



FCC CFR47 PART 15 SUBPART C

BLUETOOTH LOW ENERGY

CERTIFICATION TEST REPORT

FOR

GSM/WCDMA/LTE PHONE WITH BT & DTS WLAN b/g/n

MODEL NUMBER: LG-K373, LGK373, K373, LG-K373PR, LGK373PR, K373PR

FCC ID: ZNFK373

REPORT NUMBER: 16I22596-E3V2

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NVLAP LAB CODE 200065-0

Revision History

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V1	1/22/2016	Initial issue	D. CORONIA
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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LG ELECTRONICS MOBILECOMM U.S.A., INC.
EUT DESCRIPTION: GSM/WCDMA/LTE PHONE WITH BT & DTS WLAN b/g/n
MODEL: LG-K373, LGK373, K373, LG-K373PR, LGK373PR, K373PR
SERIAL NUMBER: 511CYZP000605, 511CYSF000606
DATE TESTED: JANUARY 6-25, 2016

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Pass

UL Verification Services Inc. 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 Verification Services Inc. 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.

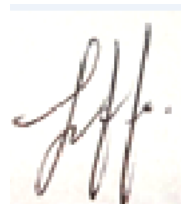
Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revision section. Any alteration of this document not carried out by UL Verification Services Inc. 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
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Tested By:



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CONSUMER TECHNOLOGY DIVISION
WISE PROJECT LEAD
UL VERIFICATION SERVICES INC



JEFFREY WU
CONSUMER TECHNOLOGY DIVISION
WISE ENGINEER
UL VERIFICATION SERVICES INC

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2013 for FCC, FCC CFR 47 Part 2, and FCC CFR 47 Part 15.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
<input type="checkbox"/> Chamber A	<input type="checkbox"/> Chamber D
<input type="checkbox"/> Chamber B	<input type="checkbox"/> Chamber E
<input checked="" type="checkbox"/> Chamber C	<input type="checkbox"/> Chamber F
	<input type="checkbox"/> Chamber G
	<input type="checkbox"/> Chamber H

The above test sites and facilities are covered under FCC Test Firm Registration # 208313.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0.

Chambers A through H are covered under Industry Canada company address code 2324B with site numbers 2324B -1 through 2324B-8, respectively.

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, 9KHz to 30 MHz	2.14 dB
Radiated Disturbance, 30 to 1000 MHz	4.98 dB
Radiated Disturbance,1000 to 6000 MHz	3.86 dB
Radiated Disturbance,6000 to 18000 MHz	4.23 dB
Radiated Disturbance,18000 to 26000 MHz	5.30 dB
Radiated Disturbance,26000 to 40000 MHz	5.23 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE PHONE WITH BT + DTS WLAN b/g/n

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)
2402-2480	BLE	2.08	1.61

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of 1.25 dBi.

5.4. WORST-CASE CONFIGURATION AND MODE

Radiated emission and power line conducted emission were performed with the EUT set to transmit on the channel with higher output power as worst-case scenario.

The fundamental of the EUT was investigated in three orthogonal orientations X, Y, Z it was determined that X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in X orientation.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	LG	MCS-02WRE	N/A	N/A
Earphone	LG	N/A	N/A	N/A

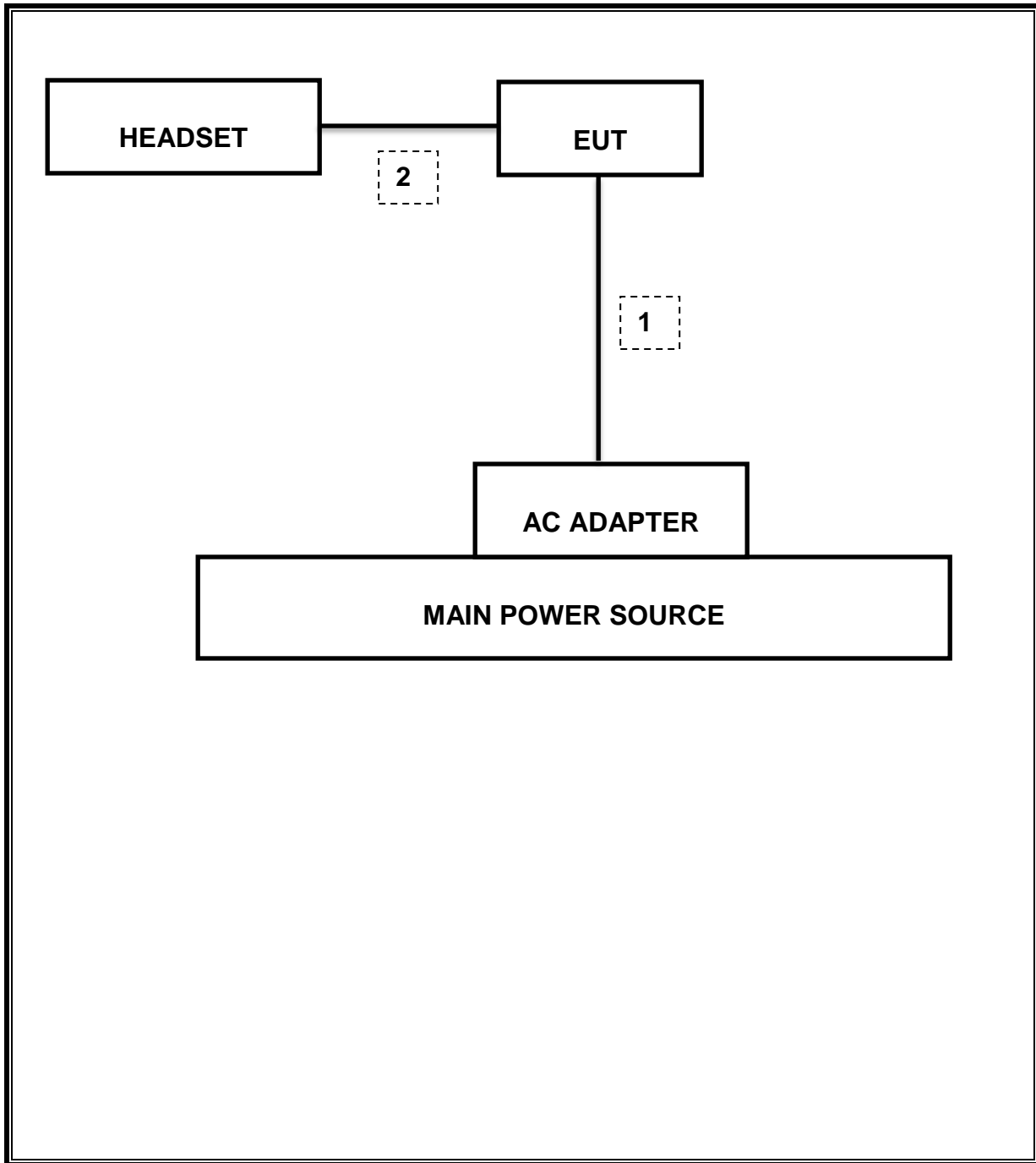
I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	Mini-USB	Shielded	1.2m	N/A
2	Audio	1	Mini-Jack	Unshielded	1m	N/A

TEST SETUP

EUT was set in the Hidden menu mode to enable BLE communications.

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment List				
Description	Manufacturer	Model	T Number	Cal Due
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB1	185	02/18/16
Antenna, Horn, 18GHz	ETS Lindgren	3117	119	01/15/16
Antenna, Horn, 26.5 GHz	ARA	MWH-1826/B	447	05/12/16
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	88	04/07/16
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	404	06/29/16
Amplifier, 10KHz to 1 GHz	Keysight	8447D	15	08/14/16
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	123	10/22/16
Spectrum Analyzer, PXA, 3 Hz to 44 GHz	Keysight	N9030A	908	03/03/16
EMI Test Receiver, 9 KHz to 7 GHz	Rohde & Schwarz	ECSI7	284	09/10/16
Peak Power Meter	Agilent / HP	E4416A	84	01/26/16
Peak / Average Power Sensor	Keysight	E9327A	117	03/09/16
LISN for Conducted Emission	FCC	50/250-25-2-01	1310	09/16/16
Reject Filter, 2.4GHz	Micro-Tronics	BRM50702	160	CNR
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	417	05/04/16
High Pass Filter 6GHz	Micro-Tronics	HPS17542	893	04/25/16
High Pass Filter 3GHz	Micro-Tronics	HPS17543	898	04/25/16

Test Software List			
Description	Manufacturer	Model	Version
Radiated Software	UL	UL EMC	Ver 9.5, June 24, 2015
Conducted Software	UL	UL EMC	Ver 9.5, May 26, 2015
Antenna Port Software	UL	UL RF	Ver 3.9.1, Dec 28, 2015

7. SUMMARY TABLE

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result
15.247 (a)(2)	RSS-247 5.2.1	Occupied Bandwidth (6dB)	>500KHz	Conducted	Pass
2.1051, 15.247 (d)	RSS-247 5.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass
15.247	RSS-247 5.4.4	TX conducted output power	<30dBm		Pass
15.247	RSS-247 5.2.2	PSD	<8dBm		Pass
15.207 (a)	RSS-GEN 8.8	AC Power Line conducted emissions	Section 10	Radiated	Pass
15.205, 15.209	RSS-GEN 8.9/7	Radiated Spurious Emission	< 54dBuV/m		Pass

