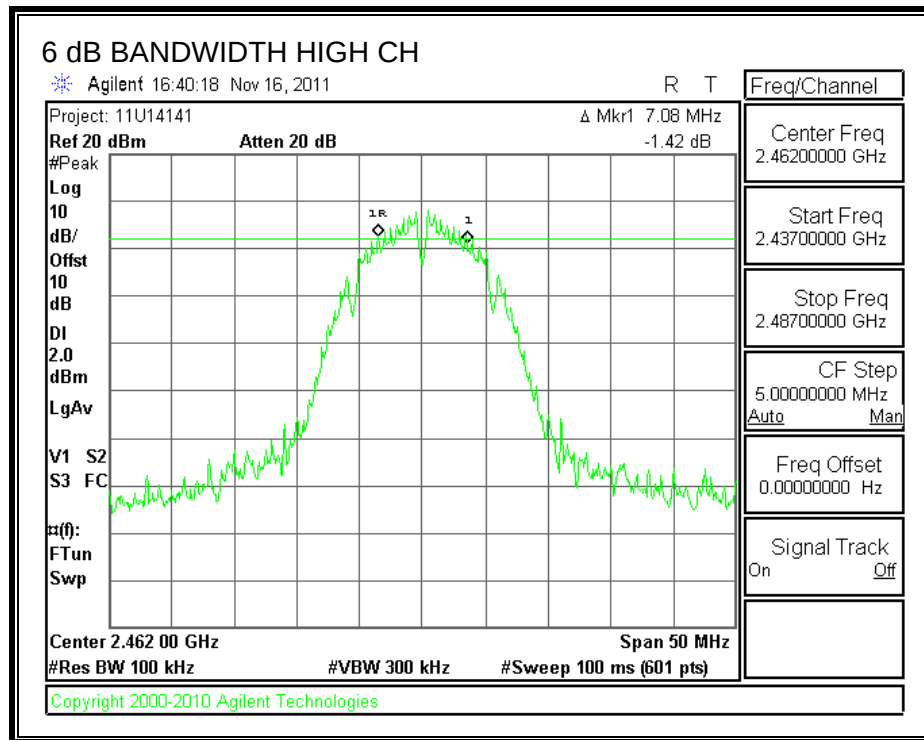
The transmitter output is connected to a spectrum analyzer. The RBW is set to 100 kHz and the VBW is set to 300 kHz. The sweep time is coupled.

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	7.08	0.5
Middle	2437	7.50	0.5
High	2462	7.08	0.5

6 dB BANDWIDTH





7.1.2. 99% BANDWIDTH**LIMITS**

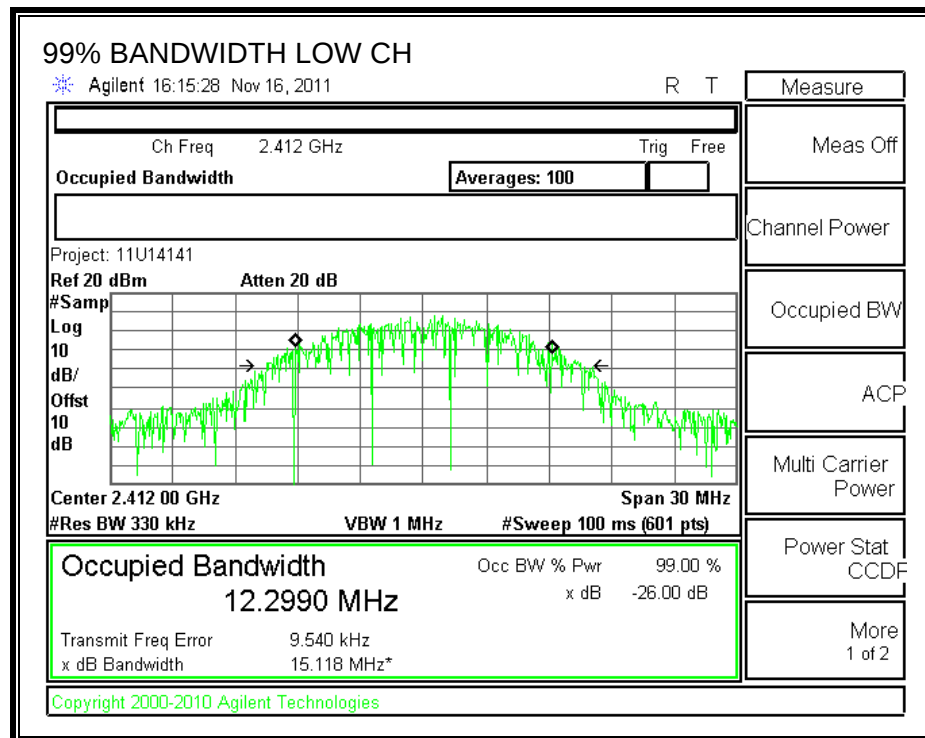
None; for reporting purposes only.

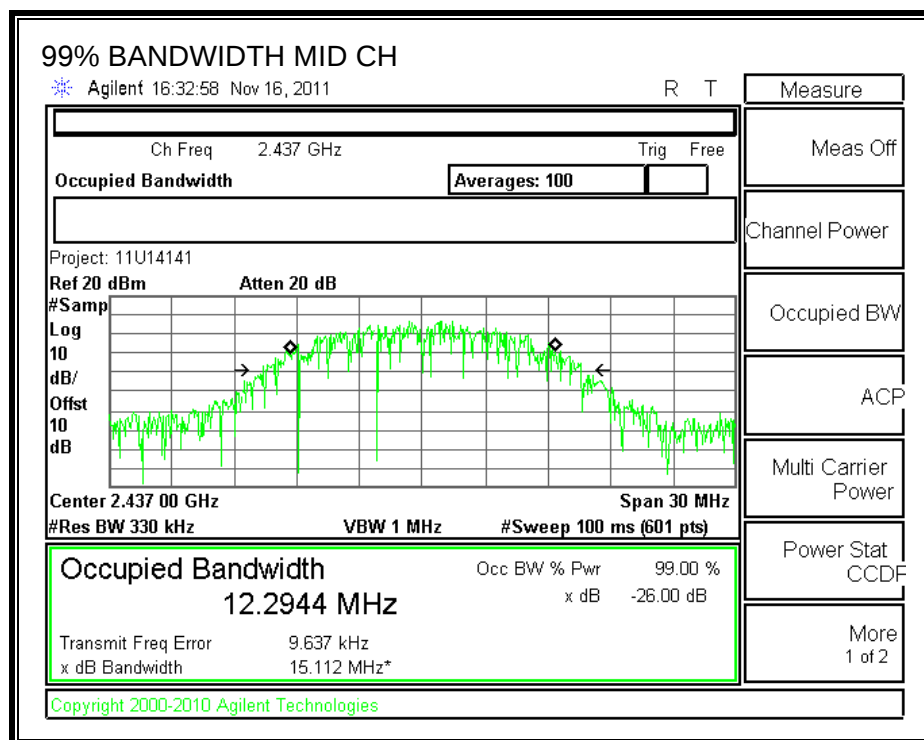
TEST PROCEDURE

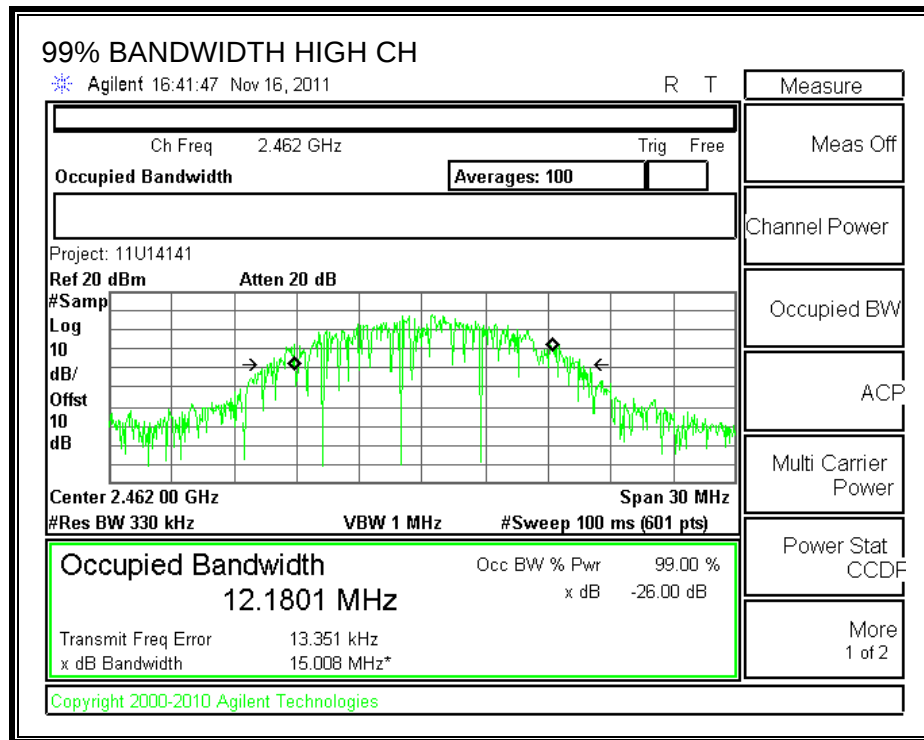
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	12.2990
Middle	2437	12.2944
High	2462	12.1801

99% BANDWIDTH





7.1.3. OUTPUT POWER**LIMITS**

FCC §15.247 (b)

IC RSS-210 A8.4

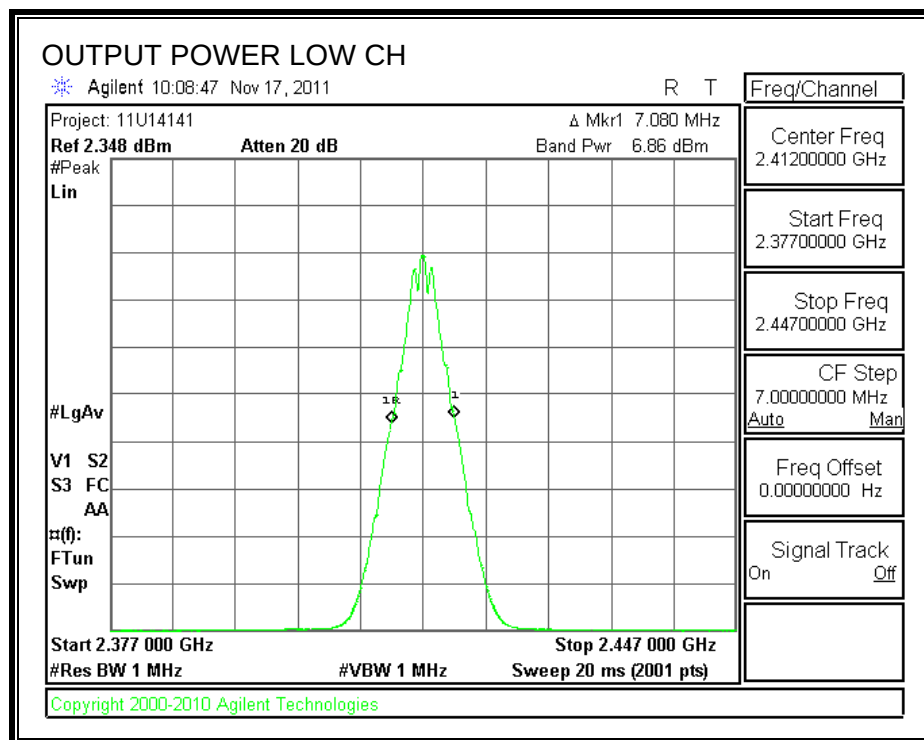
The maximum antenna gain is less than or equal to 6 dBi, therefore the limit is 30 dBm.

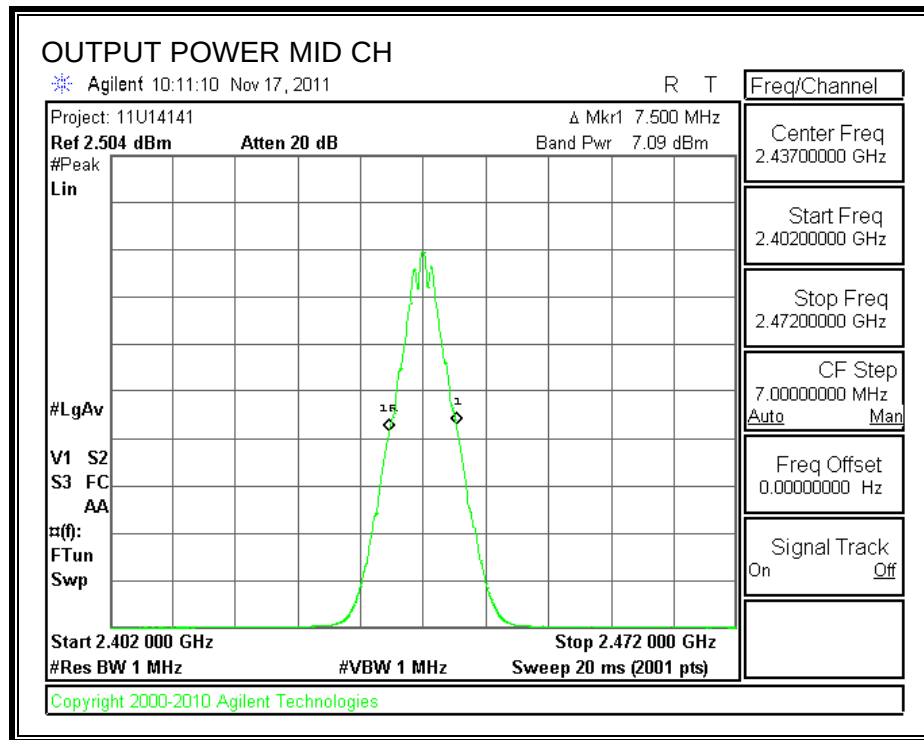
TEST PROCEDURE

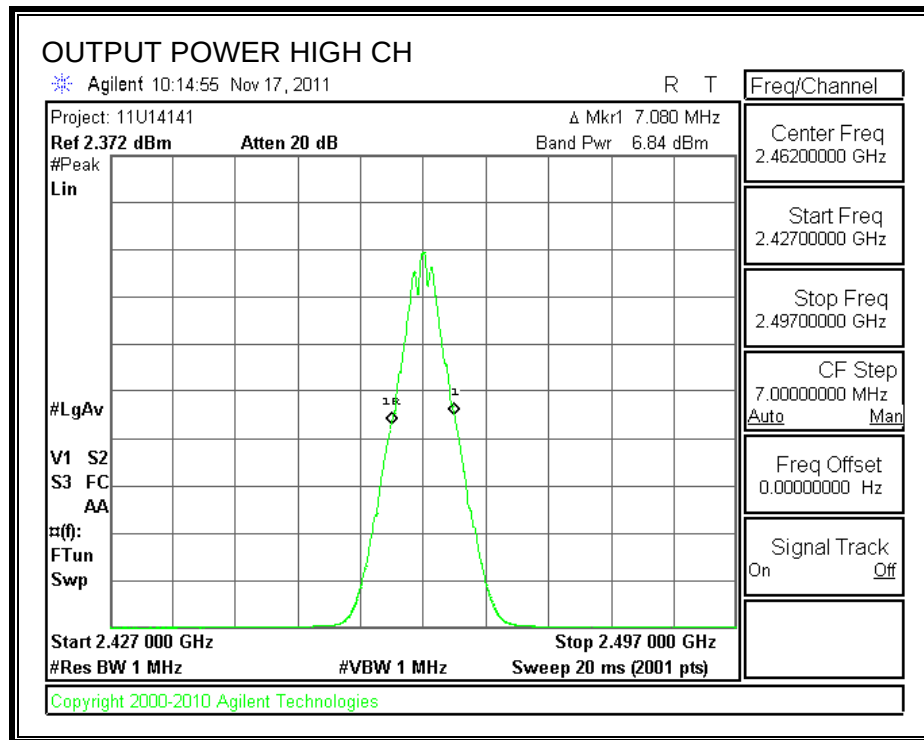
Peak power is measured using the Channel bandwidth Alternative peak output power procedure specified in "TCB Training for Devices covered under Scopes A1 - A4" by Joe Dichoso, May 2003.

RESULTS

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Attenuator and Cable Offset (dB)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2412	6.86	10	16.86	30	-13.14
Middle	2437	7.09	10	17.09	30	-12.91
High	2462	6.84	10	16.84	30	-13.16

OUTPUT POWER





7.1.4. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

The cable assembly insertion loss of 10 dB (including 10 dB pad and 0 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency (MHz)	Power (dBm)
Low	2412	15.00
Middle	2437	15.10
High	2462	15.00

7.1.5. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e)

IC RSS-210 A8.2 (b)

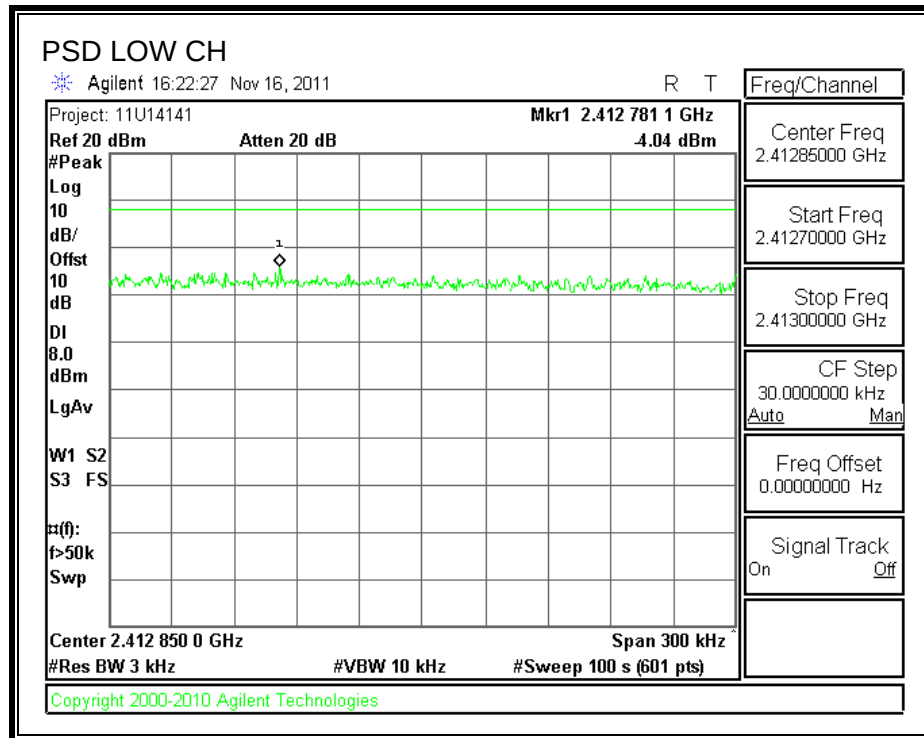
The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

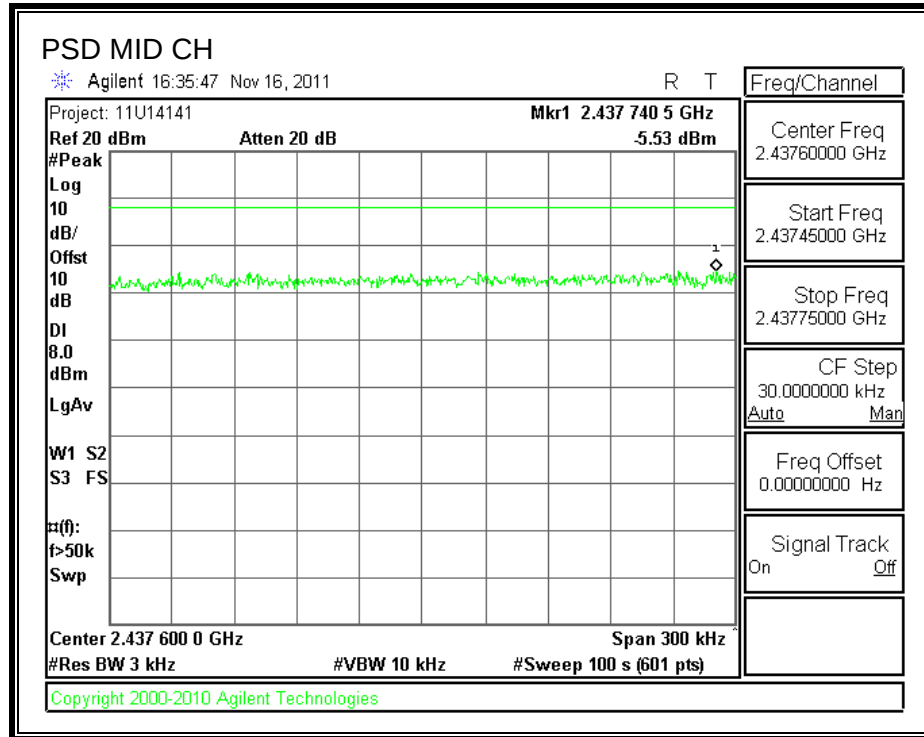
TEST PROCEDURE

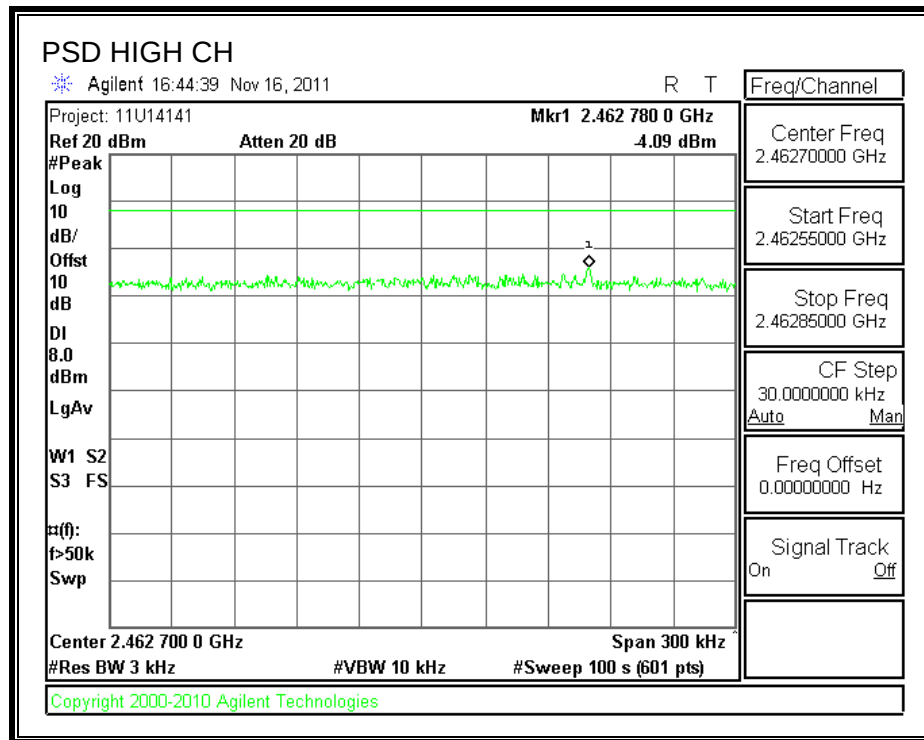
Output power was measured based on the use of a peak measurement, therefore the power spectral density was measured using PSD Option 1 in accordance with FCC document "Measurement of Digital Transmission Systems Operating under Section 15.247", March 23, 2005.

RESULTS

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-4.04	8	-12.04
Middle	2437	-5.53	8	-13.53
High	2462	-4.09	8	-12.09

POWER SPECTRAL DENSITY





7.1.6. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

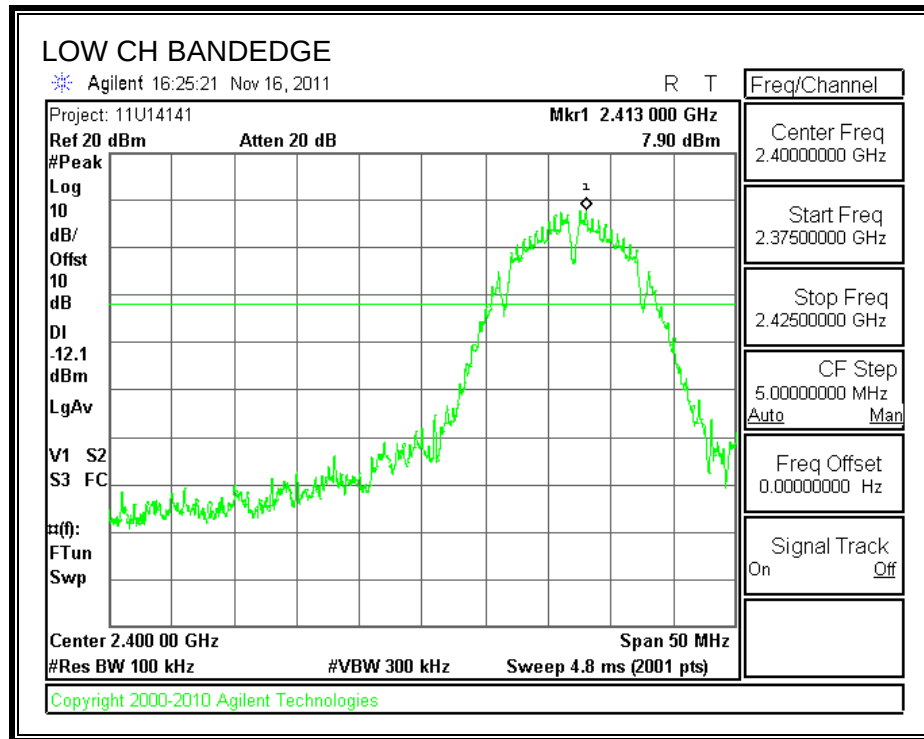
IC RSS-210 A8.5

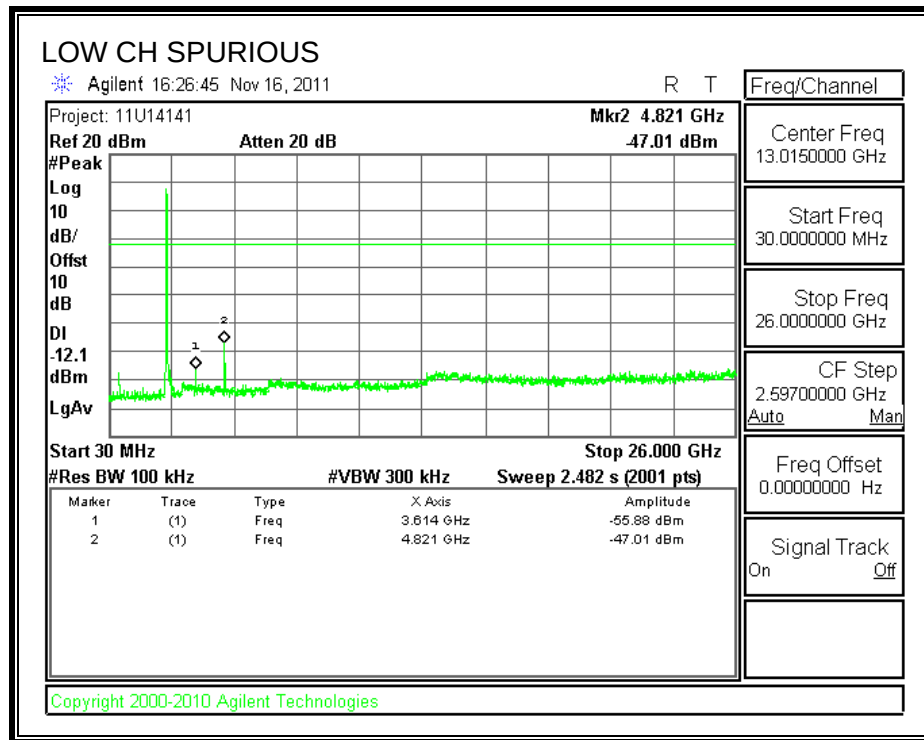
Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

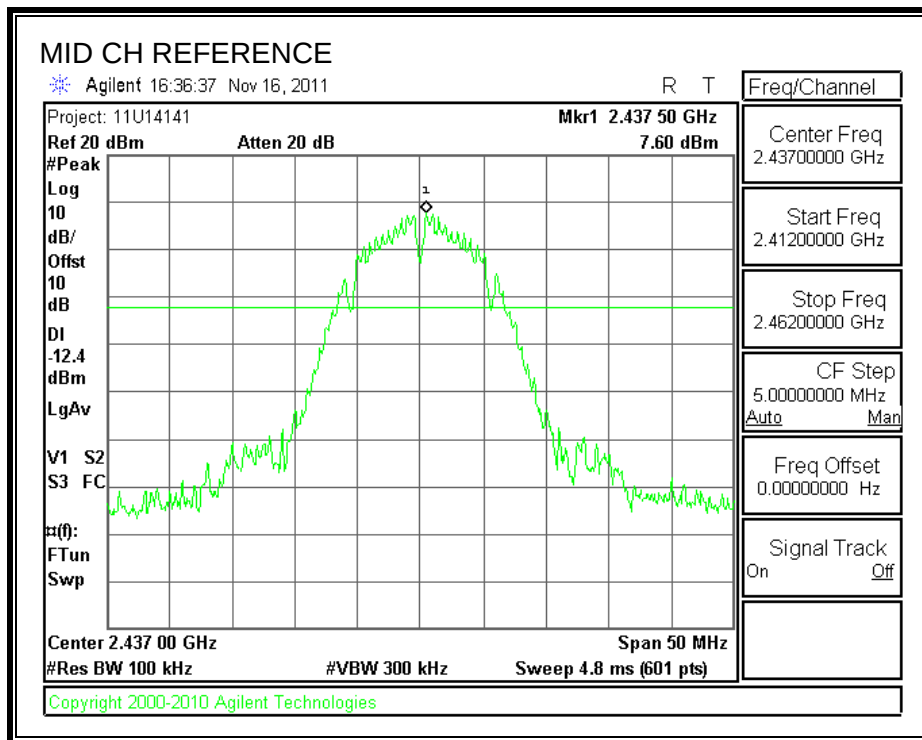
TEST PROCEDURE

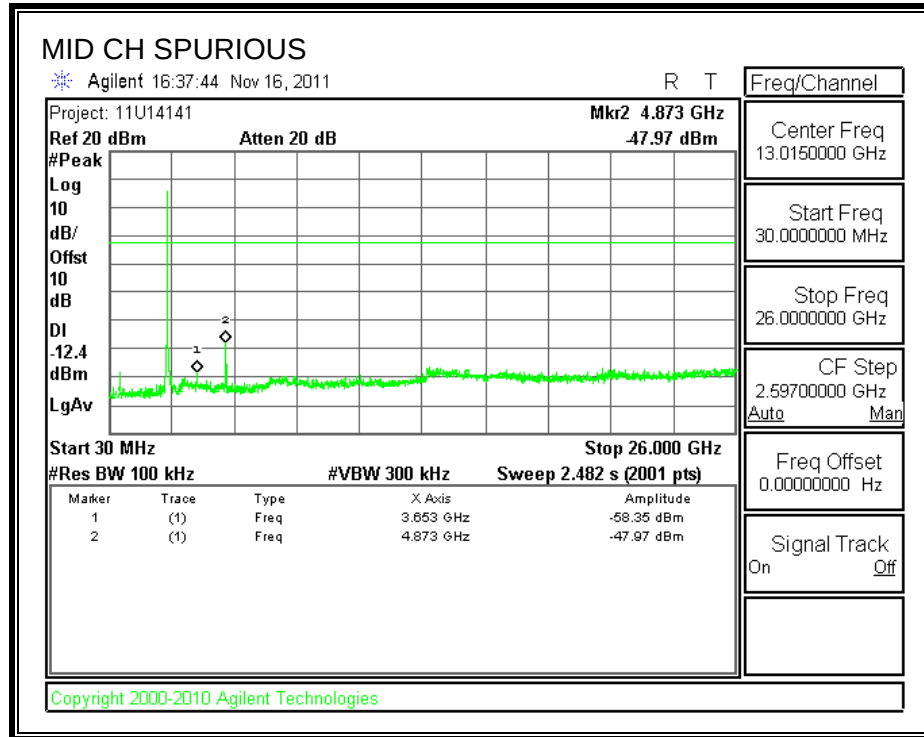
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

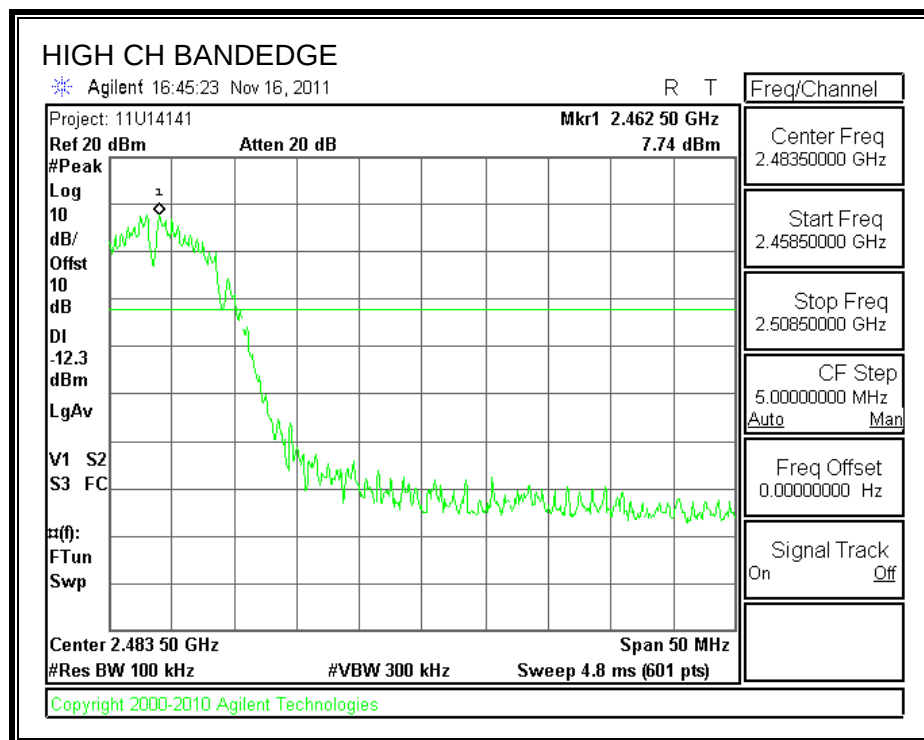
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

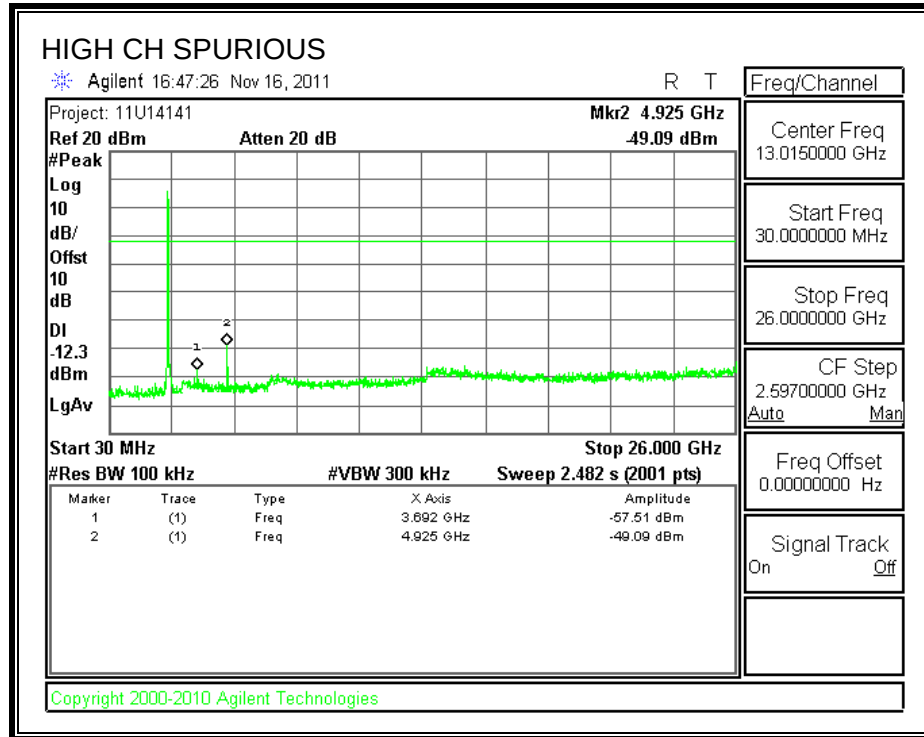
RESULTS**SPURIOUS EMISSIONS, LOW CHANNEL**



SPURIOUS EMISSIONS, MID CHANNEL



SPURIOUS EMISSIONS, HIGH CHANNEL



7.2. 802.11g MODE IN THE 2.4 GHz BAND

7.2.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

IC RSS-210 A8.2 (a)

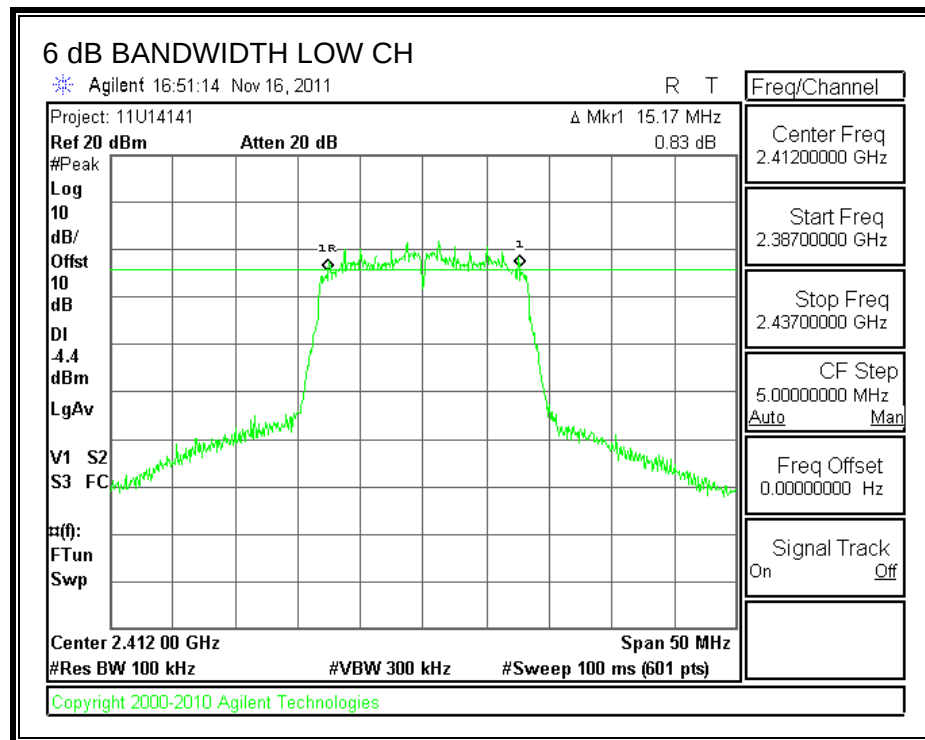
The minimum 6 dB bandwidth shall be at least 500 kHz.

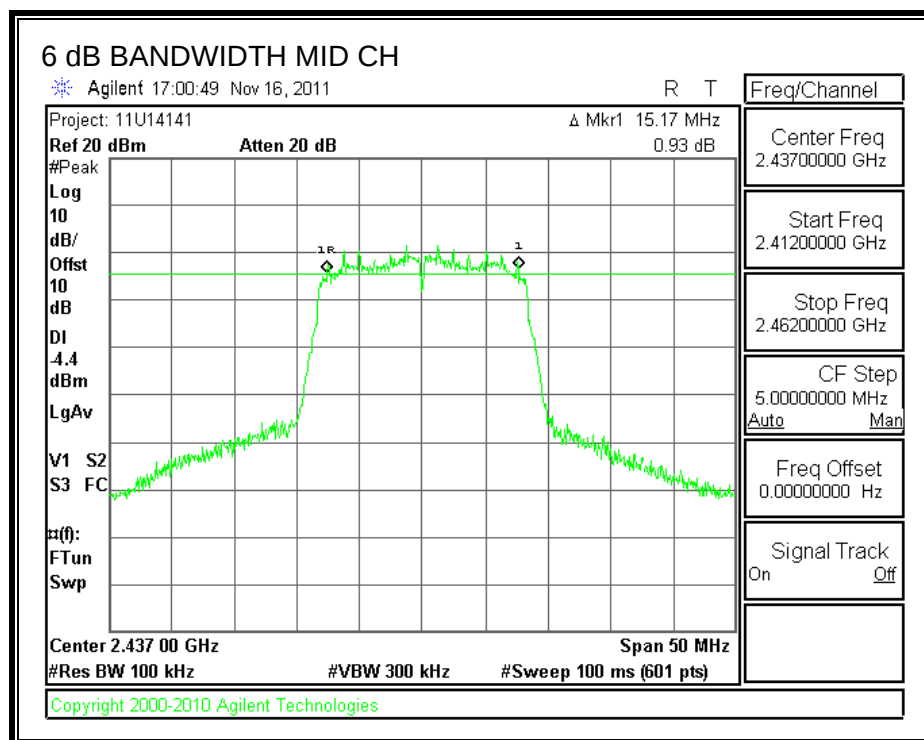
TEST PROCEDURE

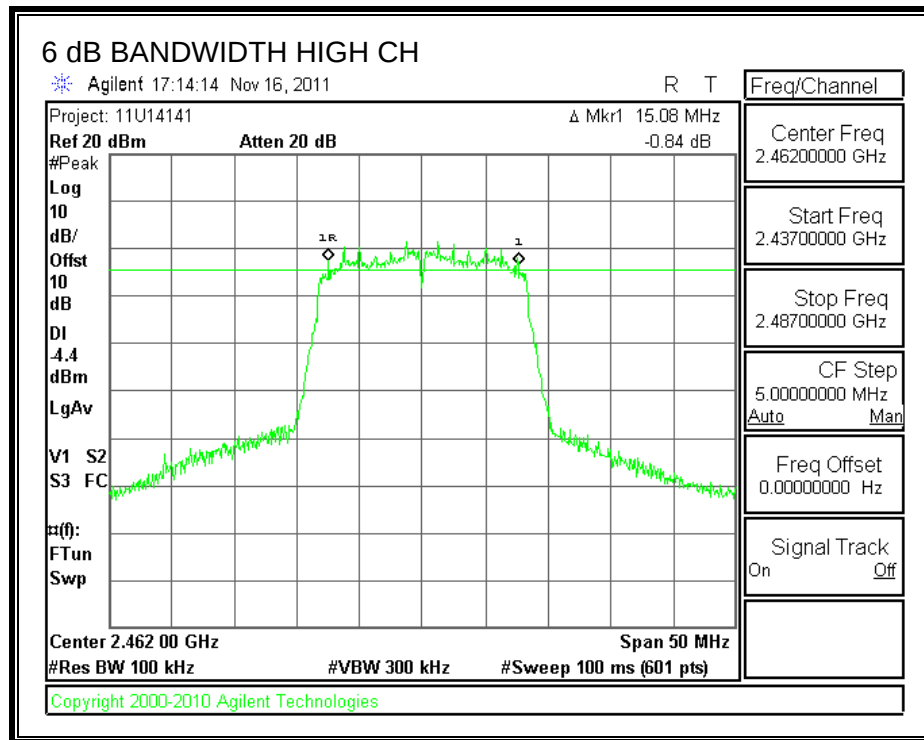
The transmitter output is connected to a spectrum analyzer. The RBW is set to 100 kHz and the VBW is set to 300 kHz. The sweep time is coupled.

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	15.17	0.5
Middle	2437	15.17	0.5
High	2462	15.08	0.5

6 dB BANDWIDTH





7.2.2. 99% BANDWIDTH

LIMITS

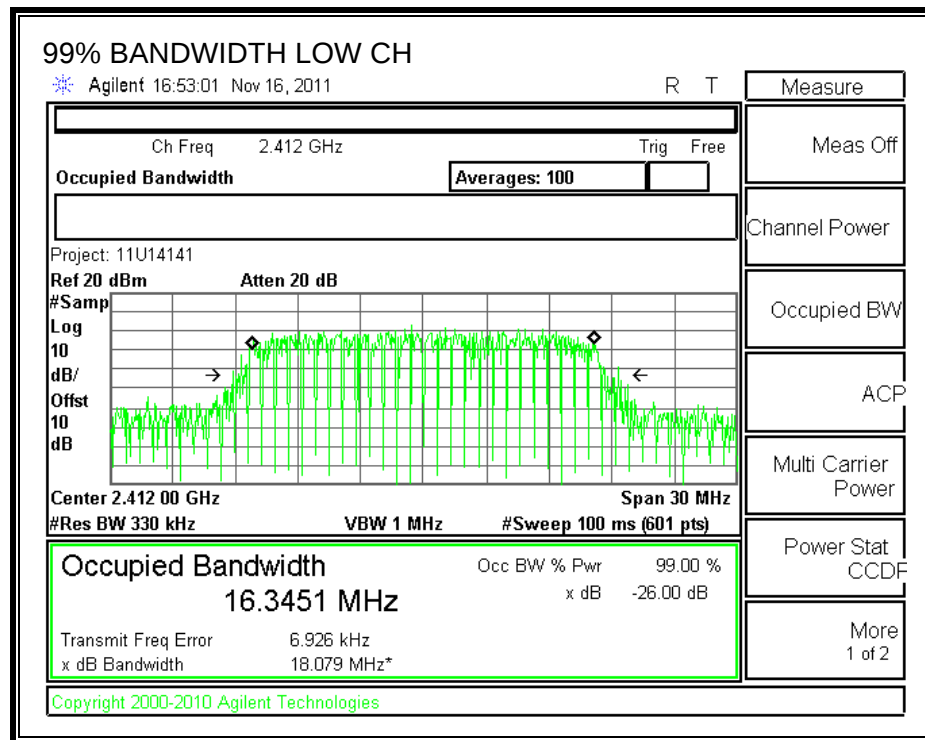
None; for reporting purposes only.

