FCC 47 CFR PART 15 SUBPART C

C2PC CERTIFICATION TEST REPORT

FOR

CDMA/LTE PHONE + BLUETOOTH, & 2.4GHz DTS b/g/n

MODEL NUMBER: LG-VW820, VW820, LGVW820

FCC ID: ZNFVW820

REPORT NUMBER: 15I20187-E2

ISSUE DATE: MARCH 18, 2015

Prepared for

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Prepared by

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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	03/18/15	Initial Issue	D. Coronia

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	LG ELECTRONICS MOBILECOMM U.S.A., INC.
EUT DESCRIPTION:	CDMA/LTE PHONE + BLUETOOTH, & 2.4GHz DTS b/g/n
MODEL:	LG-VW820, VW820, LGVW820
SERIAL NUMBER:	2064709 (Radiated) 2064704 (Conducted)
DATE TESTED:	February 27-March 10, 2015

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 revisions 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.

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2009, FCC CFR 47 Part 2, and FCC CFR 47 Part 15C.

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
☒ Chamber A(IC: 2324B-1)	☐ Chamber D(IC: 2324B-4)
☐ Chamber B(IC: 2324B-2)	☐ Chamber E(IC: 2324B-5)
☐ Chamber C(IC: 2324B-3)	☐ Chamber F(IC: 2324B-6)
	☐ Chamber G(IC: 2324B-7)
	☐ Chamber H(IC: 2324B-8)

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://ts.nist.gov/standards/scopes/2000650.htm.

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:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Radiated Disturbance, 30 to 18000 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 CDMA/LTE PHONE + BLUETOOTH, & 2.4GHz DTS b/g/n.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:
See original report for details.

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of -2.14dBi.

5.4. WORST-CASE CONFIGURATION AND MODE

Radiated emission and power line conducted emission were performed with the EUT set to transmit at the channel with highest 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-02WR	RA4Y1033301	N/A
Earphone	LG	N/A	N/A	N/A