8. ANTENNA PORT TEST RESULTS

8.1. ON TIME, DUTY CYCLE

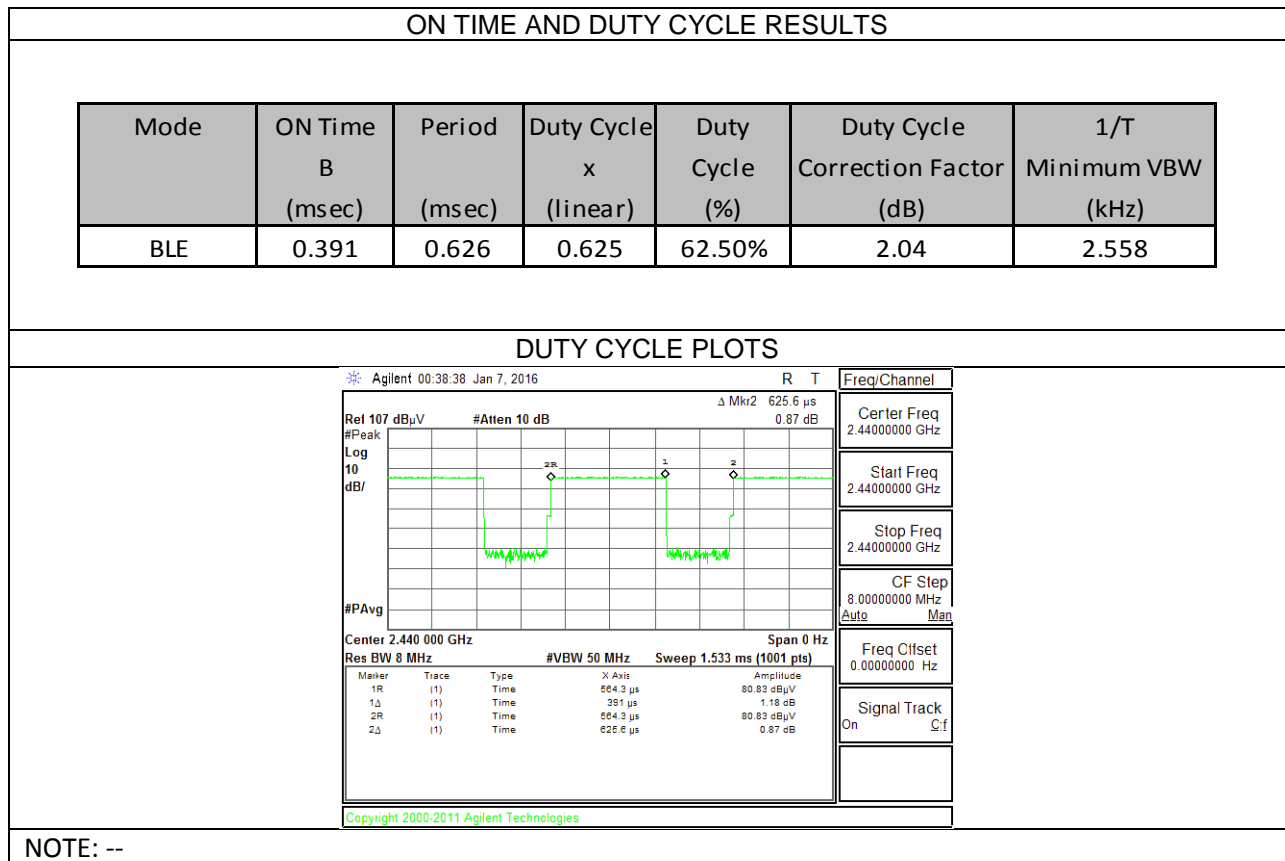
LIMITS

None; for reporting purposes only

PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method

RESULTS



8.2. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

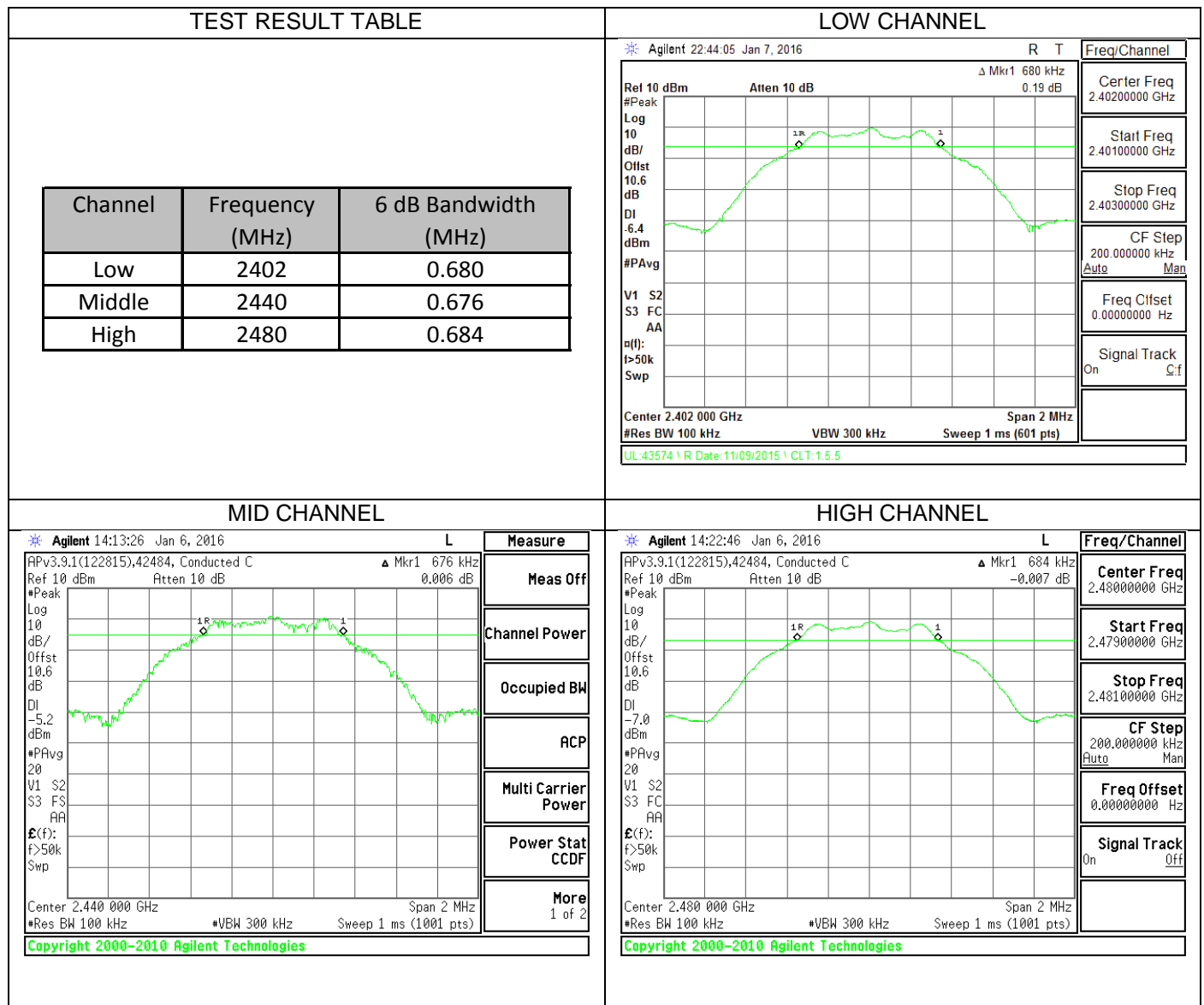
The minimum 6 dB bandwidth shall be at least 500 kHz.

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

8.2.1. 6 dB BANDWIDTH PLOTS AND TABLE



8.3. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Refer to KDB558074 D01 DTS Meas Guidance v03r04: The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth and to 1% of the span. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

RESULTS

8.3.1. 99% BANDWIDTH PLOTS AND TABLE

TEST RESULT TABLE	LOW CHANNEL																						
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Channel</th> <th style="width: 20%;">Frequency (MHz)</th> <th style="width: 60%;">99% Bandwidth (MHz)</th> </tr> </thead> <tbody> <tr> <td>Low</td> <td>2402</td> <td>1.059</td> </tr> <tr> <td>Middle</td> <td>2440</td> <td>1.059</td> </tr> <tr> <td>High</td> <td>2480</td> <td>1.062</td> </tr> </tbody> </table>	Channel	Frequency (MHz)	99% Bandwidth (MHz)	Low	2402	1.059	Middle	2440	1.059	High	2480	1.062	<div style="border: 1px solid black; padding: 5px;"> <p style="font-size: small;">* Agilent 14:17:31 Jan 6, 2016 L</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Ch Freq 2.402 GHz</td> <td style="width: 40%;">Trig Free</td> </tr> <tr> <td colspan="2">Occupied Bandwidth Averages: 20</td> </tr> </table> <p style="font-size: x-small;">APV3.9.1(122815),42484, Conducted C Ref 10 dBm *Atten 20 dB</p> <p style="font-size: x-small;">Center 2.402 000 GHz Span 2 MHz *Res BW 18 kHz *VBW 56 kHz *Sweep 100 ms (1001 pts)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Occupied Bandwidth 1.0592 MHz</td> <td style="width: 40%;">Occ BW % Pwr 99.00 % x dB -26.00 dB</td> </tr> <tr> <td>Transmit Freq Error 10.341 kHz</td> <td></td> </tr> <tr> <td>x dB Bandwidth 1.286 MHz*</td> <td></td> </tr> </table> <p style="font-size: x-small; color: green;">Copyright 2000-2010 Agilent Technologies</p> </div>	Ch Freq 2.402 GHz	Trig Free	Occupied Bandwidth Averages: 20		Occupied Bandwidth 1.0592 MHz	Occ BW % Pwr 99.00 % x dB -26.00 dB	Transmit Freq Error 10.341 kHz		x dB Bandwidth 1.286 MHz*	
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8.4. OUTPUT POWER

LIMITS

FCC §15.247 (b)