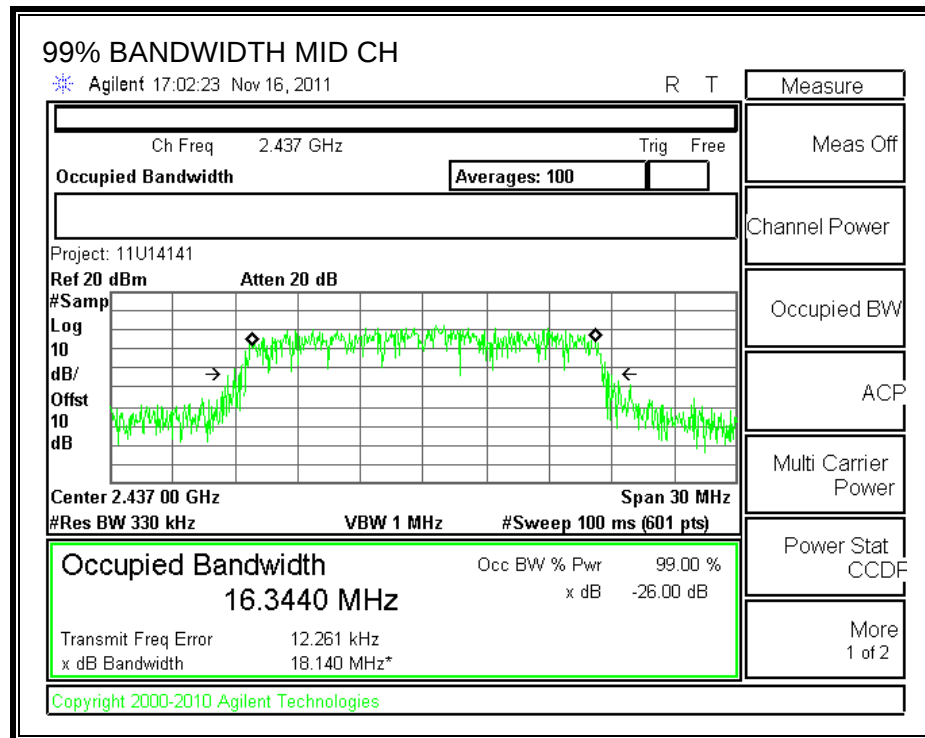
TEST PROCEDURE

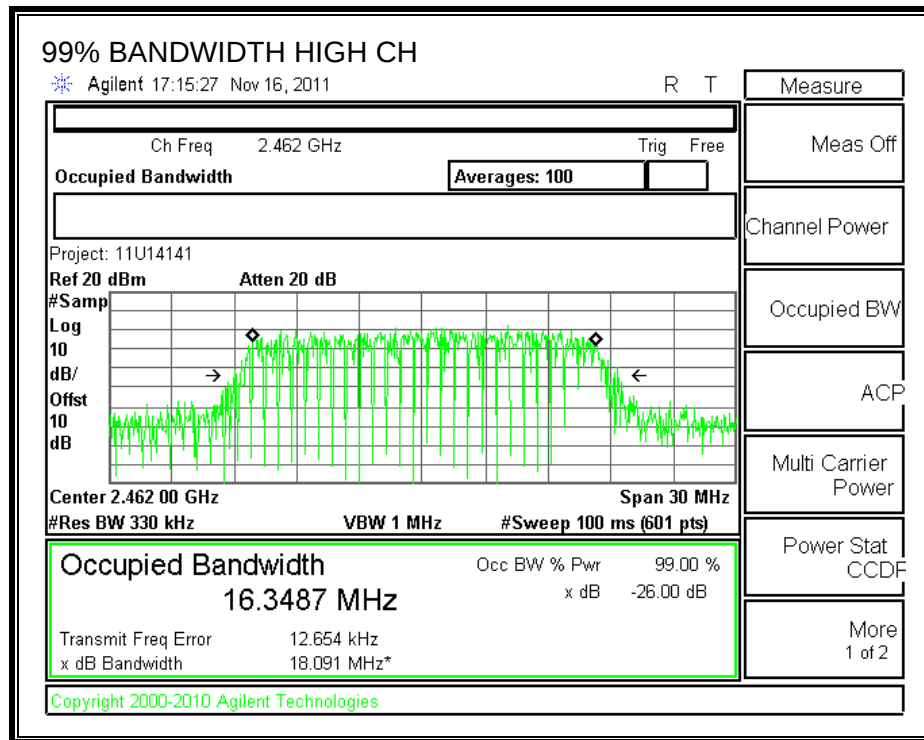
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	16.3451
Middle	2437	16.344
High	2462	16.3487

99% BANDWIDTH





7.2.3. OUTPUT POWER**LIMITS**

FCC §15.247 (b)

IC RSS-210 A8.4

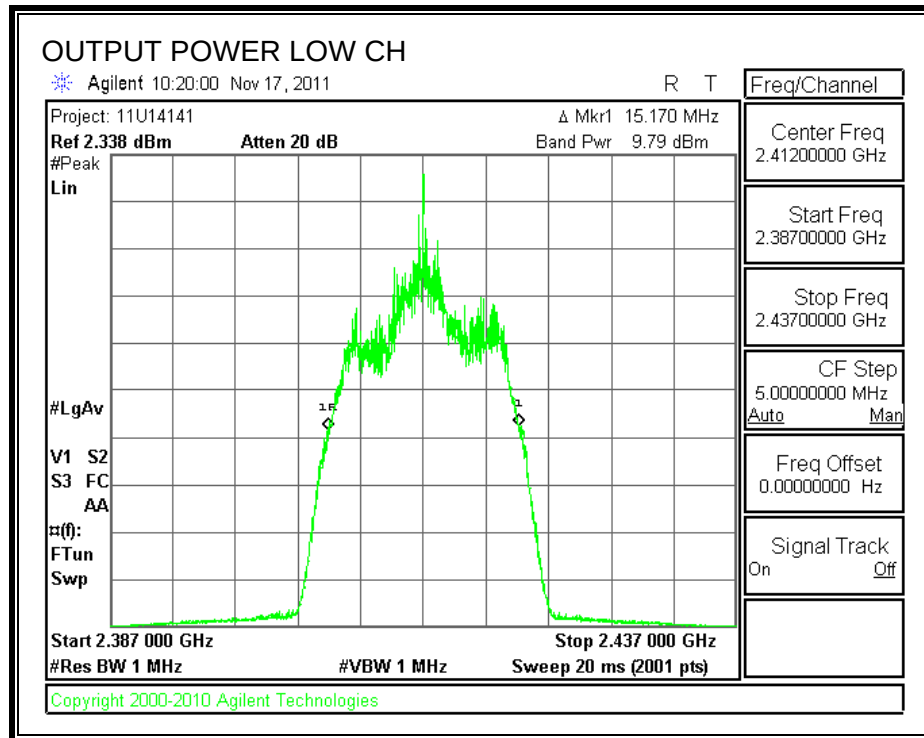
The maximum antenna gain is less than or equal to 6 dBi, therefore the limit is 30 dBm.

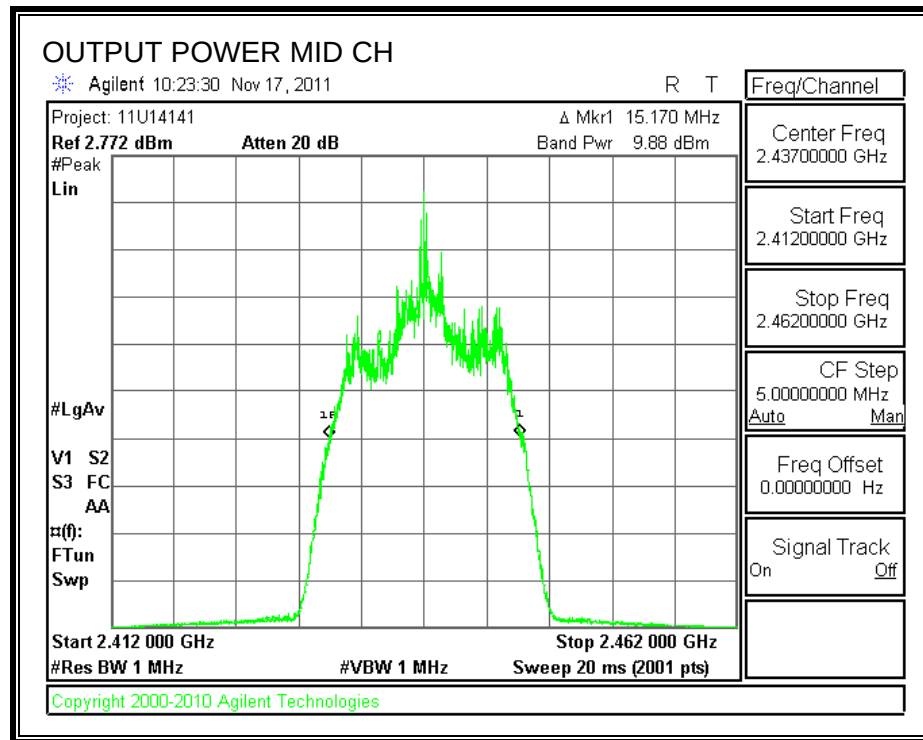
TEST PROCEDURE

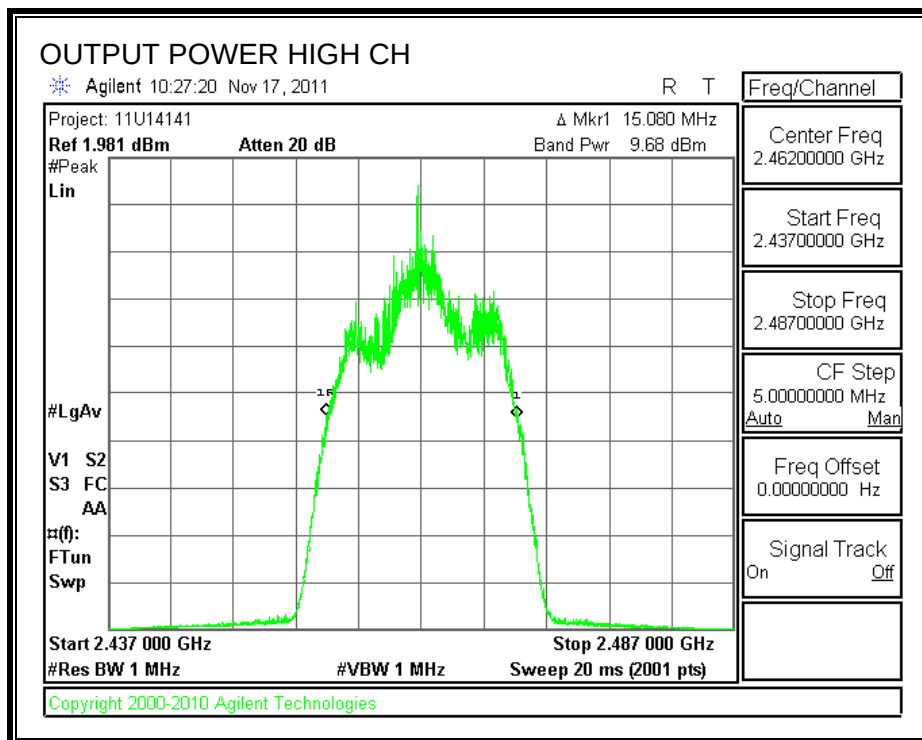
Peak power is measured using the Channel bandwidth Alternative peak output power procedure specified in "TCB Training for Devices covered under Scopes A1 - A4" by Joe Dichoso, May 2003.

RESULTS

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Attenuator and Cable Offset (dB)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2412	9.79	10	19.79	30	-10.21
Middle	2437	9.88	10	19.88	30	-10.12
High	2462	9.68	10	19.68	30	-10.32

OUTPUT POWER





7.2.4. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

The cable assembly insertion loss of 10 dB (including 10 dB pad and 0 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency (MHz)	Power (dBm)
Low	2412	11.93
Middle	2437	12.05
High	2462	11.95

7.2.5. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e)

IC RSS-210 A8.2 (b)

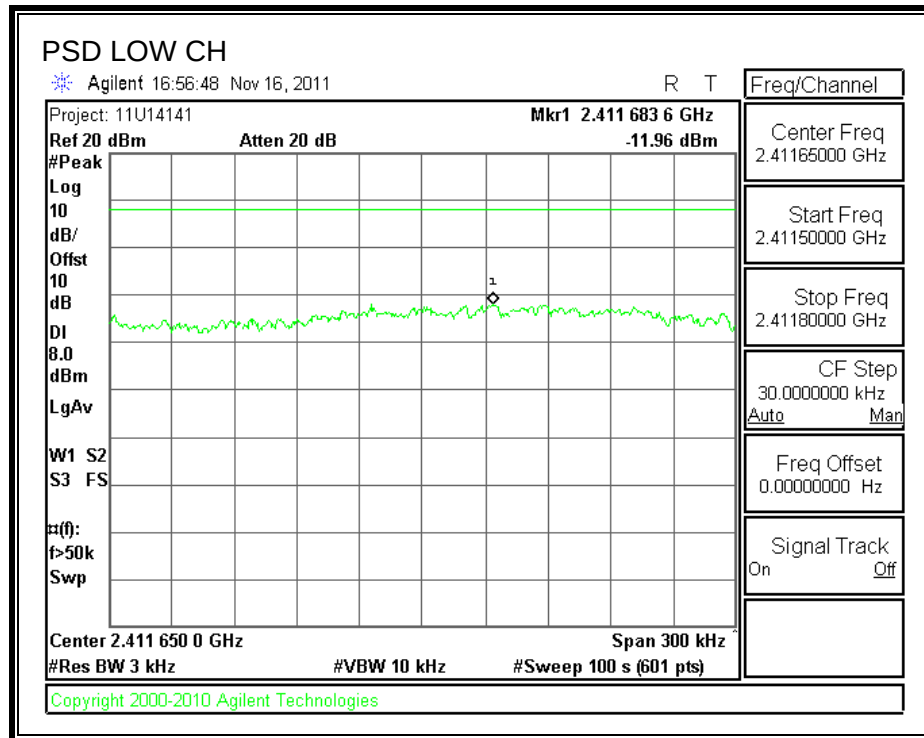
The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

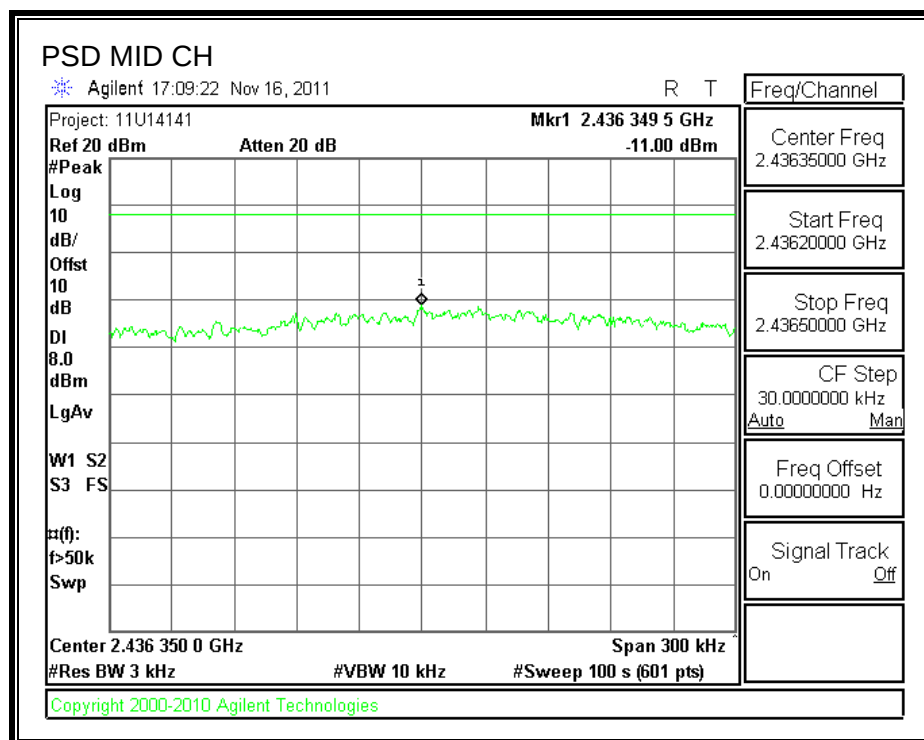
TEST PROCEDURE

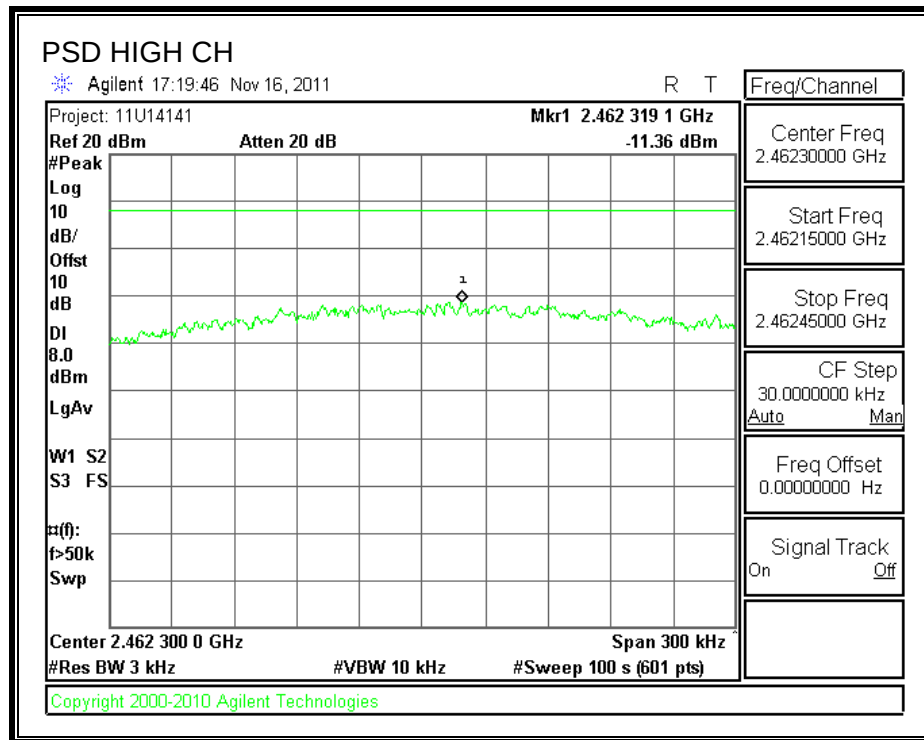
Output power was measured based on the use of a peak measurement, therefore the power spectral density was measured using PSD Option 1 in accordance with FCC document "Measurement of Digital Transmission Systems Operating under Section 15.247", March 23, 2005.

RESULTS

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-11.96	8	-19.96
Middle	2437	-11.00	8	-19.00
High	2462	-11.36	8	-19.36

POWER SPECTRAL DENSITY





7.2.6. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

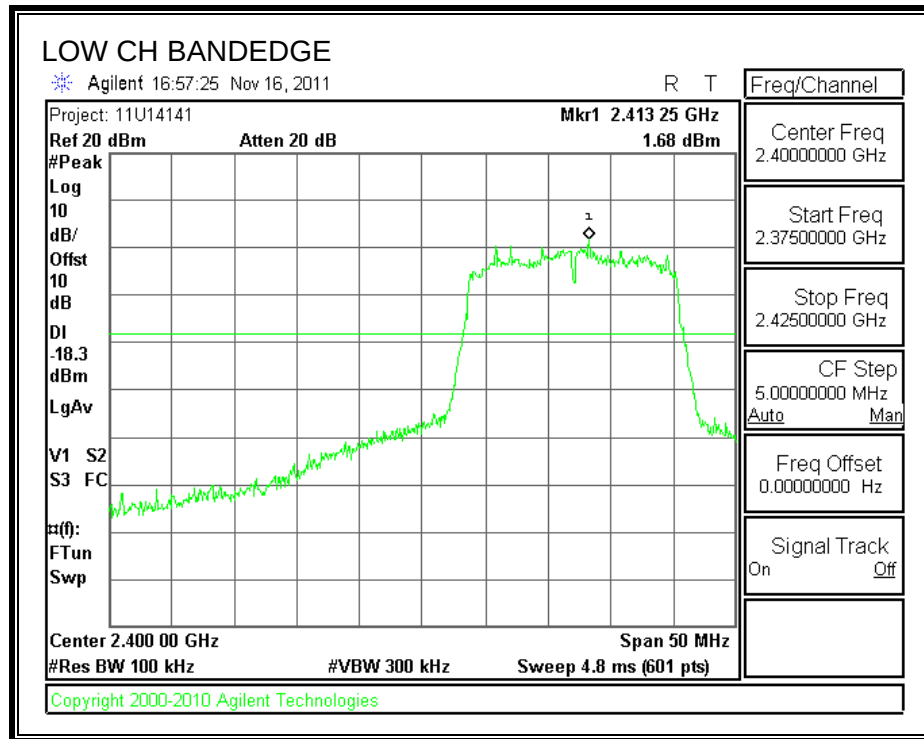
IC RSS-210 A8.5

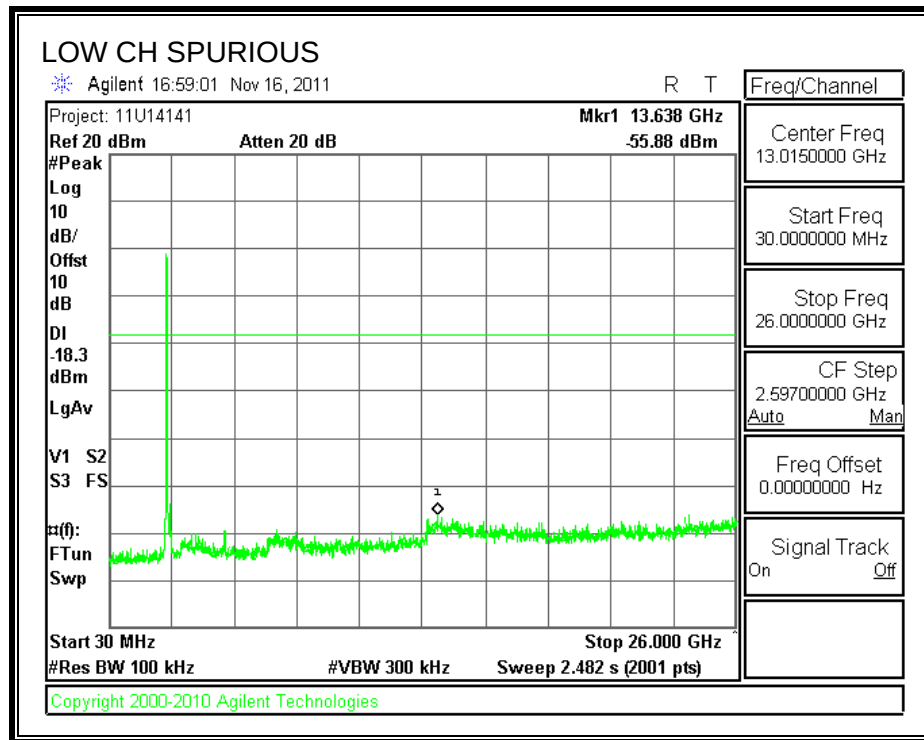
Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

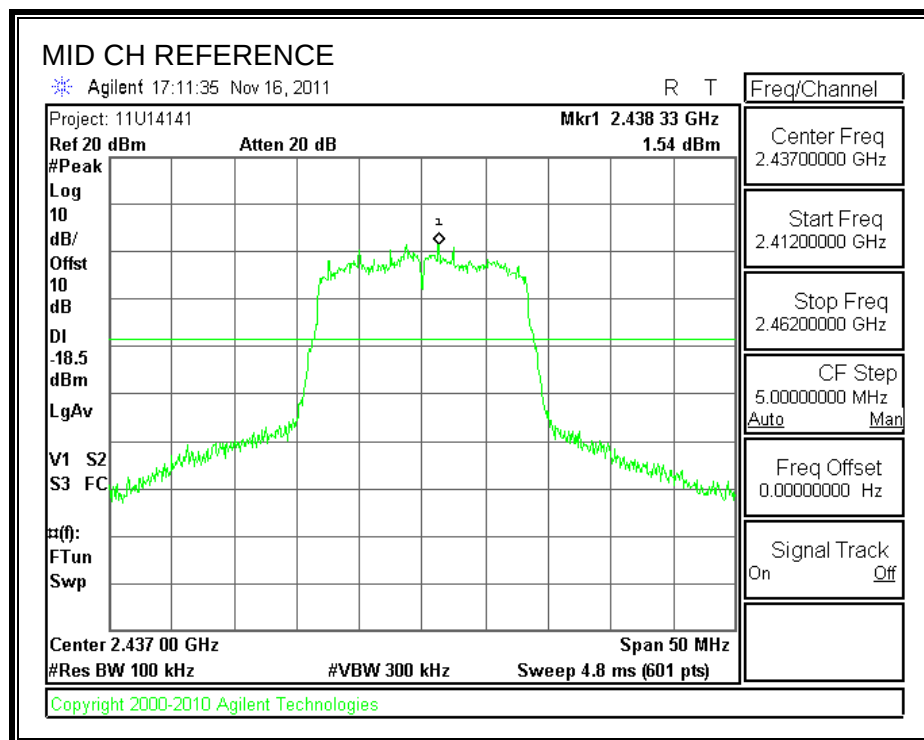
TEST PROCEDURE

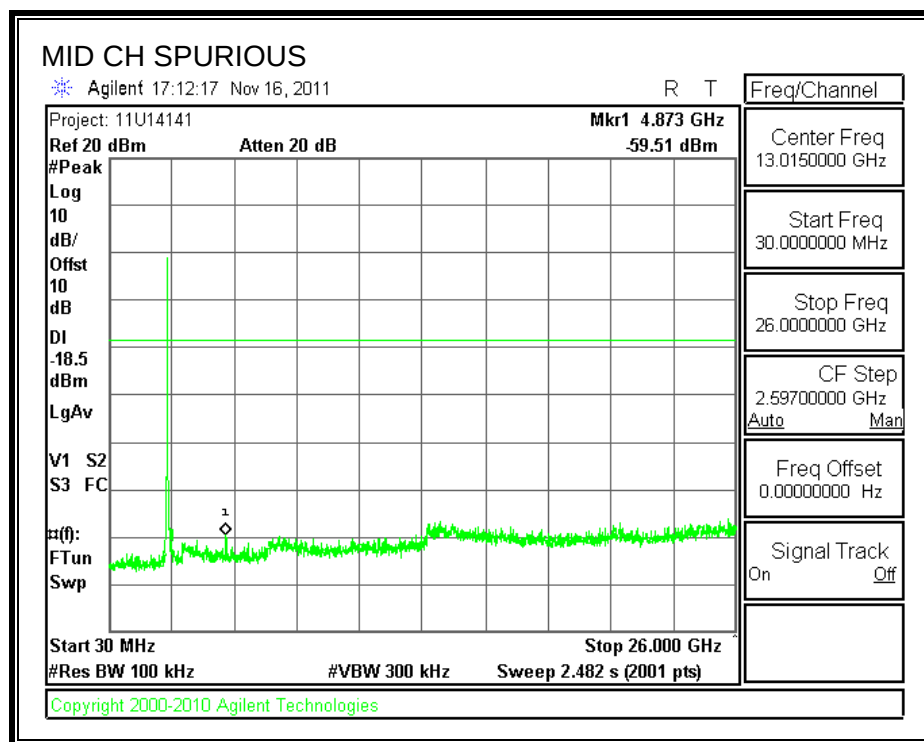
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

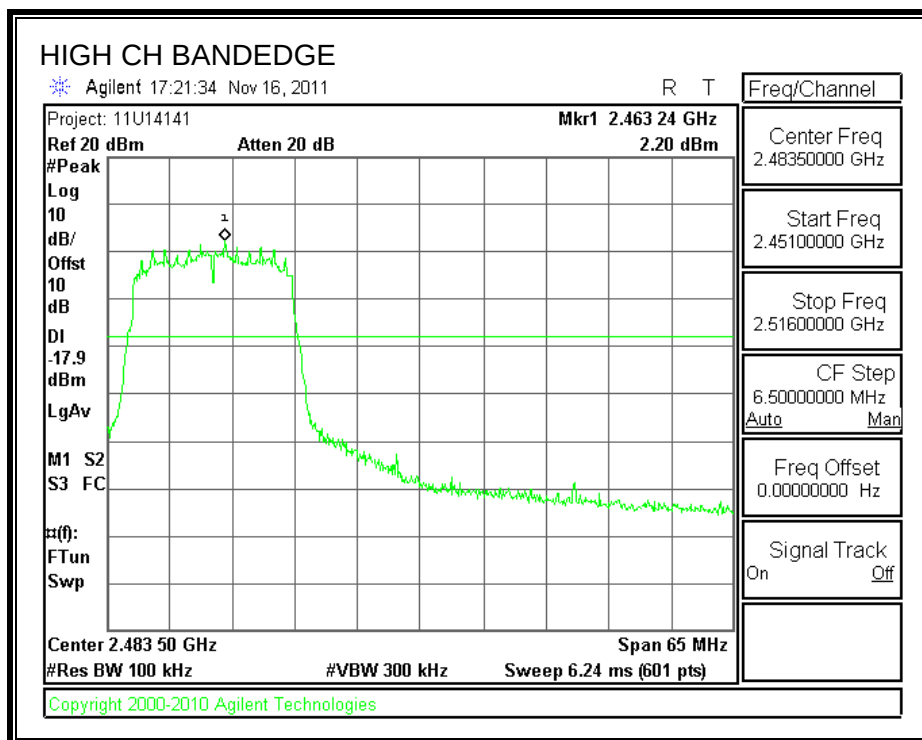
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

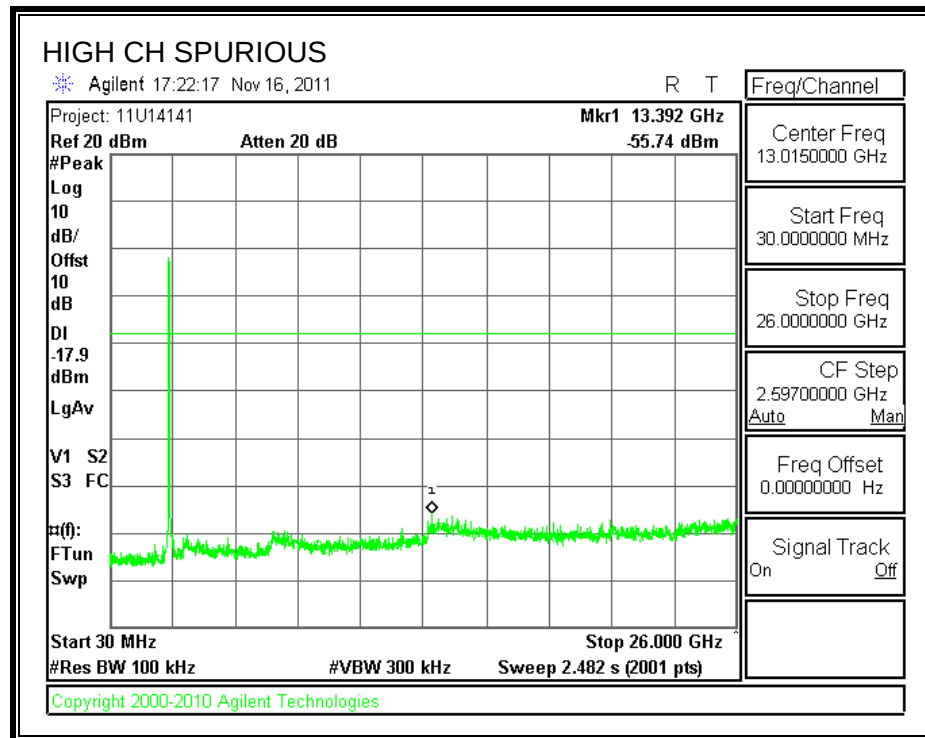
RESULTS**SPURIOUS EMISSIONS, LOW CHANNEL**



SPURIOUS EMISSIONS, MID CHANNEL



SPURIOUS EMISSIONS, HIGH CHANNEL



7.3. 802.11n HT20 MODE IN THE 2.4 GHZ BAND

7.3.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

IC RSS-210 A8.2 (a)

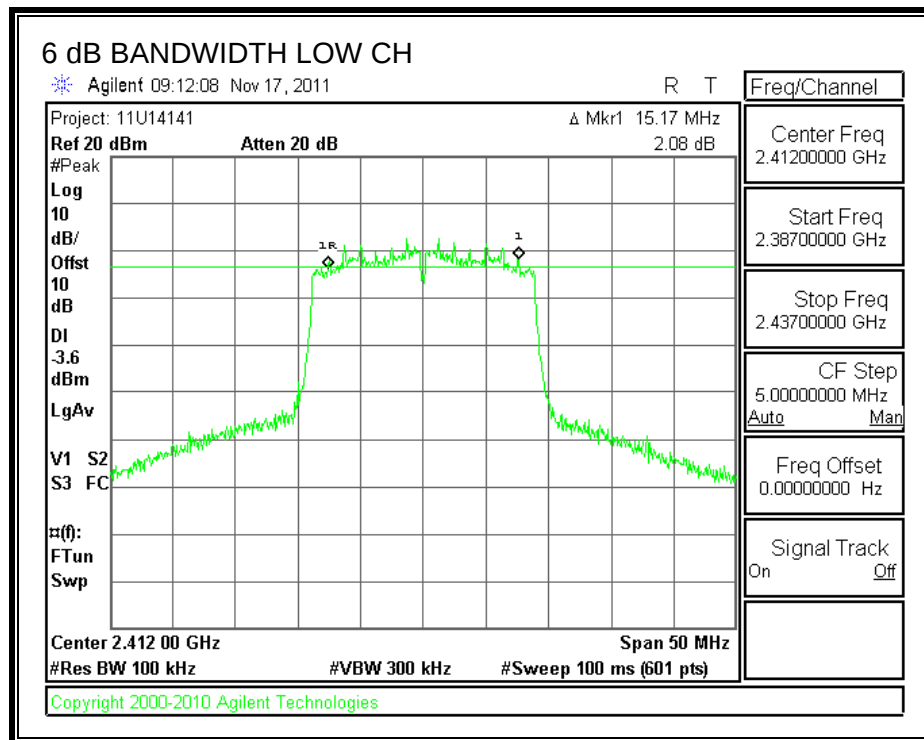
The minimum 6 dB bandwidth shall be at least 500 kHz.

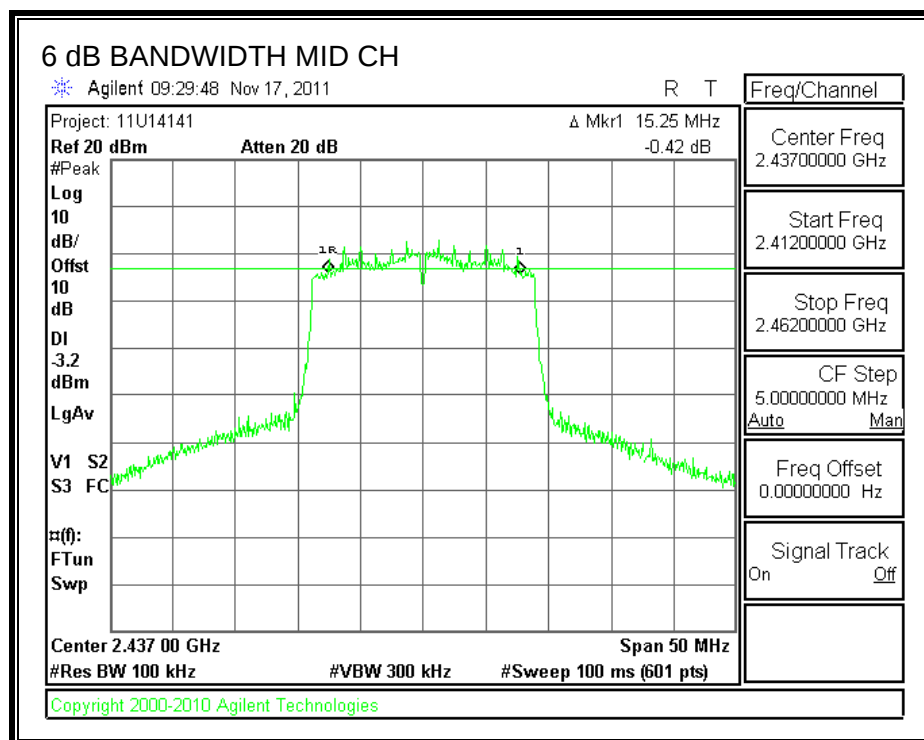
TEST PROCEDURE

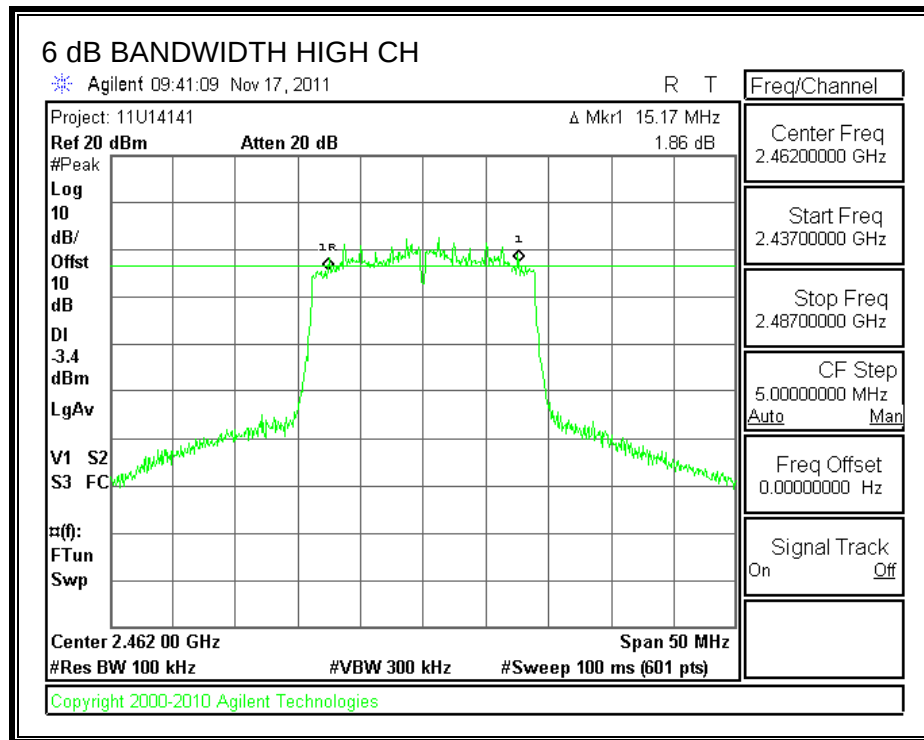
The transmitter output is connected to a spectrum analyzer. The RBW is set to 100 kHz and the VBW is set to 300 kHz. The sweep time is coupled.

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	15.17	0.5
Middle	2437	15.25	0.5
High	2462	15.17	0.5

6 dB BANDWIDTH





7.3.2. 99% BANDWIDTH

LIMITS

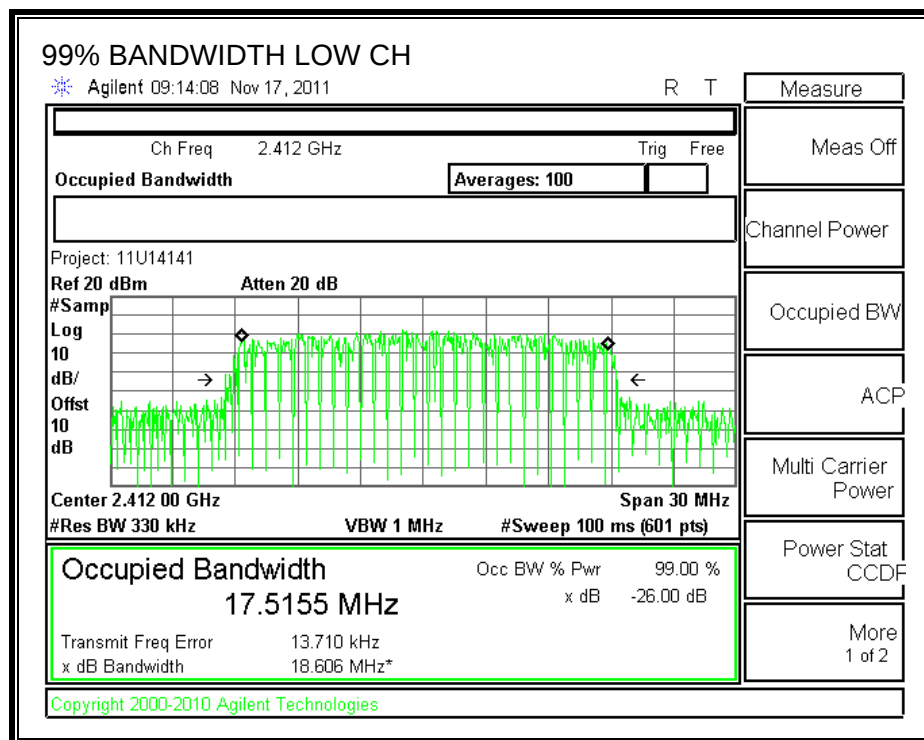
None; for reporting purposes only.

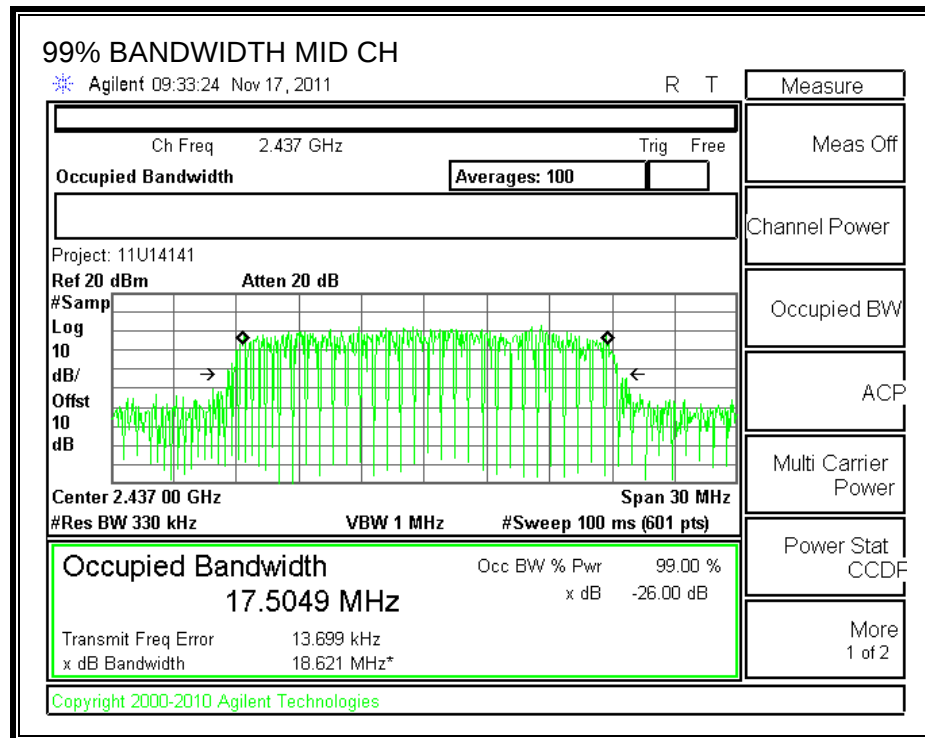
TEST PROCEDURE

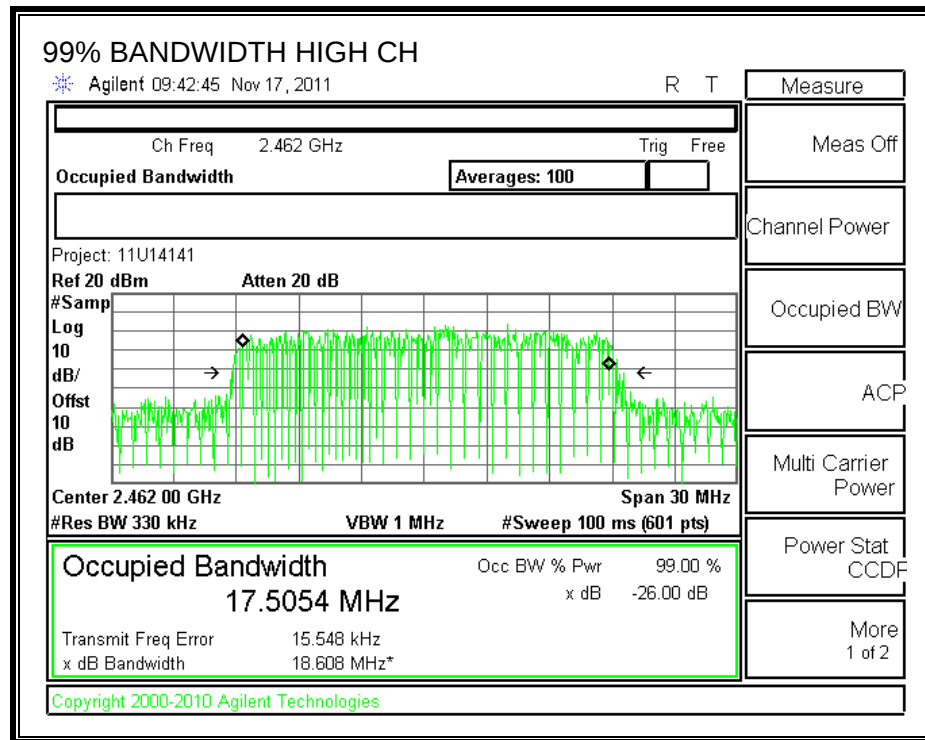
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	17.5155
Middle	2437	17.5049
High	2462	17.5054

99% BANDWIDTH





7.3.3. OUTPUT POWER**LIMITS**

FCC §15.247 (b)

IC RSS-210 A8.4

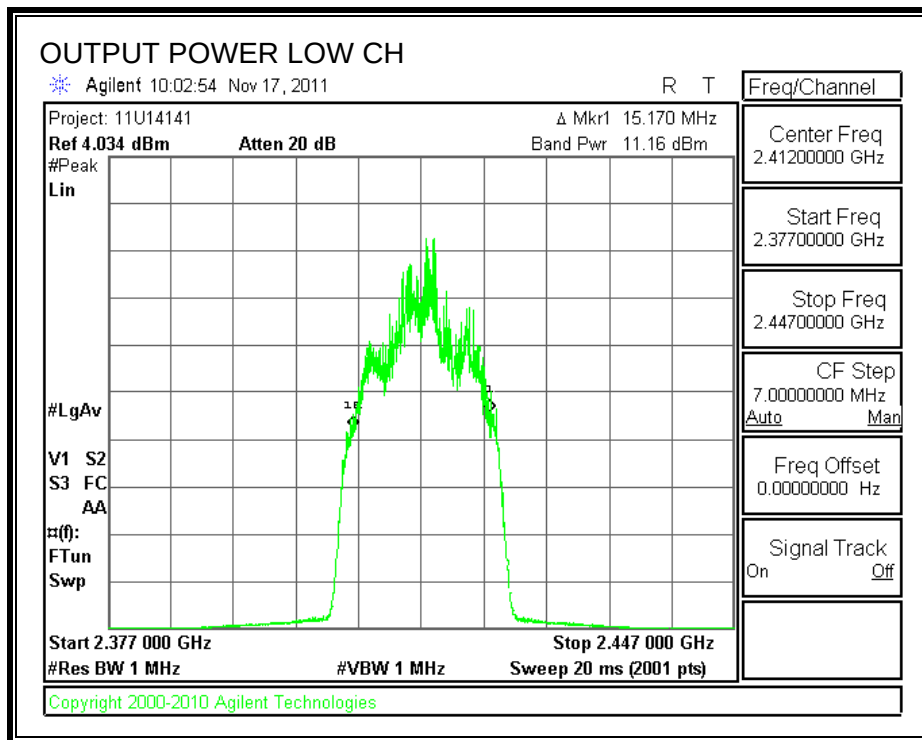
The maximum antenna gain is less than or equal to 6 dBi, therefore the limit is 30 dBm.