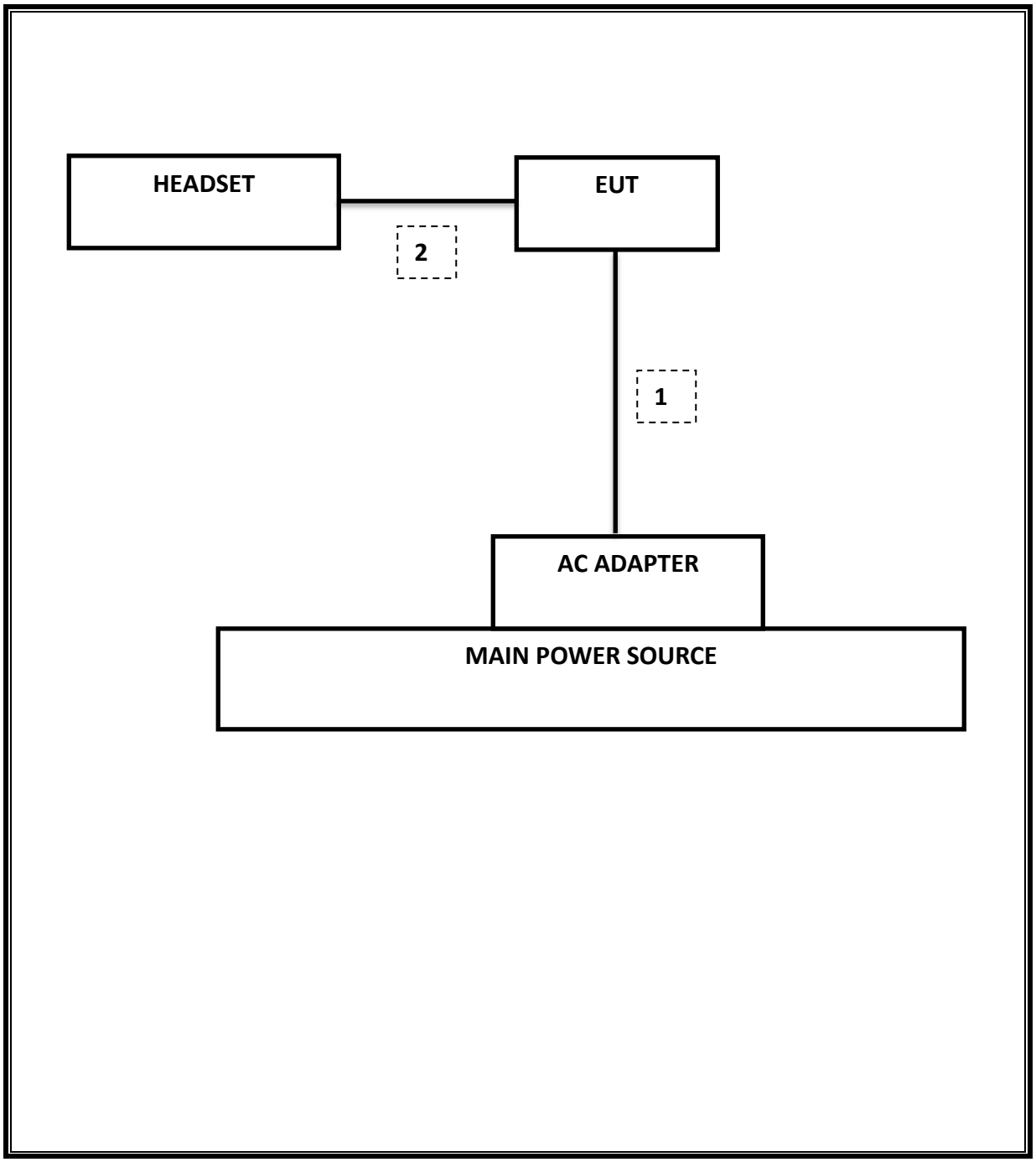
I/O CABLES

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

The EUT is continuously communicating to the Bluetooth tester during the tests.
EUT was set in the Hidden menu mode to enable BT 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**	**Tnumber**	**Cal Due**
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB1	122	02/13/16
Antenna, Horn, 18GHz	EMCO	3115	60	10/25/16
Antenna, Horn, 26.5 GHz	ARA	MWH-1826	89	11/14/15
RF Preamplifier, 100KHz -> 1300MHz	HP	TBD	C00825	06/01/15
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/15
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	F00351	06/27/15
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/15
CBT Bluetooth Tester	R & S	CBT	None	07/12/15
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/15
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/15
LISN, 30 MHz	FCC	50/250-25-2	C00626	01/16/16
Reject Filter, 2.4GHz	Micro-Tronics	BRM50702	N02684	CNR
Radiated Software	UL	UL EMC	Ver 9.5, July 22, 2014	
Conducted Software	UL	UL EMC	Ver 9.5, May 17 2012	
CLT Software	UL	UL RF	Ver 1.0, Feb 2 2015	
Antenna Port Software	UL	UL RF	Ver 2.1.1.1, Jan 20 2015	

7. SUMMARY TABLE

C2PC reason: Please see LG FCC Class II cover letter for details.

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Worst Case
2.1049	RSS-GEN 4.6	Occupied Band width (99%)	N/A	Conducted	Pass	See original
2.1051, 15.247 (d)	RSS-210 A8.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass	See original
15.247 (b)(1)	RSS-210 A8.4	TX conducted output power	<21dBm		Pass	See original
15.247 (a)(1)	RSS-210 A8.1(b)	Hopping frequency separation	> 25KHz		Pass	See original
15.247 (a)(1)(iii)	RSS-210 A8.1(d)	Number of Hopping channels	More than 15 non-overlapping channels		Pass	See original
15.247 (a)(1)(iii)	RSS-210 A8.1(d)	Avg Time of Occupancy	< 0.4sec		Pass	See original
15.207 (a)	RSS-GEN 8.0	AC Power Line conducted emissions	Section 10	Radiated	Pass	See original
15.205, 15.209	RSS-210 Clause 2.6, RSS-210 Clause 6	Radiated Spurious Emission	< 54dBuV/m		Pass	40.04 dBuV/m

8. RADIATED TEST RESULTS

8.1. LIMITS AND PROCEDURE

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. 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 band edge 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 1/T (on time) for average measurement. GFSK = 1/T = 1 / 0.0038S = 260Hz.

The spectrum from 1GHzHz 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.