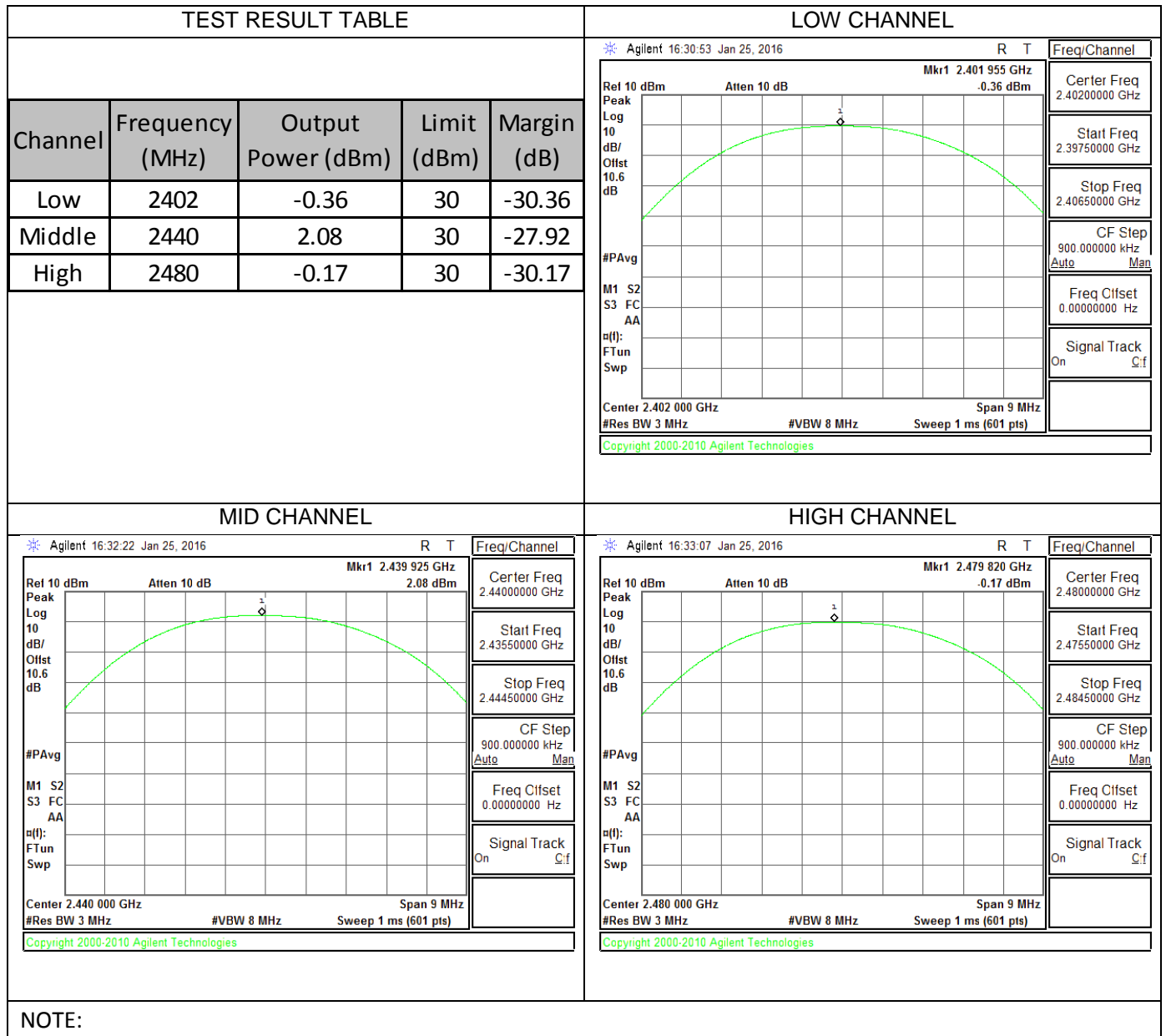
The maximum antenna gain is less than or equal to 6 dBi, therefore the limit is 30 dBm.

TEST PROCEDURE

Peak power is measured using KDB558074 D01 DTS Meas Guidance v03r04 spectrum analyzer.

RESULTS

8.4.1. OUTPUT POWER PLOTS



8.5. 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 10.6 dB (including 10 dB pad and 0.6 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	-1.39
Middle	2440	1.05
High	2480	-0.99

NOTE: --

8.6. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e)

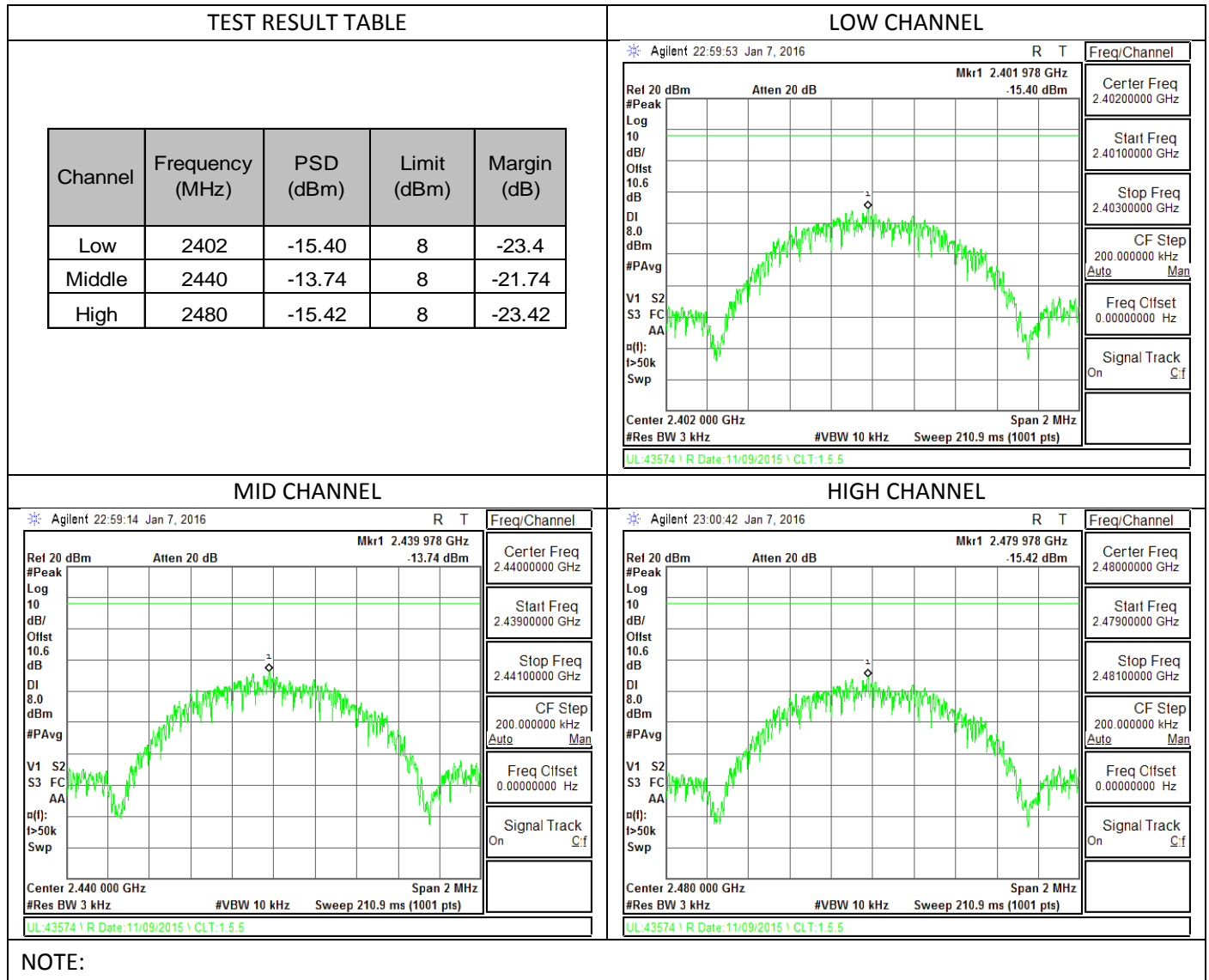
The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

TEST PROCEDURE

Power Spectral Density was performed utilizing the “Method PKPSD (Peak PSD)” under KDB558074 D01 DTS Meas Guidance v03r04.

RESULTS

8.6.1. POWER SPECTRAL DENSITY PLOTS AND TABLE



8.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

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

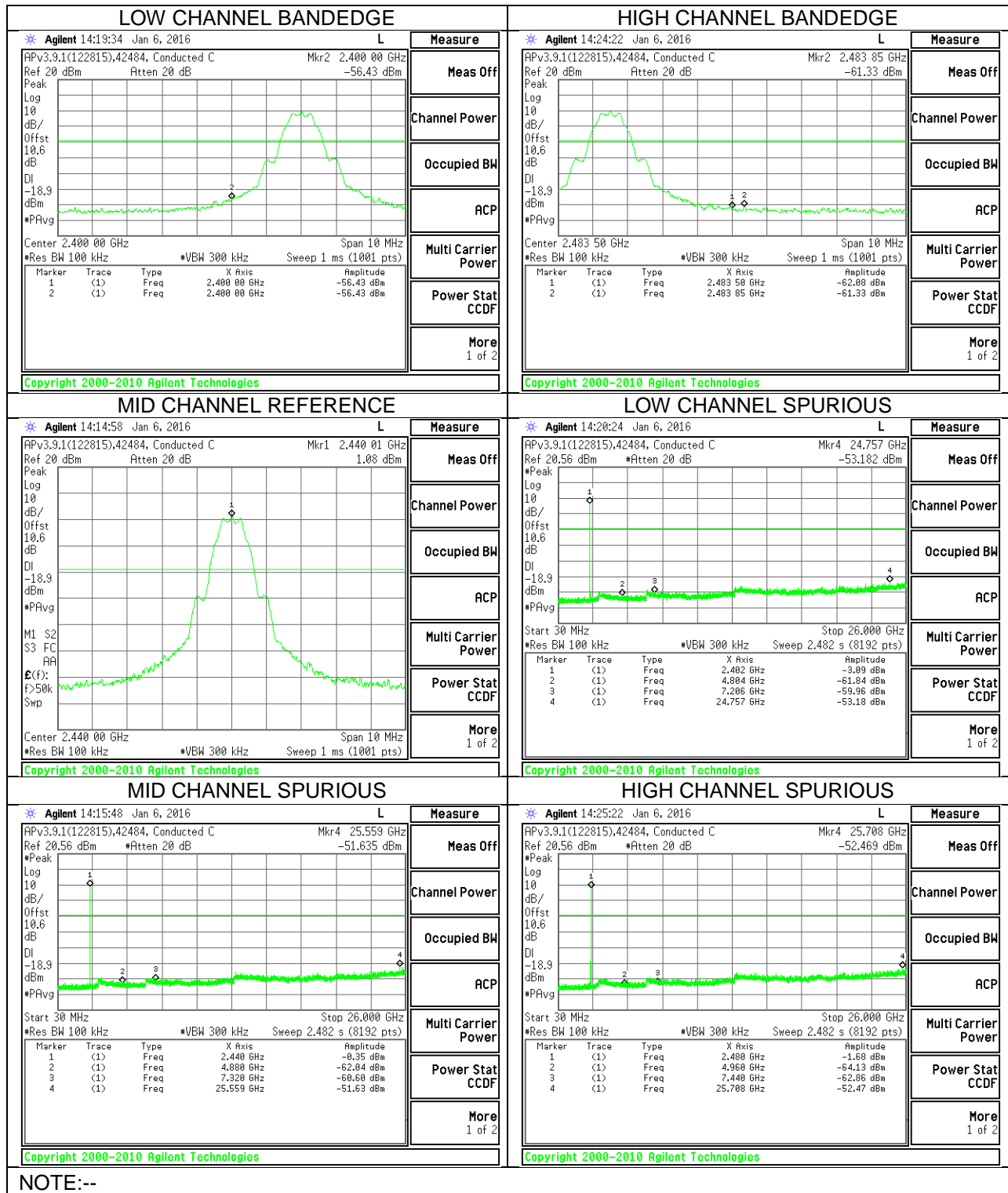
TEST PROCEDURE

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

8.7.1. BANDEDGE AND SPURIOUS EMISSIONS PLOTS



NOTE:--

9. RADIATED TEST RESULTS

LIMITS

FCC §15.205 and §15.209

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 for below 1GHz and 150cm for above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. 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 add duty cycle factor for average measurements. Duty cycle factor = $10 \log (1/x)$. For example: DCF = $10 \log (1/0.626)=2.03\text{dB}$ (Spectrum Analyzer round it up to 2 dB)

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.