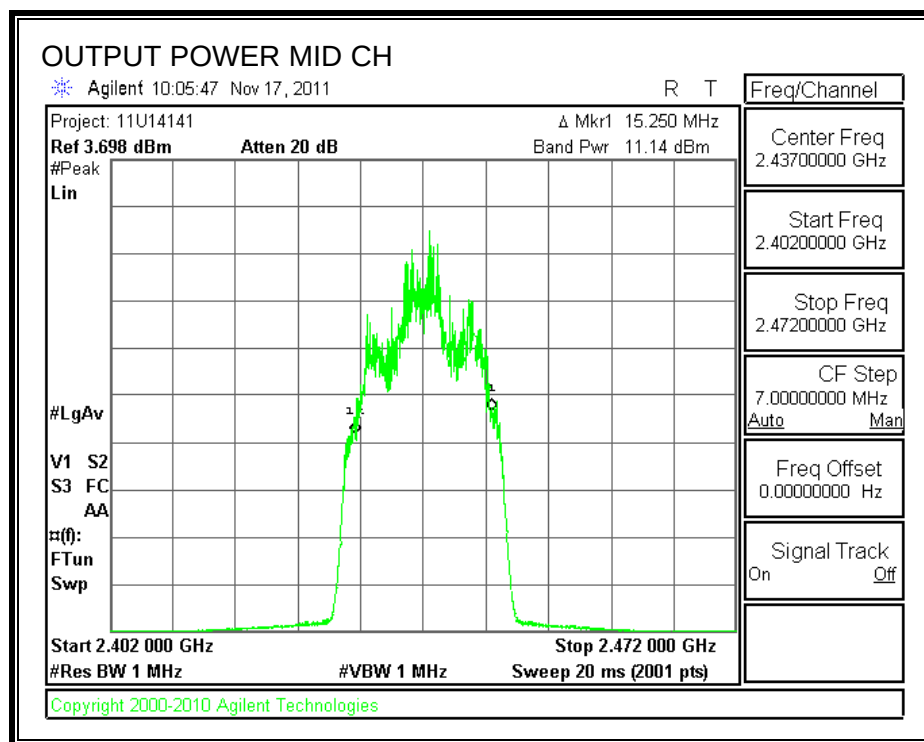
TEST PROCEDURE

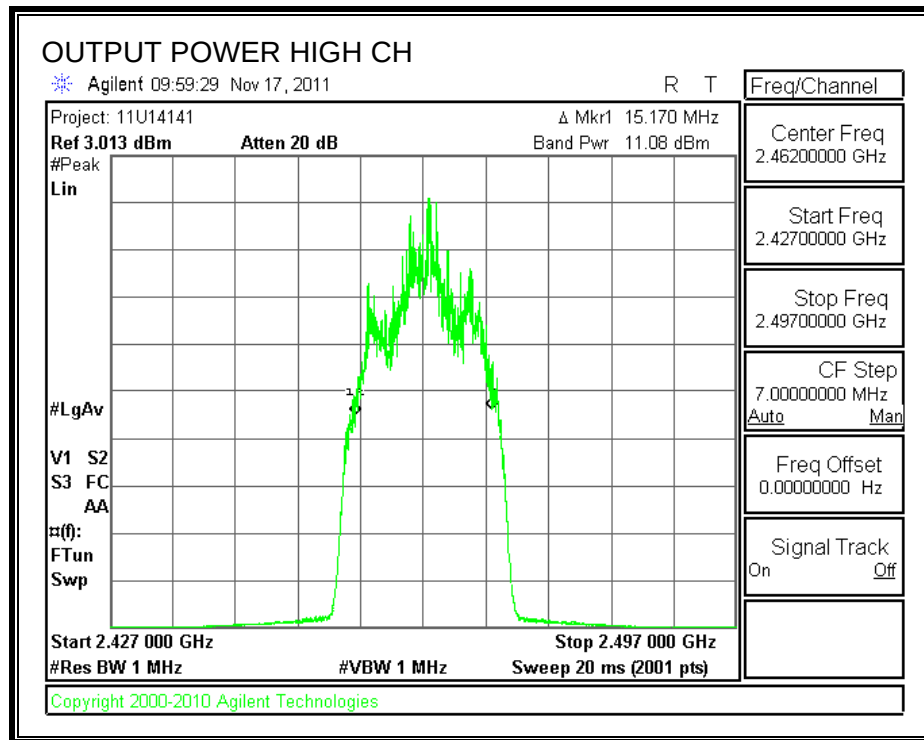
Peak power is measured using the Channel bandwidth Alternative peak output power procedure specified in "TCB Training for Devices covered under Scopes A1 - A4" by Joe Dichoso, May 2003.

RESULTS

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Attenuator and Cable Offset (dB)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2412	11.16	10	21.16	30	-8.84
Middle	2437	11.14	10	21.14	30	-8.86
High	2462	11.08	10	21.08	30	-8.92

OUTPUT POWER





7.3.4. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

The cable assembly insertion loss of 10 dB (including 10 dB pad and 0 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency (MHz)	Power (dBm)
Low	2412	12.60
Middle	2437	12.63
High	2462	12.54

7.3.5. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e)

IC RSS-210 A8.2 (b)

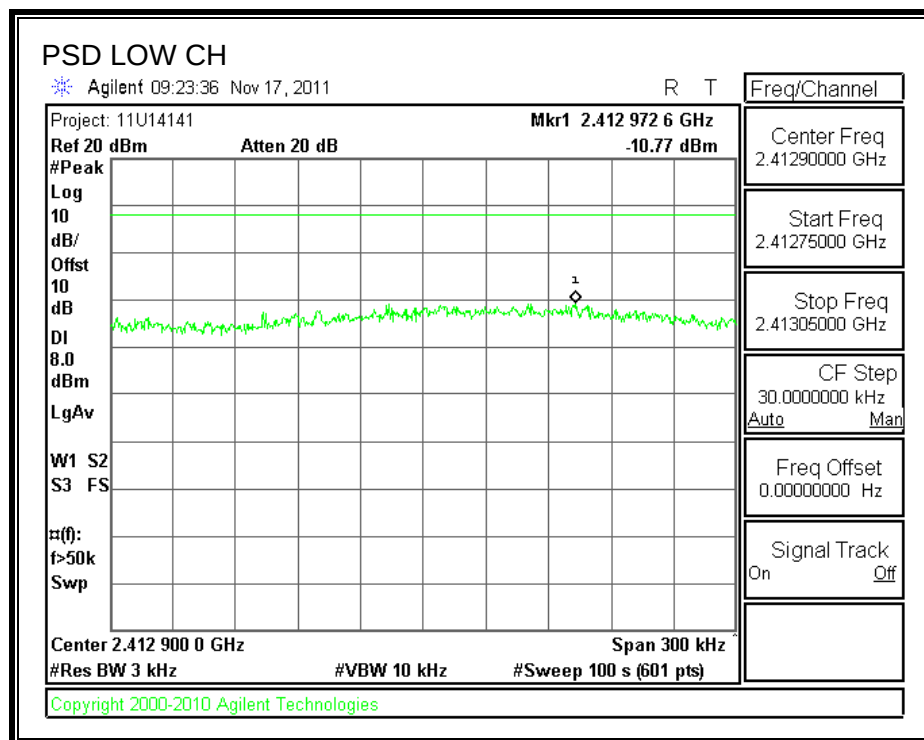
The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

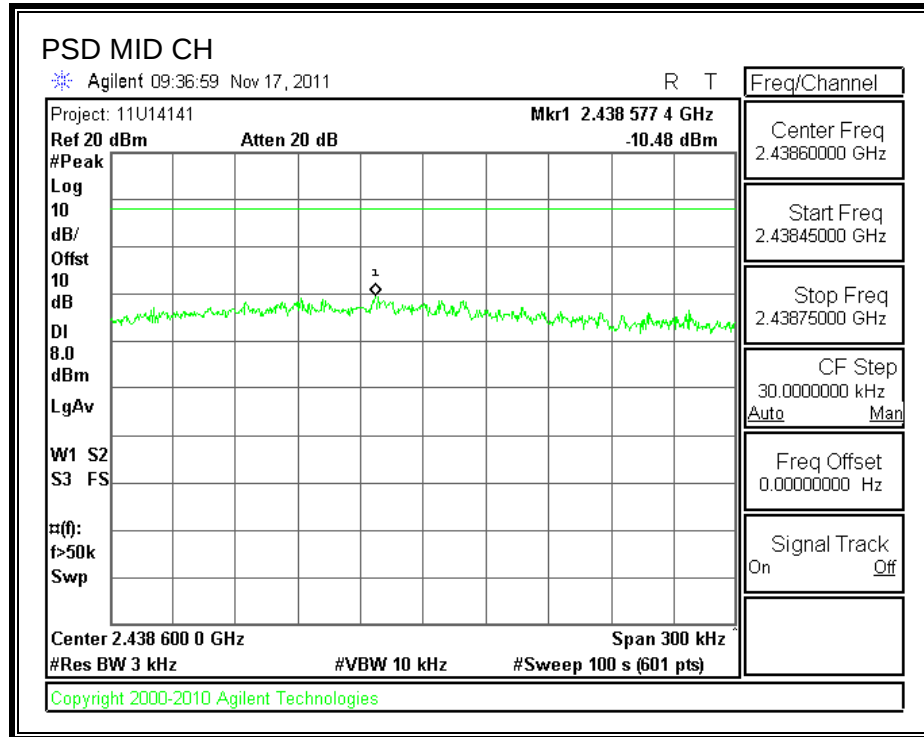
TEST PROCEDURE

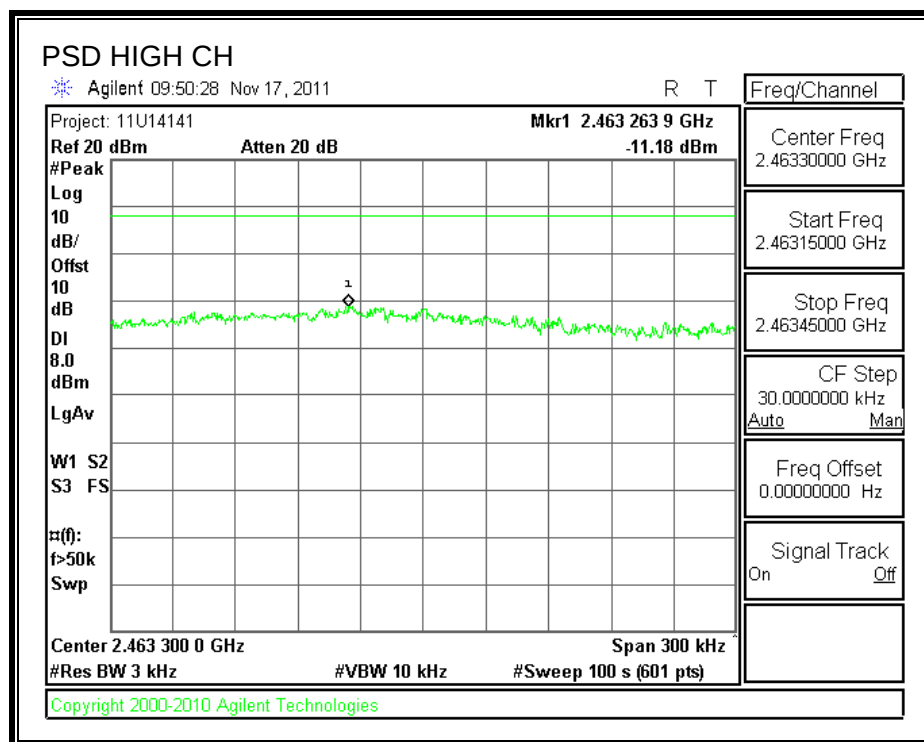
Output power was measured based on the use of a peak measurement, therefore the power spectral density was measured using PSD Option 1 in accordance with FCC document "Measurement of Digital Transmission Systems Operating under Section 15.247", March 23, 2005.

RESULTS

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-10.77	8	-18.77
Middle	2437	-10.48	8	-18.48
High	2462	-11.18	8	-19.18

POWER SPECTRAL DENSITY





7.3.6. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

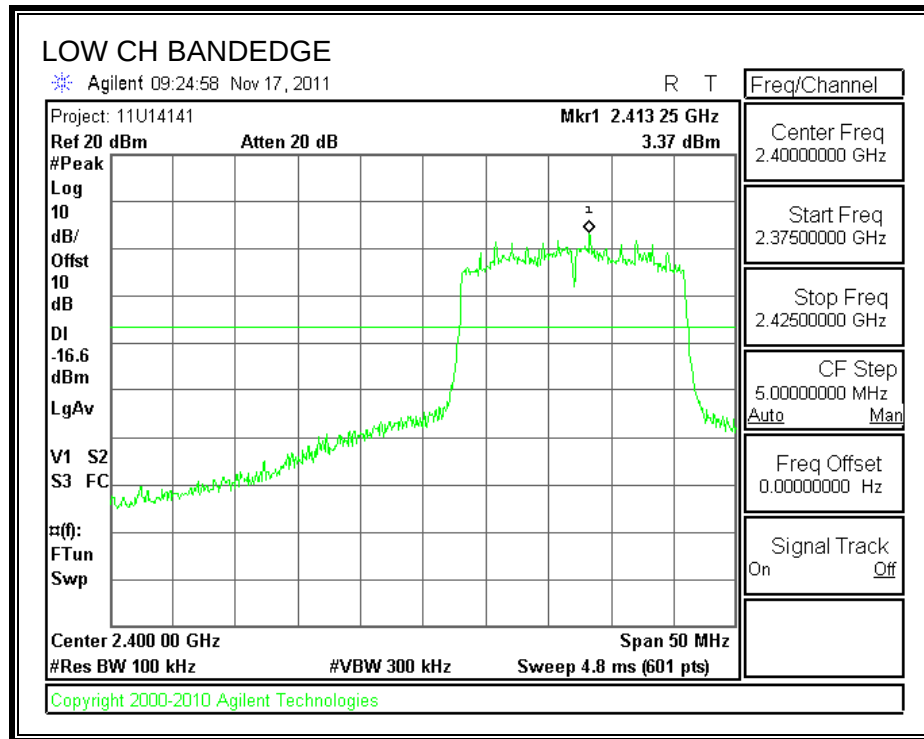
IC RSS-210 A8.5

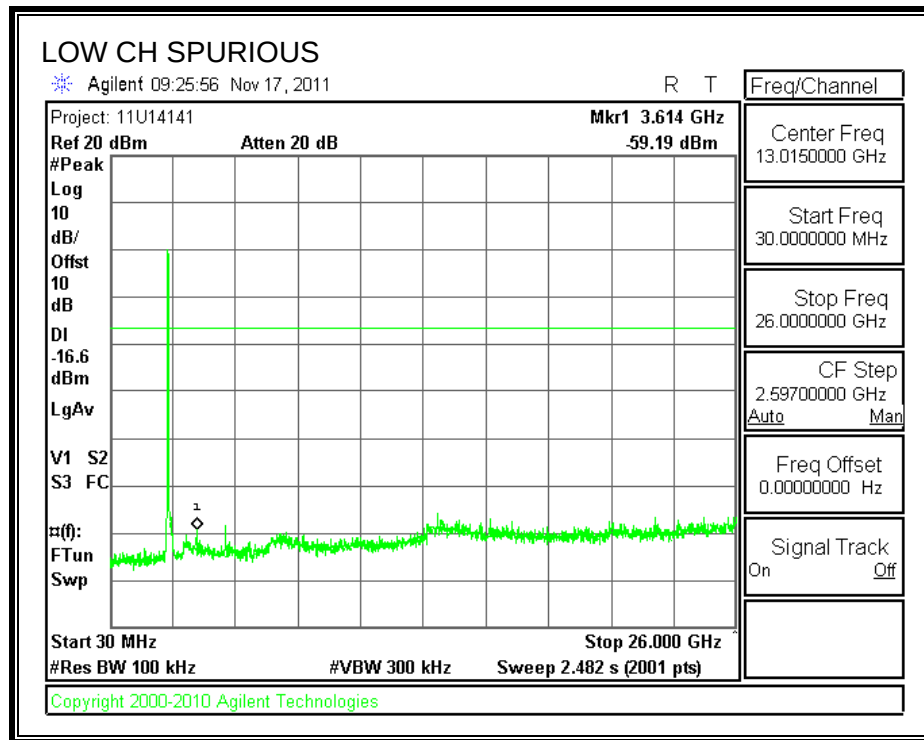
Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

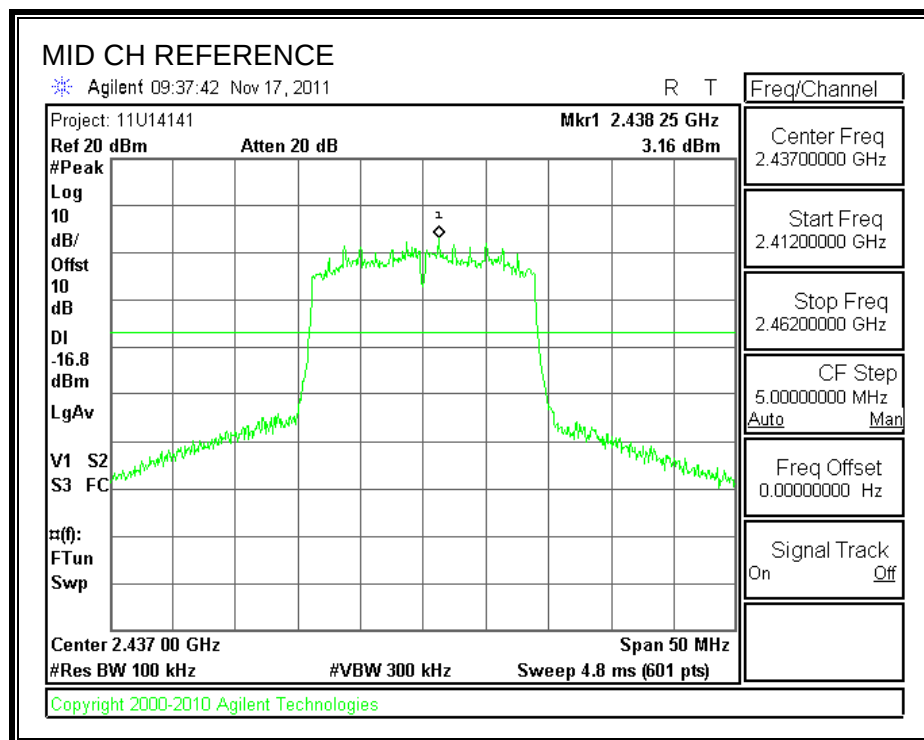
TEST PROCEDURE

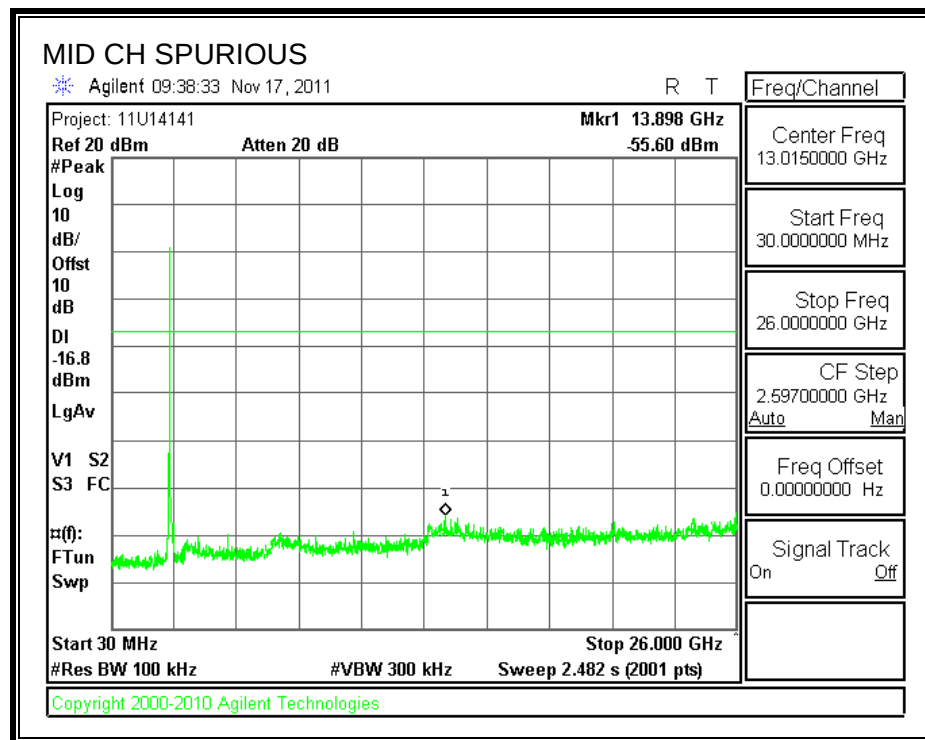
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

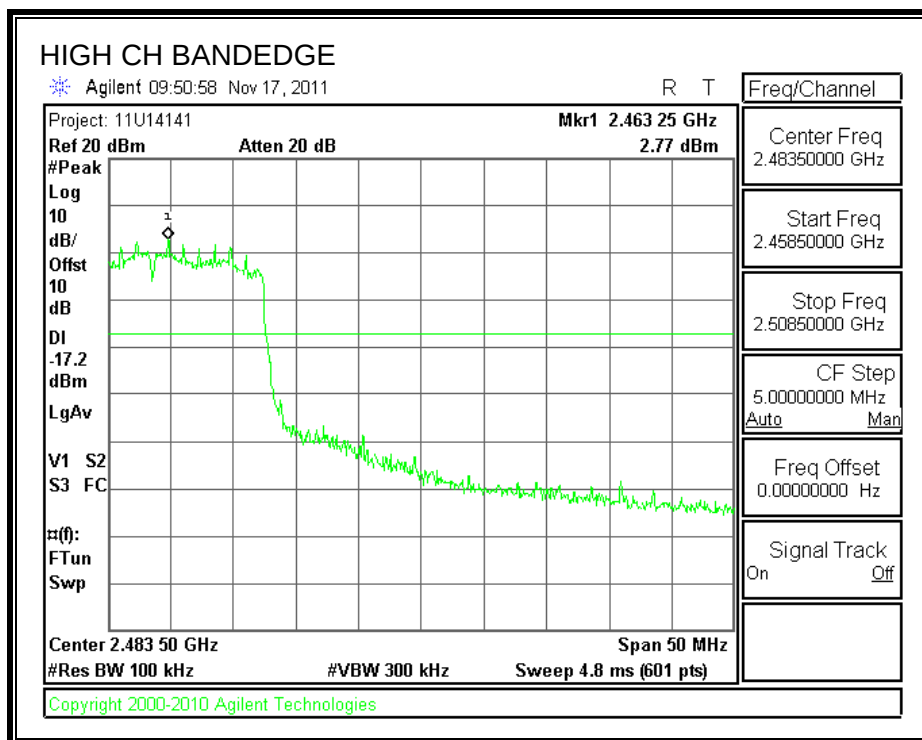
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

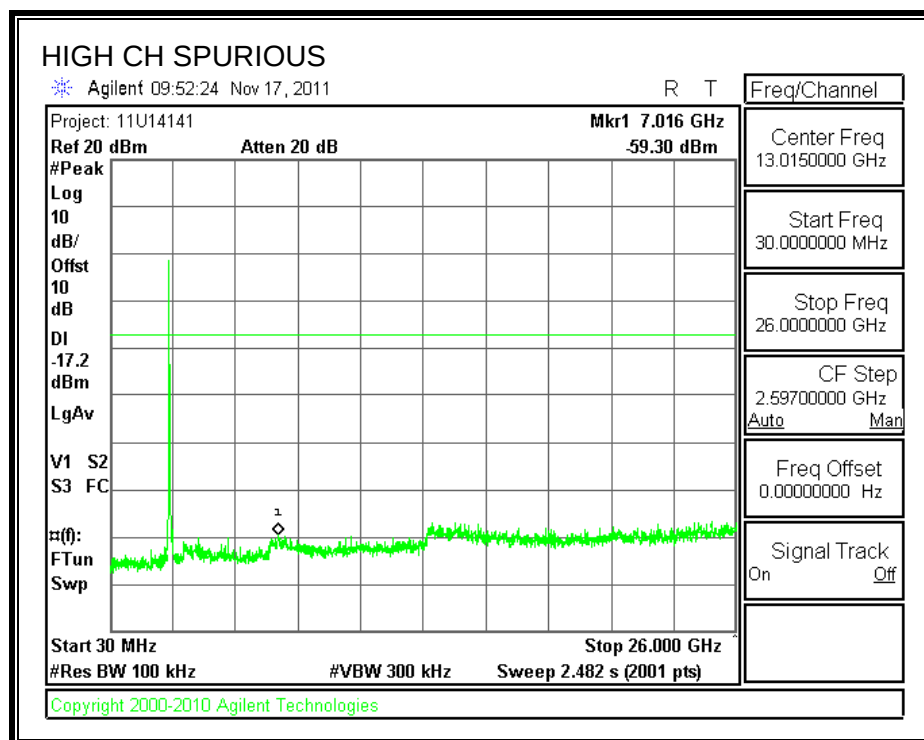
RESULTS**SPURIOUS EMISSIONS, LOW CHANNEL**



SPURIOUS EMISSIONS, MID CHANNEL



SPURIOUS EMISSIONS, HIGH CHANNEL



8. RADIATED TEST RESULTS

8.1. 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 spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

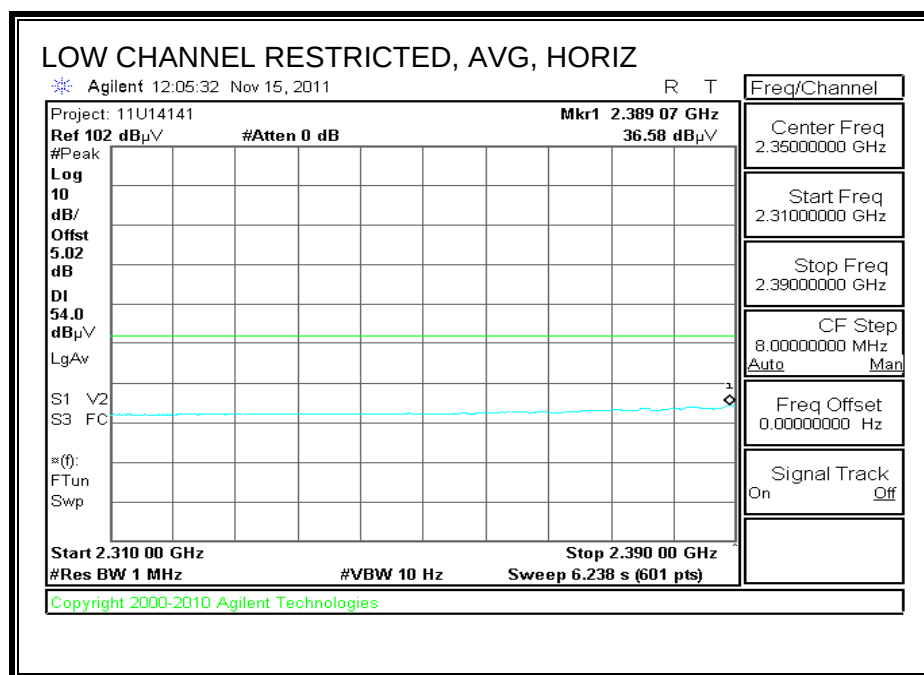
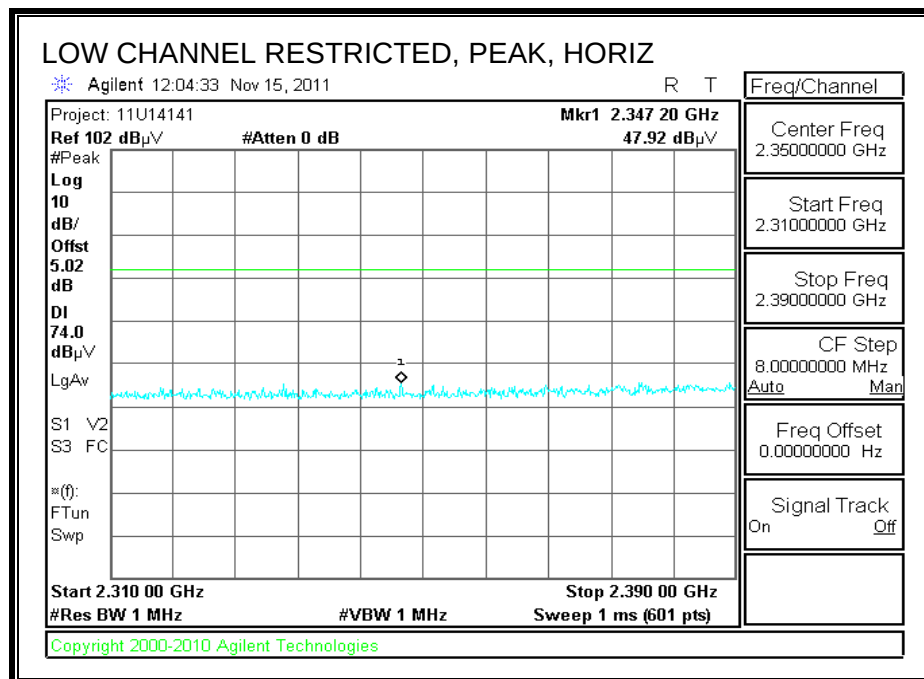
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

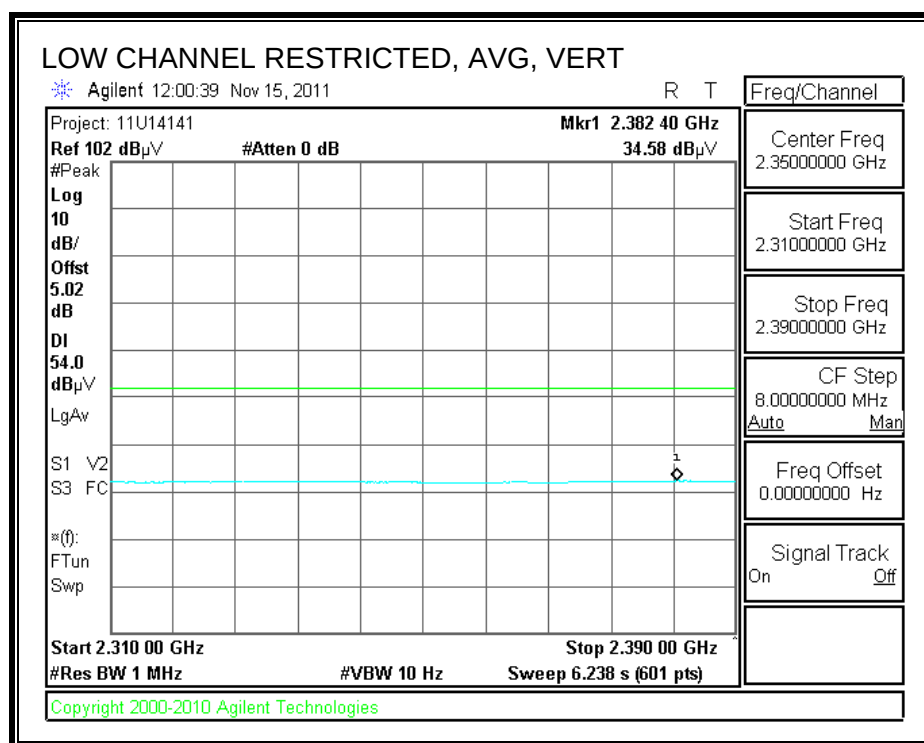
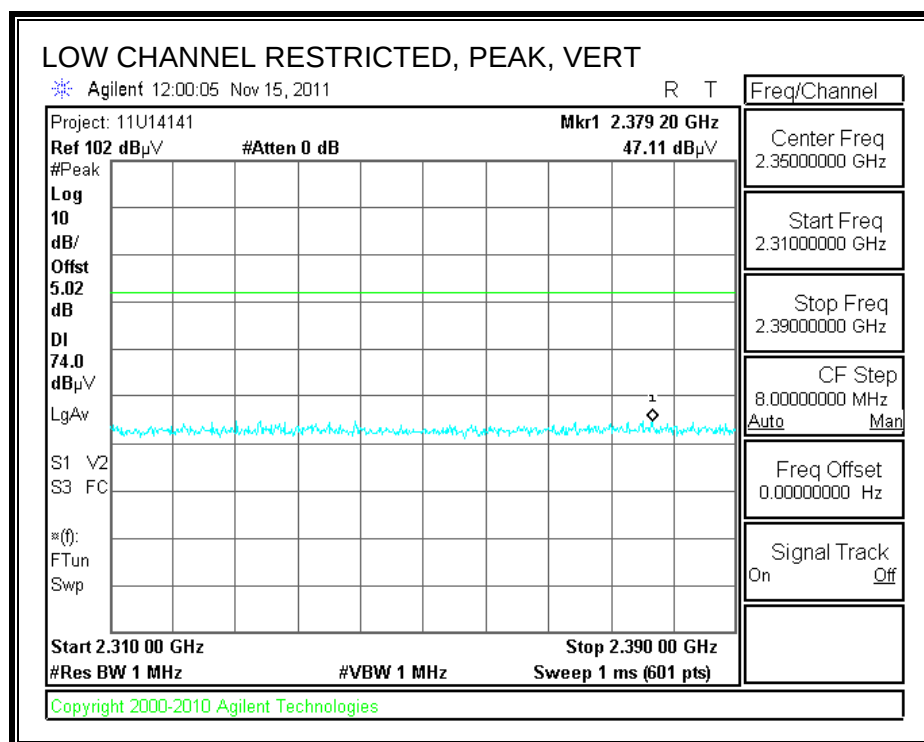
8.2. TRANSMITTER ABOVE 1 GHz

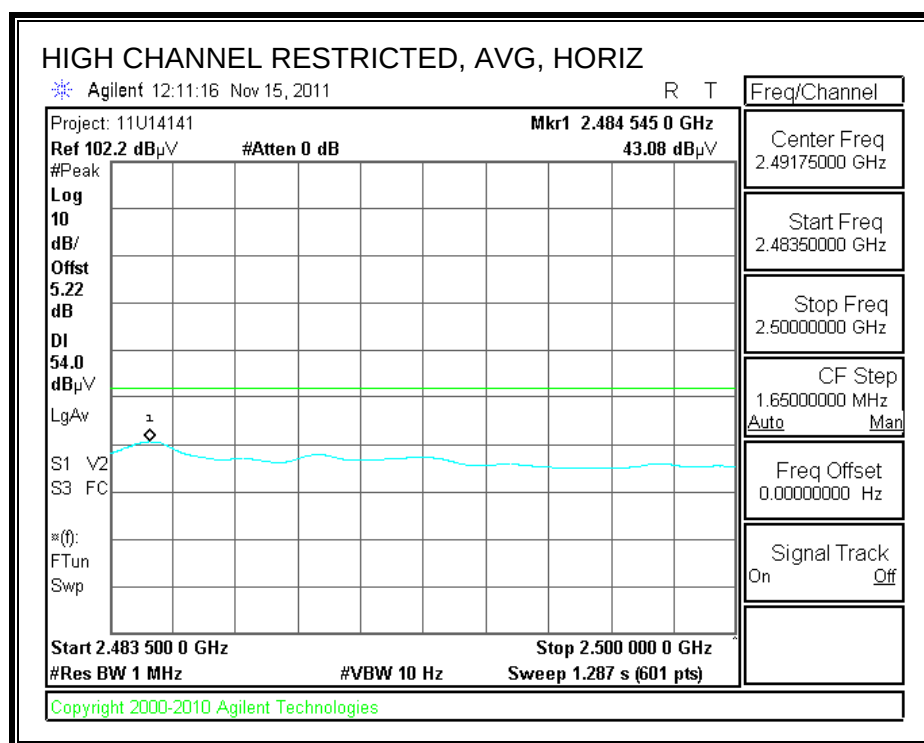
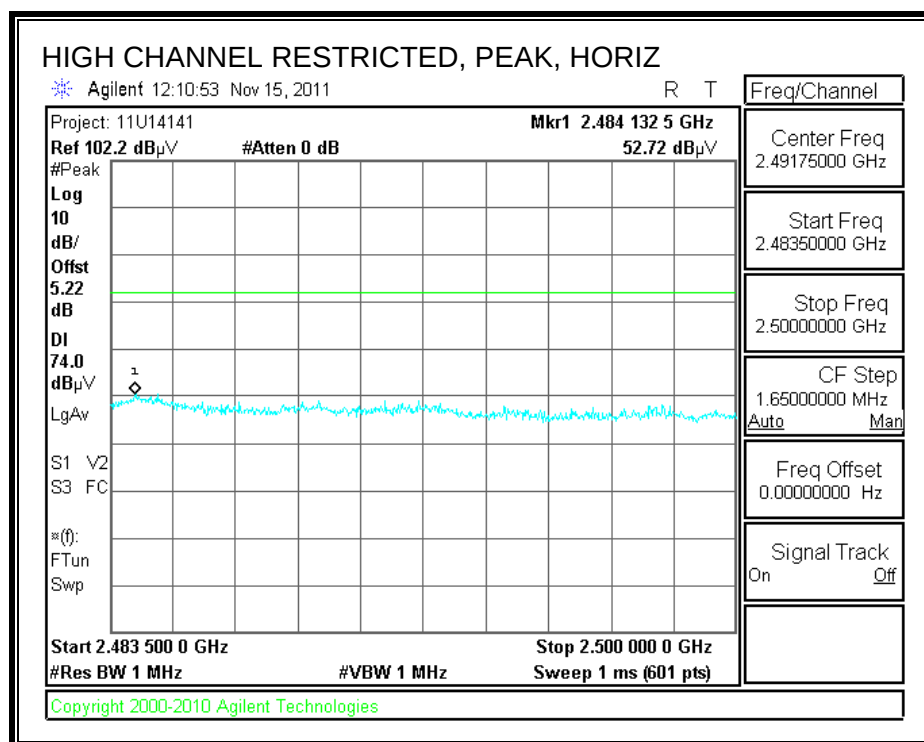
8.2.1. TX ABOVE 1 GHz FOR 802.11b 1TX MODE IN THE 2.4 GHz BAND

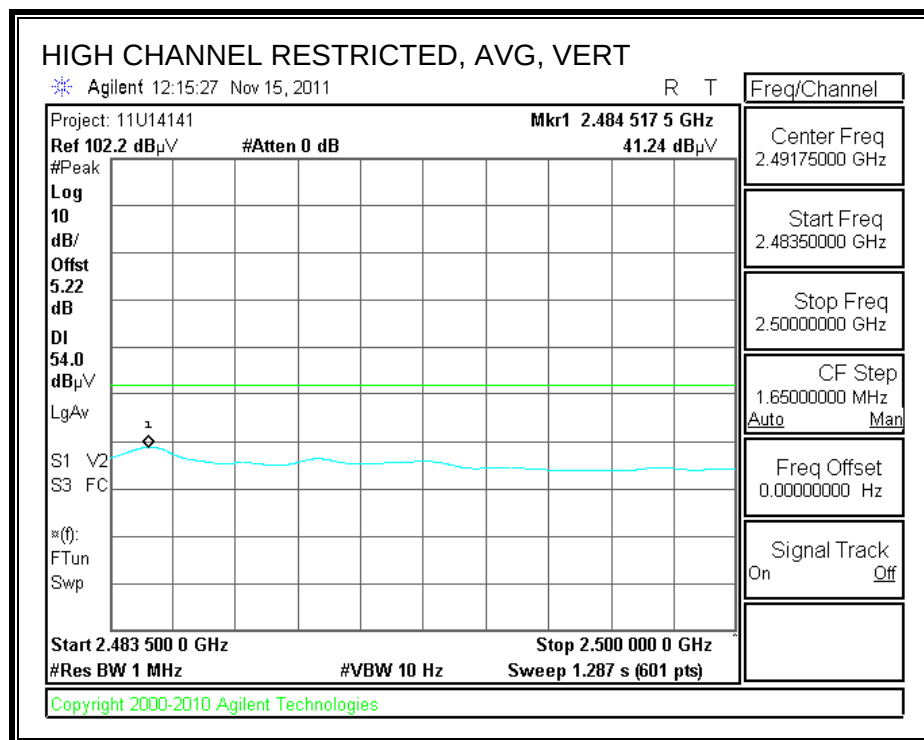
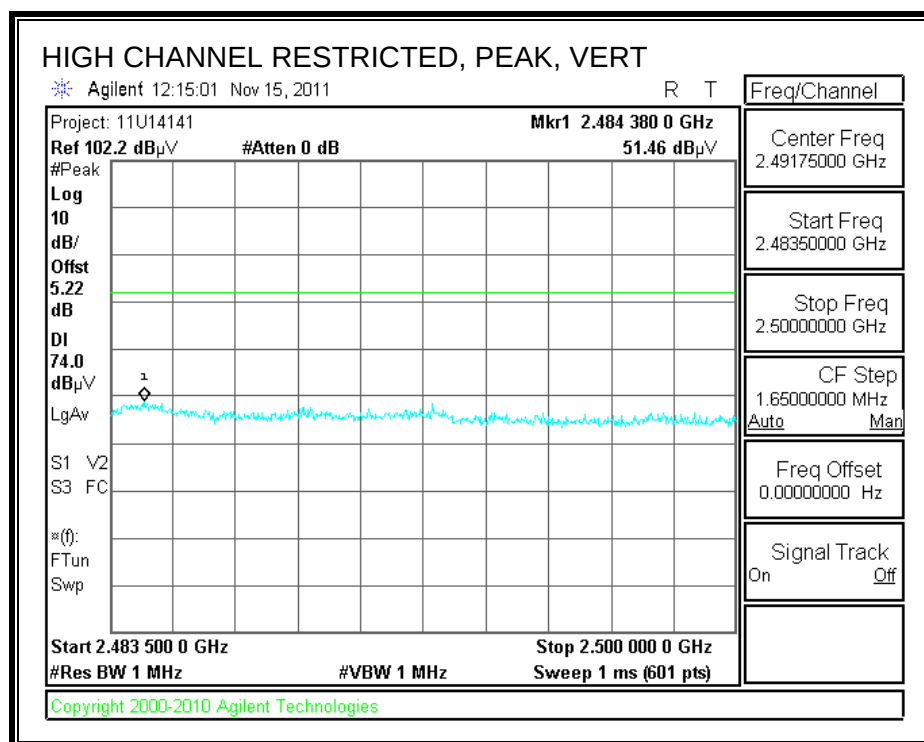
STANDARD COVER