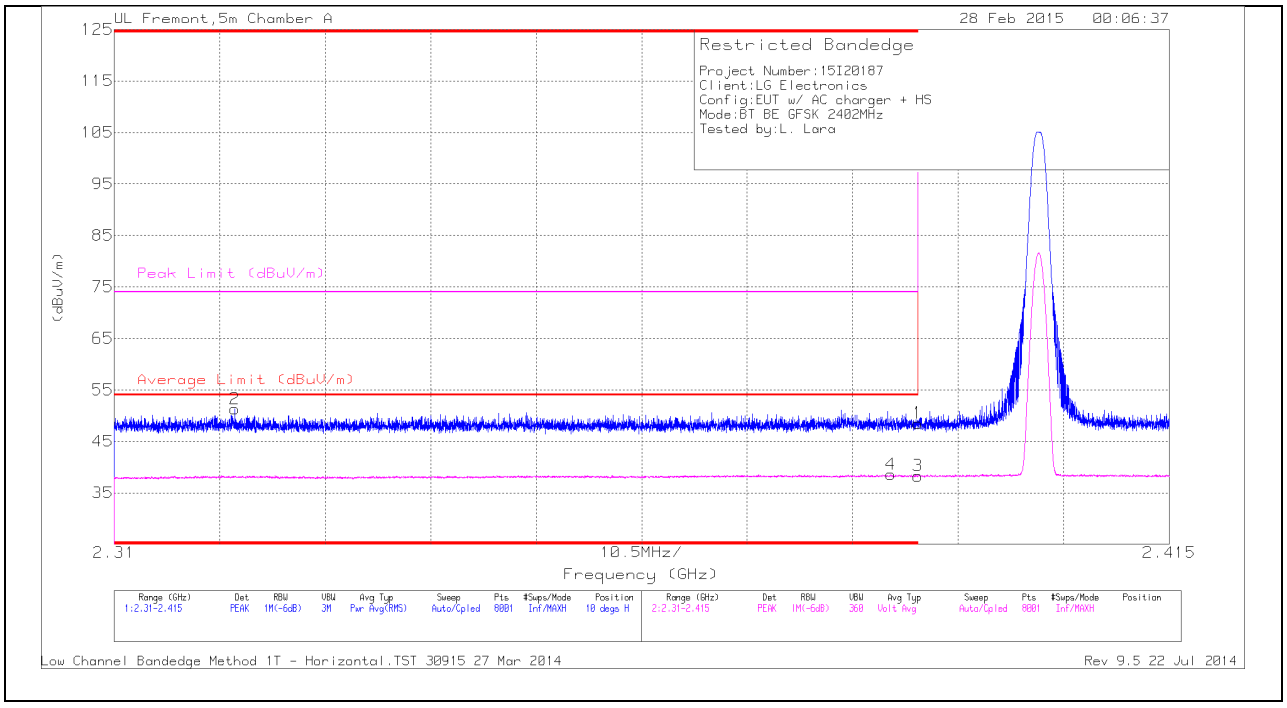
RESULTS

8.2. TRANSMITTER ABOVE 1 GHz

8.2.1. BASIC DATA RATE GFSK MODULATION

RESTRICTED BANDEDGE (LOW CHANNEL)

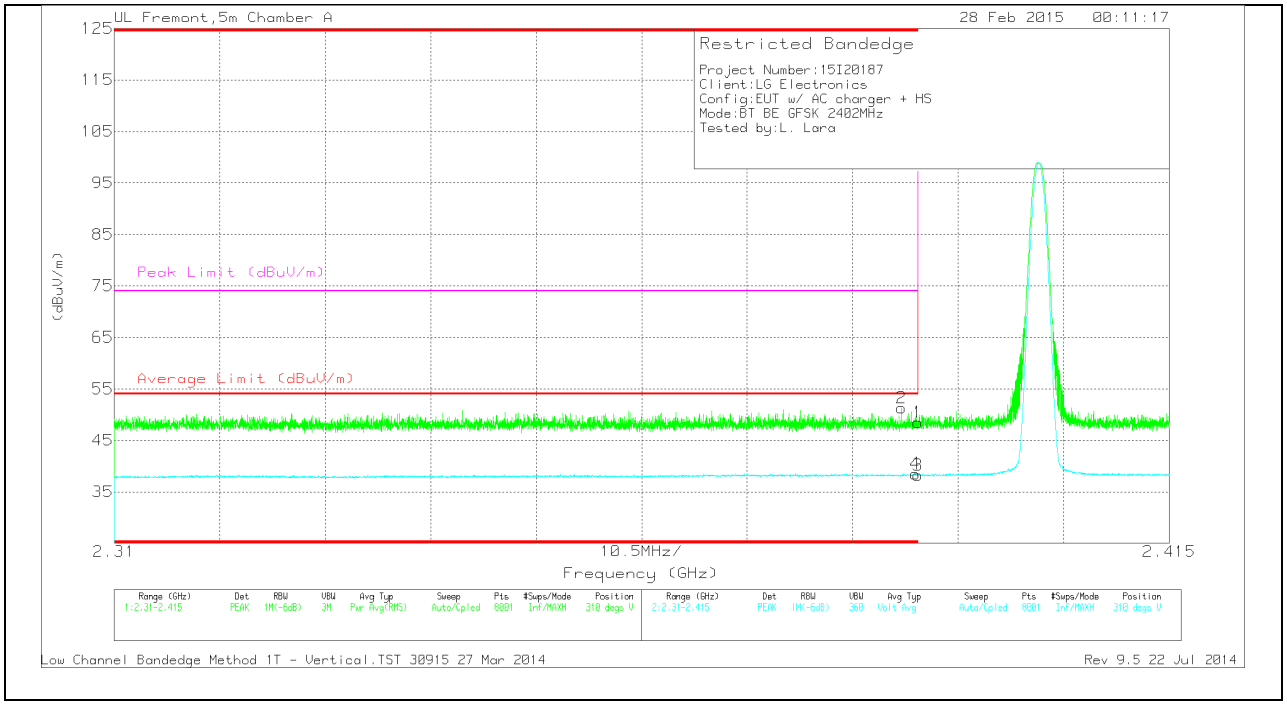
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.322	41.68	PK	31.9	-22.3	51.28	-	-	74	-22.72	10	106	H
1	* 2.39	38.62	PK	32.1	-22.2	48.52	-	-	74	-25.48	10	106	H