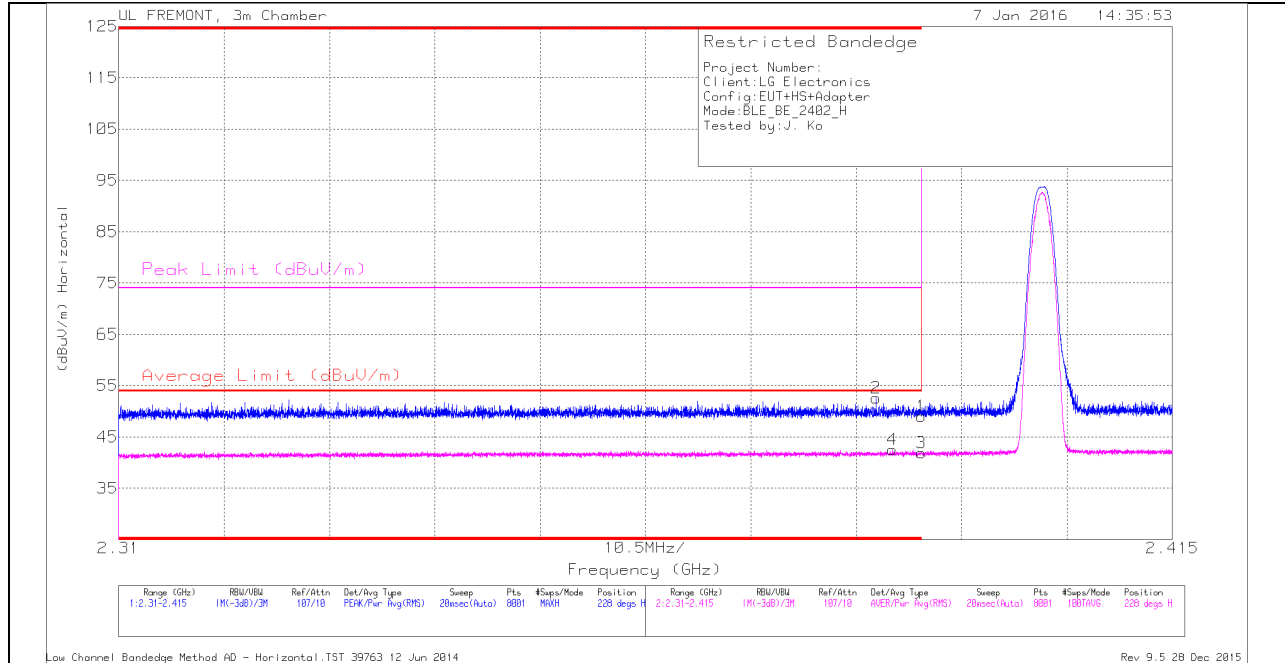
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

RESULTS

9.1. TRANSMITTER ABOVE 1 GHz

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

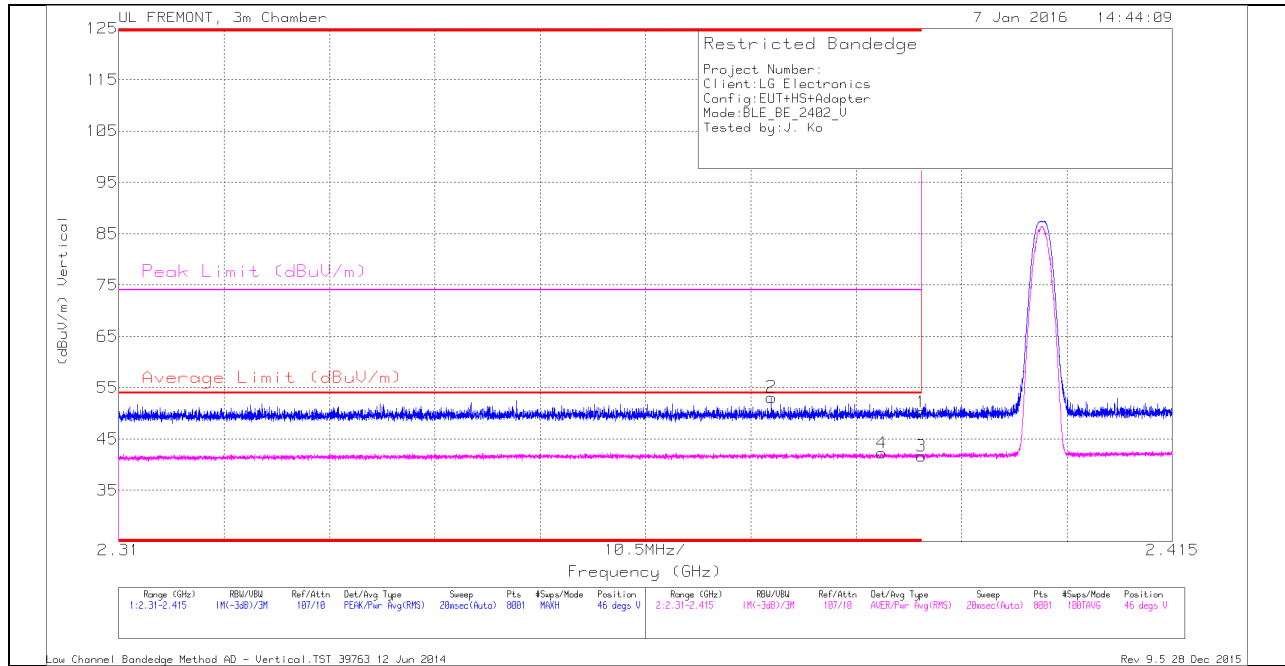
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	39.19	Pk	32	-22.2	0	48.99	-	-	74	-25.01	228	193	H
2	* 2.385	42.77	Pk	32	-22.2	0	52.57	-	-	74	-21.43	228	193	H
3	* 2.39	30.09	RMS	32	-22.2	2.04	41.93	54	-12.07	-	-	228	193	H
4	* 2.387	30.69	RMS	32	-22.2	2.04	42.53	54	-11.47	-	-	228	193	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Ch/Flt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	40.45	Pk	32	-22.2	0	50.25	-	-	74	-23.75	46	188	V
2	* 2.375	43.43	Pk	31.9	-22.2	0	53.13	-	-	74	-20.87	46	188	V
3	* 2.39	29.82	RMS	32	-22.2	2.04	41.66	54	-12.34	-	-	46	188	V
4	* 2.386	30.43	RMS	32	-22.2	2.04	42.27	54	-11.73	-	-	46	188	V

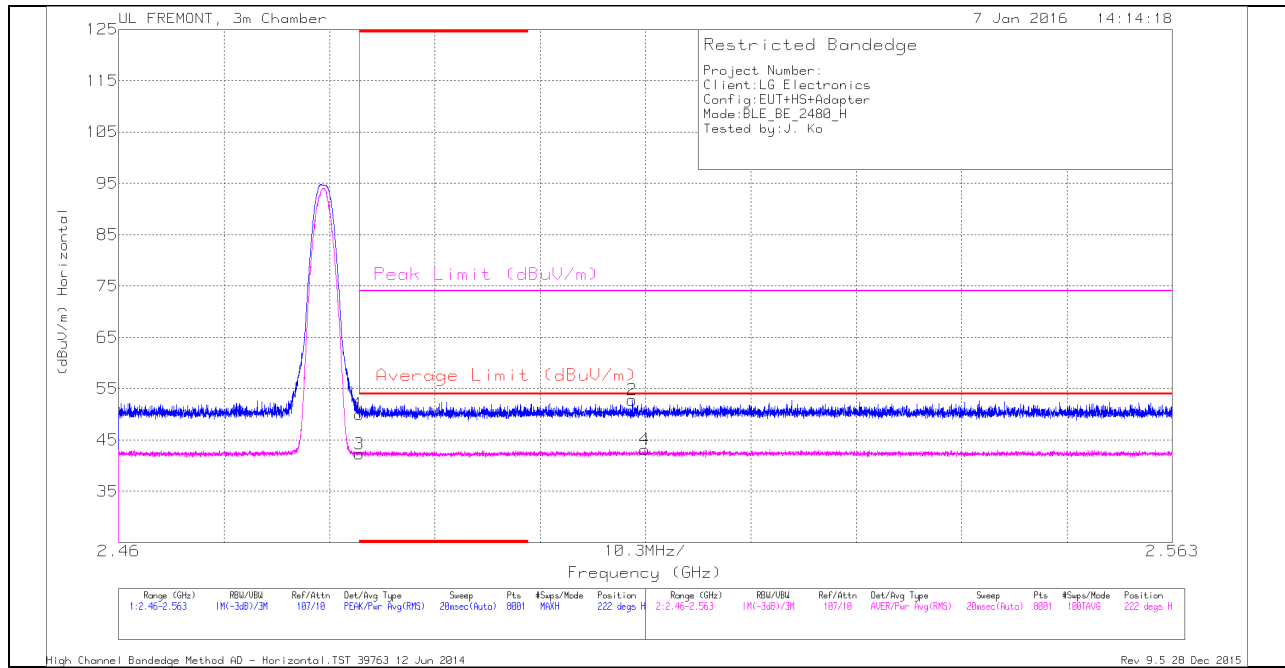
* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