RESTRICTED BANEDGE (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

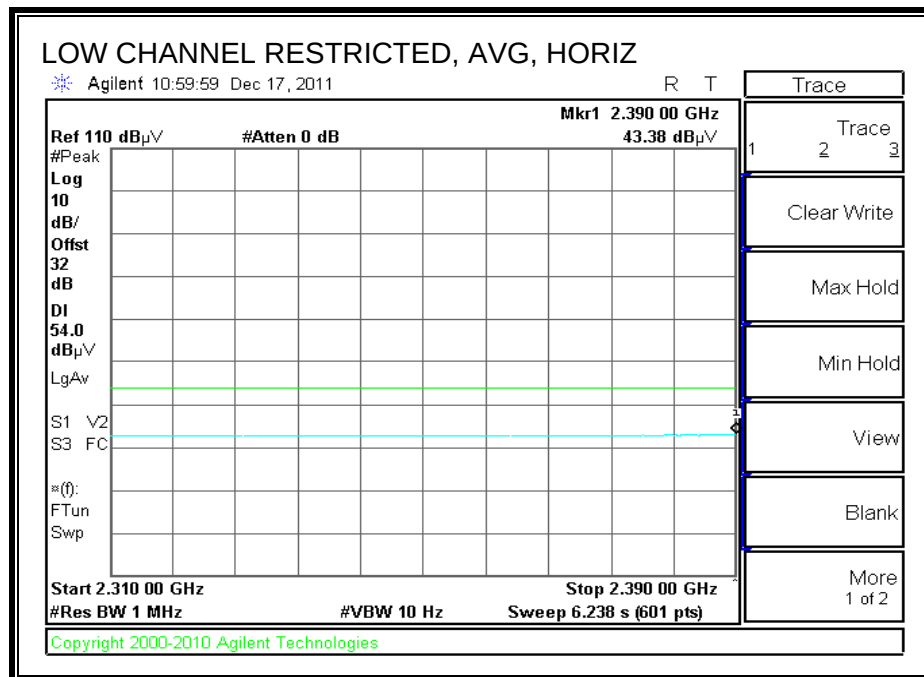
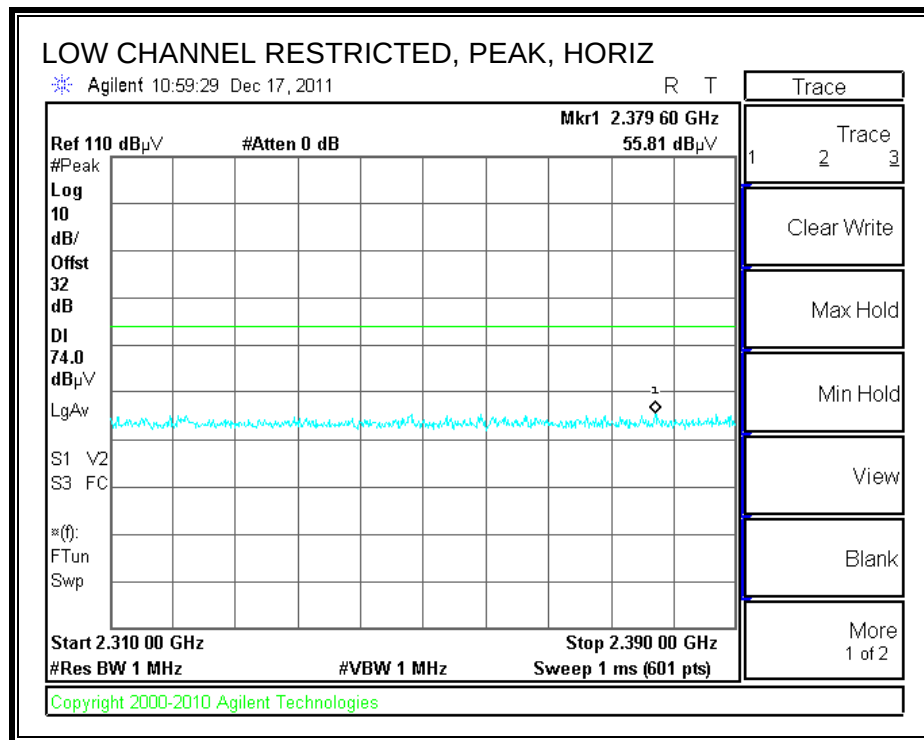
Test Engr: Tom Chen
 Date: 11/15/11
 Project #: 11U14141
 Company: LG
 Test Target: FCC Class B
 Mode Oper: 802.11b TX mode

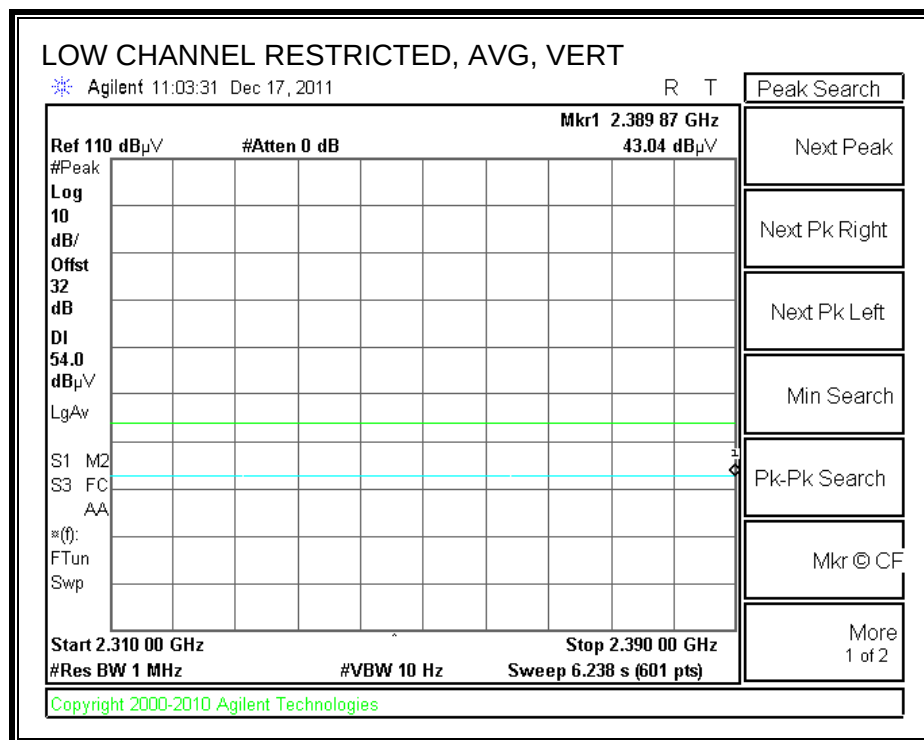
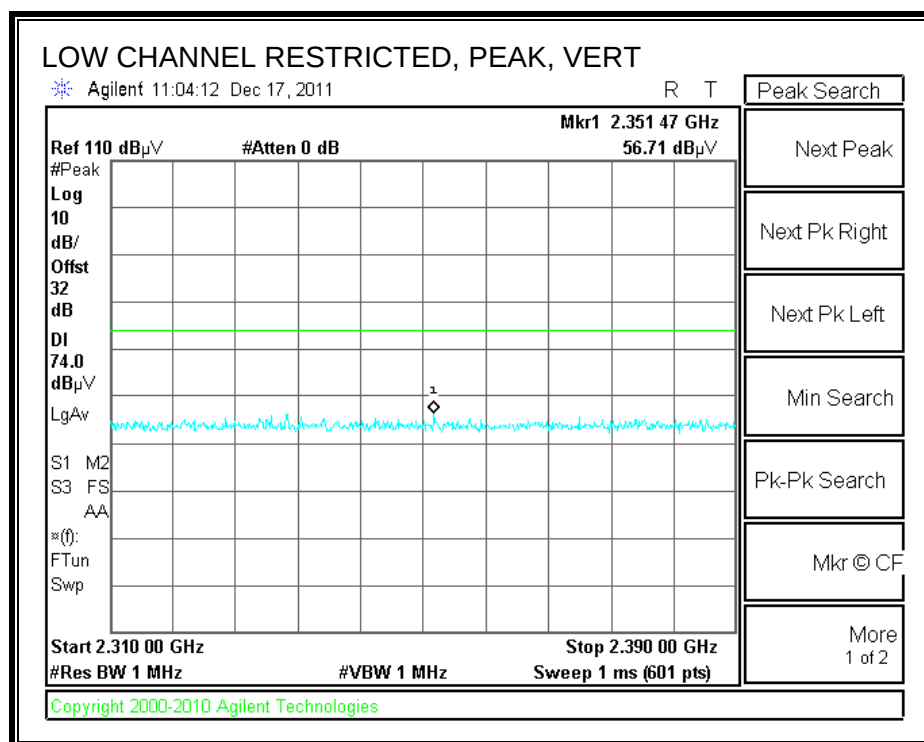
f Measurement Frequency Amp Preamp Gain Average Field Strength Limit
 Dist Distance to Antenna D Corr Distance Correct to 3 meters Peak Field Strength Limit
 Read Analyzer Reading Avg Average Field Strength @ 3 m Margin vs. Average Limit
 AF Antenna Factor Peak Calculated Peak Field Strength Margin vs.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

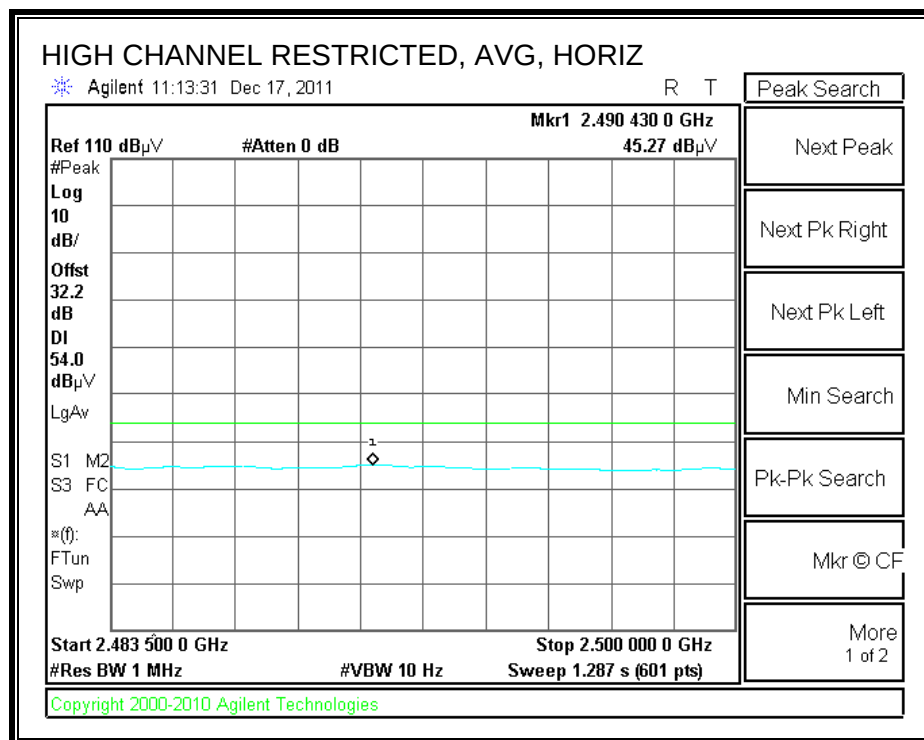
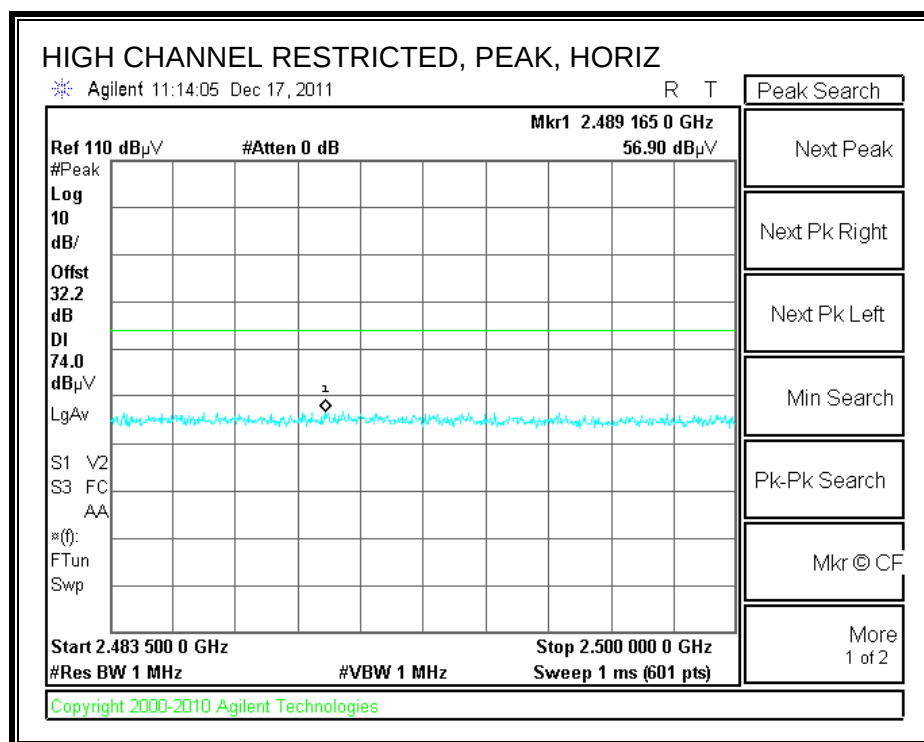
f GHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Notes
2412 MHz b mode													
4.824	3.0	37.6	33.4	5.8	-36.5	0.0	0.0	40.4	74.0	-33.6	H	P	
4.824	3.0	25.4	33.4	5.8	-36.5	0.0	0.0	28.2	54.0	-25.8	H	A	
12.060	3.0	34.8	39.3	9.8	-35.4	0.0	0.0	48.4	74.0	-25.6	H	P	
12.060	3.0	22.7	39.3	9.8	-35.4	0.0	0.0	36.4	54.0	-17.6	H	A	
2412 MHz b mode													
4.824	3.0	44.1	33.4	5.8	-36.5	0.0	0.0	46.9	74.0	-27.1	V	P	
4.824	3.0	39.5	33.4	5.8	-36.5	0.0	0.0	42.3	54.0	-11.7	V	A	
12.060	3.0	34.8	39.3	9.8	-35.4	0.0	0.0	48.5	74.0	-25.5	V	P	
12.060	3.0	22.8	39.3	9.8	-35.4	0.0	0.0	36.4	54.0	-17.6	V	A	
2437 MHz b mode													
4.874	3.0	41.7	33.5	5.8	-36.5	0.0	0.0	44.6	74.0	-29.5	V	P	
4.874	3.0	35.7	33.5	5.8	-36.5	0.0	0.0	38.5	54.0	-15.5	V	A	
7.311	3.0	37.2	35.7	7.3	-36.2	0.0	0.0	43.9	74.0	-30.1	V	P	
7.311	3.0	24.7	35.7	7.3	-36.2	0.0	0.0	31.4	54.0	-22.6	V	A	
2437 MHz b mode													
4.874	3.0	40.0	33.5	5.8	-36.5	0.0	0.0	42.9	74.0	-31.1	H	P	
4.874	3.0	28.6	33.5	5.8	-36.5	0.0	0.0	31.4	54.0	-22.6	H	A	
7.311	3.0	37.3	35.7	7.3	-36.2	0.0	0.0	44.0	74.0	-30.0	H	P	
7.311	3.0	24.7	35.7	7.3	-36.2	0.0	0.0	31.5	54.0	-22.5	H	A	
2462 MHz b mode													
4.924	3.0	39.5	33.5	5.9	-36.5	0.0	0.0	42.4	74.0	-31.6	H	P	
4.924	3.0	32.1	33.5	5.9	-36.5	0.0	0.0	35.1	54.0	-18.9	H	A	
7.386	3.0	37.0	35.8	7.3	-36.2	0.0	0.0	43.9	74.0	-30.1	H	P	
7.386	3.0	24.6	35.8	7.3	-36.2	0.0	0.0	31.5	54.0	-22.5	H	A	
2462 MHz b mode													
4.924	3.0	42.5	33.5	5.9	-36.5	0.0	0.0	45.5	74.0	-28.5	V	P	
4.924	3.0	37.3	33.5	5.9	-36.5	0.0	0.0	40.3	54.0	-13.7	V	A	
7.386	3.0	37.2	35.8	7.3	-36.2	0.0	0.0	44.1	74.0	-29.9	V	P	
7.386	3.0	24.7	35.8	7.3	-36.2	0.0	0.0	31.6	54.0	-22.4	V	A	

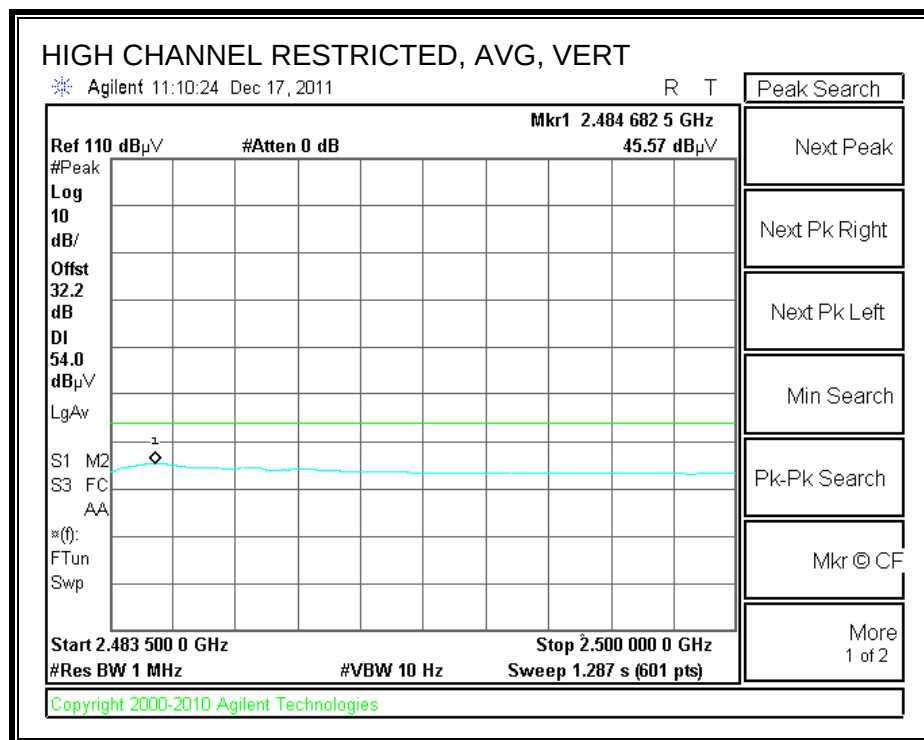
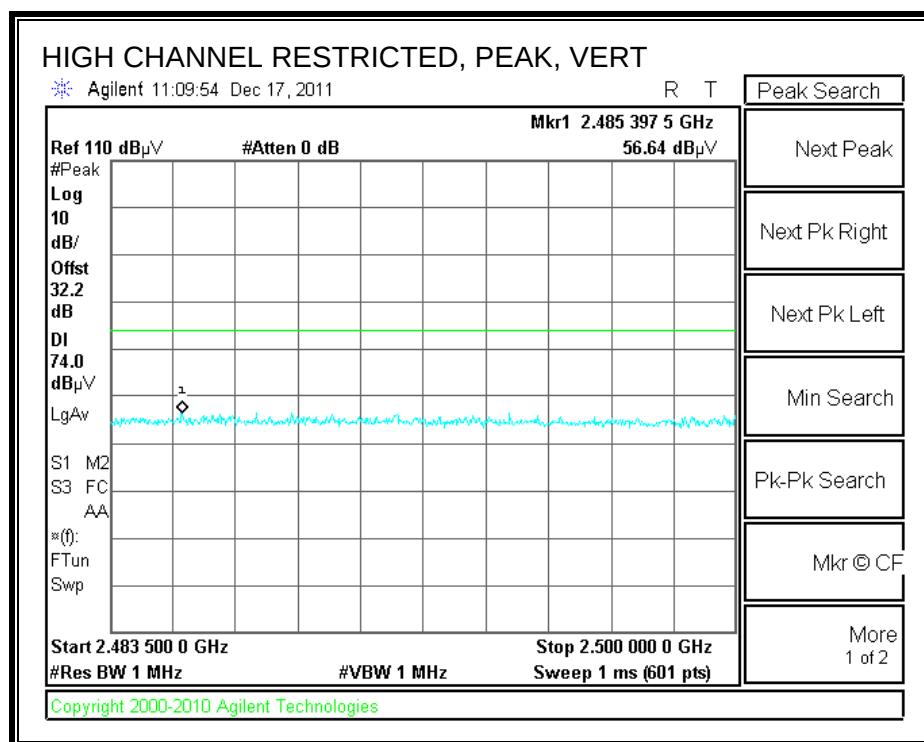
Rev. 4.1.2.7

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: Chin Pang

Date: 12/17/11

Project #: 11U14141

Company: LG

Test Target: FCC 15.247

Mode Oper: b,ode, TX

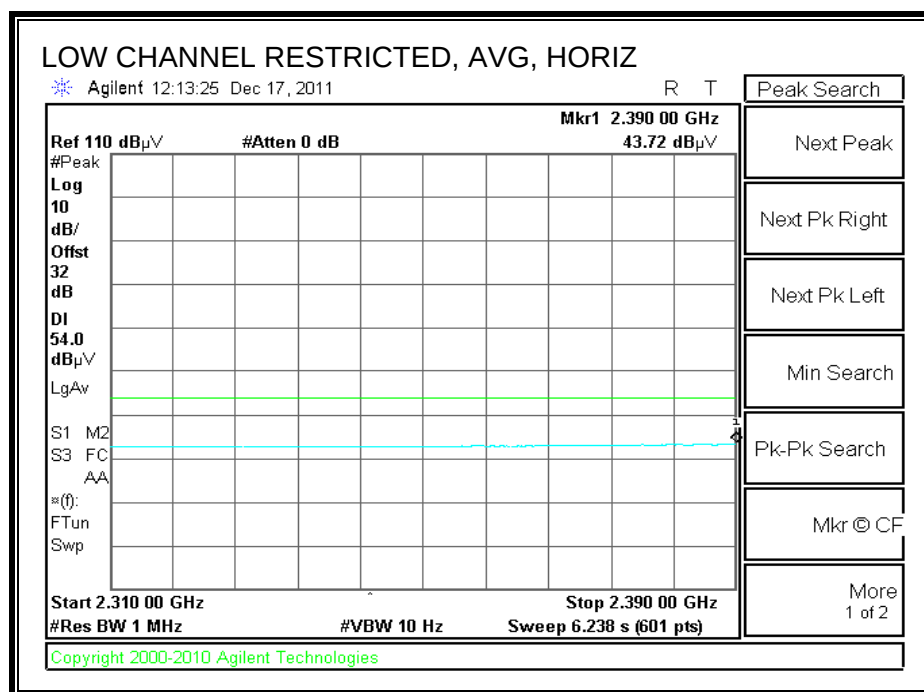
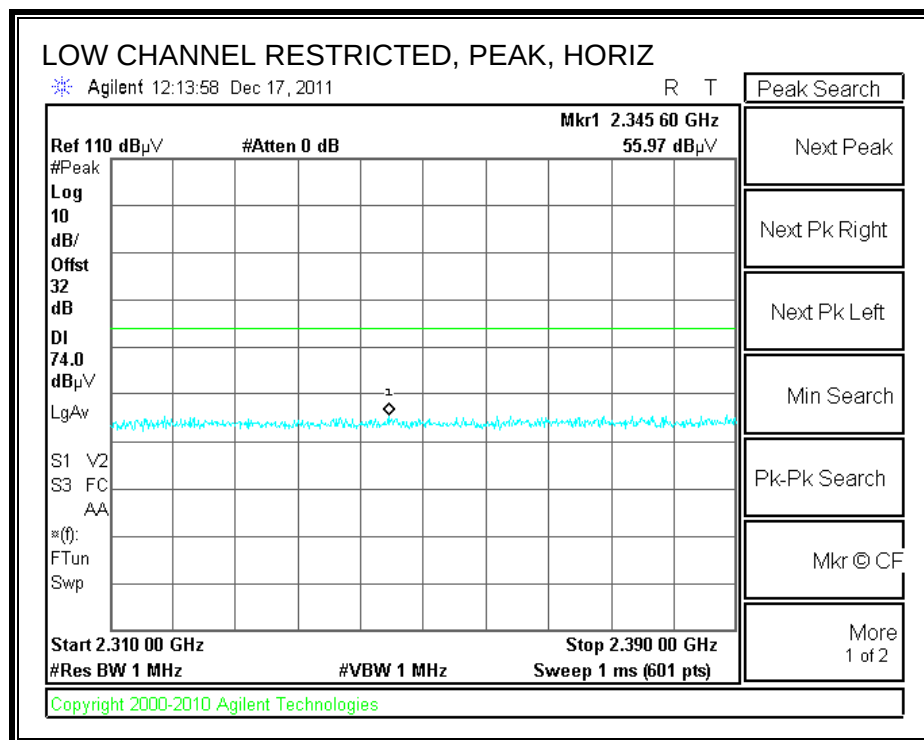
EUT with Inductive Cover

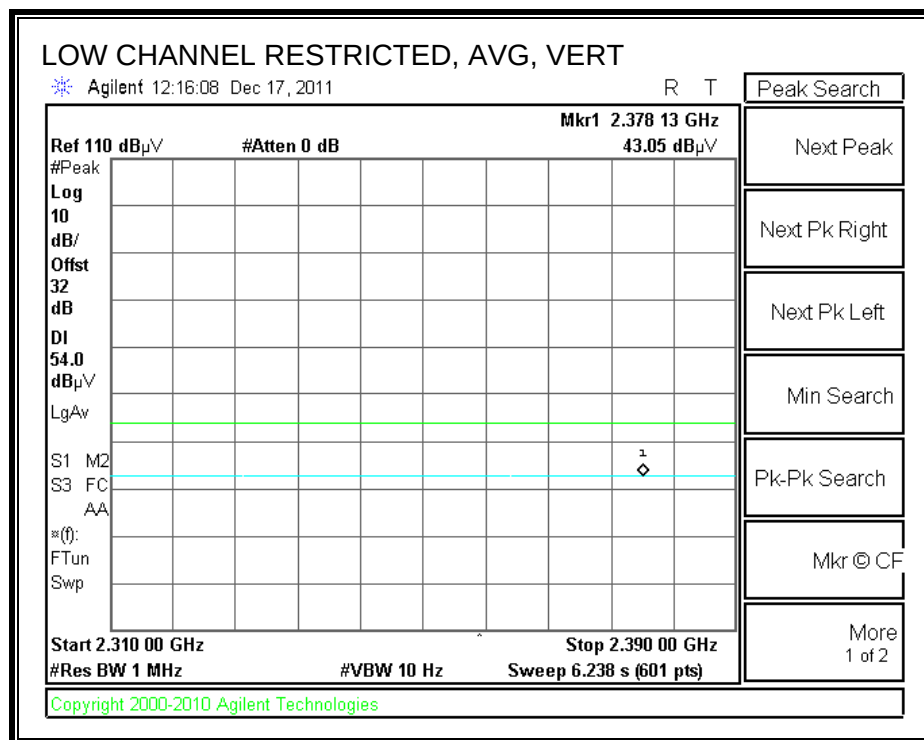
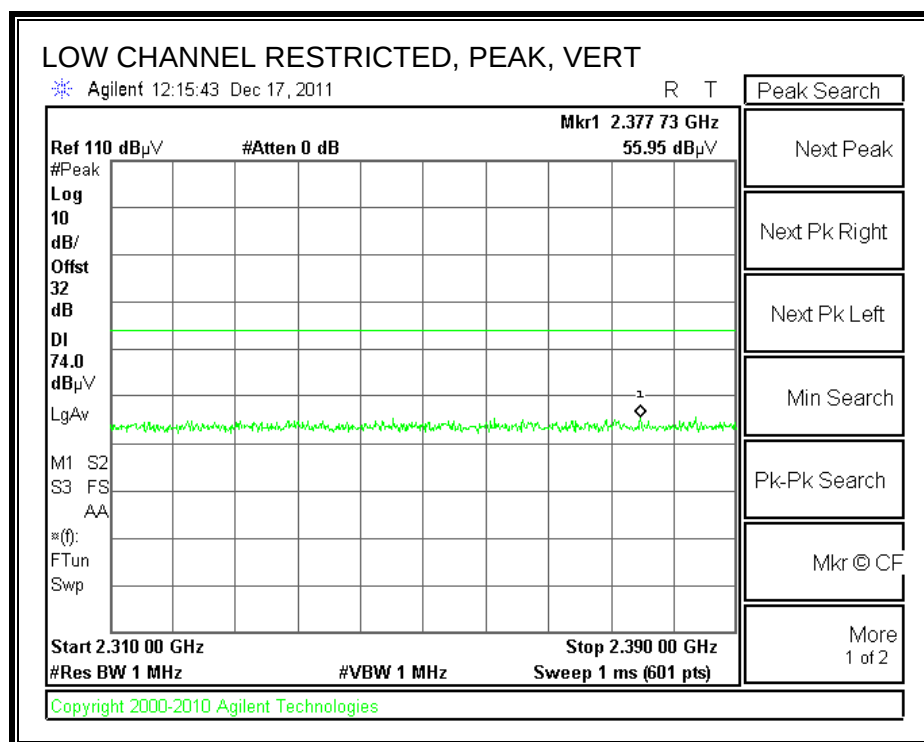
f	Measurement Frequency	Amp	Preamp Gain	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Margin vs.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

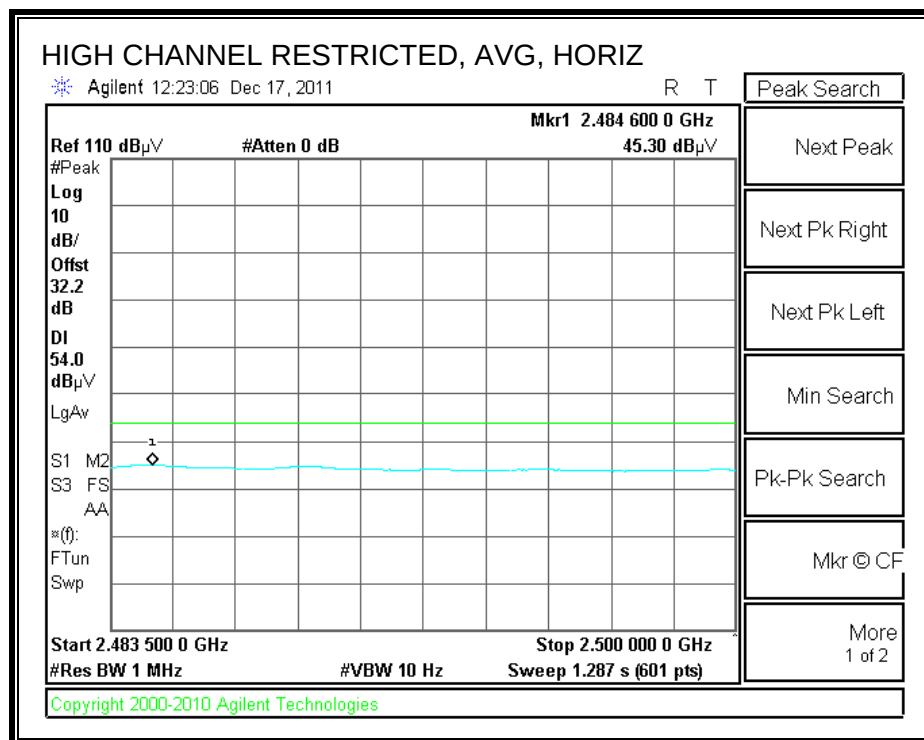
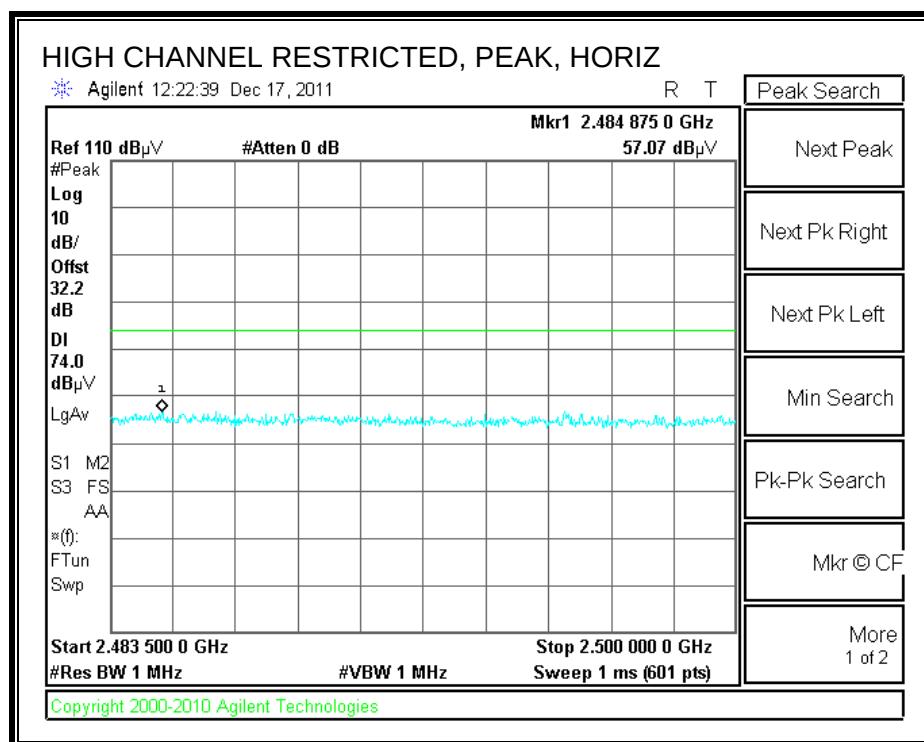
f GHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Notes
Low Ch, 2412MHz													
4.824	3.0	45.3	33.2	5.8	-34.8	0.0	0.0	49.4	74.0	-24.6	H	P	
4.824	3.0	41.8	33.2	5.8	-34.8	0.0	0.0	45.9	54.0	-8.1	H	A	
4.824	3.0	44.3	33.2	5.8	-34.8	0.0	0.0	48.4	74.0	-25.6	V	P	
4.824	3.0	38.7	33.2	5.8	-34.8	0.0	0.0	42.8	54.0	-11.2	V	A	
Mid Ch, 2437MHz													
4.874	3.0	44.8	33.2	5.8	-34.9	0.0	0.0	49.0	74.0	-25.0	H	P	
4.874	3.0	41.6	33.2	5.8	-34.9	0.0	0.0	45.8	54.0	-8.2	H	A	
7.311	3.0	37.0	36.2	7.3	-34.7	0.0	0.0	45.8	74.0	-28.2	H	P	
7.311	3.0	25.1	36.2	7.3	-34.7	0.0	0.0	33.9	54.0	-20.1	H	A	
4.874	3.0	44.2	33.2	5.8	-34.9	0.0	0.0	48.4	74.0	-25.6	V	P	
4.874	3.0	39.5	33.2	5.8	-34.9	0.0	0.0	43.7	54.0	-10.3	V	A	
7.311	3.0	37.4	36.2	7.3	-34.7	0.0	0.0	46.2	74.0	-27.8	V	P	
7.311	3.0	24.8	36.2	7.3	-34.7	0.0	0.0	33.6	54.0	-20.4	V	A	
High Ch, 2462MHz													
4.924	3.0	45.0	33.3	5.9	-34.9	0.0	0.0	49.3	74.0	-24.7	H	P	
4.924	3.0	41.5	33.3	5.9	-34.9	0.0	0.0	45.8	54.0	-8.2	H	A	
7.386	3.0	36.8	36.3	7.3	-34.6	0.0	0.0	45.7	74.0	-28.3	H	P	
7.386	3.0	24.4	36.3	7.3	-34.6	0.0	0.0	33.4	54.0	-20.6	H	A	
4.924	3.0	45.3	33.3	5.9	-34.9	0.0	0.0	49.6	74.0	-24.4	V	P	
4.924	3.0	41.2	33.3	5.9	-34.9	0.0	0.0	45.5	54.0	-8.5	V	A	
7.386	3.0	36.7	36.3	7.3	-34.6	0.0	0.0	45.6	74.0	-28.4	V	P	
7.386	3.0	24.4	36.3	7.3	-34.6	0.0	0.0	33.4	54.0	-20.6	V	A	

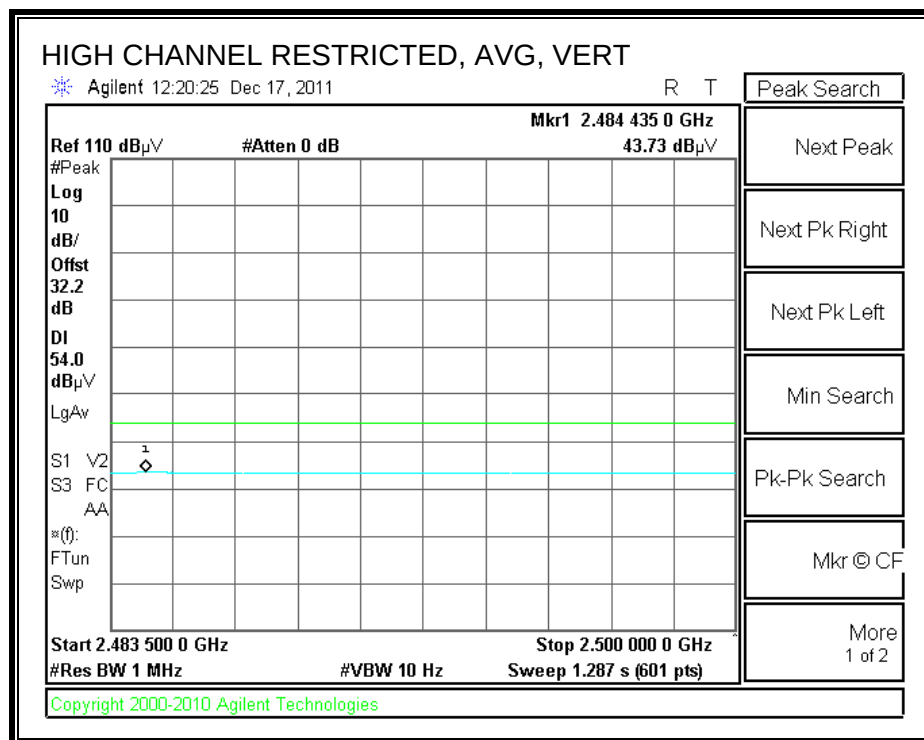
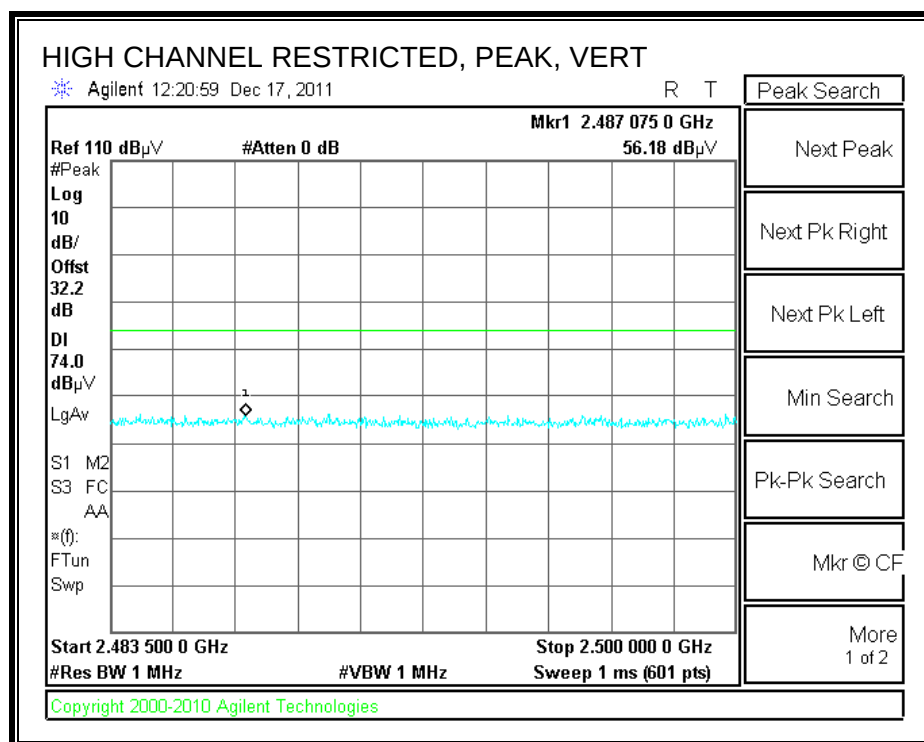
Rev. 4.1.2.7

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

INDUCTIVE CHARGER WITH 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: Chin Pang

Date: 12/17/11

Project #: 11U14141

Company: LG

Test Target: FCC 15.247

Mode Oper: b Mode, TX

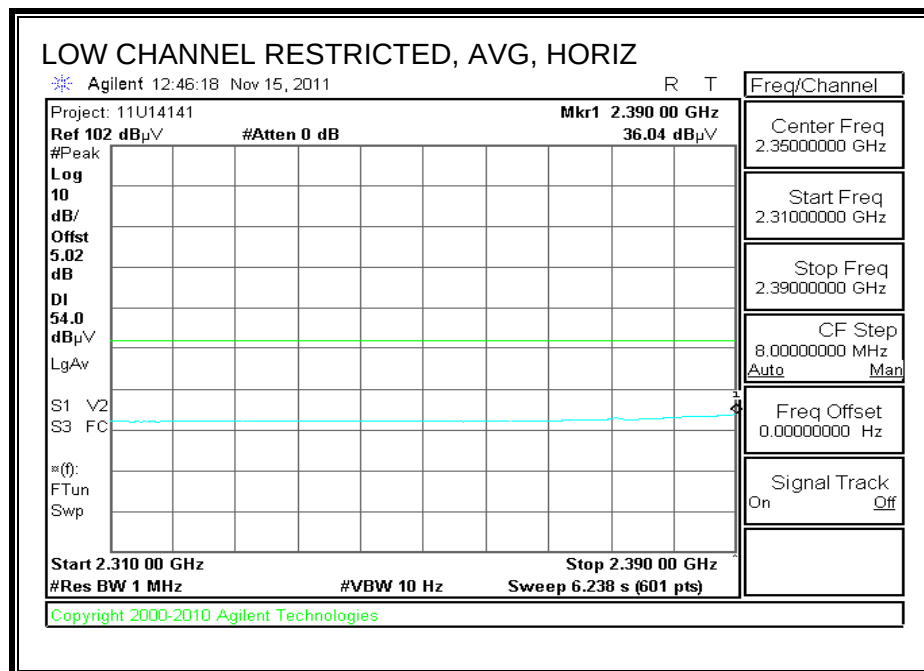
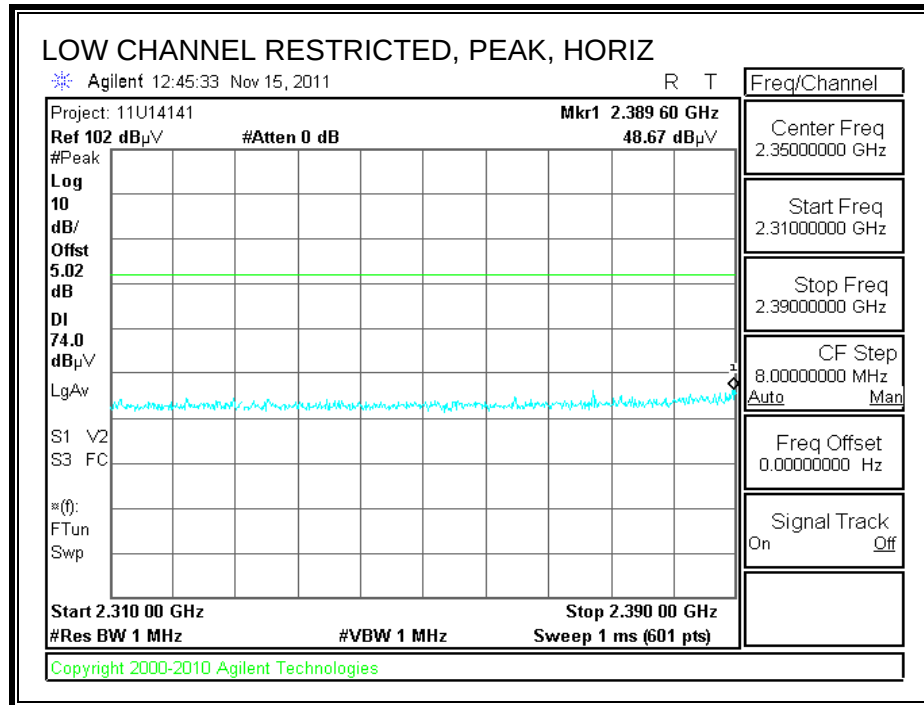
Inductive Charger with Inductive Cover

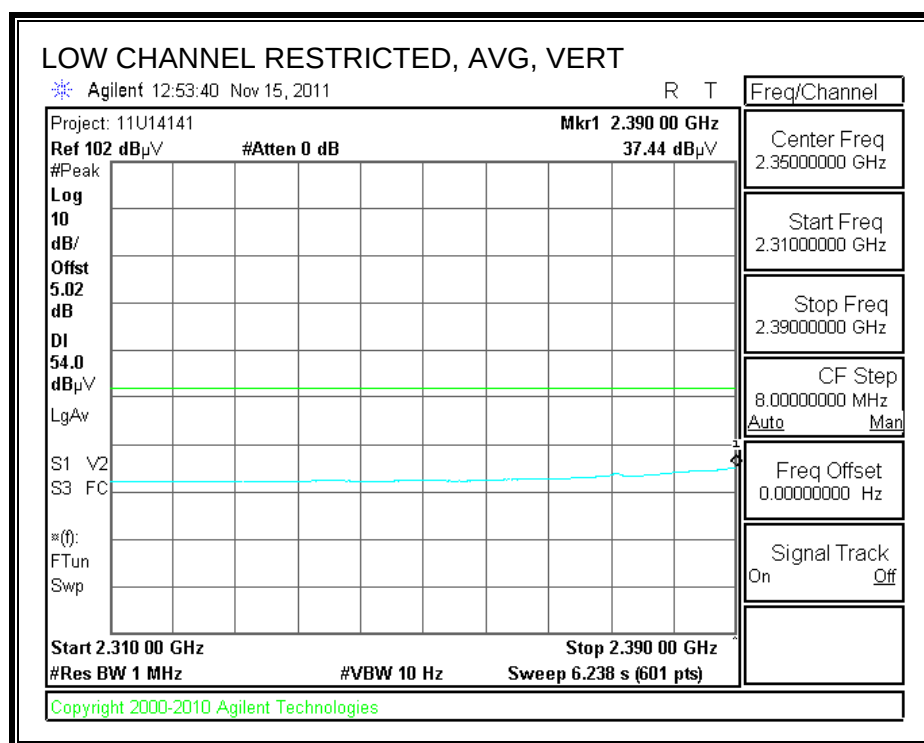
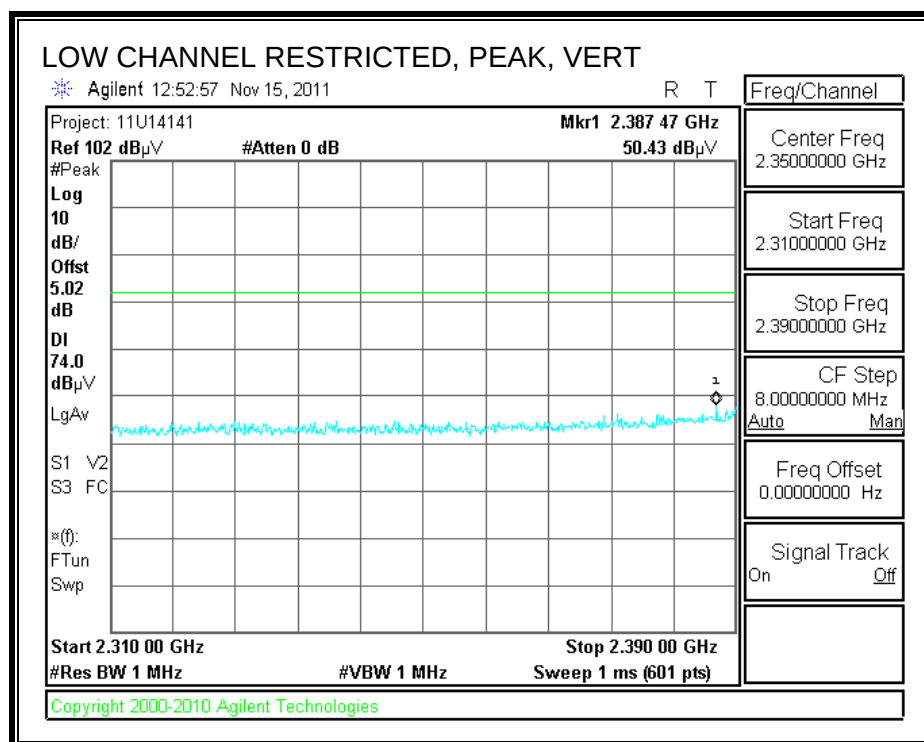
f	Measurement Frequency	Amp	Preamp Gain	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Margin vs.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

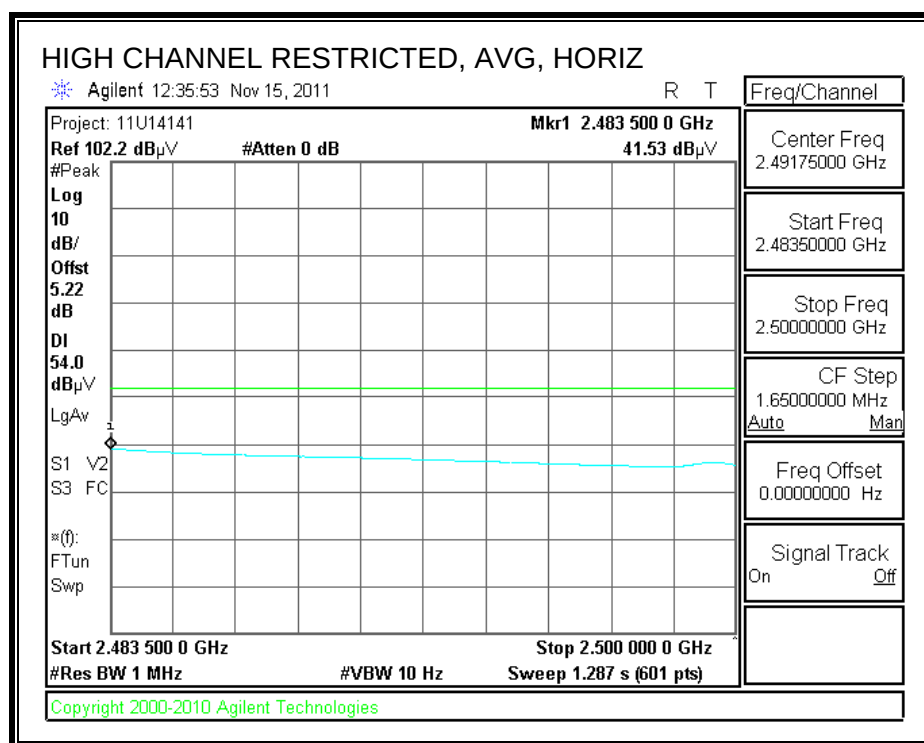
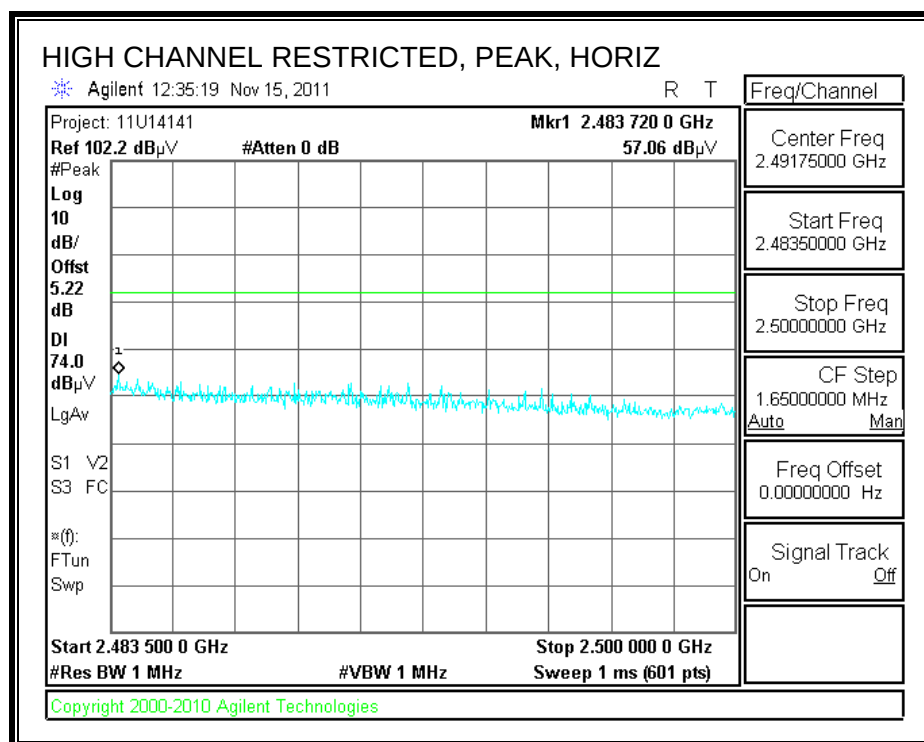
f GHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Notes
Low Ch, 2412MHz													
4.824	3.0	43.2	33.2	5.8	-34.8	0.0	0.0	47.3	74.0	-26.7	V	P	
4.824	3.0	38.3	33.2	5.8	-34.8	0.0	0.0	42.5	54.0	-11.5	V	A	
4.824	3.0	45.6	33.2	5.8	-34.8	0.0	0.0	49.7	74.0	-24.3	H	P	
4.824	3.0	42.1	33.2	5.8	-34.8	0.0	0.0	46.3	54.0	-7.7	H	A	
Mid Ch, 2437MHz													
4.874	3.0	43.5	33.2	5.8	-34.9	0.0	0.0	47.7	74.0	-26.3	V	P	
4.874	3.0	39.3	33.2	5.8	-34.9	0.0	0.0	43.5	54.0	-10.5	V	A	
7.311	3.0	37.2	36.2	7.3	-34.7	0.0	0.0	45.9	74.0	-28.1	V	P	
7.311	3.0	24.6	36.2	7.3	-34.7	0.0	0.0	33.4	54.0	-20.6	V	A	
4.874	3.0	43.7	33.2	5.8	-34.9	0.0	0.0	47.9	74.0	-26.1	H	P	
4.874	3.0	39.4	33.2	5.8	-34.9	0.0	0.0	43.6	54.0	-10.4	H	A	
7.311	3.0	36.8	36.2	7.3	-34.7	0.0	0.0	45.6	74.0	-28.4	H	P	
7.311	3.0	24.6	36.2	7.3	-34.7	0.0	0.0	33.4	54.0	-20.6	H	A	
High Ch, 2462MHz													
4.924	3.0	42.8	33.3	5.9	-34.9	0.0	0.0	47.1	74.0	-26.9	V	P	
4.924	3.0	38.6	33.3	5.9	-34.9	0.0	0.0	42.9	54.0	-11.1	V	A	
7.386	3.0	37.1	36.3	7.3	-34.6	0.0	0.0	46.0	74.0	-28.0	V	P	
7.386	3.0	24.6	36.3	7.3	-34.6	0.0	0.0	33.6	54.0	-20.4	V	A	
4.924	3.0	47.5	33.3	5.9	-34.9	0.0	0.0	51.8	74.0	-22.2	H	P	
4.924	3.0	44.4	33.3	5.9	-34.9	0.0	0.0	48.8	54.0	-5.2	H	A	
7.386	3.0	36.6	36.3	7.3	-34.6	0.0	0.0	45.5	74.0	-28.5	H	P	
7.386	3.0	24.4	36.3	7.3	-34.6	0.0	0.0	33.4	54.0	-20.6	H	A	

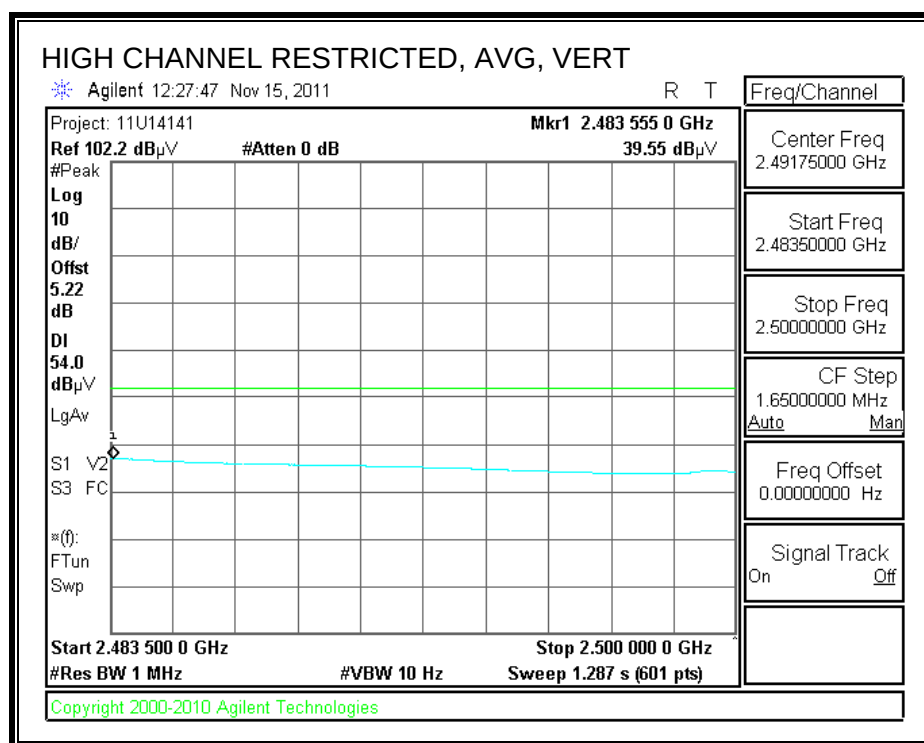
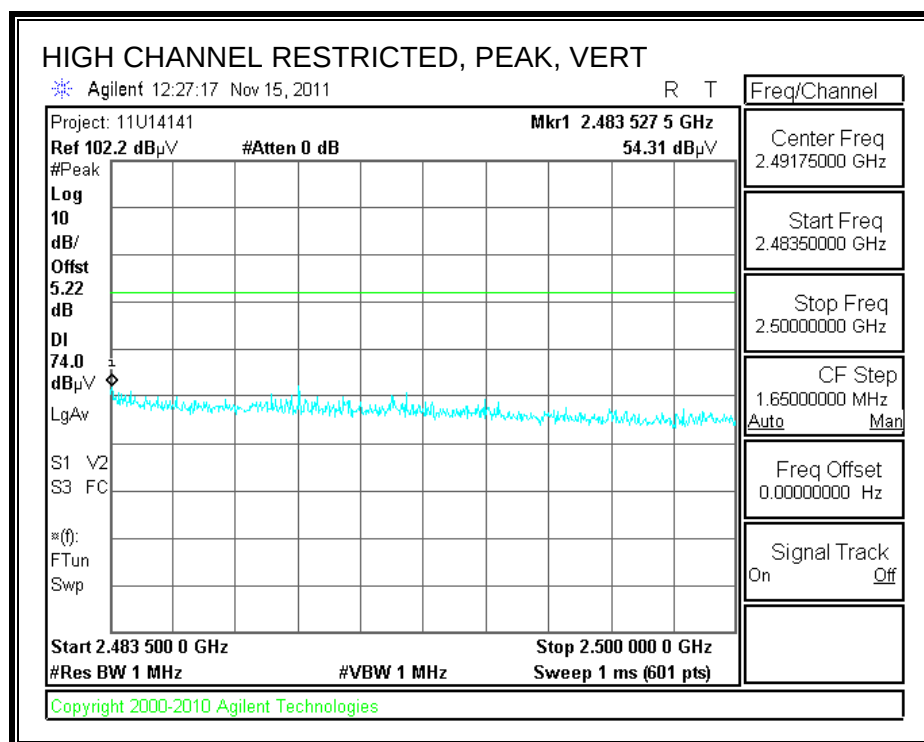
Rev. 4.1.2.7

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

8.2.2. TX ABOVE 1 GHz FOR 802.11g 1TX MODE IN THE 2.4 GHz BAND**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

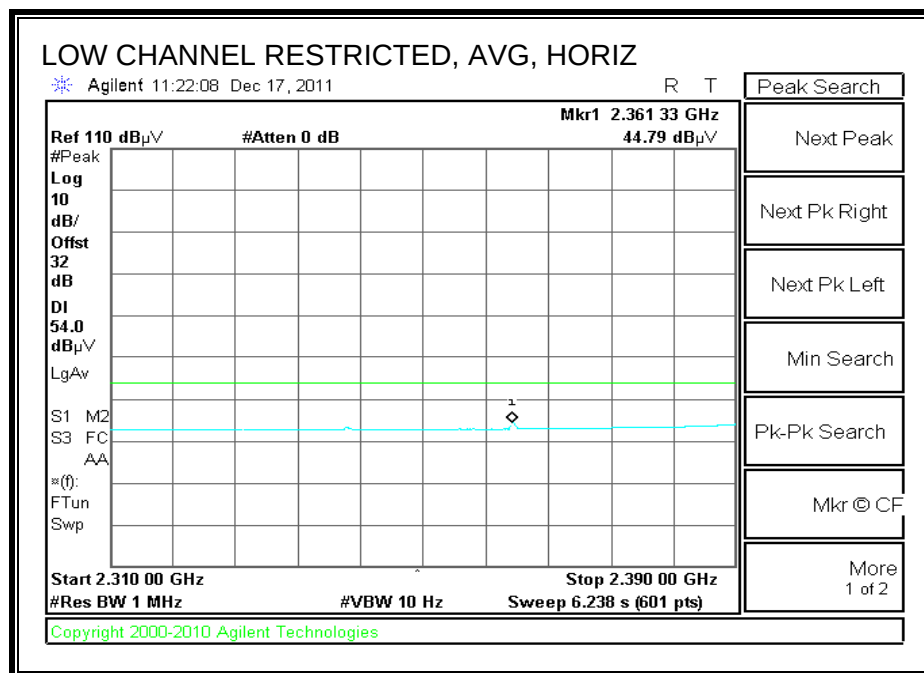
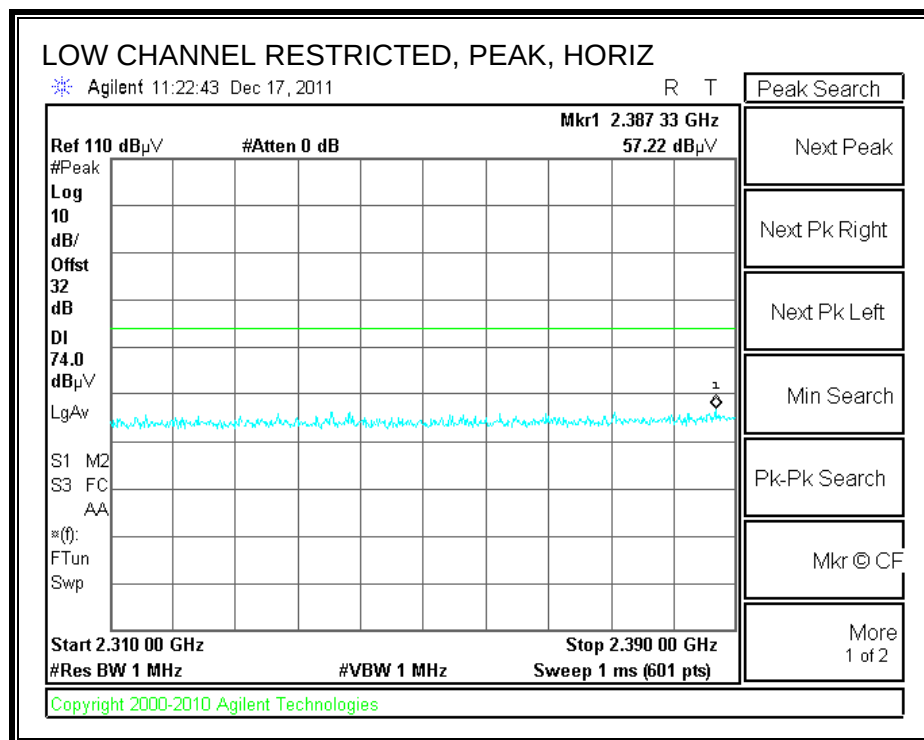
Test Engr: Tom Chen
 Date: 11/16/11
 Project #: 11U14141
 Company: LG
 Test Target: FCC Class B
 Mode Oper: 802.11g, TX mode

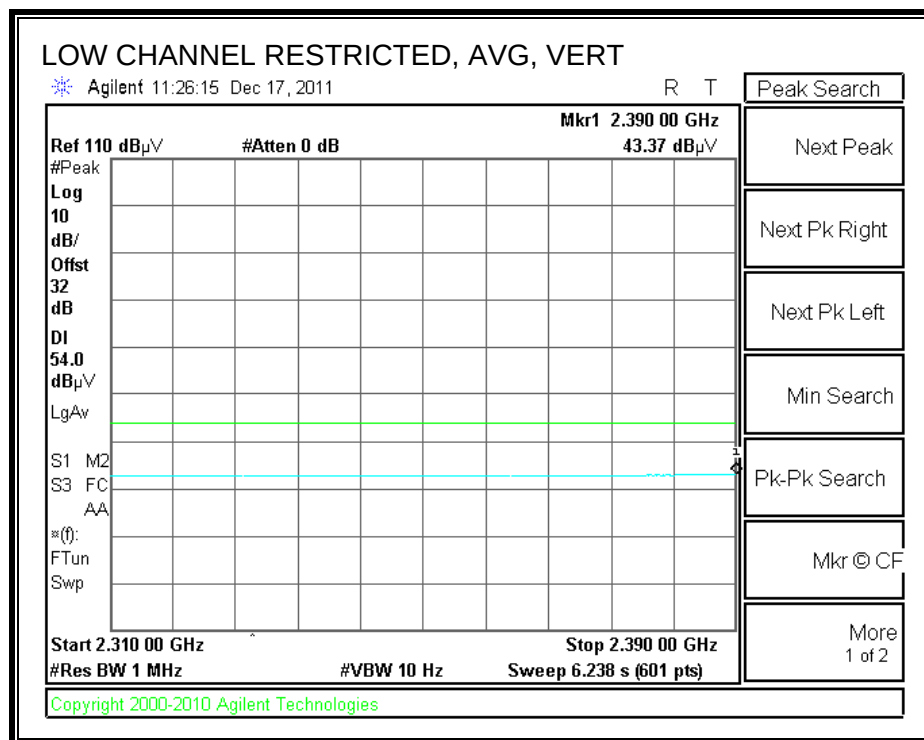
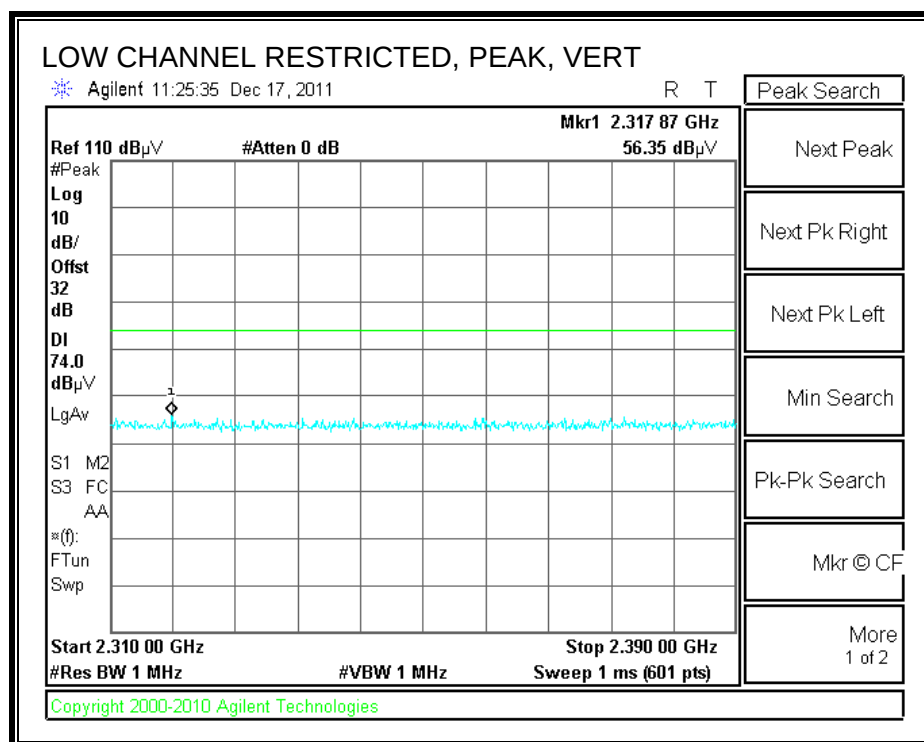
f Measurement Frequency Amp Preamp Gain Average Field Strength Limit
 Dist Distance to Antenna D Corr Distance Correct to 3 meters Peak Field Strength Limit
 Read Analyzer Reading Avg Average Field Strength @ 3 m Margin vs. Average Limit
 AF Antenna Factor Peak Calculated Peak Field Strength Margin vs.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

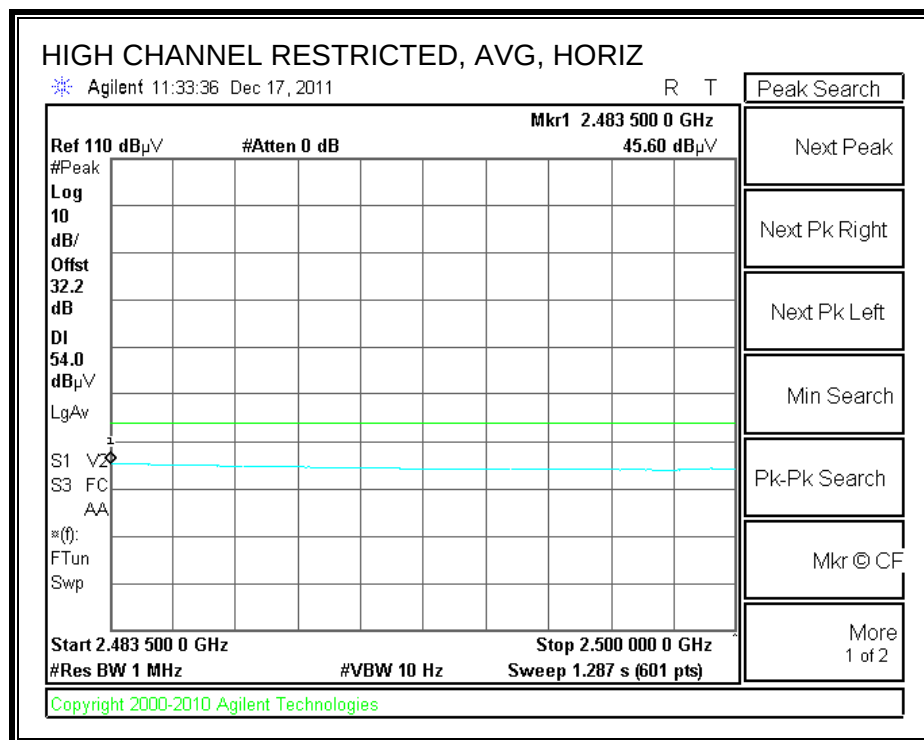
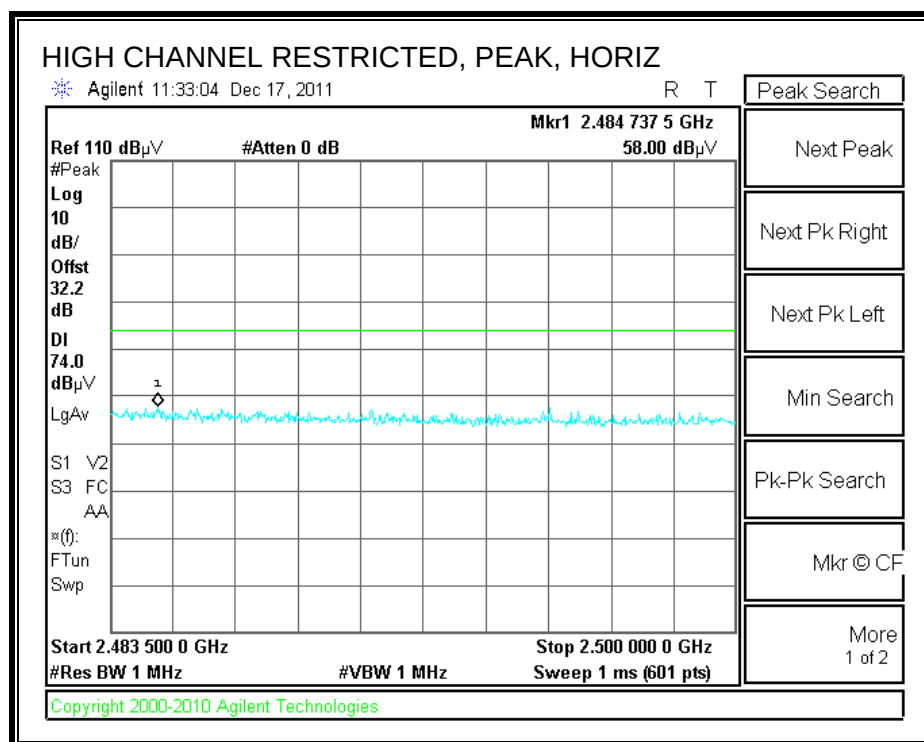
f GHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fitr dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol V/H	Det. P/A/QP	Notes
2412 MHz g mode													
4.824	3.0	37.5	33.1	5.8	-34.8	0.0	0.0	41.6	74.0	-32.4	H	P	
4.824	3.0	24.4	33.1	5.8	-34.8	0.0	0.0	28.5	54.0	-25.5	H	A	
4.824	3.0	38.0	33.1	5.8	-34.8	0.0	0.0	42.1	74.0	-31.9	V	P	
4.824	3.0	25.8	33.1	5.8	-34.8	0.0	0.0	29.9	54.0	-24.1	V	A	
2437 MHz g mode													
4.874	3.0	38.4	33.2	5.8	-34.8	0.0	0.0	42.6	74.0	-31.4	V	P	
4.874	3.0	31.1	33.2	5.8	-34.8	0.0	0.0	35.3	54.0	-18.7	V	A	
7.311	3.0	35.8	36.3	7.3	-34.1	0.0	0.0	45.2	74.0	-28.8	V	P	
7.311	3.0	23.4	36.3	7.3	-34.1	0.0	0.0	32.9	54.0	-21.1	V	A	
2437 MHz g mode													
4.874	3.0	37.6	33.2	5.8	-34.8	0.0	0.0	41.8	74.0	-32.2	H	P	
4.874	3.0	24.9	33.2	5.8	-34.8	0.0	0.0	29.0	54.0	-25.0	H	A	
7.311	3.0	36.4	36.3	7.3	-34.1	0.0	0.0	45.8	74.0	-28.2	H	P	
7.311	3.0	23.4	36.3	7.3	-34.1	0.0	0.0	32.9	54.0	-21.1	H	A	
2462 MHz g mode													
4.924	3.0	37.1	33.2	5.9	-34.8	0.0	0.0	41.4	74.0	-32.6	H	P	
4.924	3.0	24.4	33.2	5.9	-34.8	0.0	0.0	28.7	54.0	-25.3	H	A	
7.386	3.0	35.6	36.4	7.3	-34.1	0.0	0.0	45.2	74.0	-28.8	H	P	
7.386	3.0	23.0	36.4	7.3	-34.1	0.0	0.0	32.7	54.0	-21.3	H	A	
2462 MHz g mode													
4.924	3.0	40.0	33.2	5.9	-34.8	0.0	0.0	44.3	74.0	-29.7	V	P	
4.924	3.0	26.7	33.2	5.9	-34.8	0.0	0.0	31.0	54.0	-23.0	V	A	
7.386	3.0	35.4	36.4	7.3	-34.1	0.0	0.0	45.1	74.0	-28.9	V	P	
7.386	3.0	23.0	36.4	7.3	-34.1	0.0	0.0	32.6	54.0	-21.4	V	A	

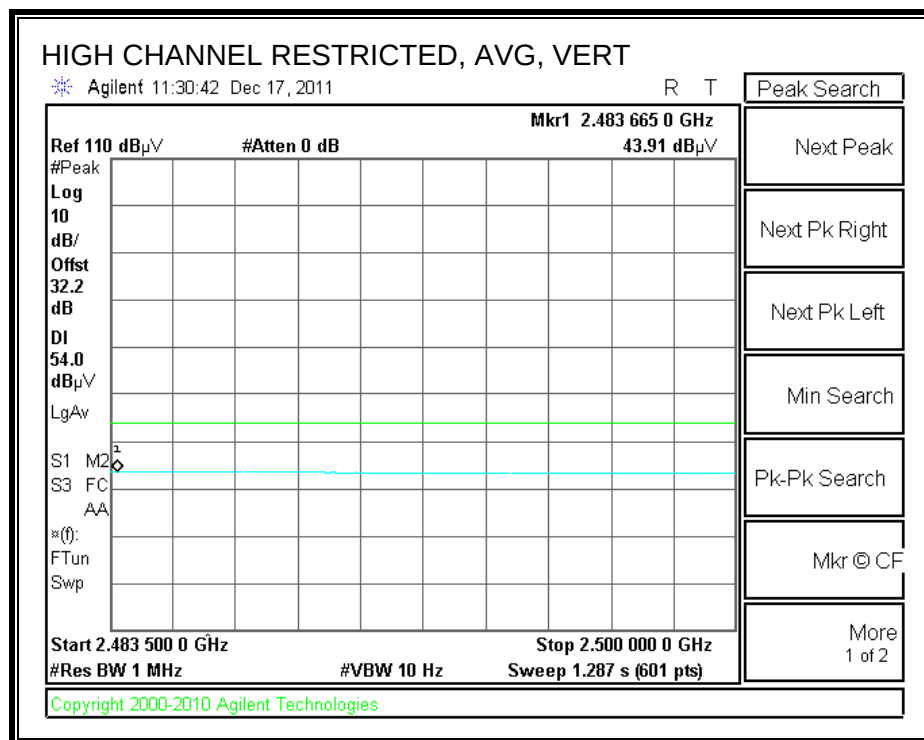
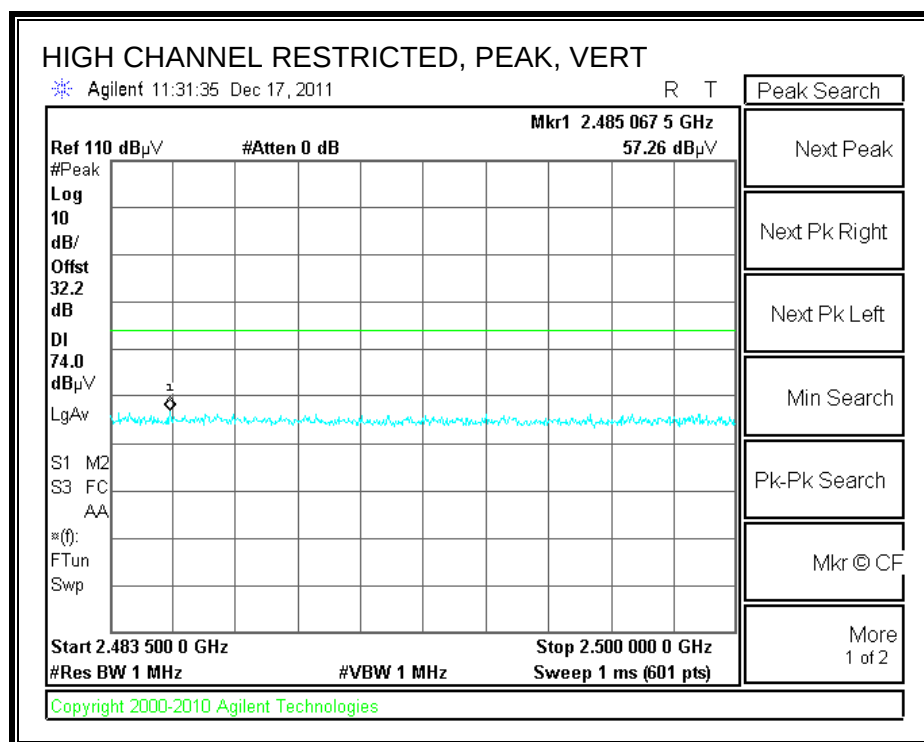
Rev. 4.1.2.7

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: Chin Pang

Date: 12/17/11

Project #: 11U14141

Company: LG

Test Target: FCC 15.247

Mode Oper: g mode, TX

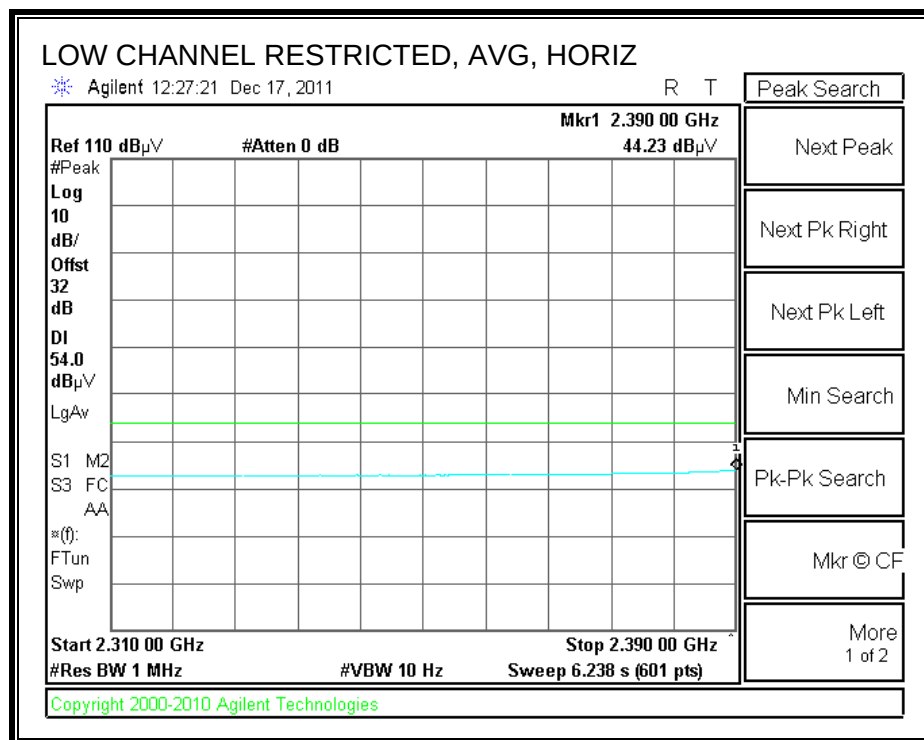
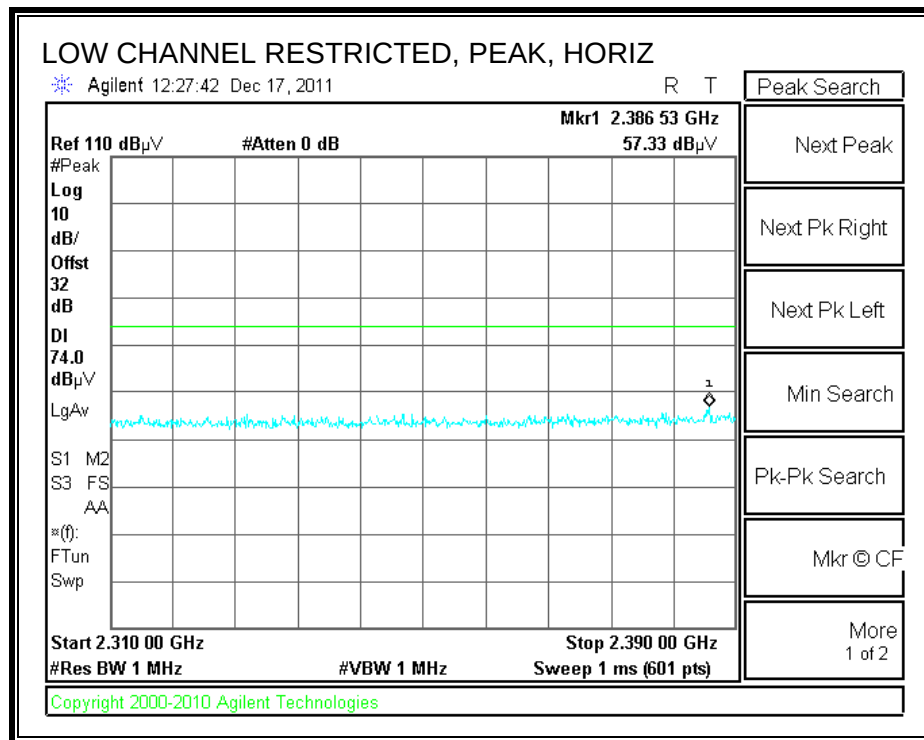
EUT with Inductive Cover

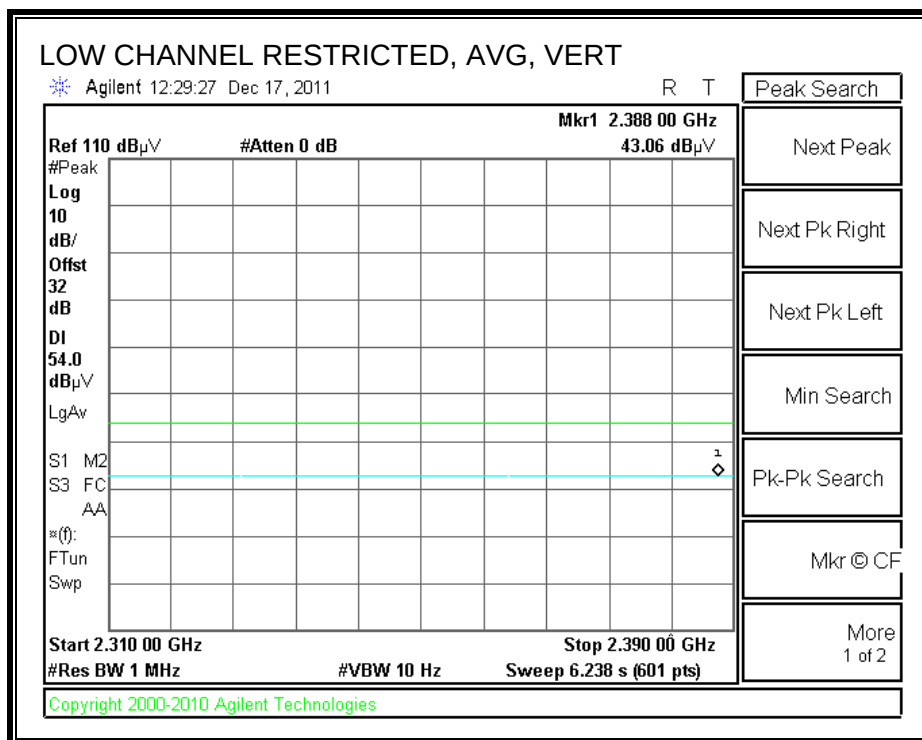
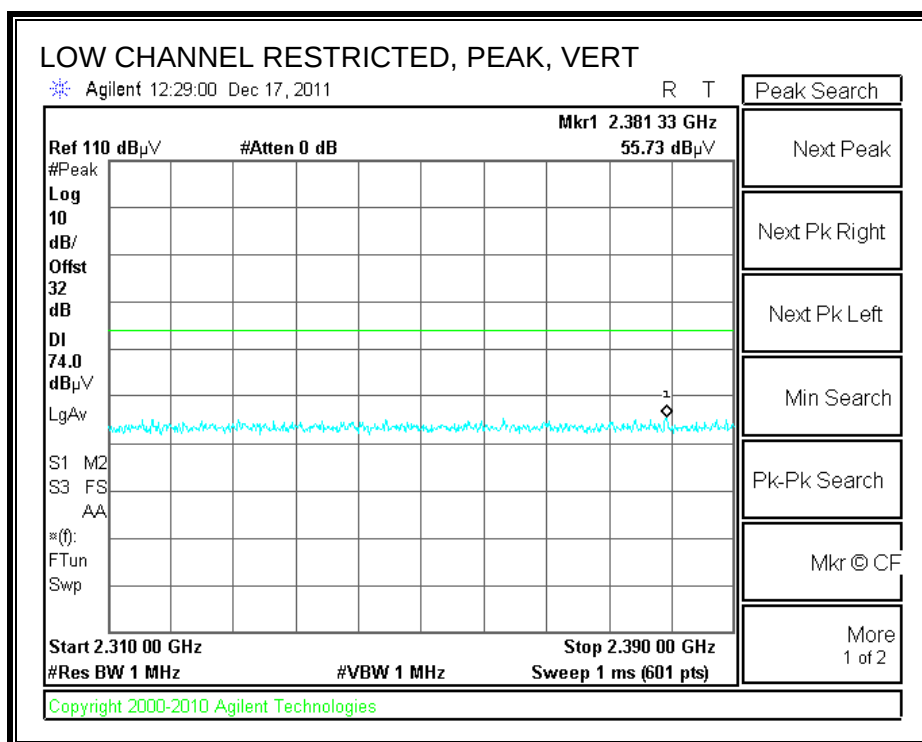
f	Measurement Frequency	Amp	Preamp Gain	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Margin vs.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