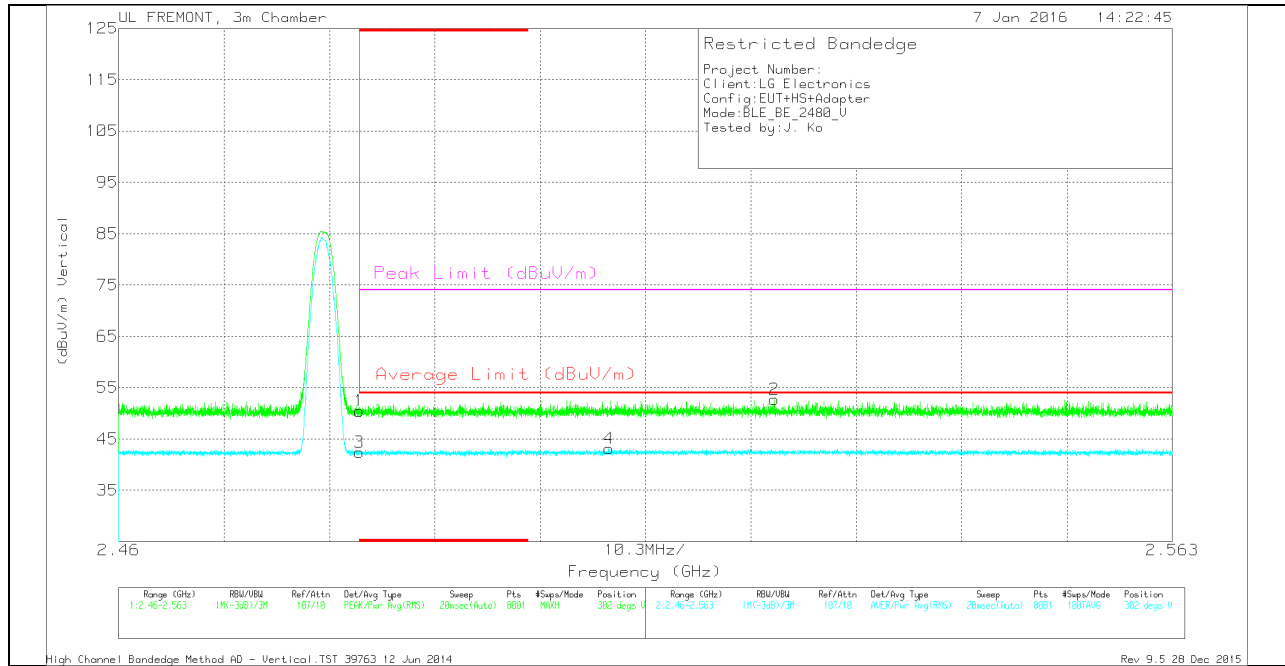
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT119 (dB/m)	Amp/Cd/Fix/Psd (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	39.76	Pk	32.3	-22	0	50.06	-	-	74	-23.94	222	168	H
3	* 2.484	29.96	RMS	32.3	-22	2.04	42.3	54	-11.7	-	-	222	168	H
2	2.51	42.38	Pk	32.3	-21.9	0	52.78	-	-	74	-21.22	222	168	H
4	2.511	30.7	RMS	32.3	-21.9	2.04	43.14	54	-10.86	-	-	222	168	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Ch/Flt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	40.16	Pk	32.3	-22	0	50.46	-	-	74	-23.54	302	142	V
3	* 2.484	30.03	RMS	32.3	-22	2.04	42.37	54	-11.63	-	-	302	142	V
4	2.508	30.7	RMS	32.3	-21.9	2.04	43.14	54	-10.86	-	-	302	142	V
2	2.524	42.23	Pk	32.4	-21.9	0	52.73	-	-	74	-21.27	302	142	V

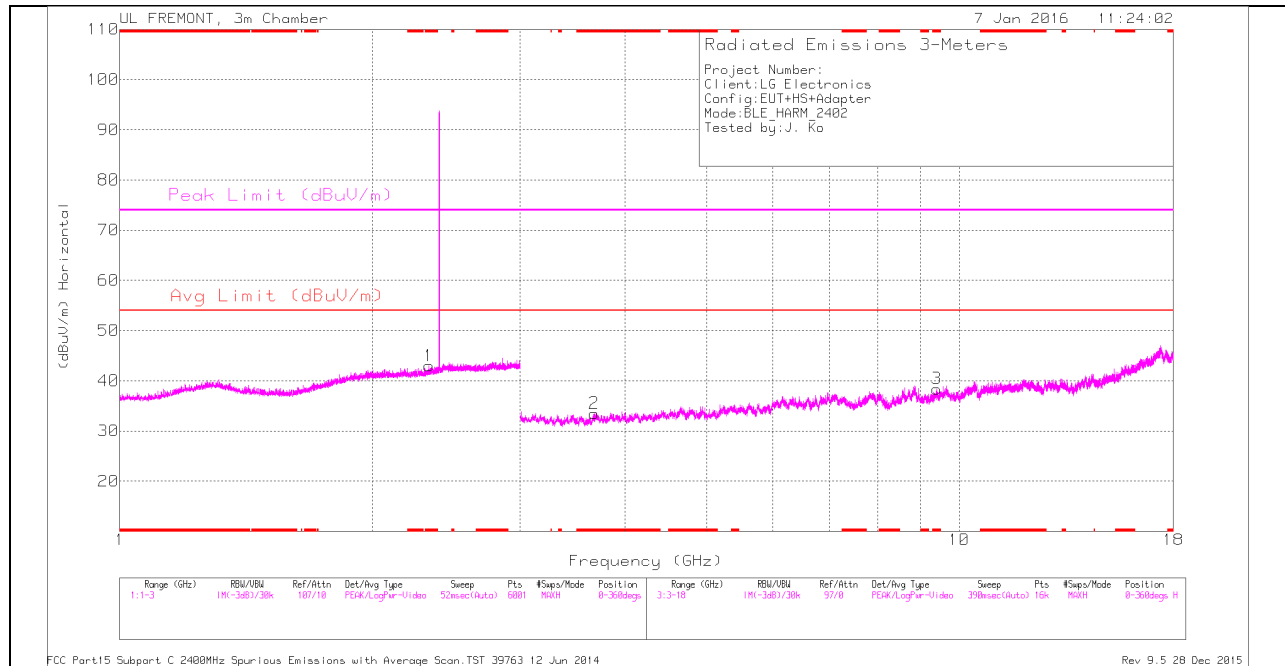
* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

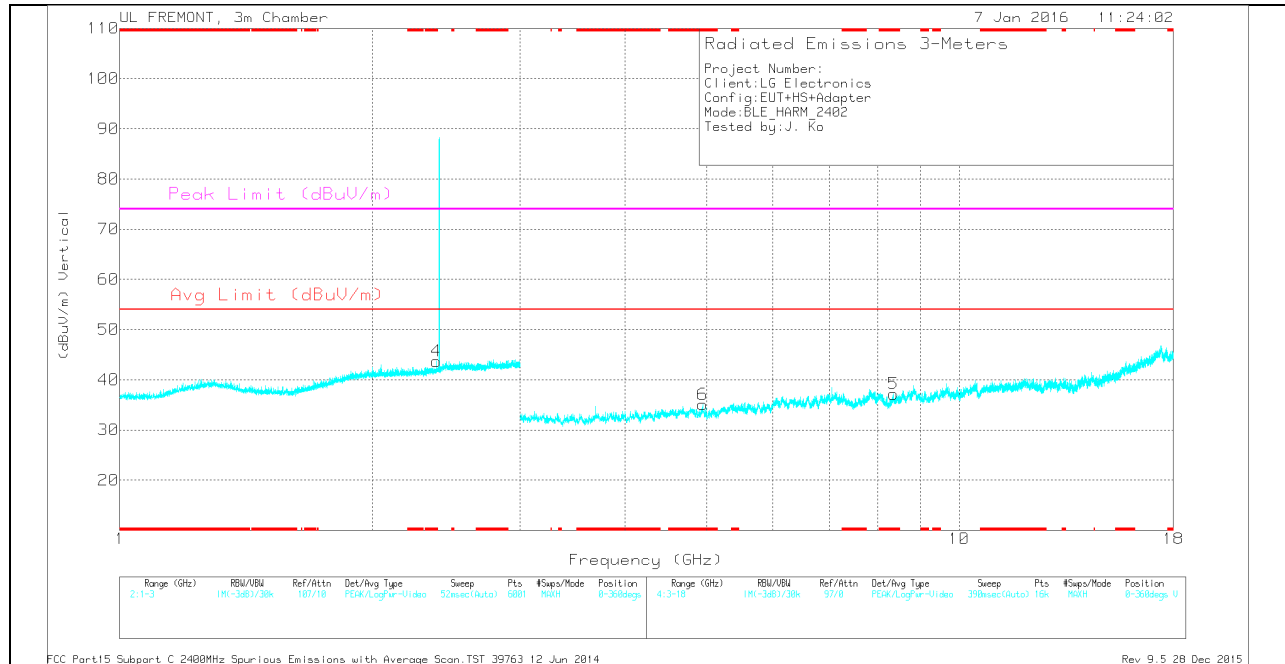
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.336	33.51	Avg	31.8	-22.3	0	43.01	54	-10.99	-	-	0-360	100	H
4	* 2.384	33.89	Avg	32	-22.2	0	43.69	54	-10.31	-	-	0-360	100	V
2	* 3.674	30.3	Avg	33	-29.8	0	33.5	54	-20.5	-	-	0-360	100	H
3	* 9.4	26.01	Avg	36.4	-24	0	38.41	54	-15.59	-	-	0-360	100	H
5	* 8.355	26.88	Avg	35.8	-25.5	0	37.18	54	-16.82	-	-	0-360	100	V
6	* 4.948	30.5	Avg	34	-29.4	0	35.1	54	-18.9	-	-	0-360	100	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Avg - Video bandwidth < Resolution bandwidth