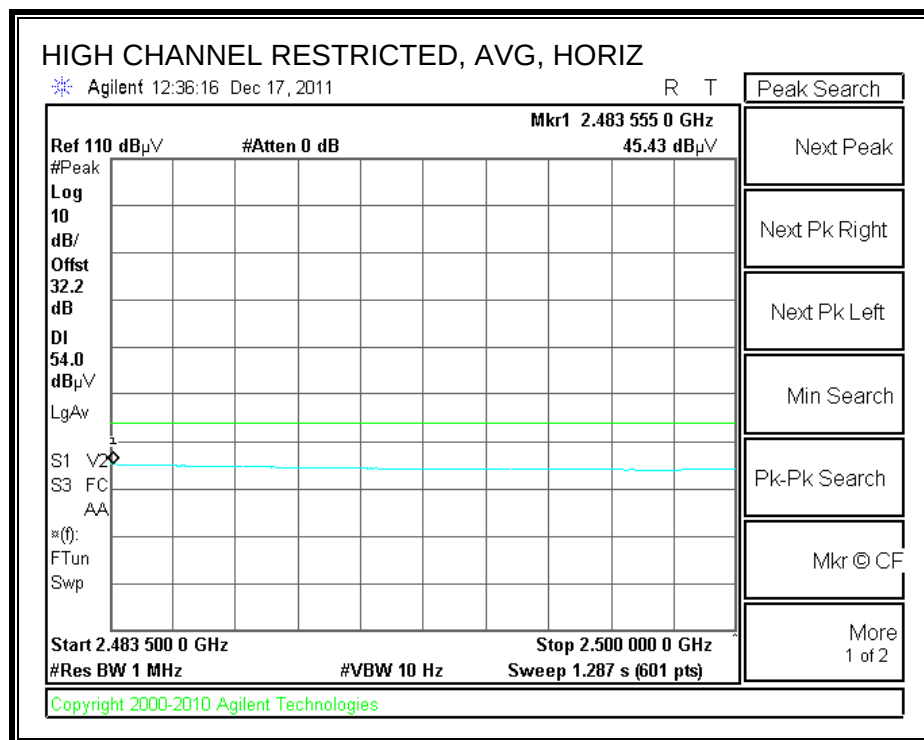
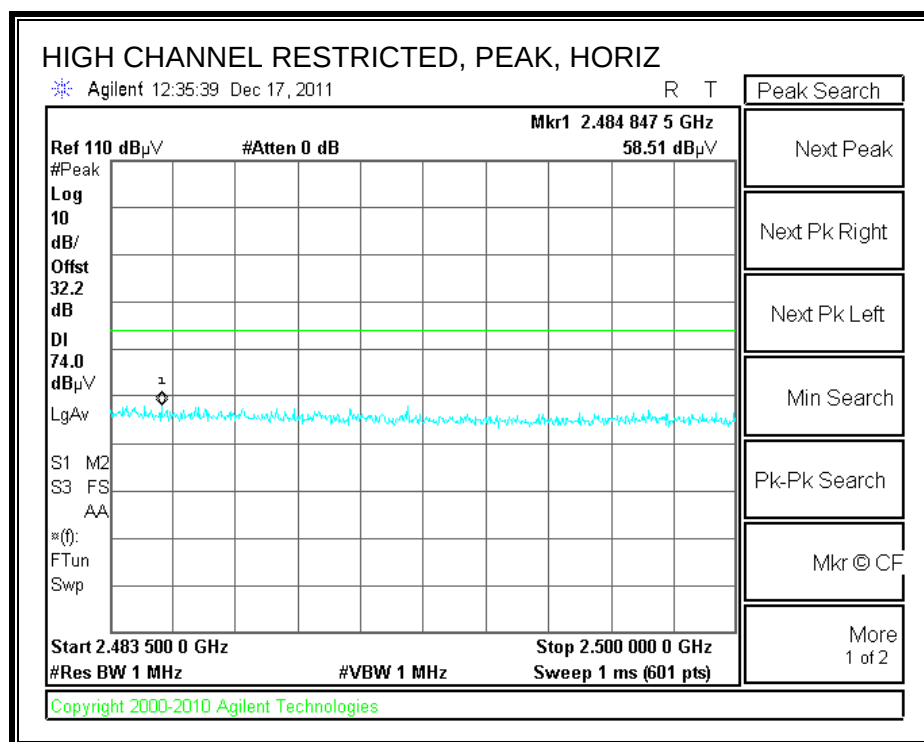
f GHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Notes
low Ch 2412MHz													
4.824	3.0	41.9	33.2	5.8	-34.8	0.0	0.0	46.0	74.0	-28.0	H	P	
4.824	3.0	29.3	33.2	5.8	-34.8	0.0	0.0	33.5	54.0	-20.5	H	A	
4.824	3.0	44.0	33.2	5.8	-34.8	0.0	0.0	48.1	74.0	-25.9	V	P	
4.824	3.0	31.0	33.2	5.8	-34.8	0.0	0.0	35.2	54.0	-18.8	V	A	
Mid Ch, 2437MHz													
4.874	3.0	42.5	33.2	5.8	-34.9	0.0	0.0	46.7	74.0	-27.3	H	P	
4.874	3.0	30.4	33.2	5.8	-34.9	0.0	0.0	34.6	54.0	-19.4	H	A	
7.311	3.0	37.2	36.2	7.3	-34.7	0.0	0.0	46.0	74.0	-28.0	H	P	
7.311	3.0	24.4	36.2	7.3	-34.7	0.0	0.0	33.2	54.0	-20.8	H	A	
4.874	3.0	44.6	33.2	5.8	-34.9	0.0	0.0	48.8	74.0	-25.2	V	P	
4.874	3.0	32.0	33.2	5.8	-34.9	0.0	0.0	36.2	54.0	-17.8	V	A	
7.311	3.0	37.6	36.2	7.3	-34.7	0.0	0.0	46.4	74.0	-27.6	V	P	
7.311	3.0	25.3	36.2	7.3	-34.7	0.0	0.0	34.1	54.0	-19.9	V	A	
High Ch, 2462MHz													
4.924	3.0	42.7	33.3	5.9	-34.9	0.0	0.0	47.9	74.0	-26.1	H	P	
4.924	3.0	30.2	33.3	5.9	-34.9	0.0	0.0	35.6	54.0	-18.4	H	A	
7.386	3.0	37.7	36.3	7.3	-34.6	0.0	0.0	46.2	74.0	-27.8	H	P	
7.386	3.0	25.3	36.3	7.3	-34.6	0.0	0.0	33.3	54.0	-20.7	H	A	
4.924	3.0	43.8	33.3	5.9	-34.9	0.0	0.0	46.1	74.0	-27.9	V	P	
4.924	3.0	30.7	33.3	5.9	-34.9	0.0	0.0	33.9	54.0	-20.1	V	A	
7.386	3.0	37.5	36.3	7.3	-34.6	0.0	0.0	46.2	74.0	-27.8	V	P	
7.386	3.0	25.3	36.3	7.3	-34.6	0.0	0.0	33.3	54.0	-20.7	V	A	

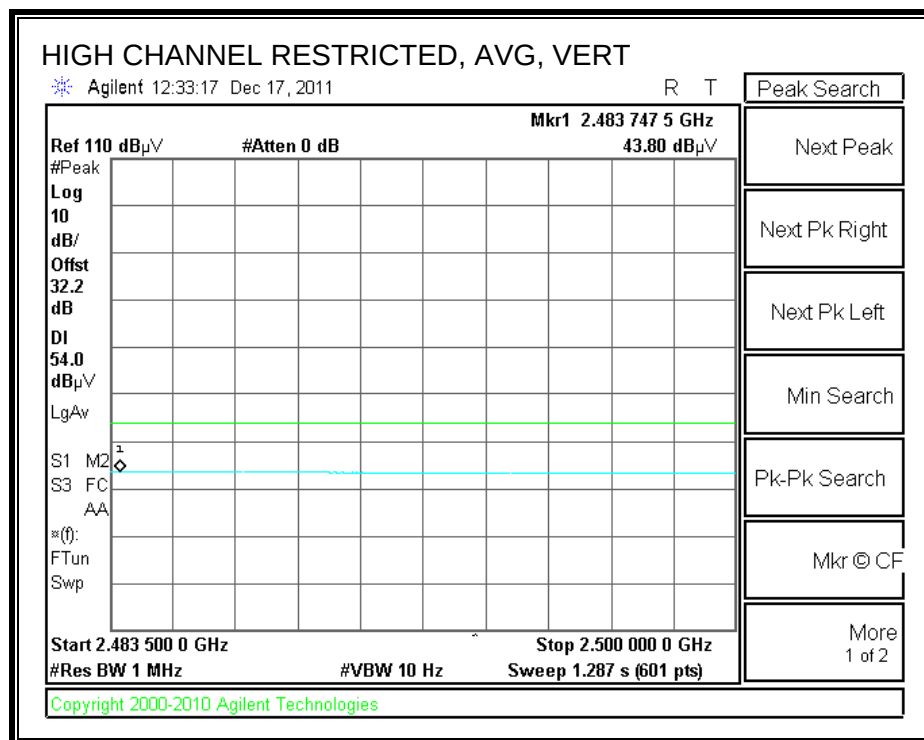
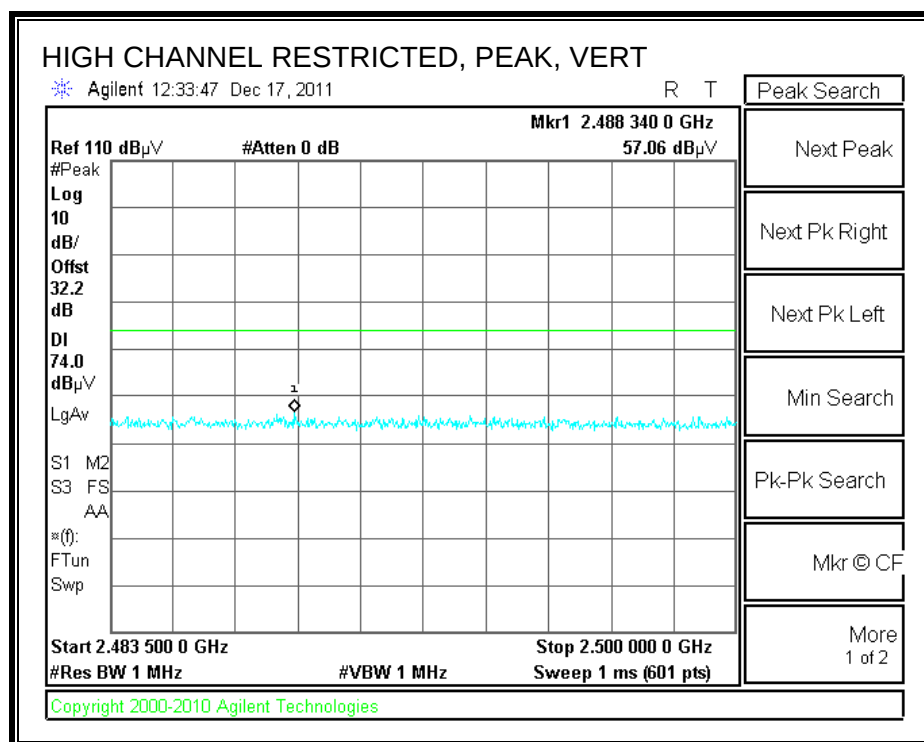
Rev. 4.1.2.7

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

INDUCTIVE CHARGER WITH 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: Chin Pang

Date: 12/17/11

Project #: 11U14141

Company: LG

Test Target: FCC 15C

Mode Oper: g mode, TX

Inductive Charger with Inductive Cover

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	

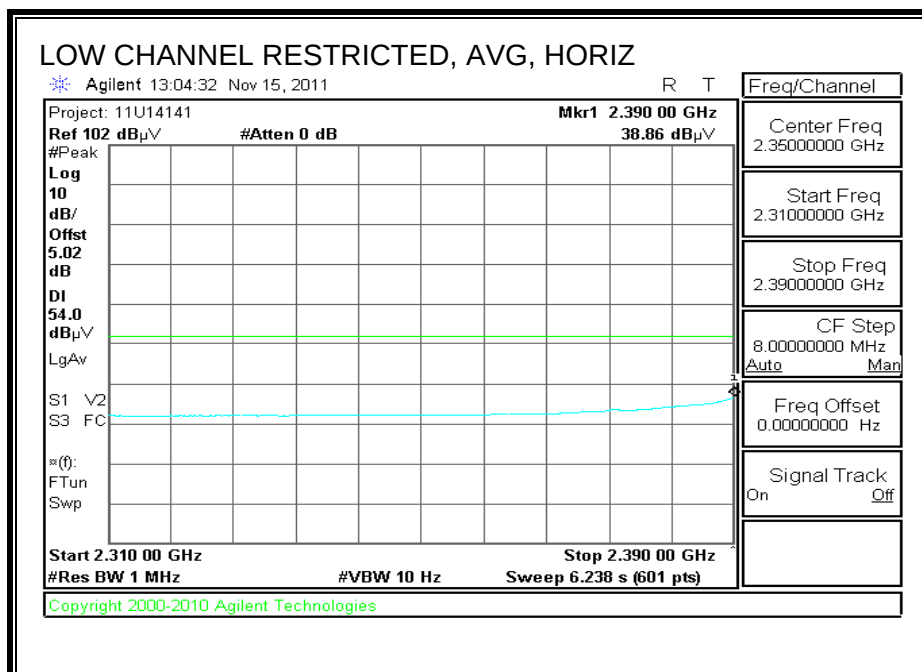
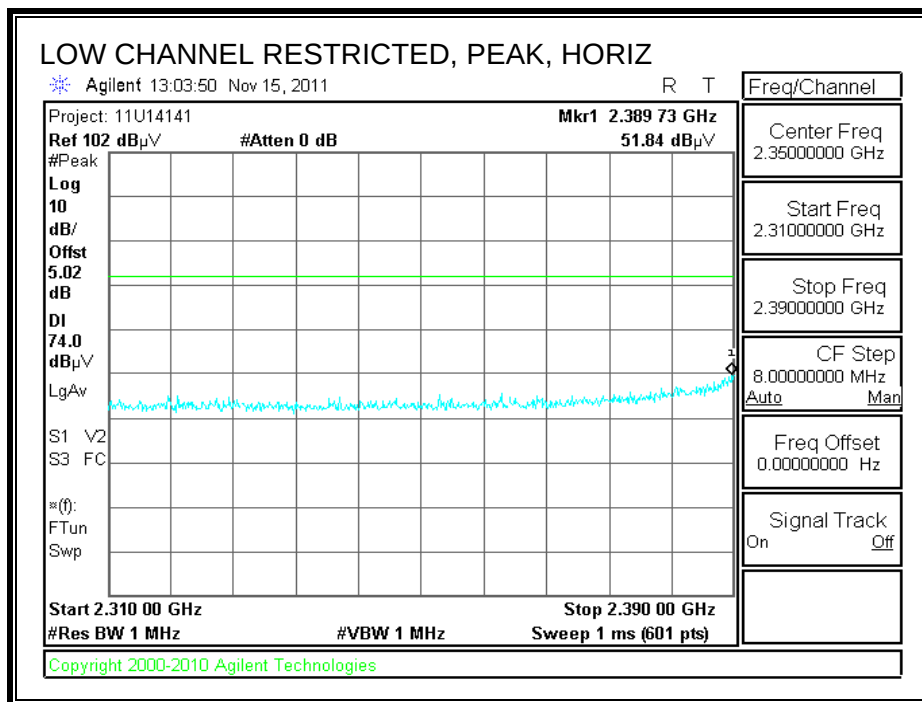
f GHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Notes
low Ch 2412MHz													
4.824	3.0	41.2	33.2	5.8	-34.8	0.0	0.0	45.4	74.0	-28.6	H	P	
4.824	3.0	28.8	33.2	5.8	-34.8	0.0	0.0	32.9	54.0	-21.1	H	A	
4.824	3.0	44.8	33.2	5.8	-34.8	0.0	0.0	49.0	74.0	-25.0	V	P	
4.824	3.0	30.9	33.2	5.8	-34.8	0.0	0.0	35.0	54.0	-19.0	V	A	
Mid Ch, 2437MHz													
4.874	3.0	40.4	33.2	5.8	-34.9	0.0	0.0	44.6	74.0	-29.4	H	P	
4.874	3.0	28.1	33.2	5.8	-34.9	0.0	0.0	32.4	54.0	-21.6	H	A	
7.311	3.0	37.0	36.2	7.3	-34.7	0.0	0.0	45.8	74.0	-28.2	H	P	
7.311	3.0	24.7	36.2	7.3	-34.7	0.0	0.0	33.5	54.0	-20.5	H	A	
4.874	3.0	38.2	33.2	5.8	-34.9	0.0	0.0	42.5	74.0	-31.5	V	P	
4.874	3.0	26.0	33.2	5.8	-34.9	0.0	0.0	30.2	54.0	-23.8	V	A	
7.311	3.0	37.2	36.2	7.3	-34.7	0.0	0.0	46.0	74.0	-28.0	V	P	
7.311	3.0	24.7	36.2	7.3	-34.7	0.0	0.0	33.5	54.0	-20.5	V	A	
High Ch, 2462MHz													
4.924	3.0	44.3	33.3	5.9	-34.9	0.0	0.0	48.6	74.0	-25.4	H	P	
4.924	3.0	31.2	33.3	5.9	-34.9	0.0	0.0	35.5	54.0	-18.5	H	A	
7.386	3.0	37.0	36.3	7.3	-34.6	0.0	0.0	45.9	74.0	-28.1	H	P	
7.386	3.0	24.7	36.3	7.3	-34.6	0.0	0.0	33.7	54.0	-20.3	H	A	
4.924	3.0	41.9	33.3	5.9	-34.9	0.0	0.0	46.3	74.0	-27.7	V	P	
4.924	3.0	29.1	33.3	5.9	-34.9	0.0	0.0	33.4	54.0	-20.6	V	A	
7.386	3.0	37.1	36.3	7.3	-34.6	0.0	0.0	46.0	74.0	-28.0	V	P	
7.386	3.0	24.7	36.3	7.3	-34.6	0.0	0.0	33.6	54.0	-20.4	V	A	

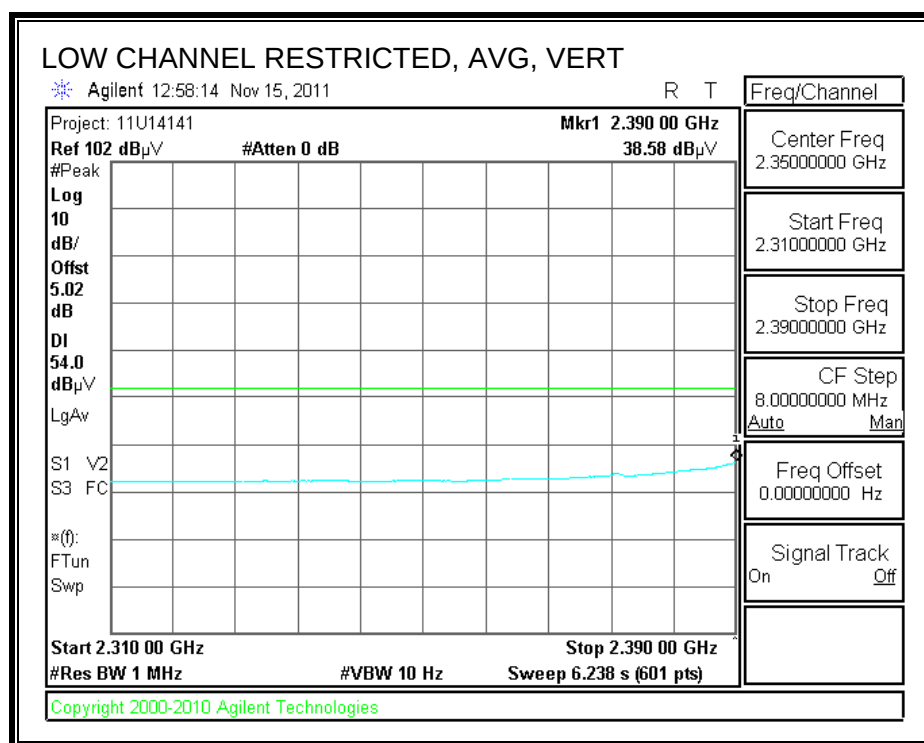
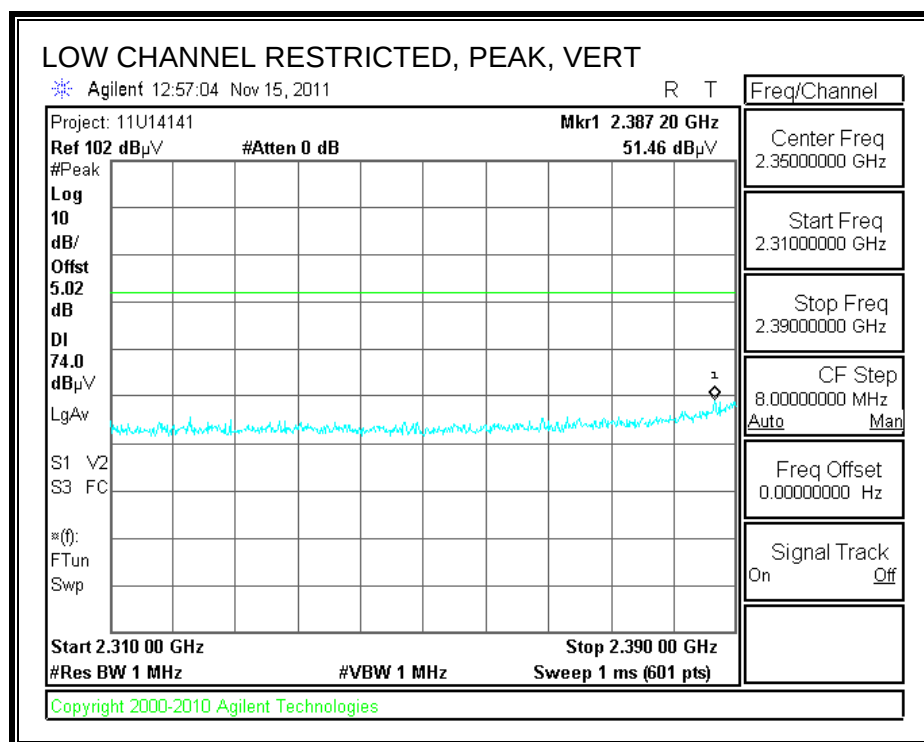
Rev. 4.1.2.7

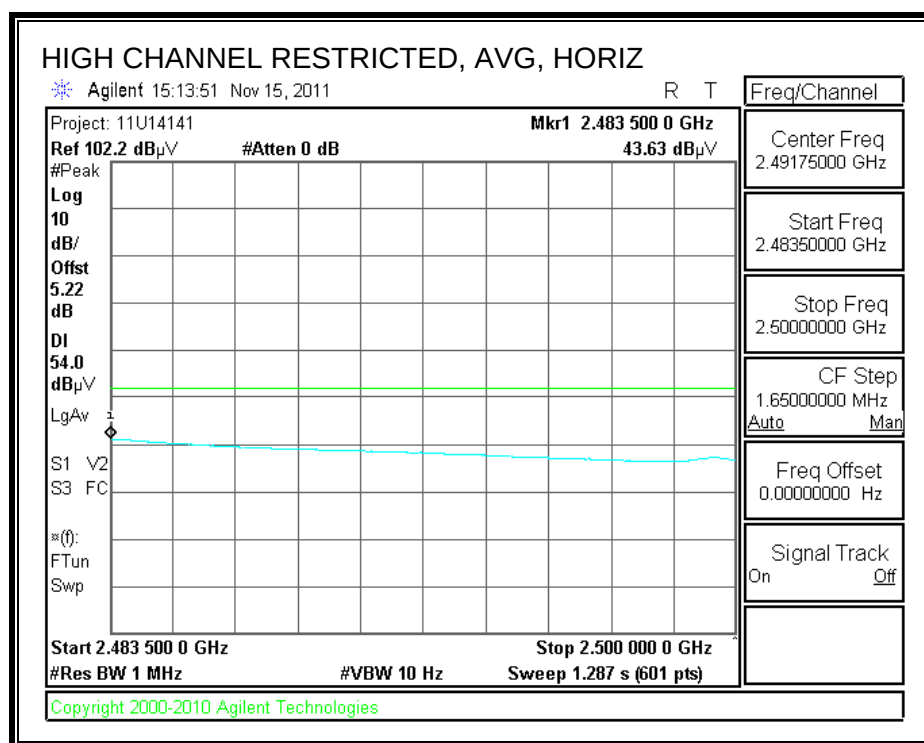
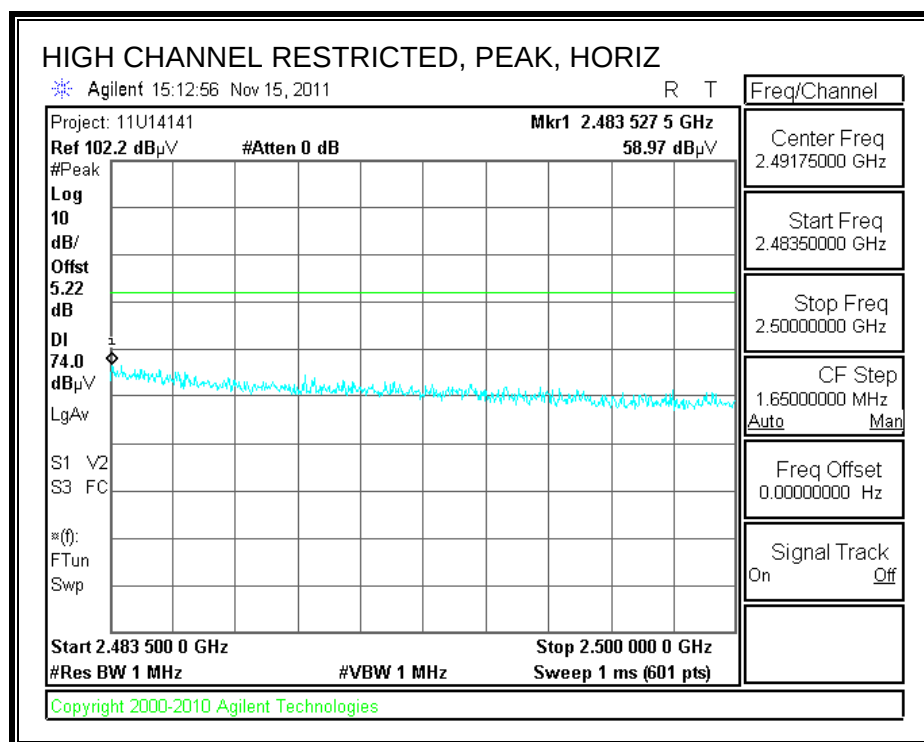
Note: No other emissions were detected above the system noise floor.

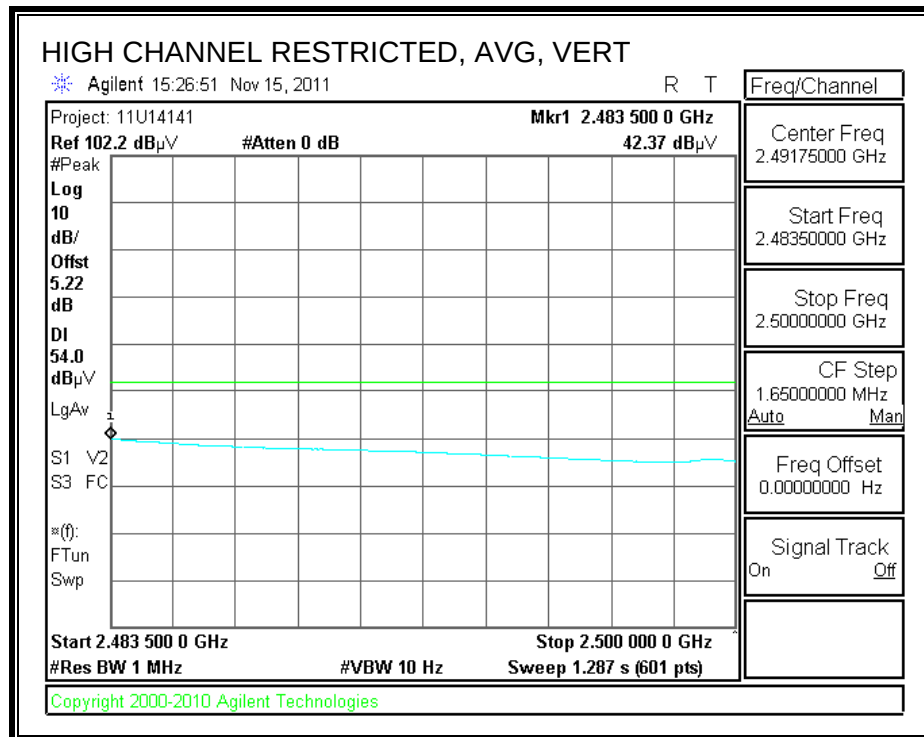
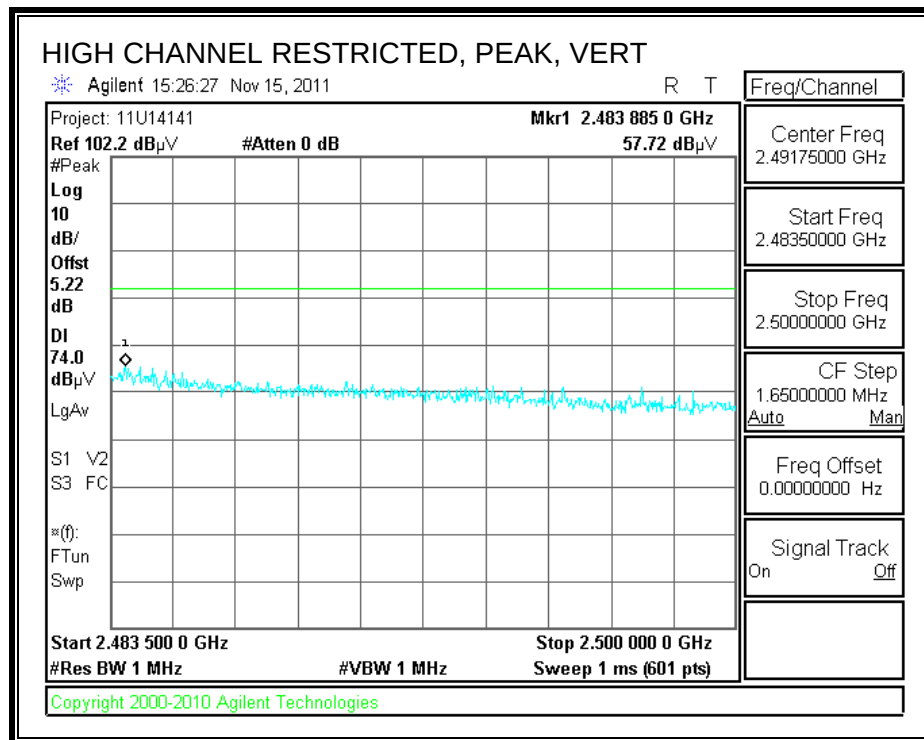
8.2.3. TX ABOVE 1 GHz FOR 802.11n HT20 1TX MODE IN THE 2.4 GHz AND STANDARD COVER

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

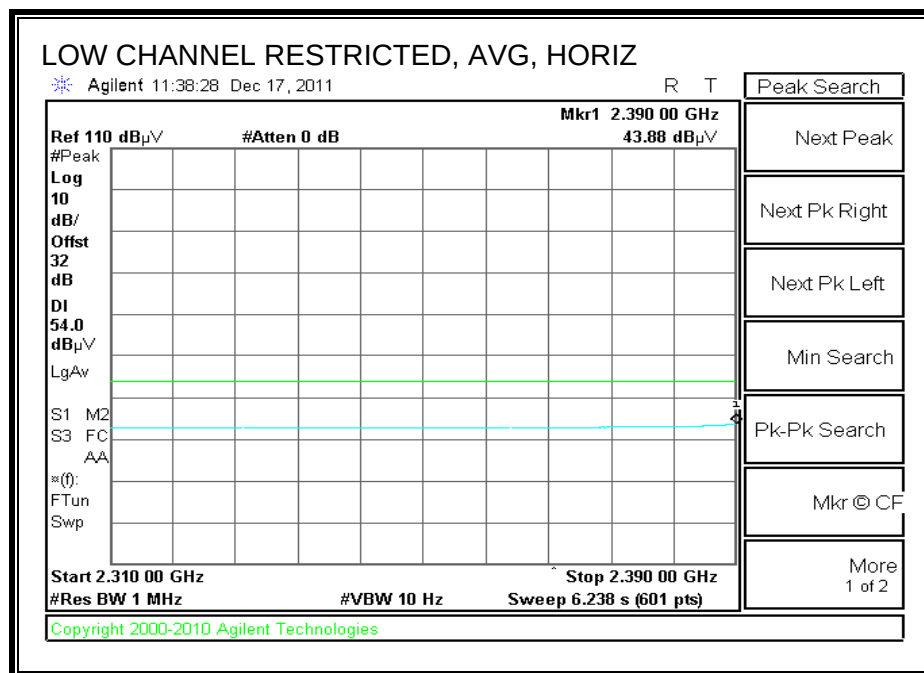
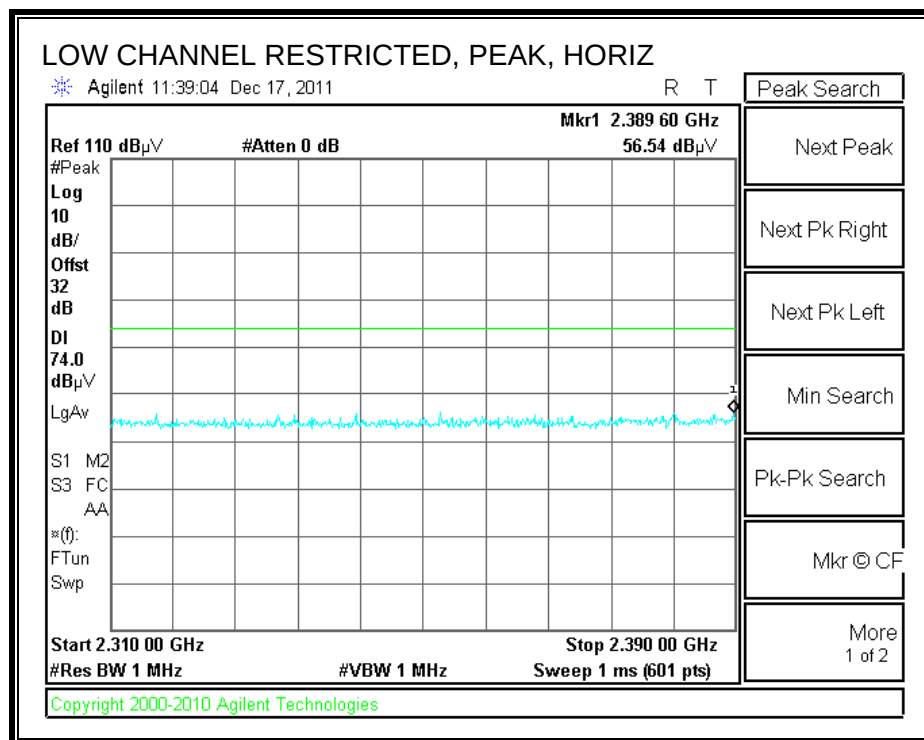
Test Engr: Tom Chen
 Date: 11/15/11
 Project #: 11U14141
 Company: LG
 Test Target: FCC Class B
 Mode Oper: 802.11n HT20, TX mode

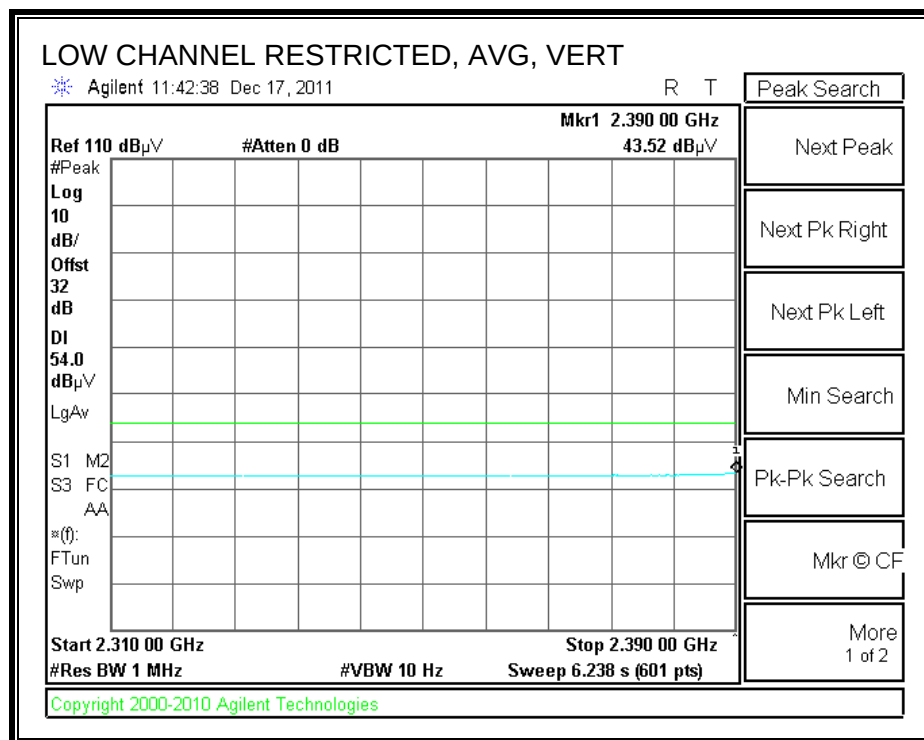
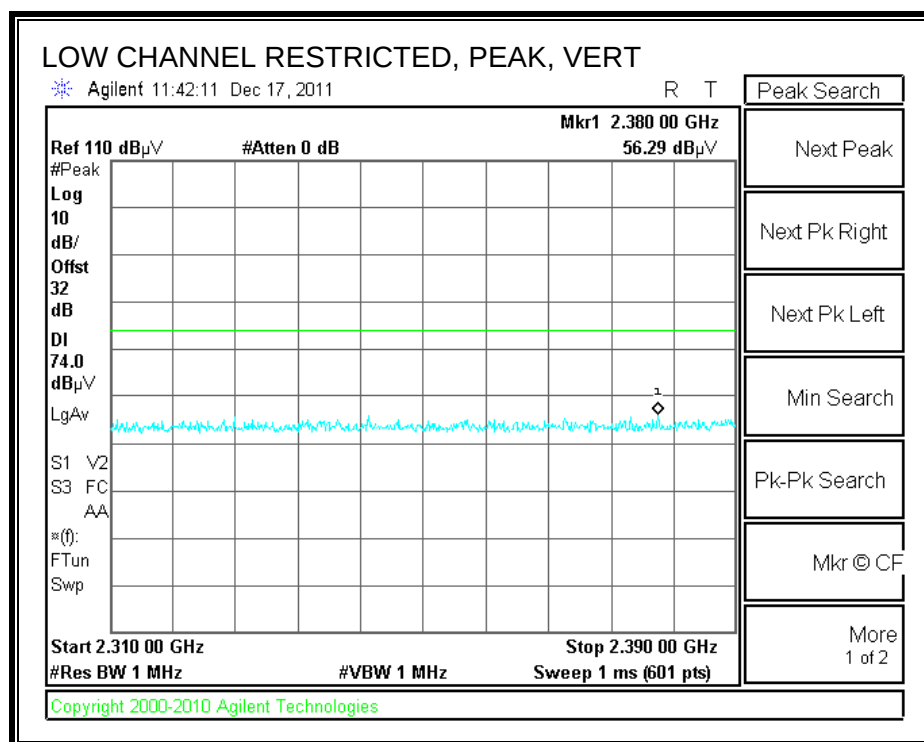
f Measurement Frequency Amp Preamp Gain Average Field Strength Limit
 Dist Distance to Antenna D Corr Distance Correct to 3 meters Peak Field Strength Limit
 Read Analyzer Reading Avg Average Field Strength @ 3 m Margin vs. Average Limit
 AF Antenna Factor Peak Calculated Peak Field Strength Margin vs.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

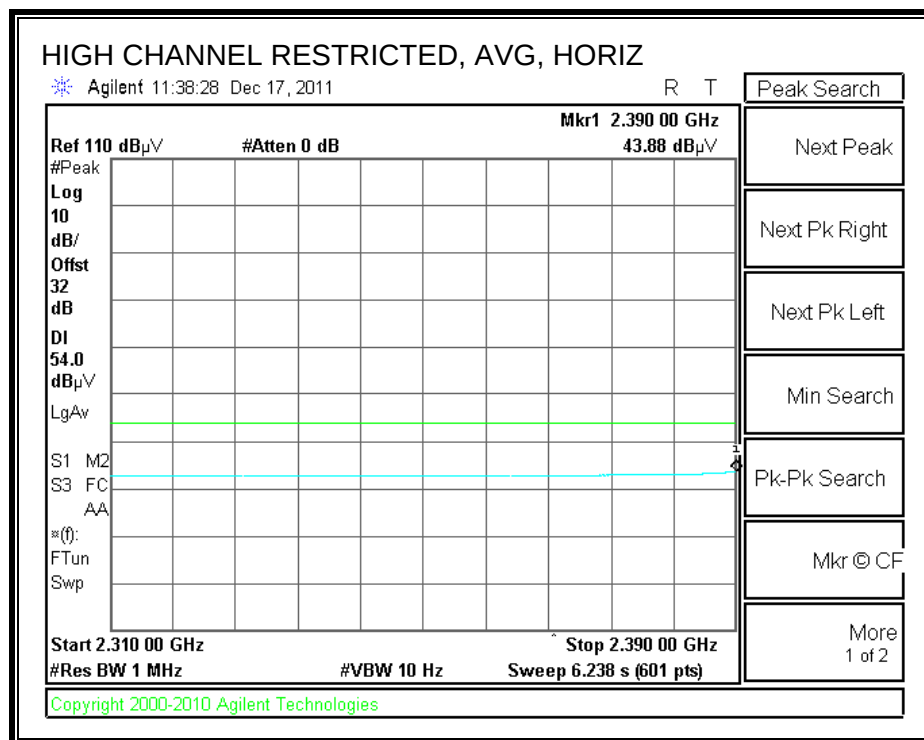
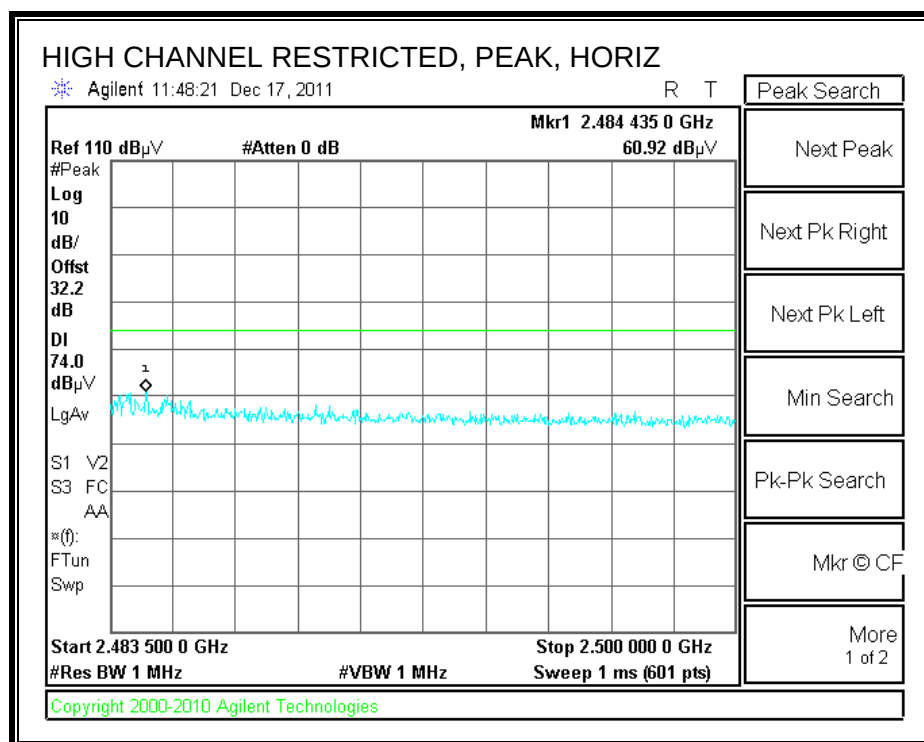
f GHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/Q/P	Notes
2412 MHz HT20													
4.824	3.0	37.6	33.4	5.8	-36.5	0.0	0.0	40.4	74.0	-33.6	H	P	
4.824	3.0	25.4	33.4	5.8	-36.5	0.0	0.0	28.2	54.0	-25.8	H	A	
12.060	3.0	35.2	39.3	9.8	-35.4	0.0	0.0	48.8	74.0	-25.2	H	P	
12.060	3.0	22.7	39.3	9.8	-35.4	0.0	0.0	36.4	54.0	-17.6	H	A	
2412 MHz HT20													
4.824	3.0	40.5	33.4	5.8	-36.5	0.0	0.0	43.3	74.0	-30.7	V	P	
4.824	3.0	28.0	33.4	5.8	-36.5	0.0	0.0	30.8	54.0	-23.2	V	A	
12.060	3.0	35.0	39.3	9.8	-35.4	0.0	0.0	48.7	74.0	-25.3	V	P	
12.060	3.0	22.7	39.3	9.8	-35.4	0.0	0.0	36.3	54.0	-17.7	V	A	
2437 MHz HT20													
4.874	3.0	37.7	33.5	5.8	-36.5	0.0	0.0	40.5	74.0	-33.5	H	P	
4.874	3.0	25.0	33.5	5.8	-36.5	0.0	0.0	27.8	54.0	-26.2	H	A	
7.311	3.0	38.0	35.7	7.3	-36.2	0.0	0.0	44.8	74.0	-29.2	H	P	
7.311	3.0	24.8	35.7	7.3	-36.2	0.0	0.0	31.5	54.0	-22.5	H	A	
2437 MHz HT20													
4.874	3.0	38.8	33.5	5.8	-36.5	0.0	0.0	41.7	74.0	-32.3	V	P	
4.874	3.0	26.3	33.5	5.8	-36.5	0.0	0.0	29.1	54.0	-24.9	V	A	
7.311	3.0	37.0	35.7	7.3	-36.2	0.0	0.0	43.8	74.0	-30.2	V	P	
7.311	3.0	24.7	35.7	7.3	-36.2	0.0	0.0	31.5	54.0	-22.5	V	A	
2462 MHz HT20													
4.924	3.0	38.0	33.5	5.9	-36.5	0.0	0.0	40.9	74.0	-33.1	H	P	
4.924	3.0	25.6	33.5	5.9	-36.5	0.0	0.0	28.6	54.0	-25.4	H	A	
7.386	3.0	36.8	35.8	7.3	-36.2	0.0	0.0	43.8	74.0	-30.3	H	P	
7.386	3.0	24.7	35.8	7.3	-36.2	0.0	0.0	31.6	54.0	-22.4	H	A	
2462MHz HT20													
4.924	3.0	39.6	33.5	5.9	-36.5	0.0	0.0	42.5	74.0	-31.5	V	P	
4.924	3.0	27.5	33.5	5.9	-36.5	0.0	0.0	30.4	54.0	-23.6	V	A	
7.386	3.0	37.3	35.8	7.3	-36.2	0.0	0.0	44.2	74.0	-29.8	V	P	
7.386	3.0	24.6	35.8	7.3	-36.2	0.0	0.0	31.6	54.0	-22.4	V	A	