Radiated Emissions

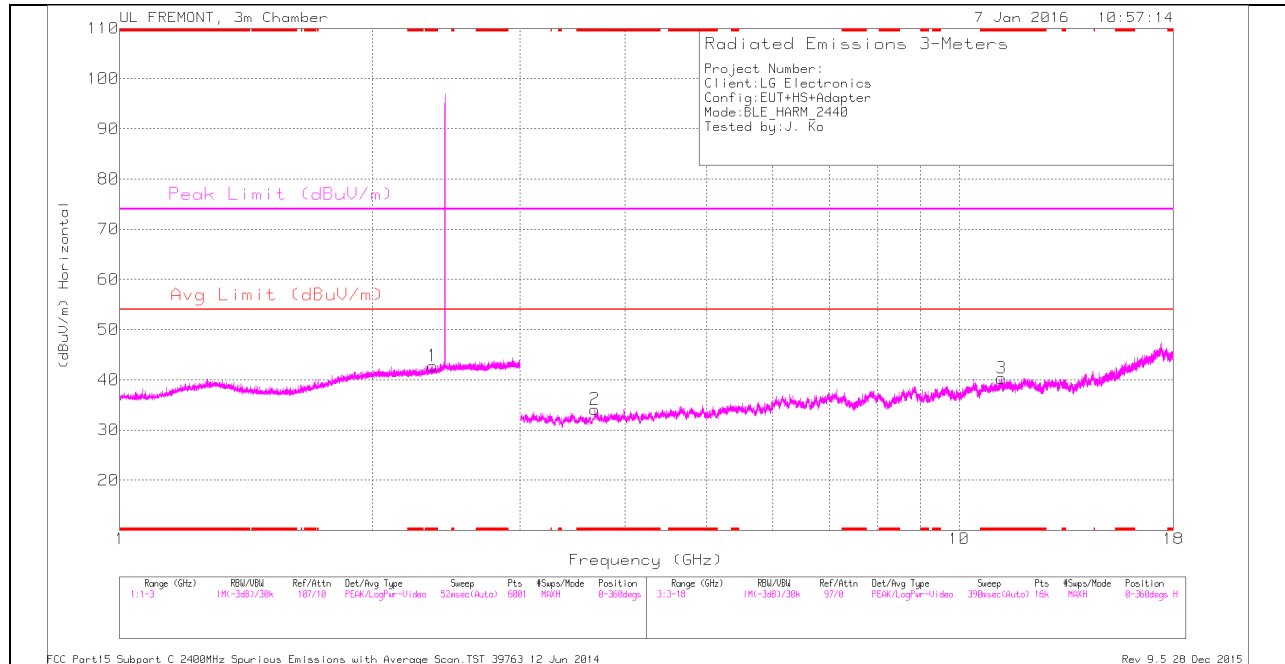
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 2.336	43.14	PK2	31.8	-22.3	0	52.64	-	-	74	-21.36	24	165	H
* 2.337	30.67	MAv1	31.8	-22.3	2.04	42.21	54	-11.79	-	-	24	165	H
* 2.383	42.71	PK2	32	-22.2	0	52.51	-	-	74	-21.49	212	121	V
* 2.383	30.65	MAv1	32	-22.2	2.04	42.49	54	-11.51	-	-	212	121	V
* 3.673	39.31	PK2	33	-29.9	0	42.41	-	-	74	-31.59	43	266	H
* 3.673	27.15	MAv1	33	-29.9	2.04	32.29	54	-21.71	-	-	43	266	H
* 9.399	35.13	PK2	36.4	-24	0	47.53	-	-	74	-26.47	222	111	H
* 9.4	23.33	MAv1	36.4	-24	2.04	37.77	54	-16.23	-	-	222	111	H
* 8.353	36.88	PK2	35.8	-25.5	0	47.18	-	-	74	-26.82	165	201	V
* 8.353	25.13	MAv1	35.8	-25.5	2.04	37.47	54	-16.53	-	-	165	201	V
* 4.948	40.12	PK2	34	-29.4	0	44.72	-	-	74	-29.28	356	115	V
* 4.946	28.29	MAv1	34	-29.4	2.04	34.93	54	-19.07	-	-	356	115	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

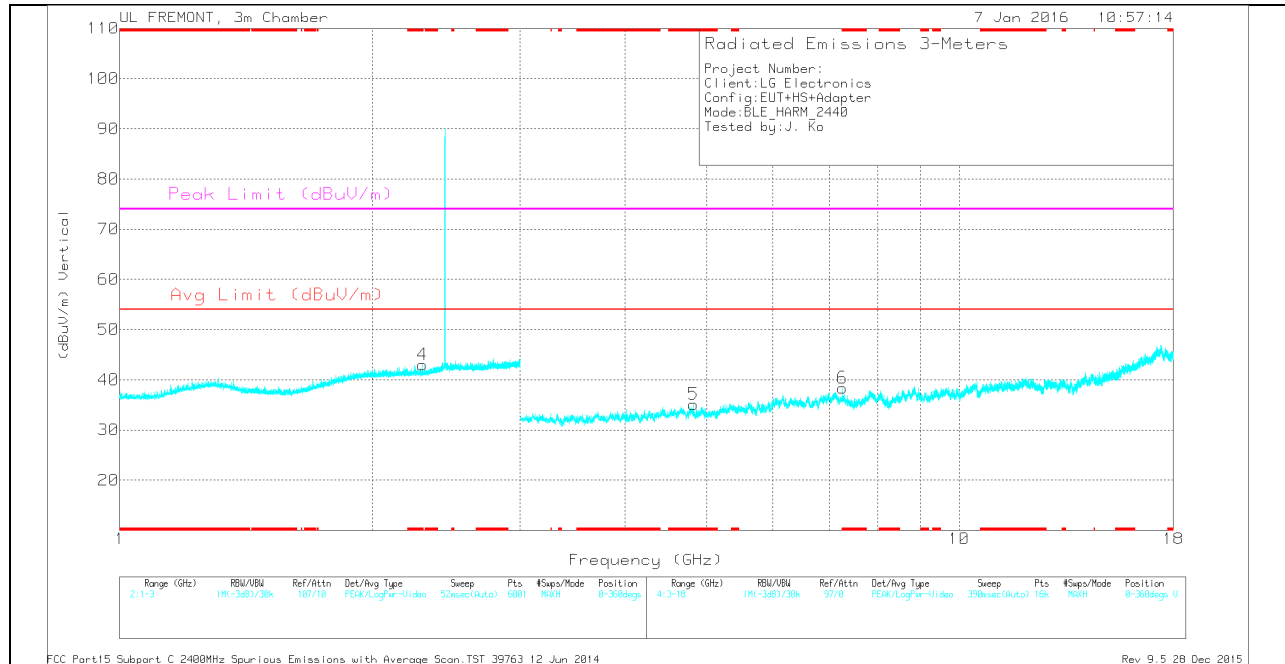
MAv1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 11.238	24.81	Avg	38	-22.5	0	40.31	54	-13.69	-	-	0-360	200	H
4	* 2.294	33.73	Avg	31.6	-22.3	0	43.03	54	-10.97	-	-	0-360	200	V
1	* 2.361	33.18	Avg	31.9	-22.3	0	42.78	54	-11.22	-	-	0-360	200	H
2	* 3.681	30.84	Avg	33	-29.7	0	34.14	54	-19.86	-	-	0-360	200	H
5	* 4.822	30.24	Avg	34	-29.1	0	35.14	54	-18.86	-	-	0-360	100	V
6	* 7.266	30.48	Avg	35.6	-27.7	0	38.38	54	-15.62	-	-	0-360	100	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Avg - Video bandwidth < Resolution bandwidth

Radiated Emissions

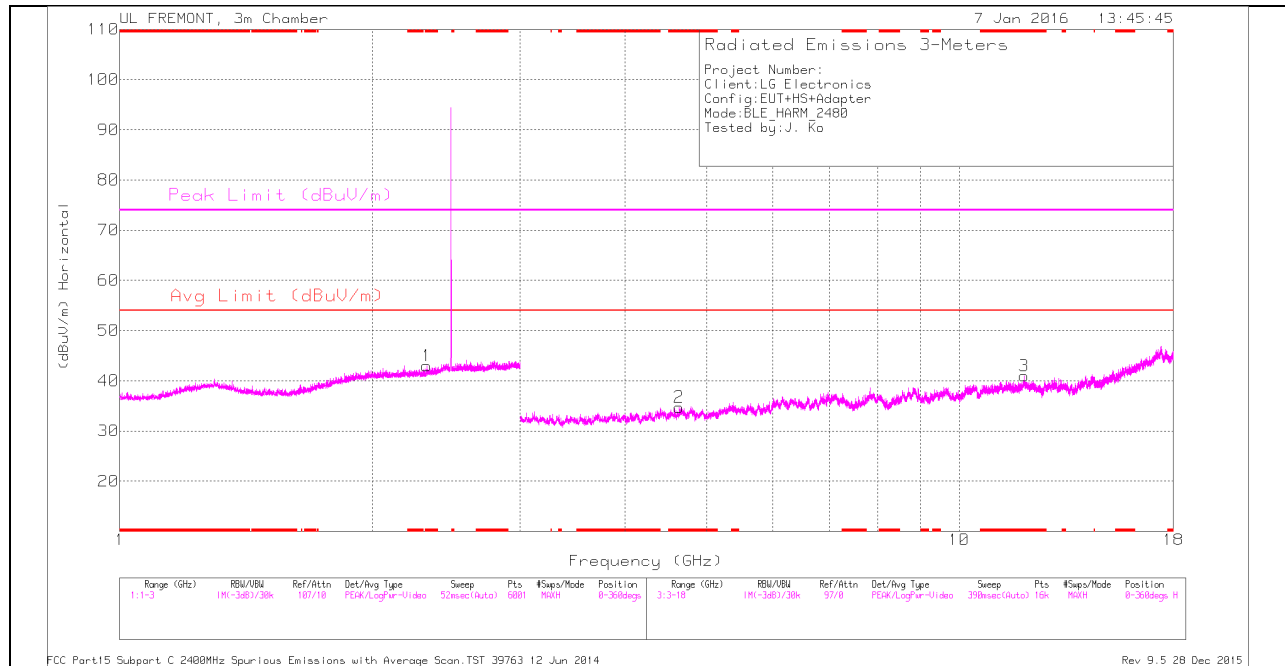
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 2.362	42.12	PK2	31.9	-22.3	0	51.72	-	-	74	-22.28	333	254	H
* 2.36	30.27	MAv1	31.9	-22.3	2.04	41.91	54	-12.09	-	-	333	254	H
* 2.296	42.84	PK2	31.6	-22.3	0	52.14	-	-	74	-21.86	285	187	V
* 2.295	30.66	MAv1	31.6	-22.3	2.04	42	54	-12	-	-	285	187	V
* 3.681	39.58	PK2	33	-29.7	0	42.88	-	-	74	-31.12	102	265	H
* 3.68	27.57	MAv1	33	-29.7	2.04	32.91	54	-21.09	-	-	102	265	H
* 11.239	32.49	PK2	38	-22.6	0	47.89	-	-	74	-26.11	89	311	H
* 11.24	20.71	MAv1	38	-22.6	2.04	38.15	54	-15.85	-	-	89	311	H
* 4.822	40.02	PK2	34	-29.1	0	44.92	-	-	74	-29.08	222	116	V
* 4.823	27.77	MAv1	34	-29.1	2.04	34.71	54	-19.29	-	-	222	116	V
* 7.268	37.29	PK2	35.6	-27.7	0	45.19	-	-	74	-28.81	165	251	V
* 7.268	25.35	MAv1	35.6	-27.7	2.04	35.29	54	-18.71	-	-	165	251	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