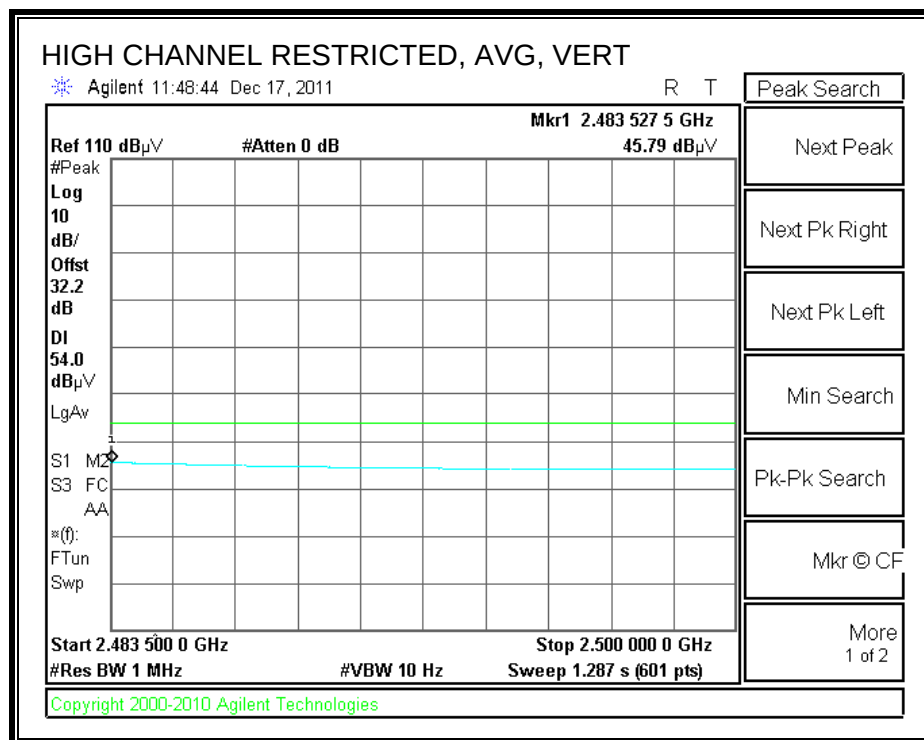
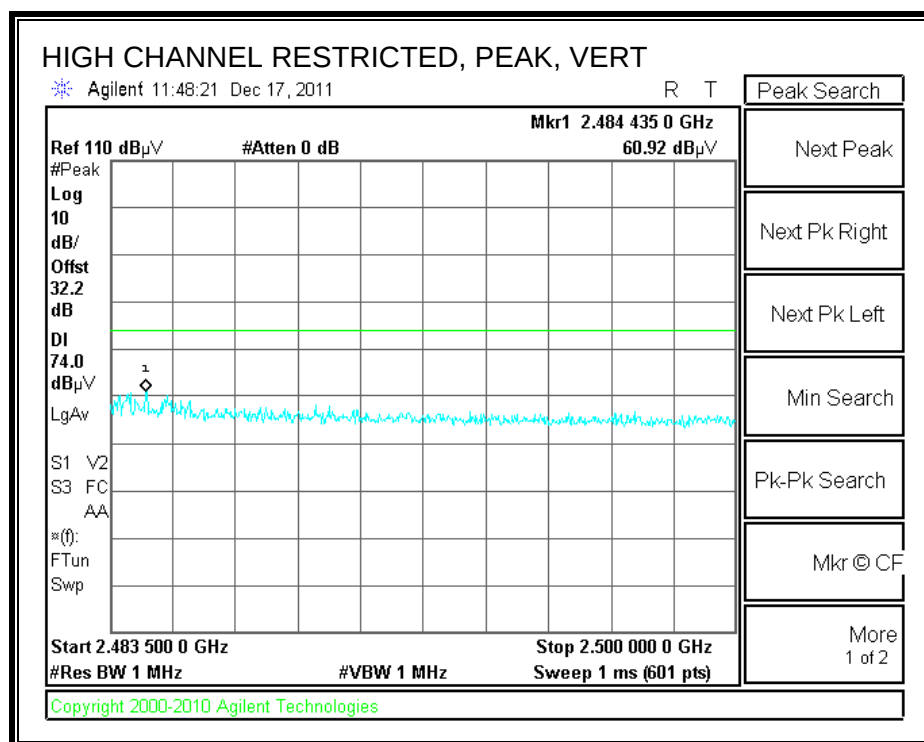
Rev. 4.1.2.7

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: Chin Pang

Date: 12/17/11

Project #: 11U14141

Company: LG

Test Target: FCC 15.247

Mode Oper: HT20, TX

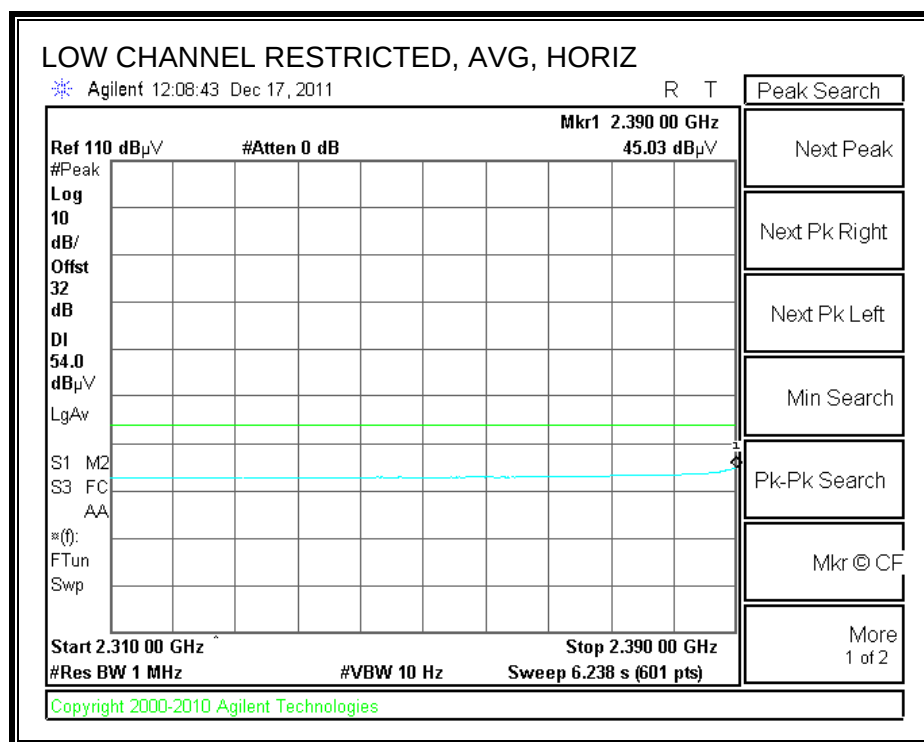
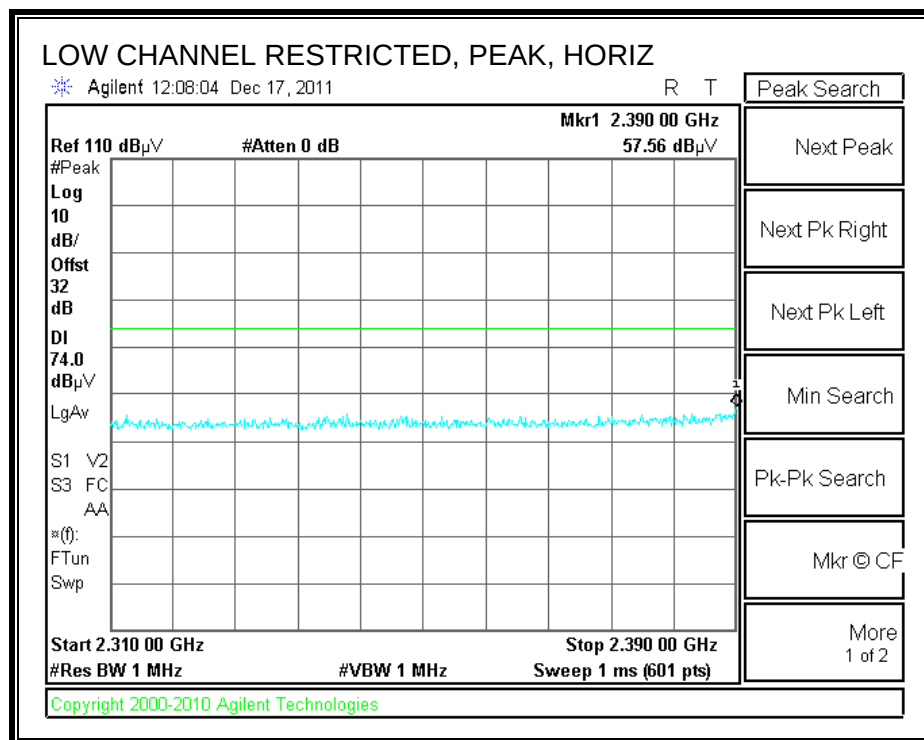
EUT with Inductive Cover

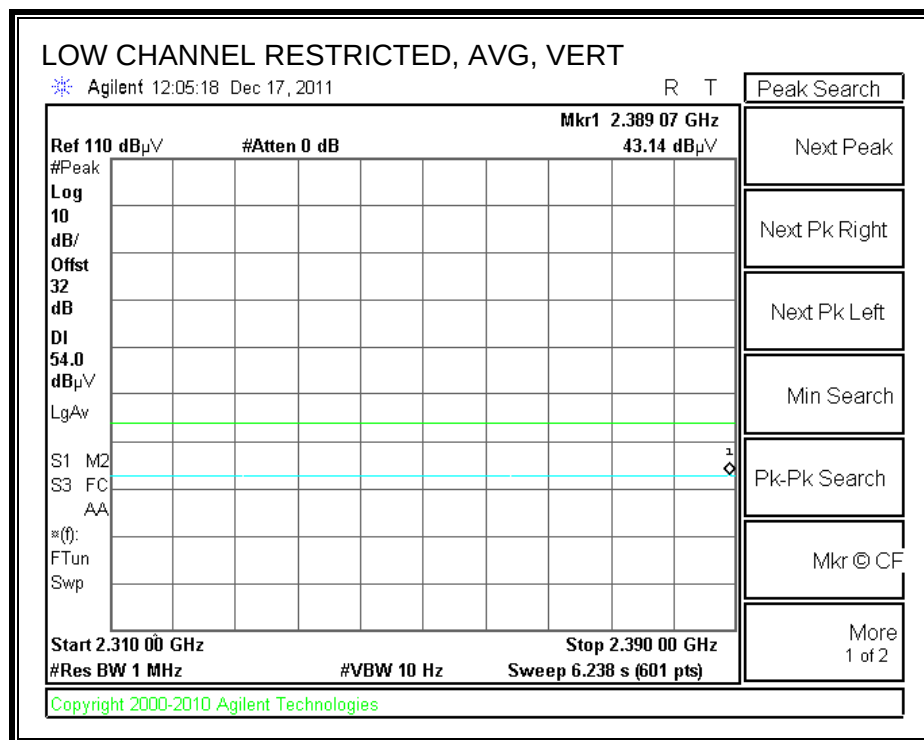
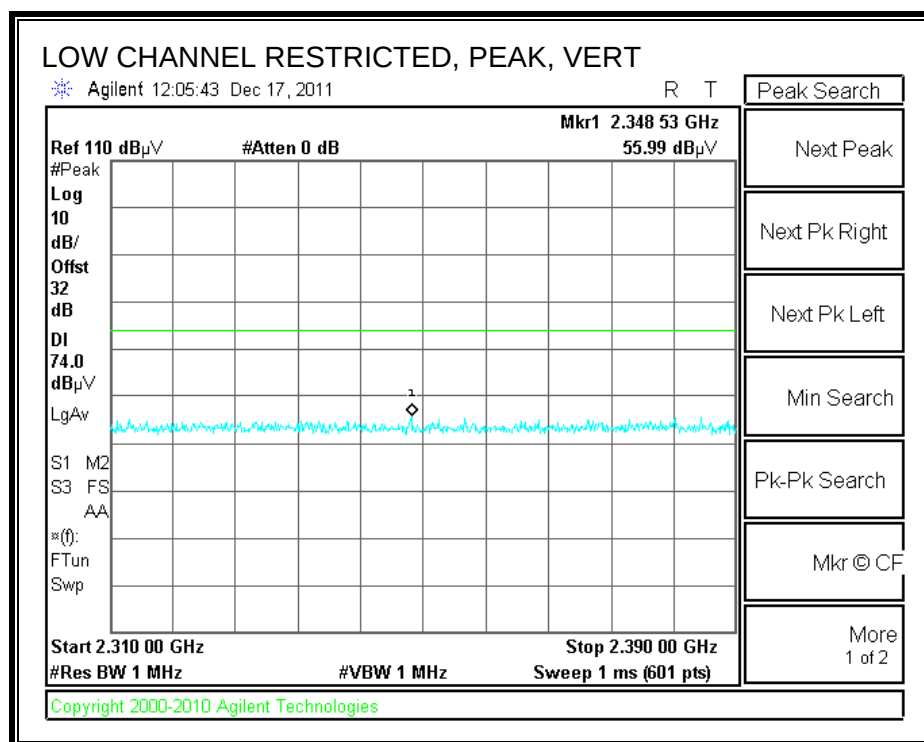
f	Measurement Frequency	Amp	Preamp Gain	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Margin vs.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

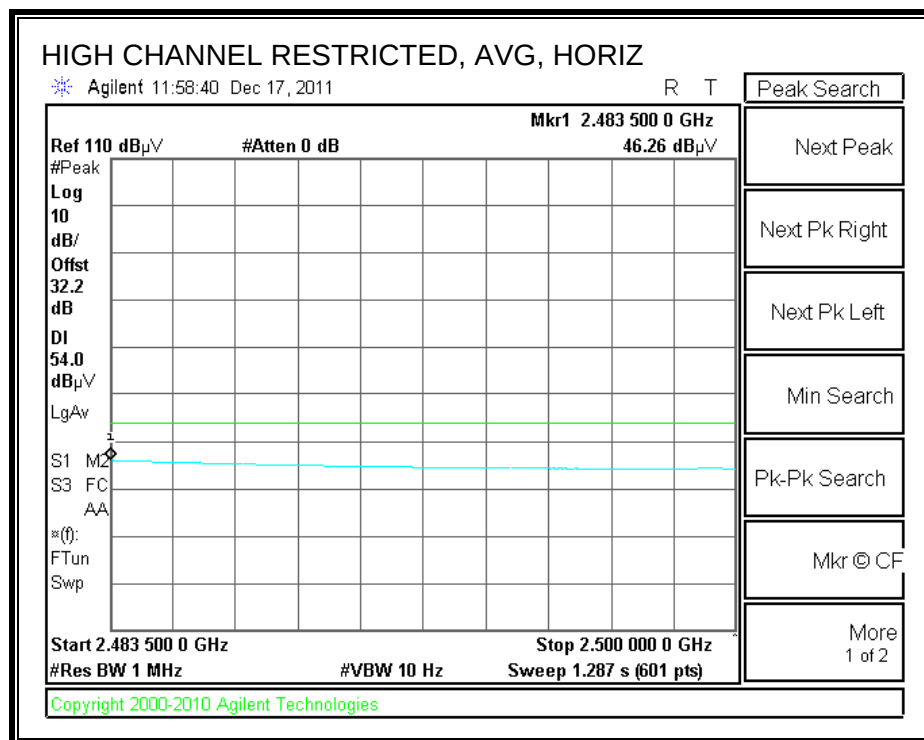
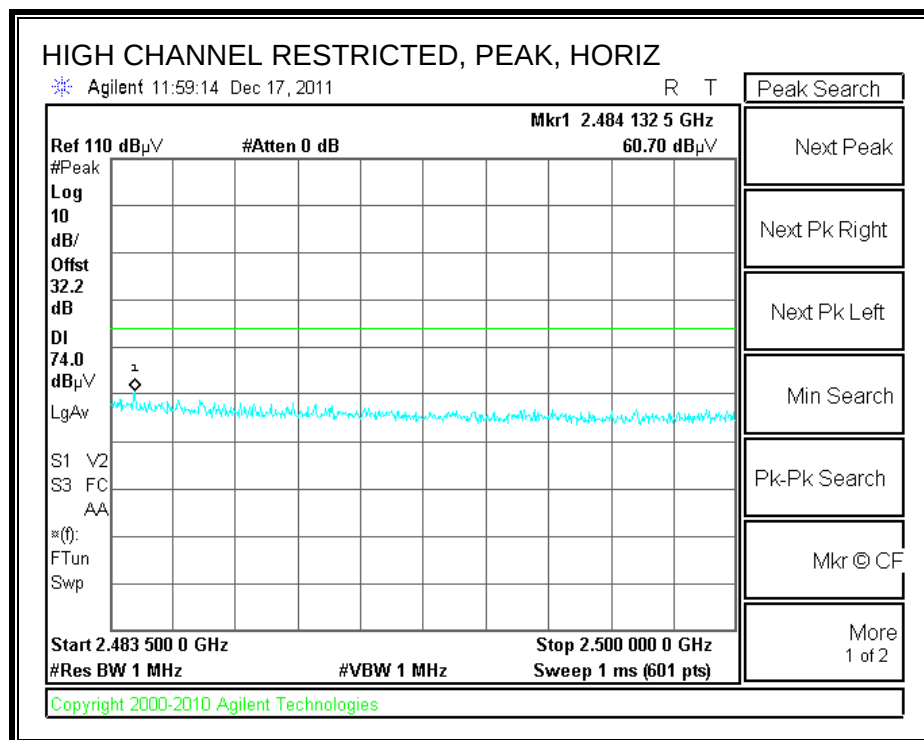
f GHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Notes
low Ch 2412MHz													
4.824	3.0	43.8	33.2	5.8	-34.8	0.0	0.0	47.9	74.0	-26.1	H	P	
4.824	3.0	31.2	33.2	5.8	-34.8	0.0	0.0	35.3	54.0	-18.7	H	A	
4.824	3.0	42.6	33.2	5.8	-34.8	0.0	0.0	46.7	74.0	-27.3	V	P	
4.824	3.0	30.2	33.2	5.8	-34.8	0.0	0.0	34.3	54.0	-19.7	V	A	
Mid Ch, 2437MHz													
4.874	3.0	43.3	33.2	5.8	-34.9	0.0	0.0	47.5	74.0	-26.5	H	P	
4.874	3.0	31.2	33.2	5.8	-34.9	0.0	0.0	35.4	54.0	-18.6	H	A	
7.311	3.0	37.5	36.2	7.3	-34.7	0.0	0.0	46.3	74.0	-27.7	H	P	
7.311	3.0	24.8	36.2	7.3	-34.7	0.0	0.0	33.6	54.0	-20.4	H	A	
4.874	3.0	42.2	33.2	5.8	-34.9	0.0	0.0	46.4	74.0	-27.6	V	P	
4.874	3.0	37.8	33.2	5.8	-34.9	0.0	0.0	42.0	54.0	-12.0	V	A	
7.311	3.0	37.5	36.2	7.3	-34.7	0.0	0.0	46.3	74.0	-27.7	V	P	
7.311	3.0	24.9	36.2	7.3	-34.7	0.0	0.0	33.7	54.0	-20.3	V	A	
High Ch, 2462MHz													
4.924	3.0	43.6	33.3	5.9	-34.9	0.0	0.0	47.9	74.0	-26.1	H	P	
4.924	3.0	31.3	33.3	5.9	-34.9	0.0	0.0	35.6	54.0	-18.4	H	A	
7.386	3.0	37.3	36.3	7.3	-34.6	0.0	0.0	46.2	74.0	-27.8	H	P	
7.386	3.0	24.3	36.3	7.3	-34.6	0.0	0.0	33.3	54.0	-20.7	H	A	
4.924	3.0	41.8	33.3	5.9	-34.9	0.0	0.0	46.1	74.0	-27.9	V	P	
4.924	3.0	29.6	33.3	5.9	-34.9	0.0	0.0	33.9	54.0	-20.1	V	A	
7.386	3.0	37.2	36.3	7.3	-34.6	0.0	0.0	46.2	74.0	-27.8	V	P	
7.386	3.0	24.4	36.3	7.3	-34.6	0.0	0.0	33.3	54.0	-20.7	V	A	

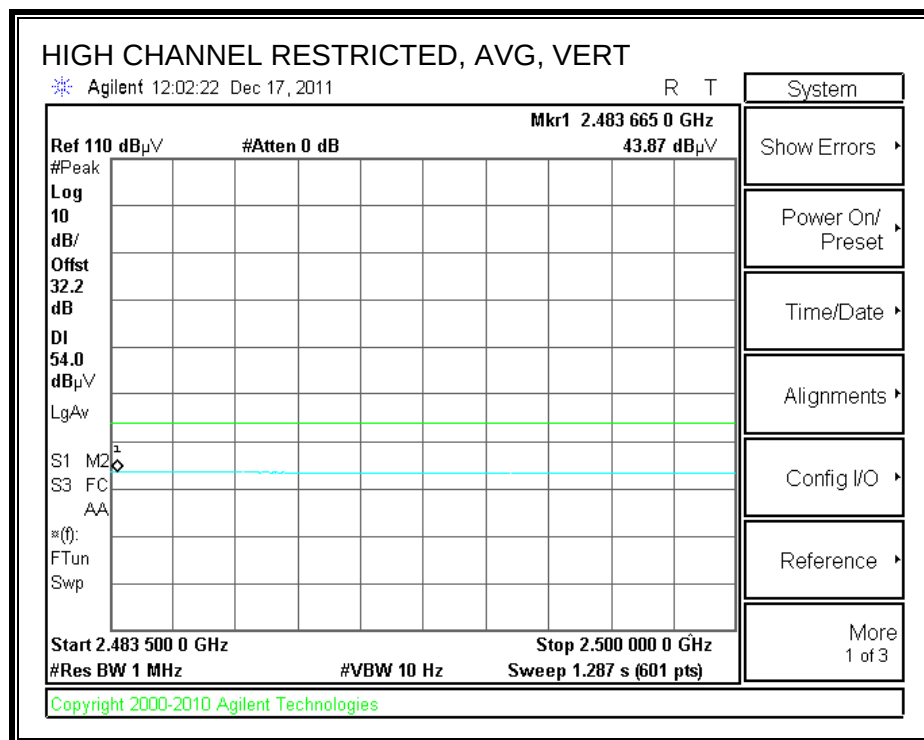
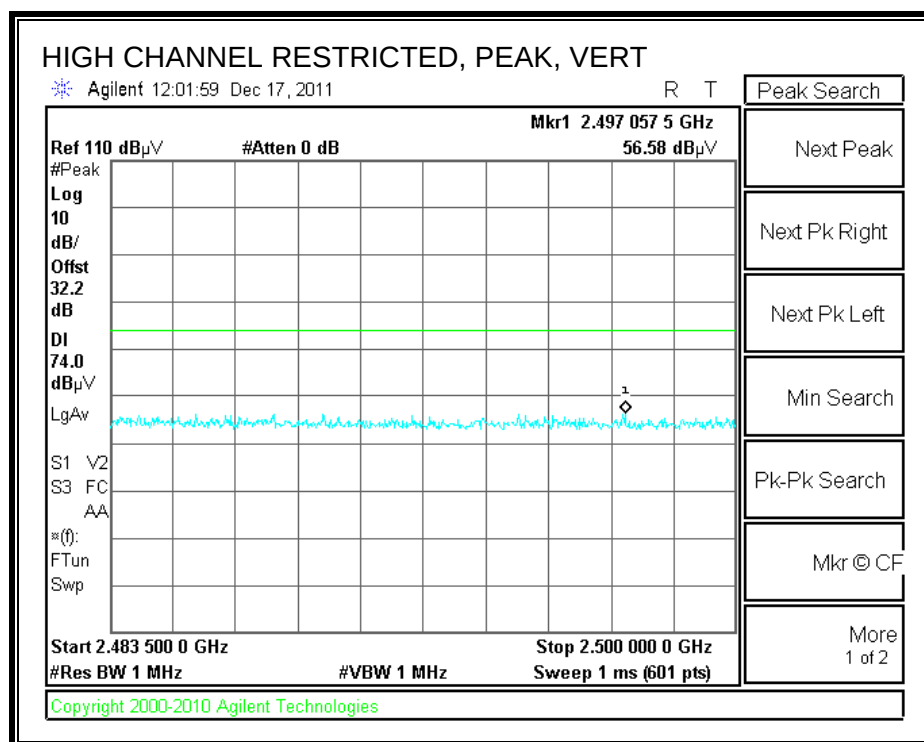
Rev. 4.1.2.7

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

INDUCTIVE CHARGER WITH 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: Chin Pang

Date: 12/17/11

Project #: 11U14141

Company: LG

Test Target: FCC 15C

Mode Oper: HT 20 mode, TX

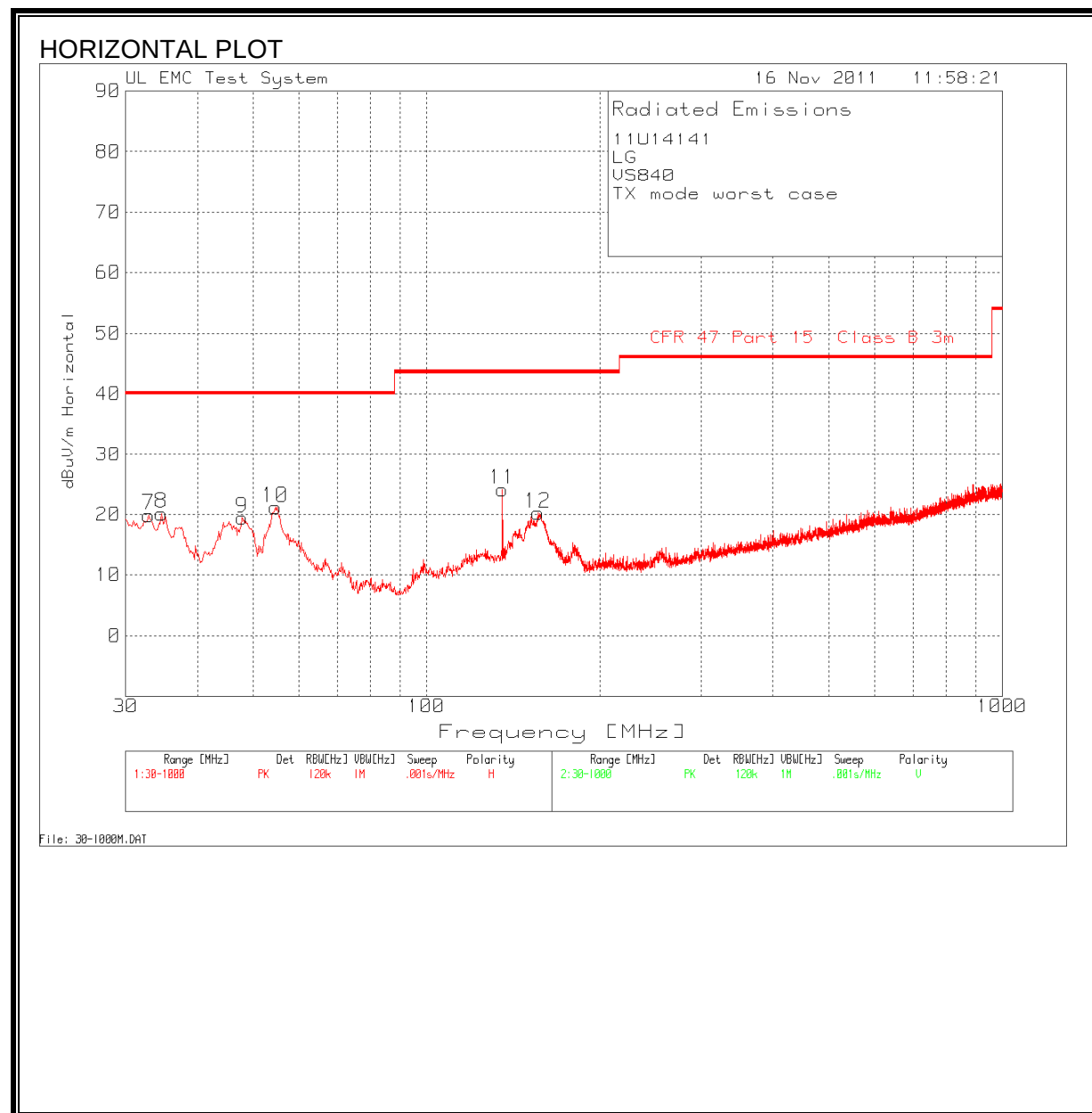
Inductive Charger with Inductive Cover

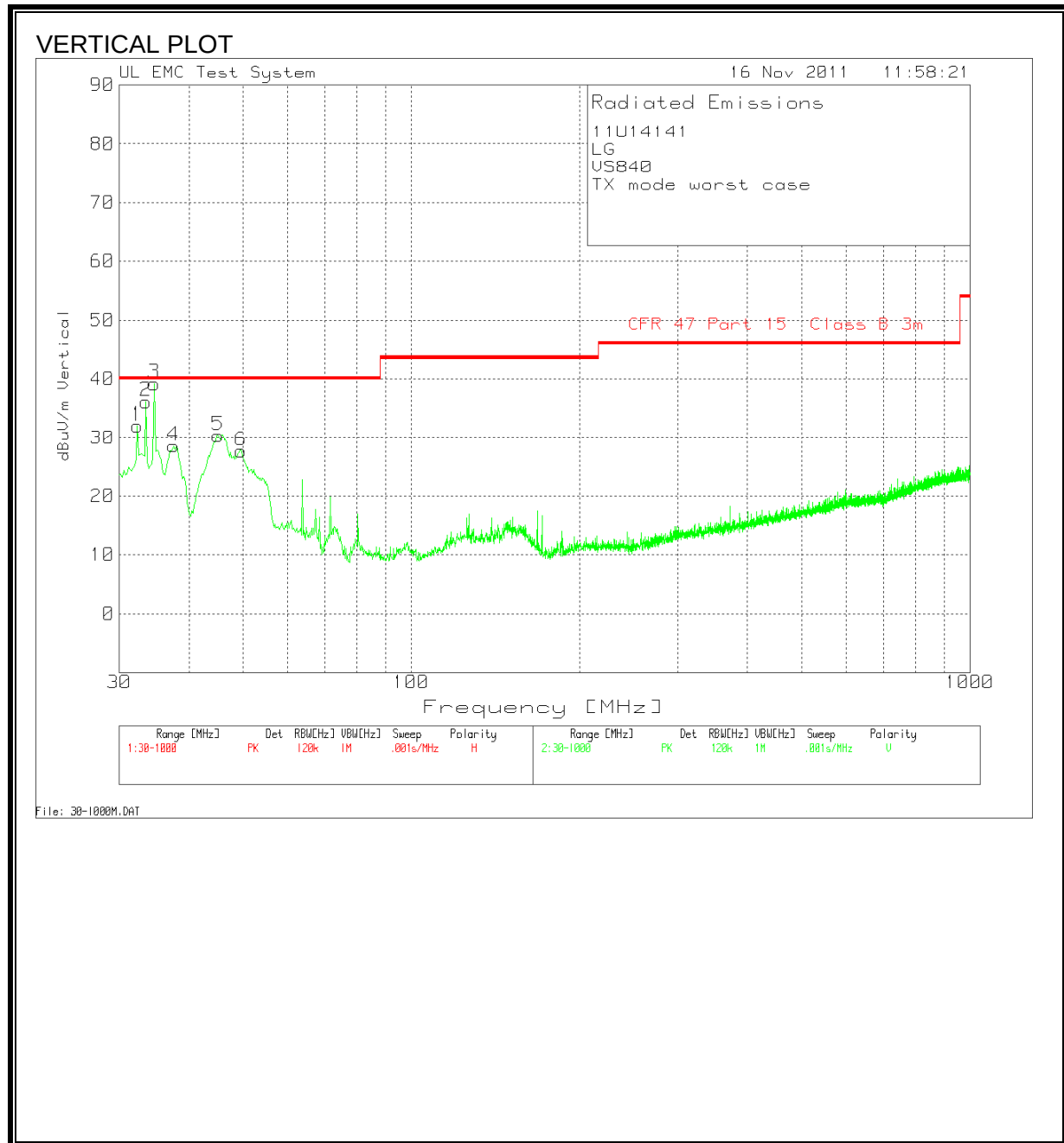
f	Measurement Frequency	Amp	Preamp Gain	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Margin vs.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

f GHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Notes
low Ch 2412MHz													
4.824	3.0	42.3	33.2	5.8	-34.8	0.0	0.0	46.4	74.0	-27.6	H	P	
4.824	3.0	29.2	33.2	5.8	-34.8	0.0	0.0	33.3	54.0	-20.7	H	A	
4.824	3.0	45.1	33.2	5.8	-34.8	0.0	0.0	49.2	74.0	-24.8	V	P	
4.824	3.0	31.3	33.2	5.8	-34.8	0.0	0.0	35.4	54.0	-18.6	V	A	
Mid Ch, 2437MHz													
4.874	3.0	40.6	33.2	5.8	-34.9	0.0	0.0	44.8	74.0	-29.2	H	P	
4.874	3.0	28.4	33.2	5.8	-34.9	0.0	0.0	32.6	54.0	-21.4	H	A	
7.311	3.0	37.3	36.2	7.3	-34.7	0.0	0.0	46.1	74.0	-27.9	H	P	
7.311	3.0	25.0	36.2	7.3	-34.7	0.0	0.0	33.8	54.0	-20.2	H	A	
4.874	3.0	38.4	33.2	5.8	-34.9	0.0	0.0	42.6	74.0	-31.4	V	P	
4.874	3.0	26.3	33.2	5.8	-34.9	0.0	0.0	30.5	54.0	-23.5	V	A	
7.311	3.0	37.0	36.2	7.3	-34.7	0.0	0.0	45.8	74.0	-28.2	V	P	
7.311	3.0	25.0	36.2	7.3	-34.7	0.0	0.0	33.8	54.0	-20.2	V	A	
High Ch, 2462MHz													
4.924	3.0	44.5	33.3	5.9	-34.9	0.0	0.0	48.8	74.0	-25.2	H	P	
4.924	3.0	31.4	33.3	5.9	-34.9	0.0	0.0	35.7	54.0	-18.3	H	A	
7.386	3.0	37.6	36.3	7.3	-34.6	0.0	0.0	46.5	74.0	-27.5	H	P	
7.386	3.0	25.2	36.3	7.3	-34.6	0.0	0.0	34.1	54.0	-19.9	H	A	
4.924	3.0	42.3	33.3	5.9	-34.9	0.0	0.0	46.6	74.0	-27.4	V	P	
4.924	3.0	29.3	33.3	5.9	-34.9	0.0	0.0	33.6	54.0	-20.4	V	A	
7.386	3.0	37.0	36.3	7.3	-34.6	0.0	0.0	45.9	74.0	-28.1	V	P	
7.386	3.0	25.0	36.3	7.3	-34.6	0.0	0.0	33.9	54.0	-20.1	V	A	

Rev. 4.1.2.7

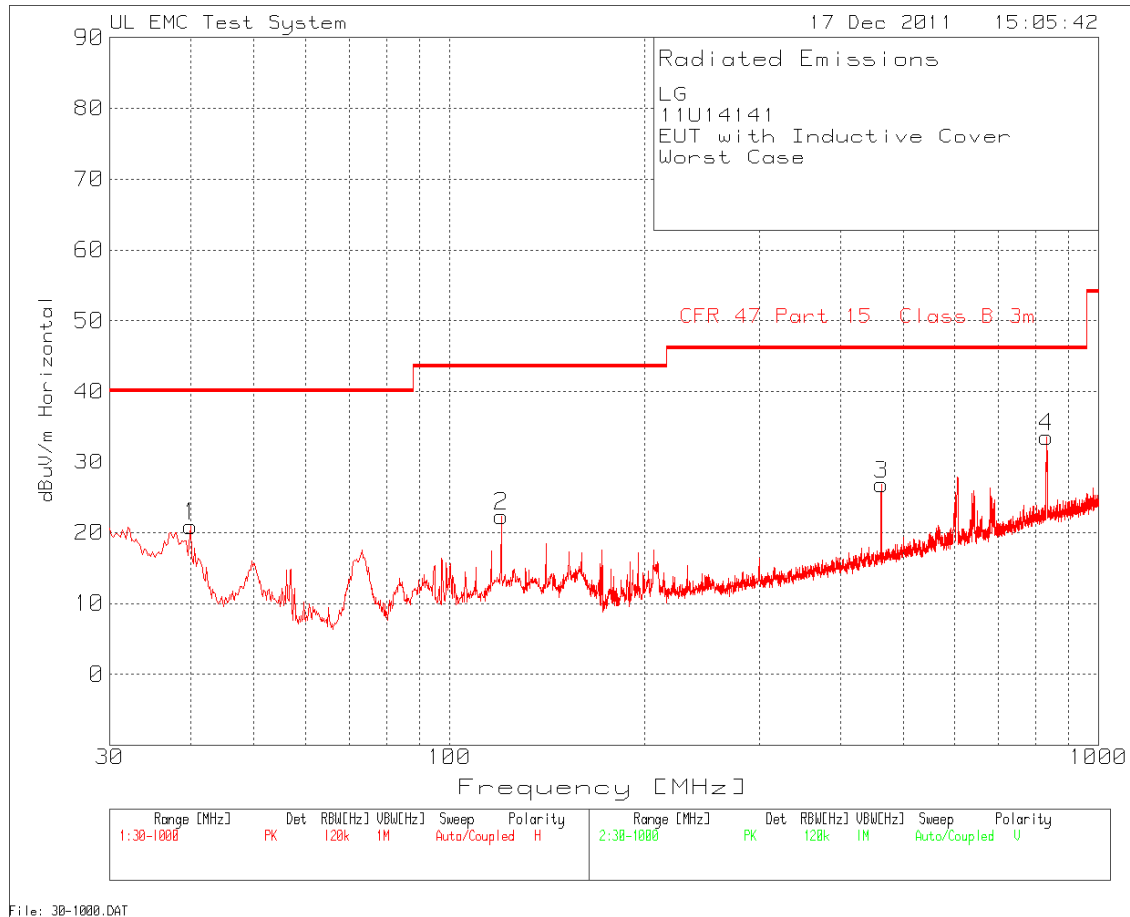
Note: No other emissions were detected above the system noise floor.

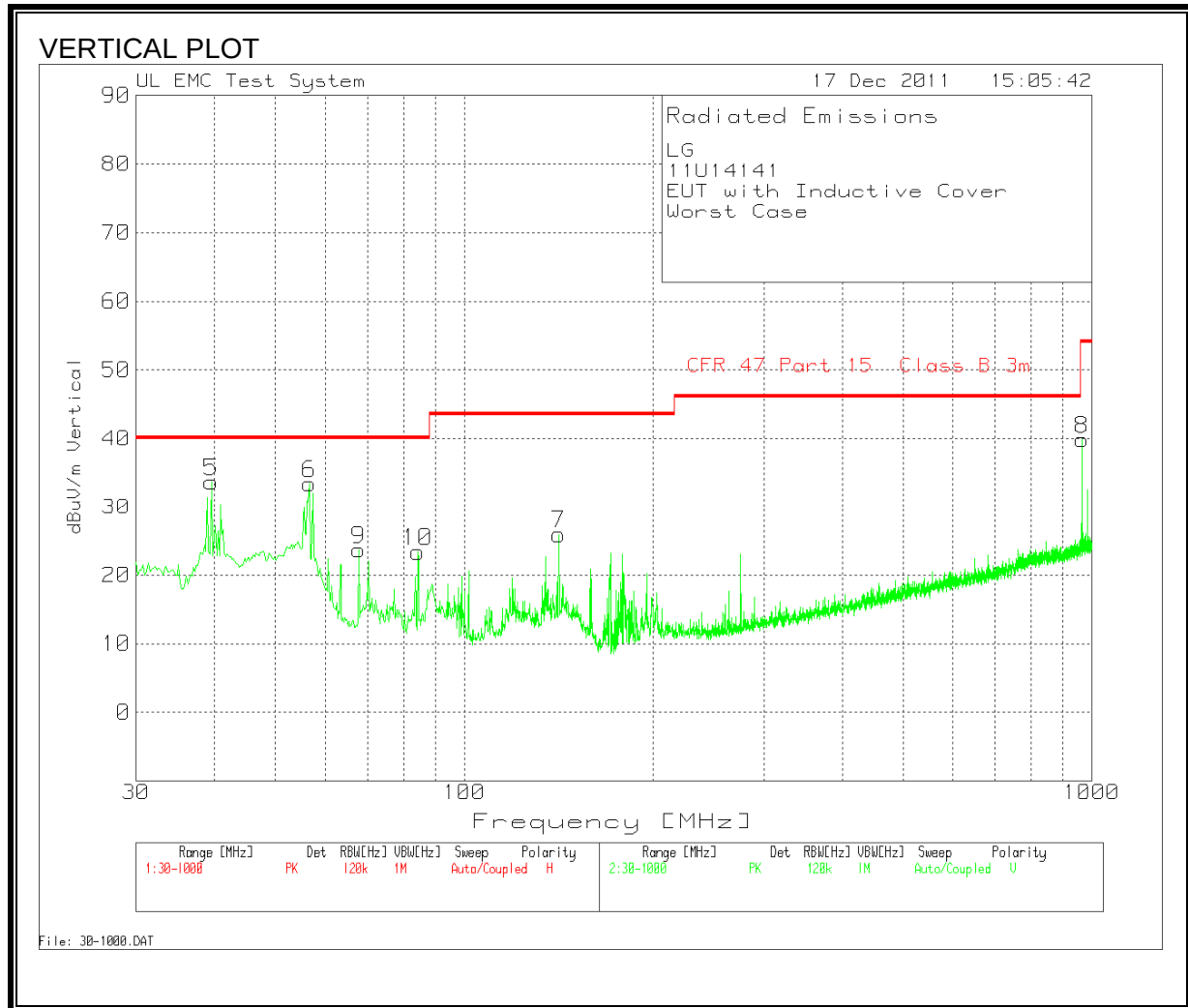
8.3. WORST-CASE BELOW 1 GHz**STANDARD COVER****SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)**

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

HORIZONTAL AND VERTICAL DATA

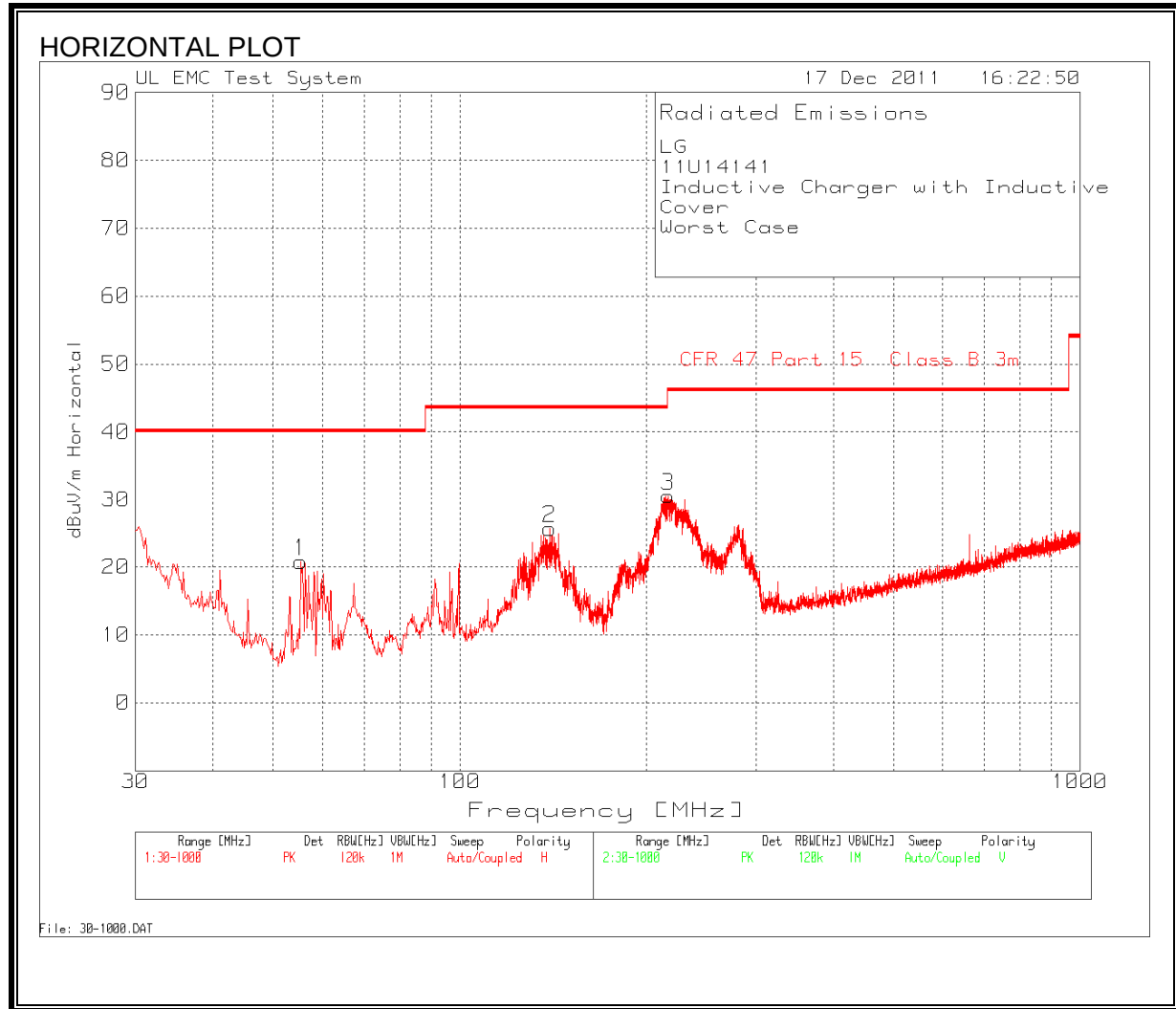
11U14141										
LG										
VS840										
TX mode worst case										
Horizontal 30 - 1000MHz										
Test Frequency	Meter Reading	Detector	3m below 1GHz Cable.TXT [dB]	3m T15 PreAmp below 1GHz.TXT [dB]	3m Bilog T185 below 1GHz.TXT [dB]	dBuV/m	CFR 47 Part 15 Class B 3m	Margin	Height [cm]	Polarity
32.9077	28.97	PK	0.6	-28.3	18.6	19.87	40	-20.13	99	Horz
34.6523	30.14	PK	0.6	-28.3	17.7	20.14	40	-19.86	99	Horz
47.8337	36.39	PK	0.8	-28.2	10.4	19.39	40	-20.61	251	Horz
54.6183	39.82	PK	0.8	-28.2	8.7	21.12	40	-18.88	176	Horz
135.4516	37.41	PK	1.2	-27.9	13.4	24.11	43.5	-19.39	176	Horz
156.193	33.69	PK	1.3	-27.8	13	20.19	43.5	-23.31	99	Horz
Vertical 30 - 1000MHz										
Test Frequency	Meter Reading	Detector	3m below 1GHz Cable.TXT [dB]	3m T15 PreAmp below 1GHz.TXT [dB]	3m Bilog T185 below 1GHz.TXT [dB]	dBuV/m	CFR 47 Part 15 Class B 3m	Margin	Height [cm]	Polarity
32.3261	40.8	PK	0.6	-28.3	18.9	32	40	-8	176	Vert
33.4892	45.58	PK	0.6	-28.3	18.3	36.18	40	-3.82	176	Vert
34.6523	49.23	PK	0.6	-28.3	17.7	39.23	40	-0.77	99	Vert
37.56	40.62	PK	0.7	-28.2	15.4	28.52	40	-11.48	99	Vert
45.1199	46.14	PK	0.7	-28.2	11.7	30.34	40	-9.66	99	Vert
49.5783	45.57	PK	0.8	-28.2	9.5	27.67	40	-12.33	99	Vert