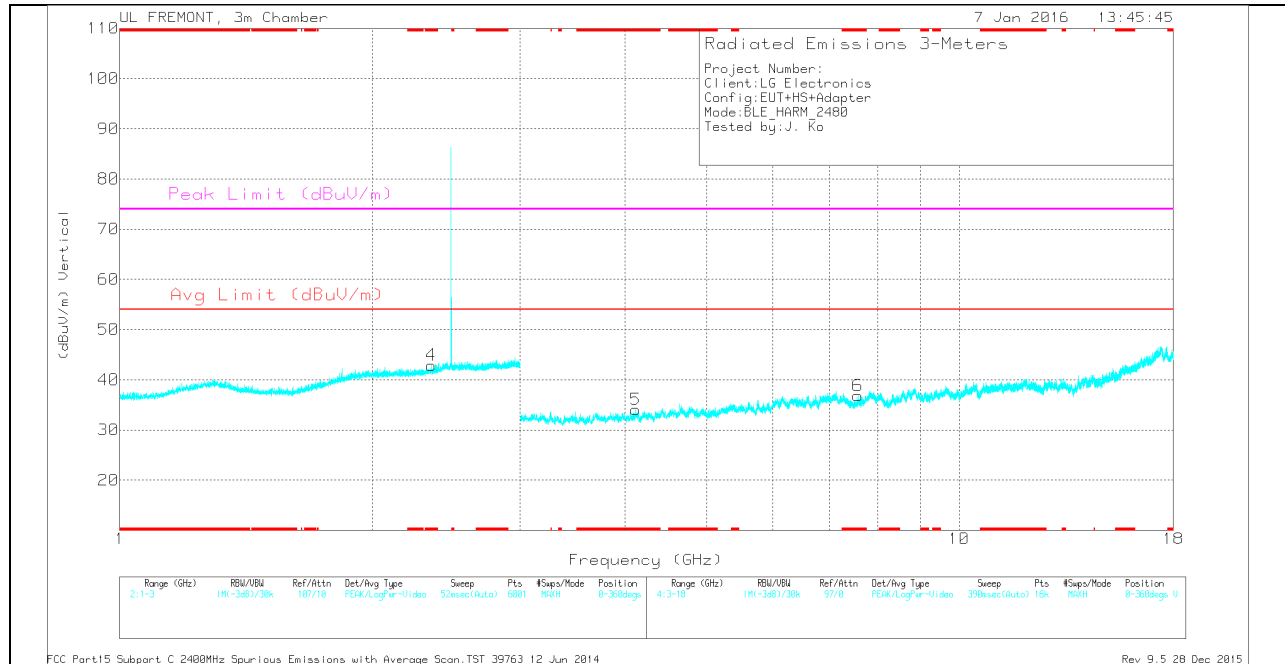
MAv1 - KDB558074 Option 1 Maxium RMS Average

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.321	33.46	Avg	31.7	-22.2	0	42.96	54	-11.04	-	-	0-360	200	H
4	* 2.351	33.41	Avg	31.8	-22.3	0	42.91	54	-11.09	-	-	0-360	100	V
2	* 4.639	30.54	Avg	33.9	-29.7	0	34.74	54	-19.26	-	-	0-360	100	H
3	* 11.947	25.49	Avg	39.1	-23.6	0	40.99	54	-13.01	-	-	0-360	100	H
5	* 4.116	30.69	Avg	33.3	-29.9	0	34.09	54	-19.91	-	-	0-360	200	V
6	* 7.575	27.73	Avg	35.7	-26.6	0	36.83	54	-17.17	-	-	0-360	100	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Avg - Video bandwidth < Resolution bandwidth

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 2.321	42.05	PK2	31.7	-22.2	0	51.55	-	-	74	-22.45	332	233	H
* 2.319	30.5	MAv1	31.7	-22.2	2.04	42.04	54	-11.96	-	-	332	233	H
* 2.349	43.28	PK2	31.8	-22.2	0	52.88	-	-	74	-21.12	212	147	V
* 2.35	30.65	MAv1	31.8	-22.2	2.04	42.29	54	-11.71	-	-	212	147	V
* 4.638	38.97	PK2	33.9	-29.7	0	43.17	-	-	74	-30.83	84	258	H
* 4.638	26.87	MAv1	33.9	-29.7	2.04	33.11	54	-20.89	-	-	84	258	H
* 11.948	32.59	PK2	39.1	-23.6	0	48.09	-	-	74	-25.91	173	269	H
* 11.948	20.98	MAv1	39.1	-23.6	2.04	38.52	54	-15.48	-	-	173	269	H
* 4.114	40.42	PK2	33.3	-29.9	0	43.82	-	-	74	-30.18	320	185	V
* 4.114	28.51	MAv1	33.3	-29.9	2.04	33.95	54	-20.05	-	-	320	185	V
* 7.576	37.36	PK2	35.7	-26.6	0	46.46	-	-	74	-27.54	231	159	V
* 7.573	25.92	MAv1	35.7	-26.6	2.04	37.06	54	-16.94	-	-	231	159	V

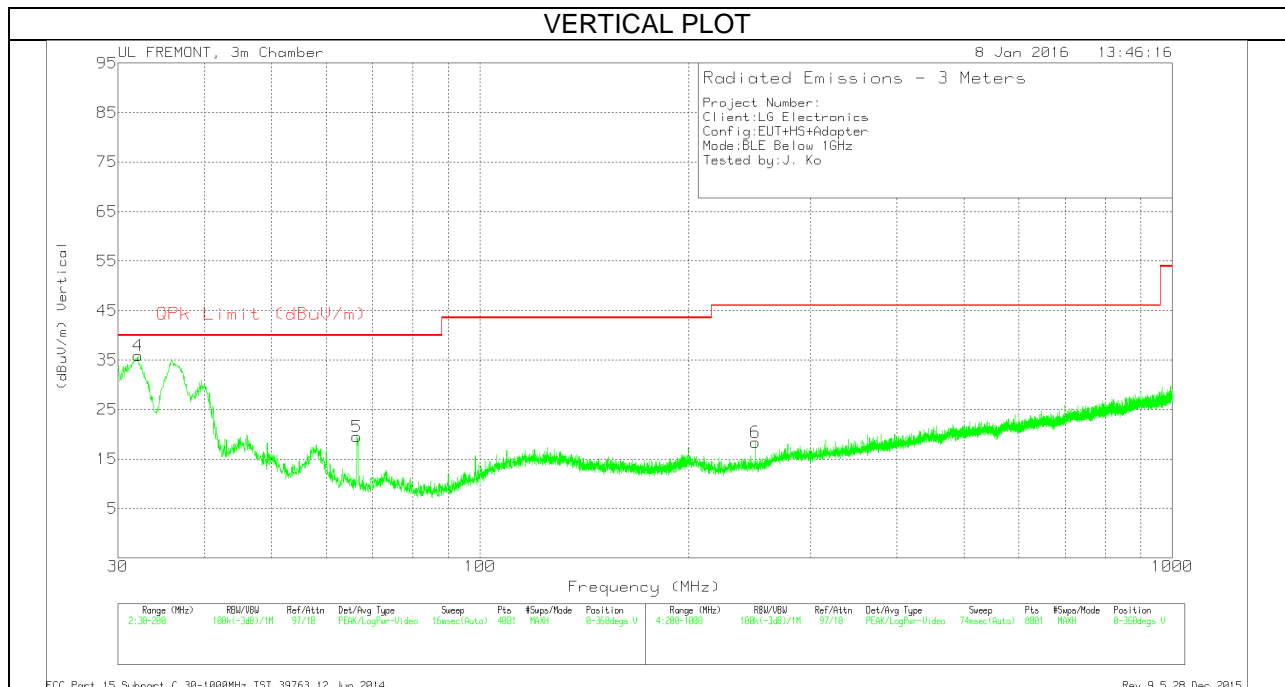
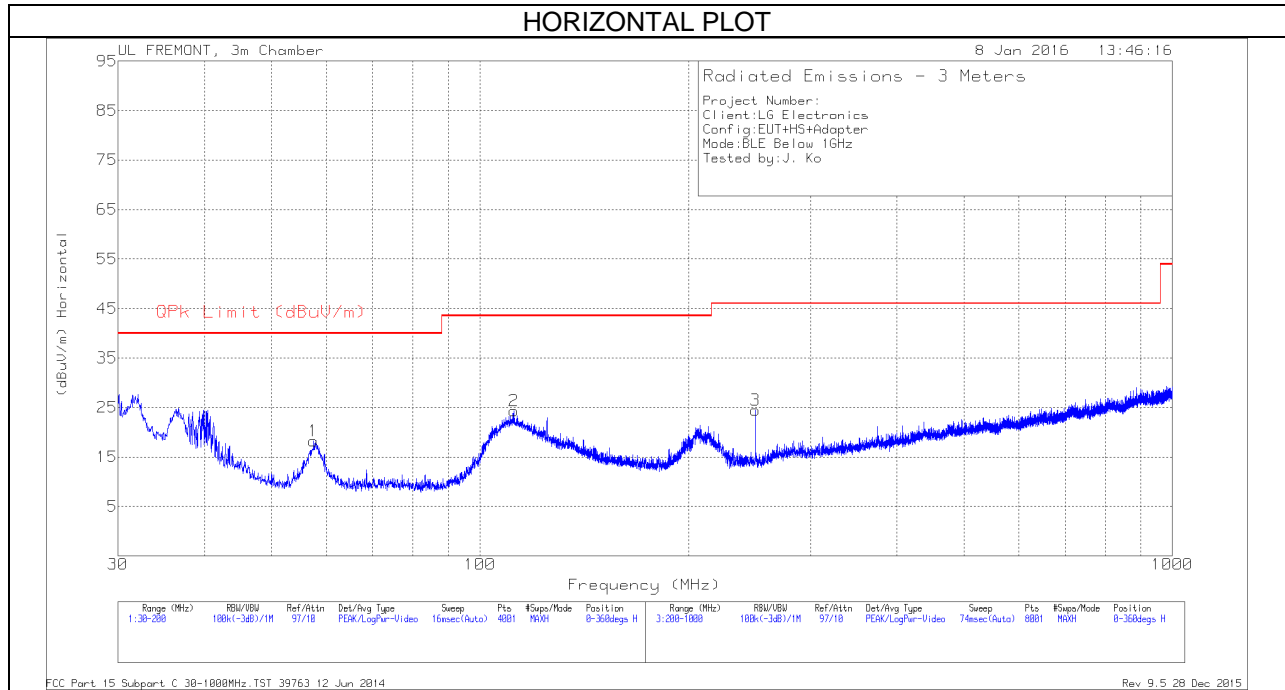
* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

9.2. WORST-CASE BELOW 1 GHz

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



BELOW 1 GHz TABLE

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T185 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	32.04	42.64	Pk	20.4	-27.2	35.84	40	-4.16	0-360	100	V
1	57.4763	38	Pk	7.1	-26.9	18.2	40	-21.8	0-360	400	H
5	66.4225	38.07	Pk	8.1	-26.7	19.47	40	-20.53	0-360	100	V
2	111.8975	37.83	Pk	12.7	-26.2	24.33	43.52	-19.19	0-360	200	H
3	250	37.68	Pk	11.5	-24.7	24.48	46.02	-21.54	0-360	100	H
6	250	31.57	Pk	11.5	-24.7	18.37	46.02	-27.65	0-360	100	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

10. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

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

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

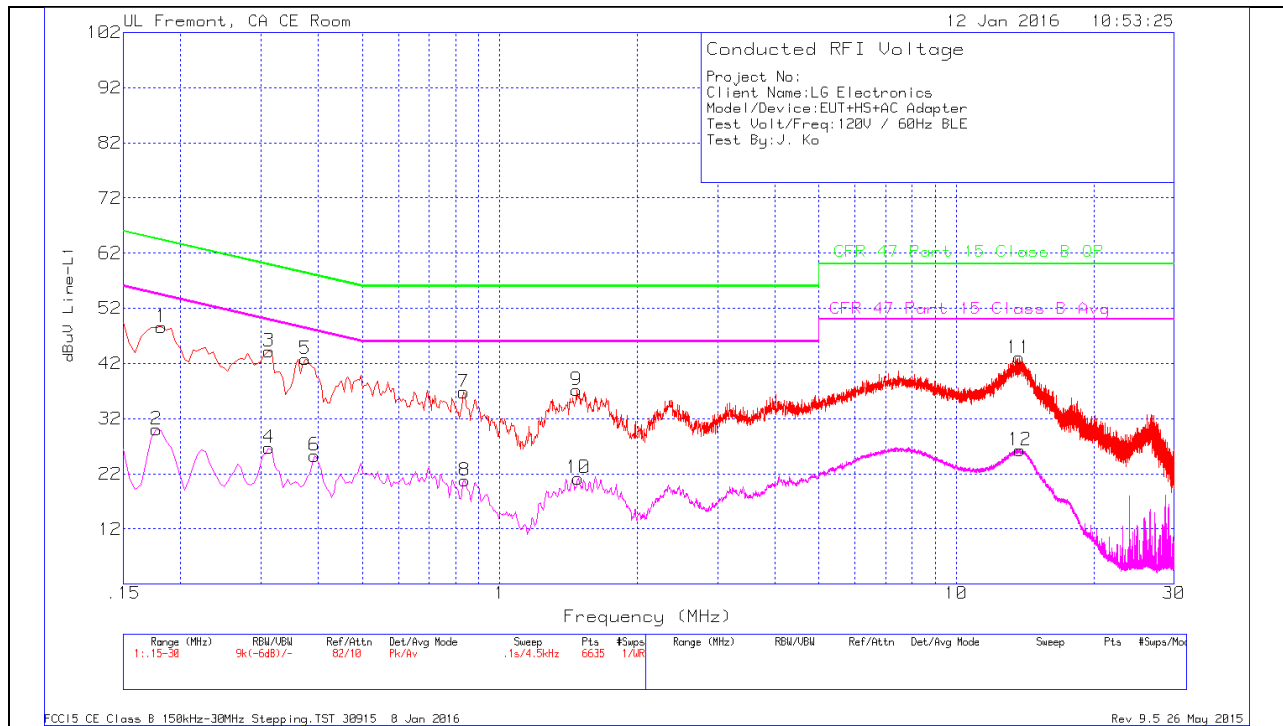
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

6 WORST EMISSIONS

LINE 1 PLOT



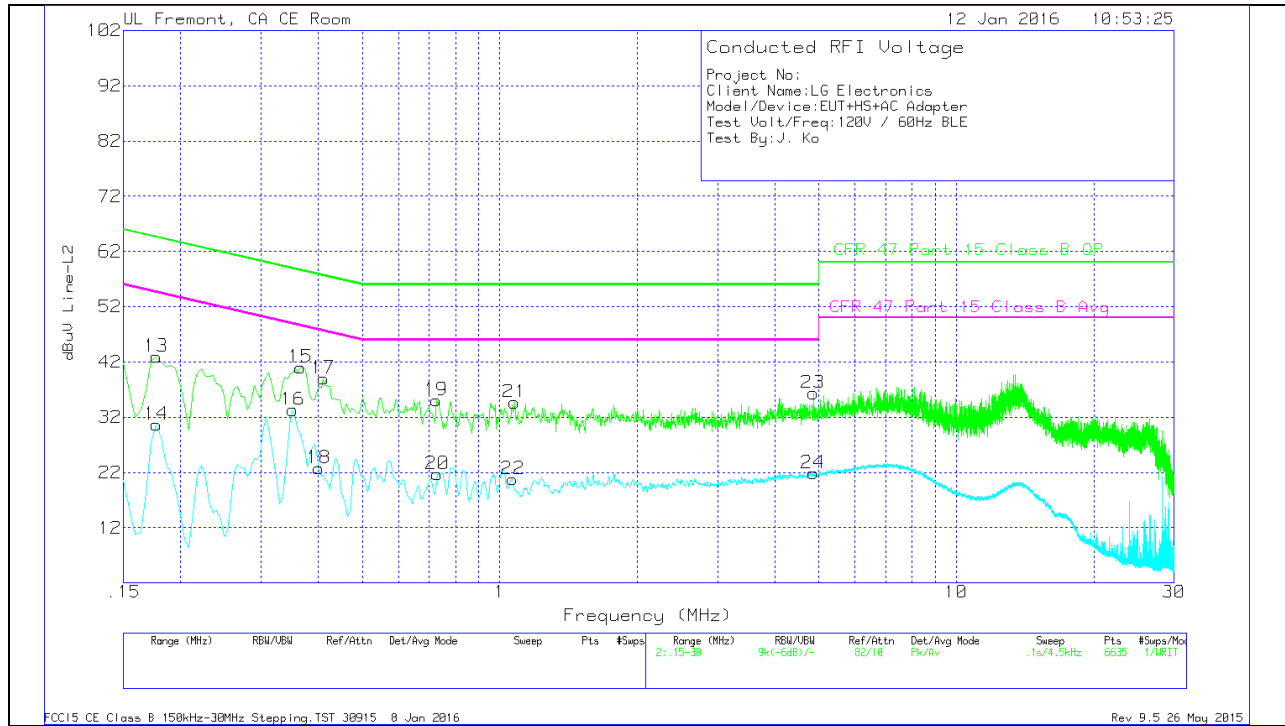
LINE 1 RESULT

Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T1310 IL L1	LC Cables 1&3	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
1	.1815	48.63	Pk	0	0	48.63	64.42	-15.79		
2	.177	30.04	Av	0	0	30.04	-	-	54.63	-24.59
3	.312	44.23	Pk	0	0	44.23	59.92	-15.69		
4	.312	26.7	Av	0	0	26.7	-	-	49.92	-23.22
5	.375	42.78	Pk	0	0	42.78	58.39	-15.61		
6	.393	25.28	Av	0	0	25.28	-	-	48	-22.72
7	.834	36.81	Pk	0	0	36.81	56	-19.19		
8	.8385	20.79	Av	0	0	20.79	-	-	46	-25.21
9	1.473	37.05	Pk	0	.1	37.15	56	-18.85		
10	1.4865	21.08	Av	0	.1	21.18	-	-	46	-24.82
11	13.722	42.73	Pk	.1	.2	43.03	60	-16.97		
12	13.7895	26	Av	.1	.2	26.3	-	-	50	-23.7

Pk - Peak detector
 Av - Average detection

LINE 2 PLOT



LINE 2 RESULT

Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T1310 IL L2	LC Cables 2&3	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
13	.177	42.92	Pk	0	0	42.92	64.63	-21.71		
14	.177	30.66	Av	0	0	30.66	-	-	54.63	-23.97
15	.366	40.99	Pk	0	0	40.99	58.59	-17.6		
16	.3525	33.32	Av	0	0	33.32	-	-	48.9	-15.58
17	.411	38.99	Pk	0	0	38.99	57.63	-18.64		
18	.402	22.73	Av	0	0	22.73	-	-	47.81	-25.08
19	.726	35.03	Pk	0	0	35.03	56	-20.97		
20	.7305	21.65	Av	0	0	21.65	-	-	46	-24.35
21	1.077	34.58	Pk	0	.1	34.68	56	-21.32		
22	1.068	20.69	Av	0	.1	20.79	-	-	46	-25.21
23	4.8615	36.25	Pk	0	.1	36.35	56	-19.65		
24	4.8615	21.76	Av	0	.1	21.86	-	-	46	-24.14

Pk - Peak detector

Av - Average detection