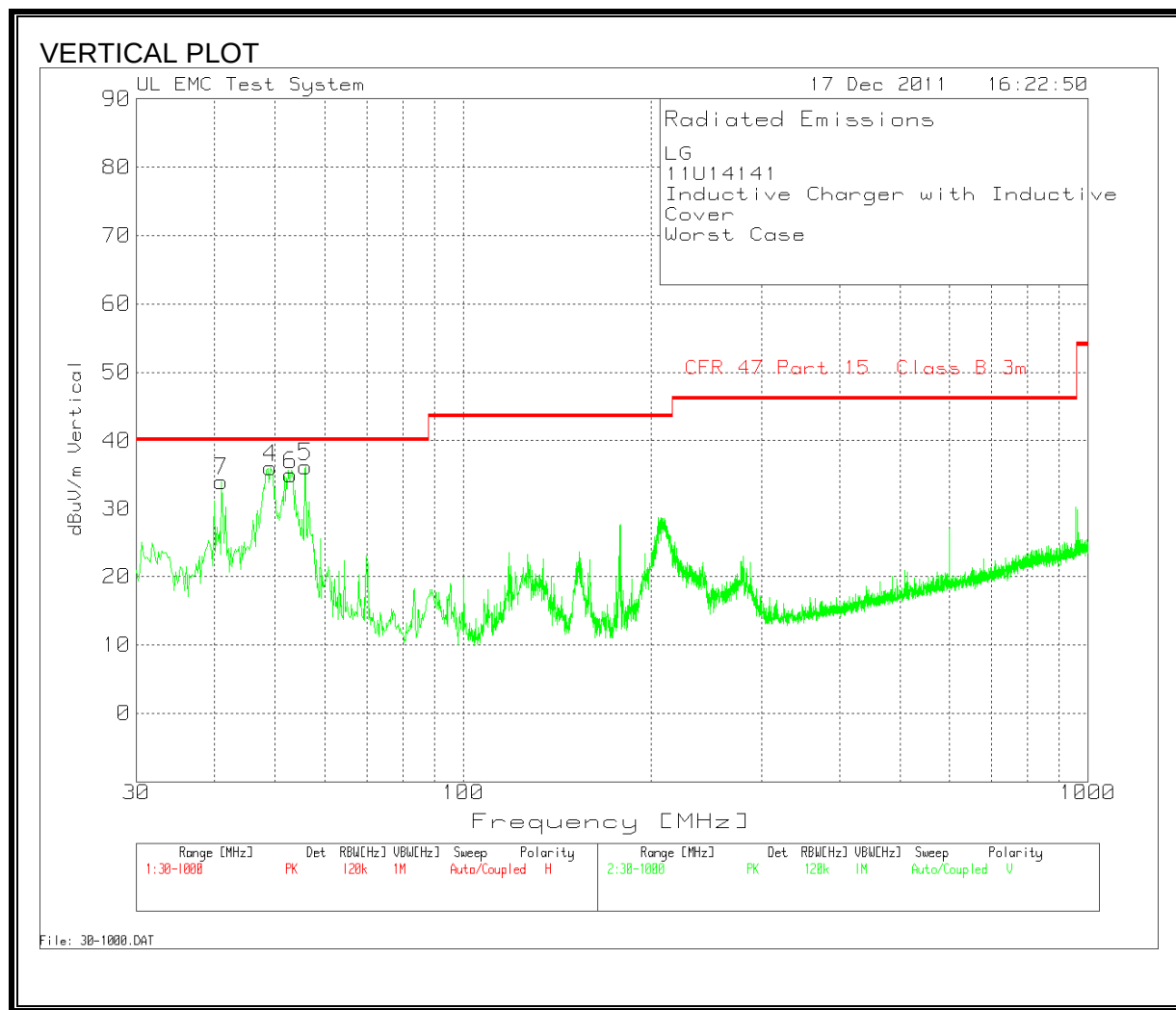
INDUCTIVE COVER**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)****HORIZONTAL PLOT**

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

HORIZONTAL AND VERTICAL DATA

LG									
11U14141									
EUT with Inductive Cover									
Worst Case									
Range 1 30 - 1000MHz									
Frequency	Reading	Detector	Amp Gain [dB]	Ant Factors[dB]	dBuV/m	15	Class B	Margin	Polarity
39.8861	35.85	PK	-29.2	14.2	20.85		40	-19.15	Horz
120.1379	36.84	PK	-28.3	13.7	22.24		43.5	-21.26	Horz
463.8249	37.44	PK	-26.9	16.2	26.74		46	-19.26	Horz
832.1303	37.57	PK	-25.2	21.2	33.57		46	-12.43	Horz
Range 2 30 - 1000MHz									
Frequency	Reading	Detector	Amp Gain [dB]	Ant Factors[dB]	dBuV/m	15	Class B	Margin	Polarity
39.4984	48.37	PK	-29.2	14.5	33.67		40	-6.33	Vert
56.5568	54.52	PK	-29	7.9	33.42		40	-6.58	Vert
141.267	41.04	PK	-28.2	13.1	25.94		43.5	-17.56	Vert
964.3325	42.03	PK	-24.3	22.2	39.93		54	-14.07	Vert
67.7998	44.41	PK	-28.9	8.2	23.71		40	-16.29	Vert
84.2766	44.57	PK	-28.7	7.5	23.37		40	-16.63	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)

HORIZONTAL AND VERTICAL DATA

LG									
11U14141									
Inductive Charger with Inductive									
Cover									
Worst Case									
Range 1 30 - 1000MHz									
Frequency	Reading	Detector	Amp gain[d	Ant Factors.	dBuV/m	15	Class B 3m	Margin	Polarity
55.3937	41.92	PK	-29	7.9	20.82	40		-19.18	Horz
139.7162	40.62	PK	-28.2	13.2	25.62	43.5		-17.88	Horz
216.8665	46.18	PK	-27.5	11.9	30.58	46		-15.42	Horz
Range 2 30 - 1000MHz									
Frequency	Reading	Detector	Amp gain[d	Ant Factors.	dBuV/m	15	Class B 3m	Margin	Polarity
49.1906	56.57	PK	-29	8.5	36.07	40		-3.93	Vert
55.9752	57.35	PK	-29	7.9	36.25	40		-3.75	Vert
52.8737	56.1	PK	-29	7.9	35	40		-5	Vert
41.0492	49.87	PK	-29.2	13.4	34.07	40		-5.93	Vert

9. 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*	56 to 46*
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

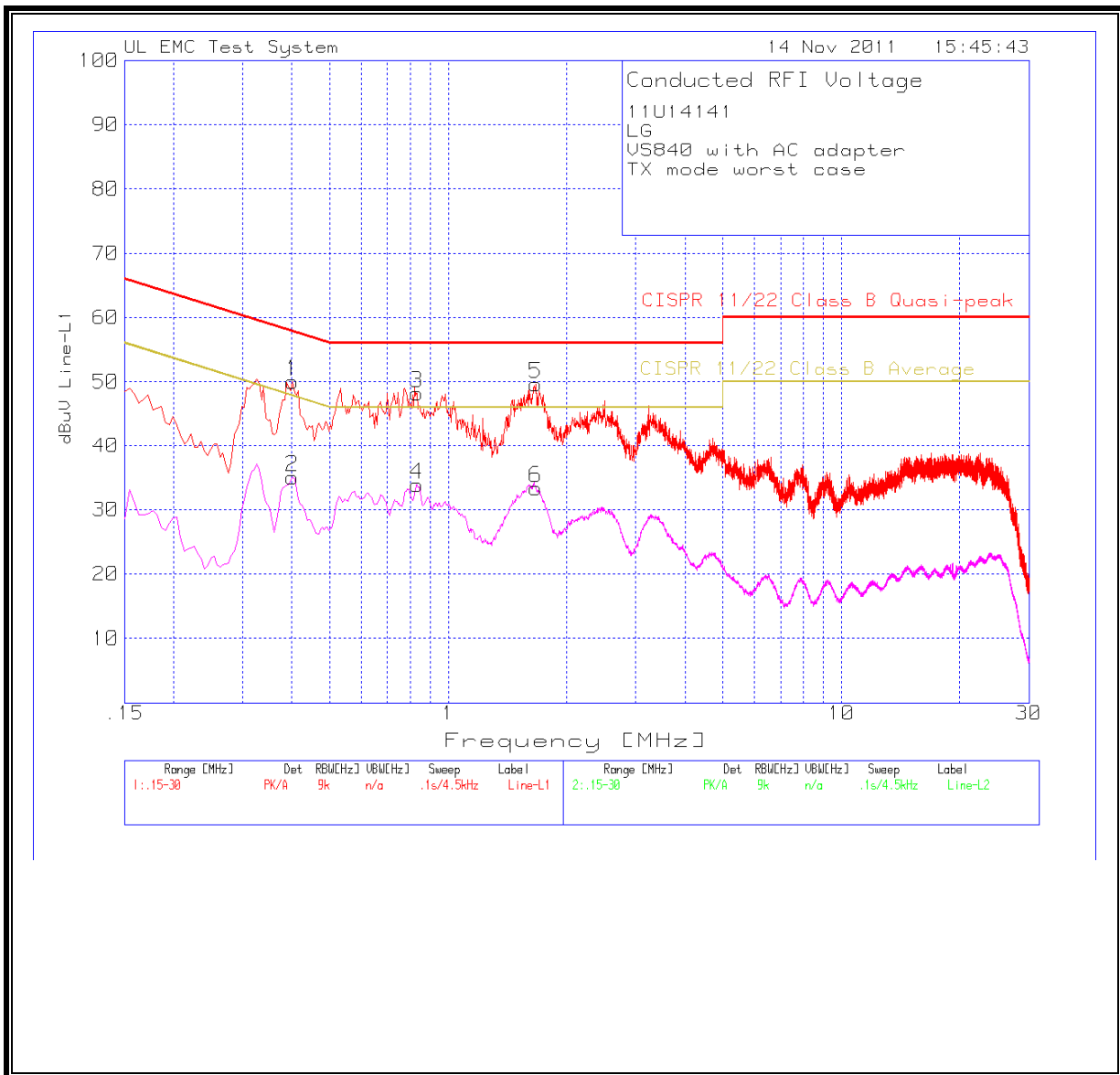
TEST PROCEDURE

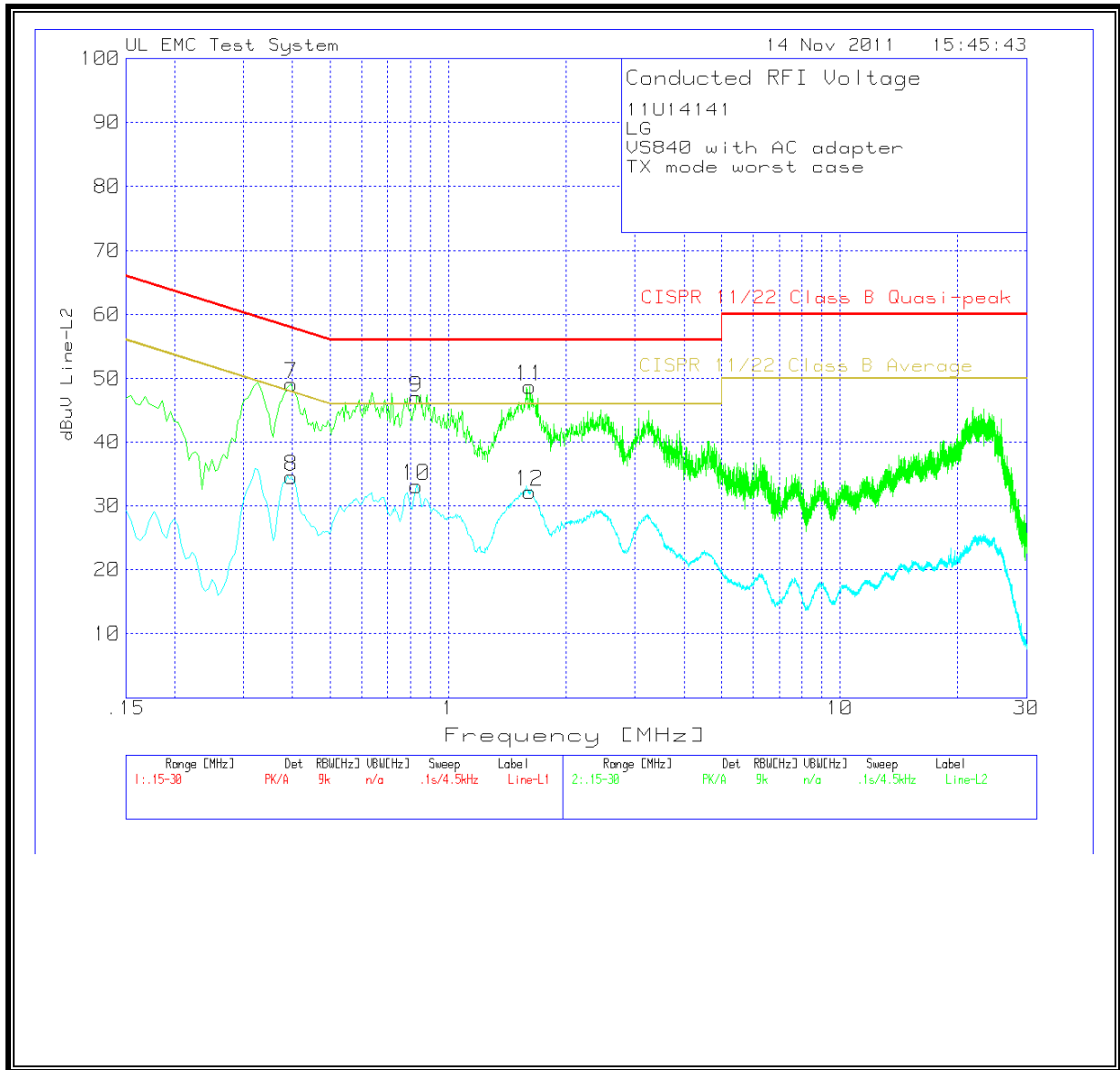
ANSI C63.4

RESULTS

6 WORST EMISSIONS

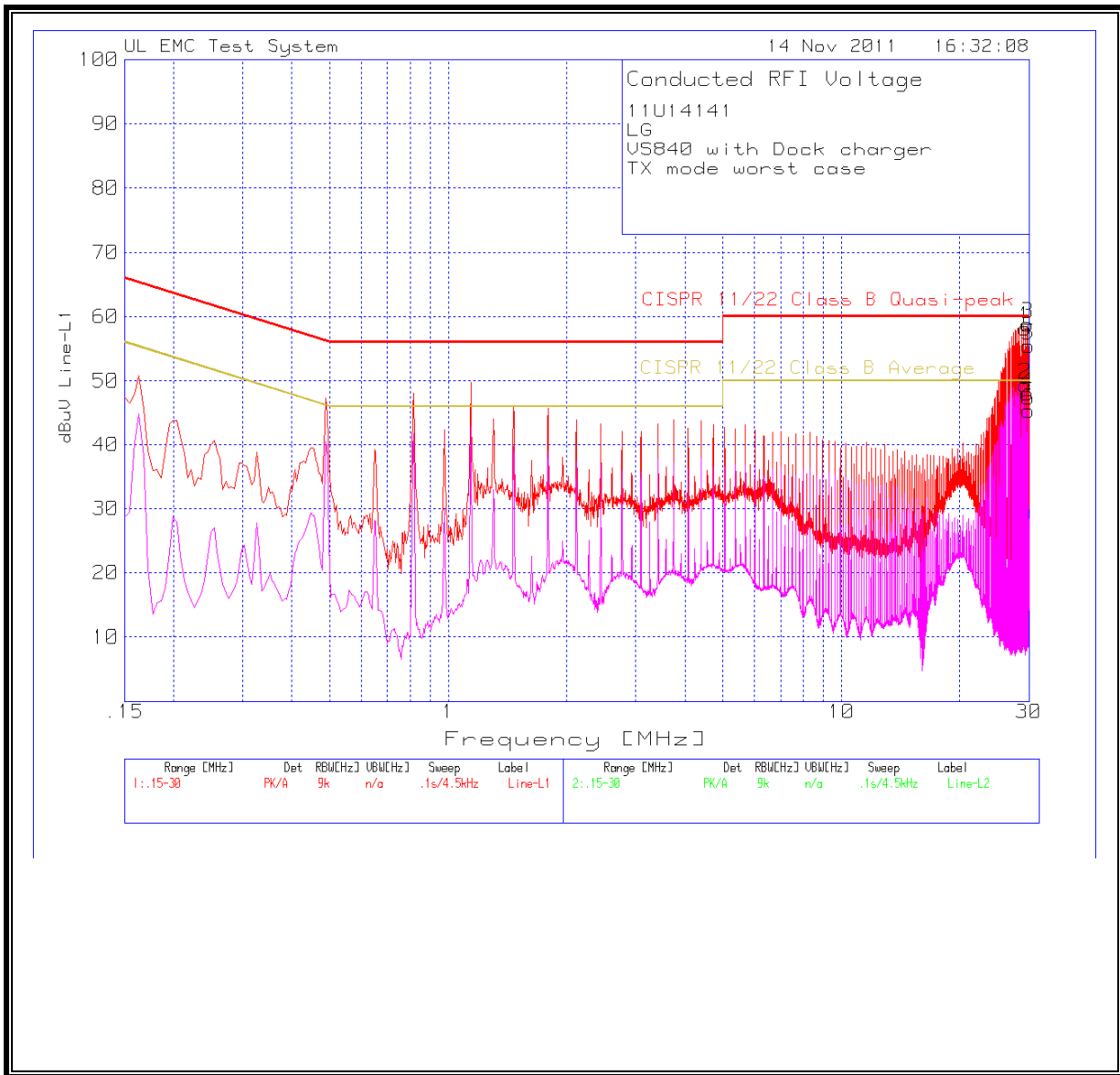
11U14141								
LG								
VS840 with AC adapter								
TX mode worst case								
Line-L1 .15 - 30MHz								
Test Frequency	Meter Reading	Detector	Lisn T25 Path Loss Line 1.TXT [dB]	dBuV	CISPR 11/22 Class B Quasi-peak	Margin	CISPR 11/22 Class B Average	Margin
0.402	49.59	PK	0.5	50.09	57.8	-7.71	47.8	2.29
0.402	34.47	Av	0.5	34.97	57.8	-22.83	47.8	-12.83
0.834	47.92	PK	0.3	48.22	56	-7.78	46	2.22
0.834	33.58	Av	0.3	33.88	56	-22.12	46	-12.12
1.671	49.34	PK	0.3	49.64	56	-6.36	46	3.64
1.671	33.05	Av	0.3	33.35	56	-22.65	46	-12.65
Line-L2 .15 - 30MHz								
Test Frequency	Meter Reading	Detector	Lisn T25 Line 2 Path Loss.TXT [dB]	dBuV	CISPR 11/22 Class B Quasi-peak	Margin	CISPR 11/22 Class B Average	Margin
0.3975	48.5	PK	0.6	49.1	57.9	-8.8	47.9	1.2
0.3975	33.88	Av	0.6	34.48	57.9	-23.42	47.9	-13.42
0.8295	46.7	PK	0.3	47	56	-9	46	1
0.8295	32.82	Av	0.3	33.12	56	-22.88	46	-12.88
1.617	48.39	PK	0.3	48.69	56	-7.31	46	2.69
1.617	31.84	Av	0.3	32.14	56	-23.86	46	-13.86

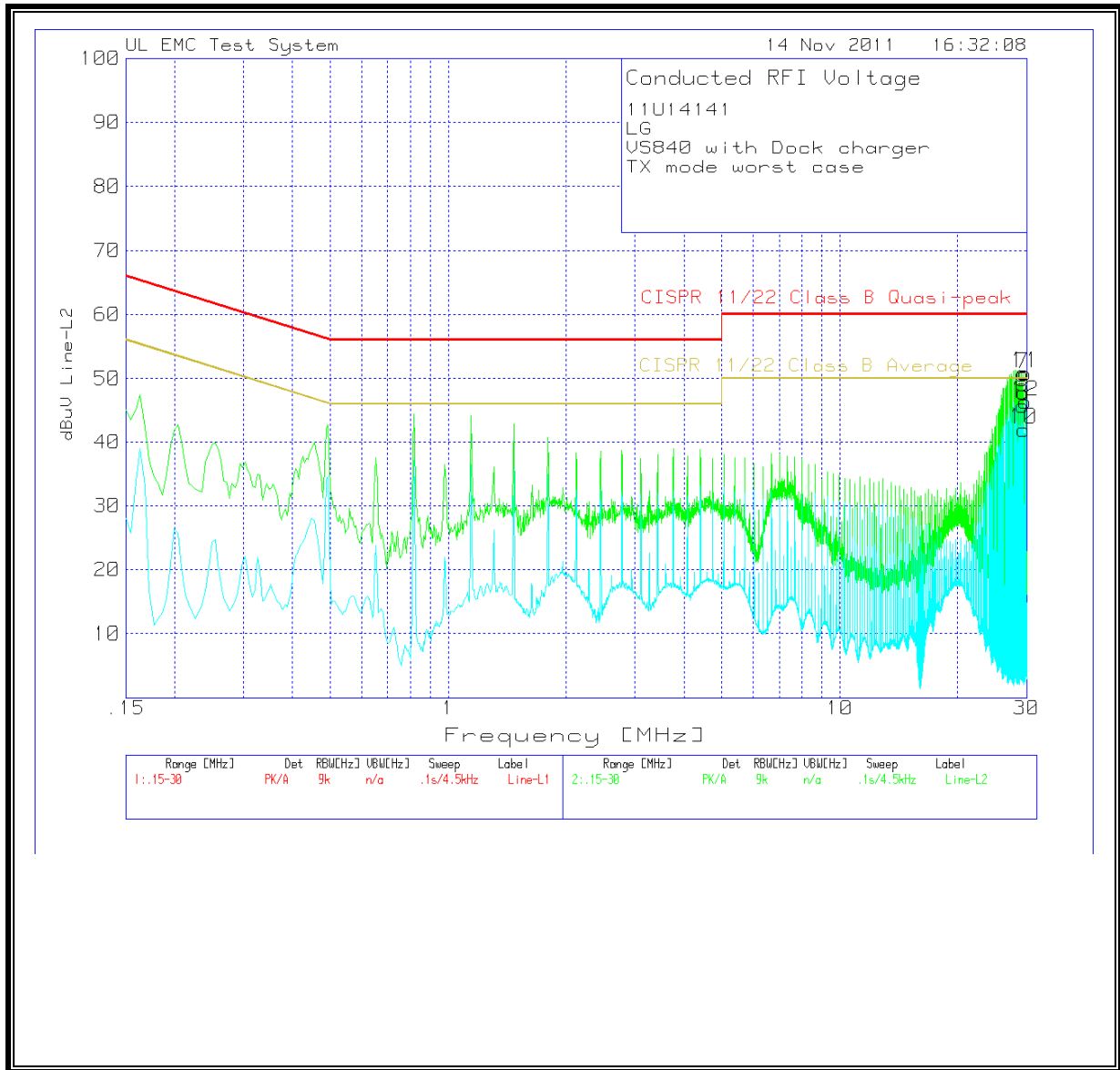
STANDARD COVER**LINE 1 RESULTS**

LINE 2 RESULTS

6 WORST EMISSIONS

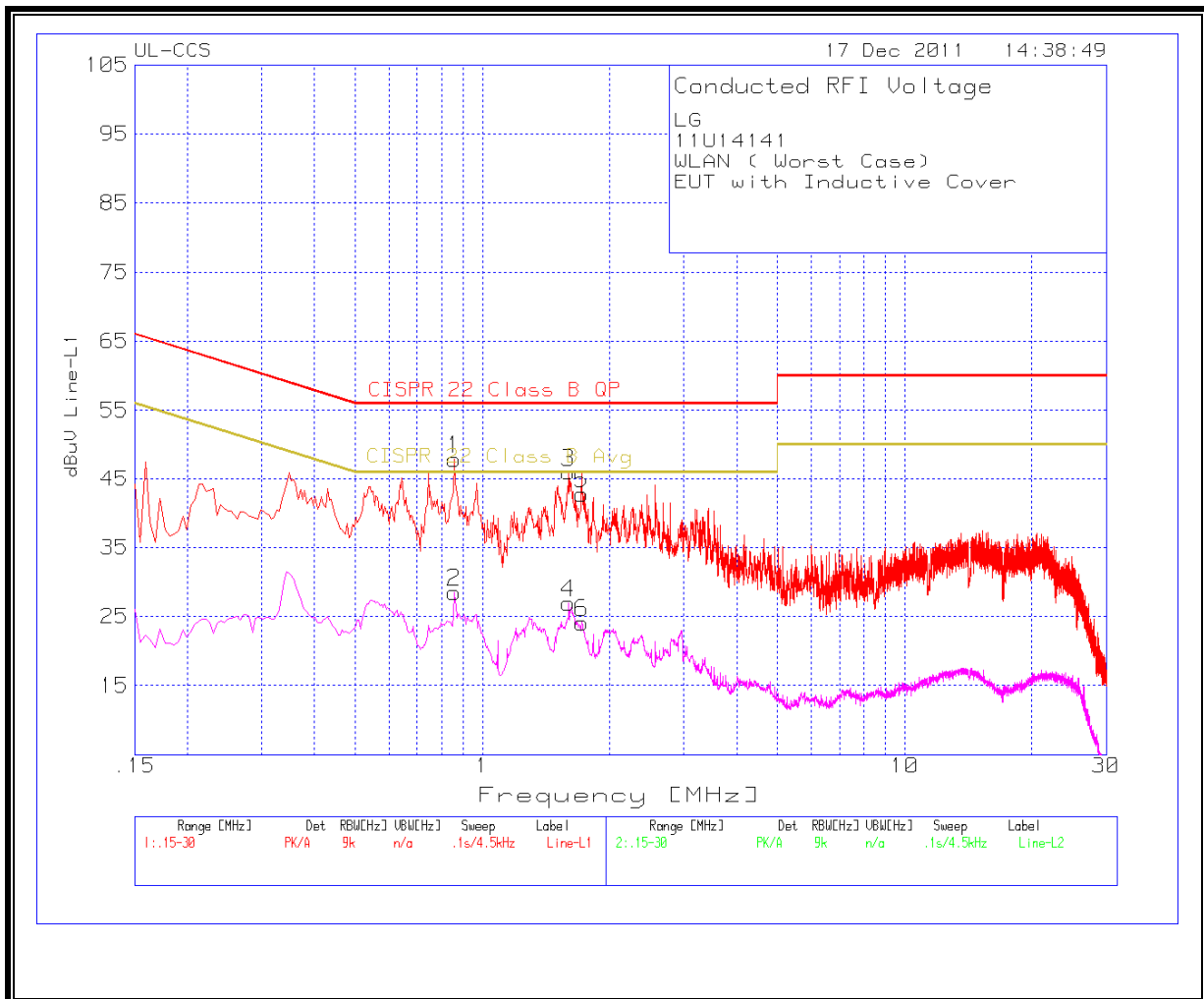
11U14141									
LG									
VS840 with Dock charger									
TX mode worst case									
Line-L1 .15 - 30MHz									
Test Frequency	Meter Reading	Detector	Lisn T25 Path Loss Line 1.TXT [dB]	dBuV	CISPR 11/22 Class B Quasi-peak	Margin	CISPR 11/22 Class B Average	Margin	
29.3595	57.61	PK	0.6	58.21	60	-1.79	50	8.21	
29.3595	48.77	Av	0.6	49.37	60	-10.63	50	-0.63	
29.688	58.22	PK	0.6	58.82	60	-1.18	50	8.82	
29.688	47.43	Av	0.6	48.03	60	-11.97	50	-1.97	
29.85	54.88	PK	0.6	55.48	60	-4.52	50	5.48	
29.85	44.83	Av	0.6	45.43	60	-14.57	50	-4.57	
Line-L2 .15 - 30MHz									
Test Frequency	Meter Reading	Detector	Lisn T25 Line 2 Path Loss.TXT [dB]	dBuV	CISPR 11/22 Class B Quasi-peak	Margin	CISPR 11/22 Class B Average	Margin	
29.3685	50.08	PK	0.6	50.68	60	-9.32	50	0.68	
29.3685	45.2	Av	0.6	45.8	60	-14.2	50	-4.2	
29.5305	47.18	PK	0.6	47.78	60	-12.22	50	-2.22	
29.5305	41.42	Av	0.6	42.02	60	-17.98	50	-7.98	
29.6925	50.22	PK	0.6	50.82	60	-9.18	50	0.82	
29.6925	45.75	Av	0.6	46.35	60	-13.65	50	-3.65	

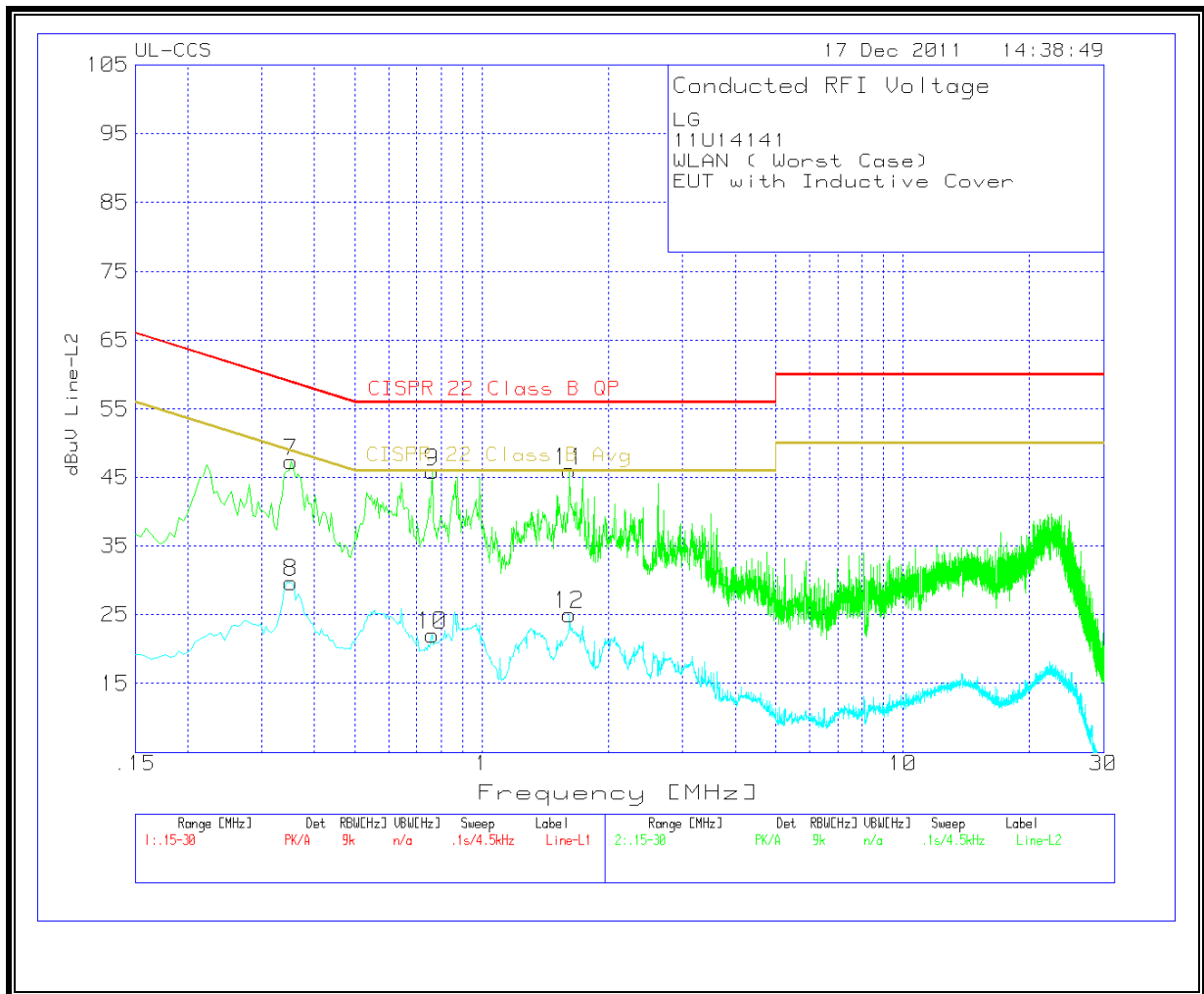
LINE 1 RESULTS

LINE 2 RESULTS

INDUCTIVE COVER**6 WORST EMISSIONS**

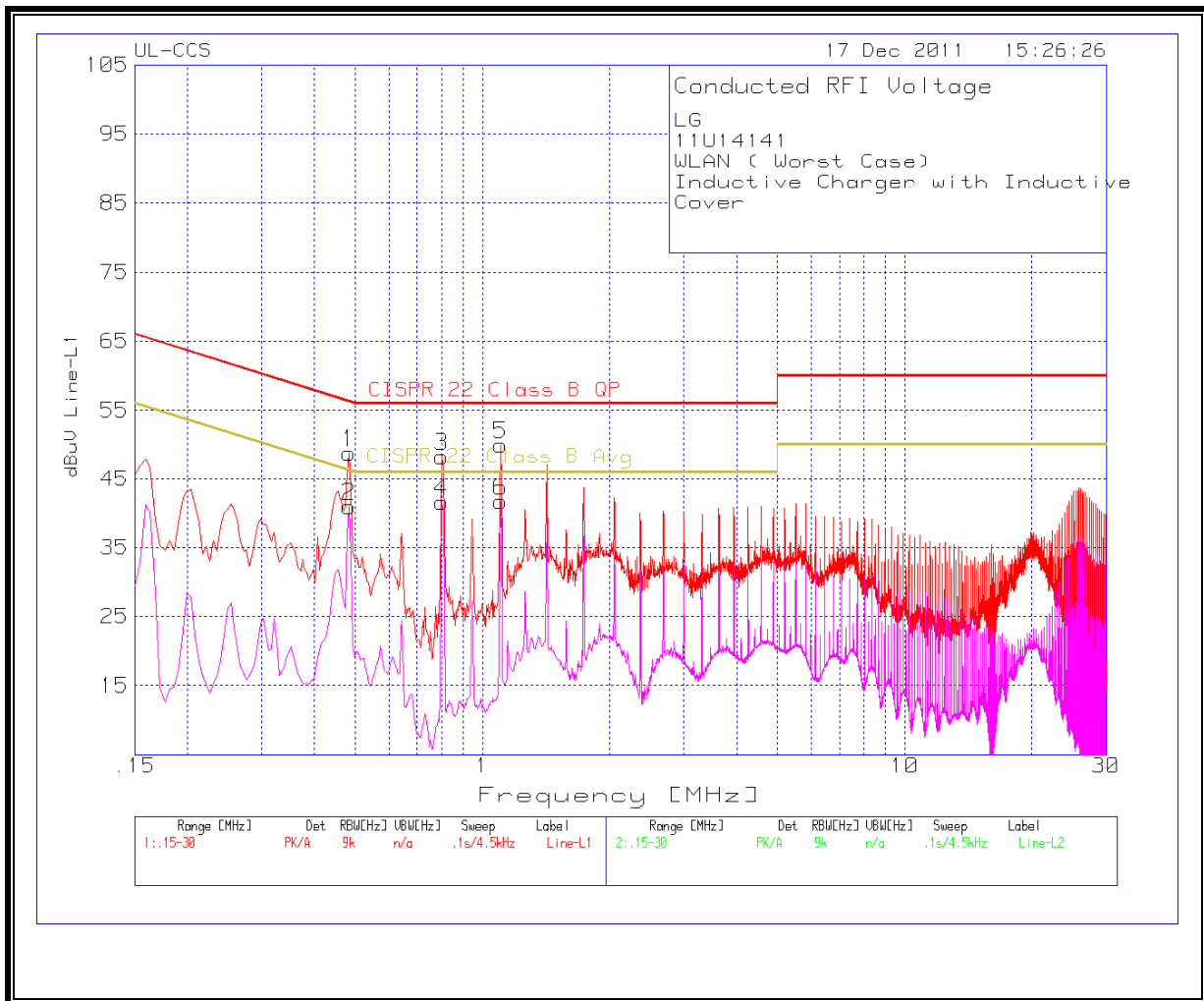
LG							
11U14141							
WLAN (Worst Case)							
EUT with Inductive Cover							
Line-L1 .15 - 30MHz							
Frequency	Reading	Detector	dBuV	Class B QP	Margin	Class B Avg	Margin
0.8565	47.87	PK	47.97	56	-8.03	-	-
0.8565	28.36	Av	28.46	-	-	46	-17.54
1.599	45.8	PK	46	56	-10	-	-
1.599	26.74	Av	26.94	-	-	46	-19.06
1.7205	42.54	PK	42.74	56	-13.26	-	-
1.7205	23.92	Av	24.12	-	-	46	-21.88
Line-L2 .15 - 30MHz							
Frequency	Reading	Detector	dBuV	Class B QP	Margin	Class B Avg	Margin
0.3525	47.24	PK	47.34	58.9	-11.56	-	-
0.3525	29.59	Av	29.69	-	-	48.9	-19.21
0.762	45.69	PK	45.79	56	-10.21	-	-
0.762	21.96	Av	22.06	-	-	46	-23.94
1.617	45.84	PK	46.04	56	-9.96	-	-
1.617	24.8	Av	25	-	-	46	-21

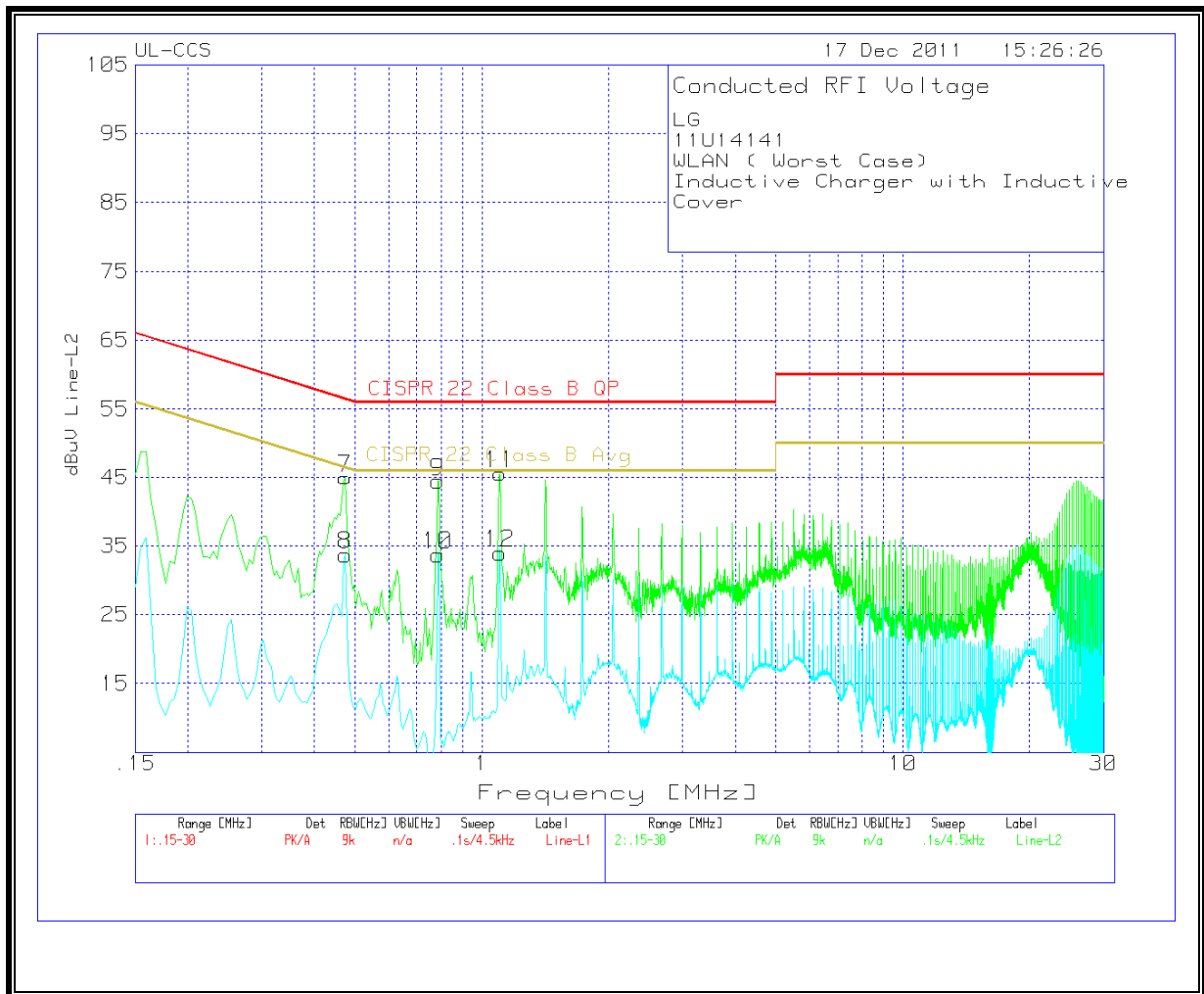
LINE 1 RESULTS

LINE 2 RESULTS

INDUCTIVE CHARGER WITH INDUCTIVE COVER**6 WORST EMISSIONS**

LG							
11U14141							
WLAN (Worst Case)							
Inductive Charger with Inductive Cover							
Line-L1 .15 - 30MHz							
Frequency	Reading	Detector	dBuV	Class B QP	Margin	Class B Avg	Margin
0.483	48.71	PK	48.81	56.3	-7.49	-	-
0.483	40.86	Av	40.96	-	-	46.3	-5.34
0.8025	48.24	PK	48.34	56	-7.66	-	-
0.8025	41.53	Av	41.63	-	-	46	-4.37
1.104	49.94	PK	50.04	56	-5.96	-	-
1.104	41.65	Av	41.75	-	-	46	-4.25
Line-L2 .15 - 30MHz							
Frequency	Reading	Detector	dBuV	Class B QP	Margin	Class B Avg	Margin
0.474	44.9	PK	45	56.4	-11.4	-	-
0.474	33.55	Av	33.65	-	-	46.4	-12.75
0.7845	44.36	PK	44.46	56	-11.54	-	-
0.7845	33.64	Av	33.74	-	-	46	-12.26
1.104	45.43	PK	45.63	56	-10.37	-	-
1.104	33.75	Av	33.95	-	-	46	-12.05

LINE 1 RESULTS

LINE 2 RESULTS

10. MAXIMUM PERMISSIBLE EXPOSURE

FCC RULES

§1.1310 The criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of §2.1093 of this chapter.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f ²)	6
30–300	61.4	0.163	1.0	6
300–1500			f/300	6
1500–100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f ²)	30

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)—Continued

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			1.0	30

f = frequency in MHz

* = Plane-wave equivalent power density

NOTE 1 TO TABLE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2 TO TABLE 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

IC RULES

IC Safety Code 6, Section 2.2.1 (a) A person other than an RF and microwave exposed worker shall not be exposed to electromagnetic radiation in a frequency band listed in Column 1 of Table 5, if the field strength exceeds the value given in Column 2 or 3 of Table 5, when averaged spatially and over time, or if the power density exceeds the value given in Column 4 of Table 5, when averaged spatially and over time.

Table 5
Exposure Limits for Persons Not Classed As RF and Microwave Exposed Workers (Including the General Public)

1 Frequency (MHz)	2 Electric Field Strength; rms (V/m)	3 Magnetic Field Strength; rms (A/m)	4 Power Density (W/m ²)	5 Averaging Time (min)
0.003–1	280	2.19		6
1–10	280/ <i>f</i>	2.19/ <i>f</i>		6
10–30	28	2.19/ <i>f</i>		6
30–300	28	0.073	2*	6
300–1 500	1.585 <i>f</i> ^{0.5}	0.0042 <i>f</i> ^{0.5}	<i>f</i> /150	6
1 500–15 000	61.4	0.163	10	6
15 000–150 000	61.4	0.163	10	616 000 / <i>f</i> ^{1.2}
150 000–300 000	0.158 <i>f</i> ^{0.5}	4.21 × 10 ⁻⁴ <i>f</i> ^{0.5}	6.67 × 10 ⁻⁵ <i>f</i>	616 000 / <i>f</i> ^{1.2}

* Power density limit is applicable at frequencies greater than 100 MHz.

Notes: 1. Frequency, *f*, is in MHz.
 2. A power density of 10 W/m² is equivalent to 1 mW/cm².
 3. A magnetic field strength of 1 A/m corresponds to 1.257 microtesla (μT) or 12.57 milligauss (mG).

EQUATIONS

Power density is given by:

$$S = \text{EIRP} / (4 * \pi * D^2)$$

where

S = Power density in W/m²

EIRP = Equivalent Isotropic Radiated Power in W

D = Separation distance in m

Power density in units of W/m² is converted to units of mW/cm² by dividing by 10.

Distance is given by:

$$D = \text{SQRT} (\text{EIRP} / (4 * \pi * S))$$

where

D = Separation distance in m

EIRP = Equivalent Isotropic Radiated Power in W

S = Power density in W/m²

For multiple colocated transmitters operating simultaneously in frequency bands where the limit is identical, the total power density is calculated using the total EIRP obtained by summing the Power * Gain product (in linear units) of each transmitter.

$$\text{Total EIRP} = (P1 * G1) + (P2 * G2) + \dots + (Pn * Gn)$$

where

Px = Power of transmitter x

Gx = Numeric gain of antenna x

In the table(s) below, Power and Gain are entered in units of dBm and dBi respectively and conversions to linear forms are used for the calculations.

LIMITS

From FCC §1.1310 Table 1 (B), the maximum value of S = 1.0 mW/cm²

From IC Safety Code 6, Section 2.2 Table 5 Column 4, S = 10 W/m²

RESULTS

Band	Mode	Separation Distance (m)	Output Power (dBm)	Antenna Gain (dBi)	IC Power Density (W/m^2)	FCC Power Density (mW/cm^2)
2.4 GHz	WLAN	0.20	21.16	-3.16	0.13	0.013