VERTICAL PEAK AND AVERAGE PLOT

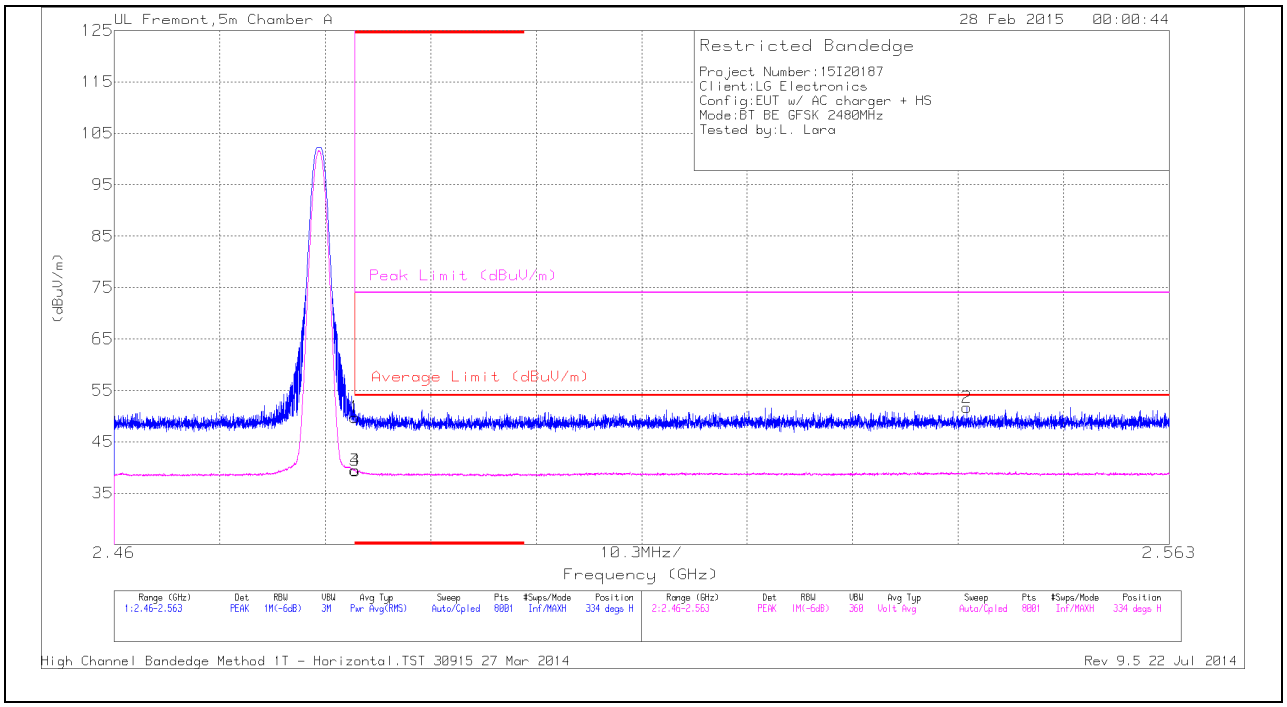


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.388	41.39	PK	32.1	-22.2	51.29	-	-	74	-22.71	310	310	V
1	* 2.39	38.6	PK	32.1	-22.2	48.5	-	-	74	-25.5	310	310	V
3	* 2.39	28.34	VB1T	32.1	-22.2	38.24	54	-15.76	-	-	310	310	V
4	* 2.39	28.61	VB1T	32.1	-22.2	38.51	54	-15.49	-	-	310	310	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

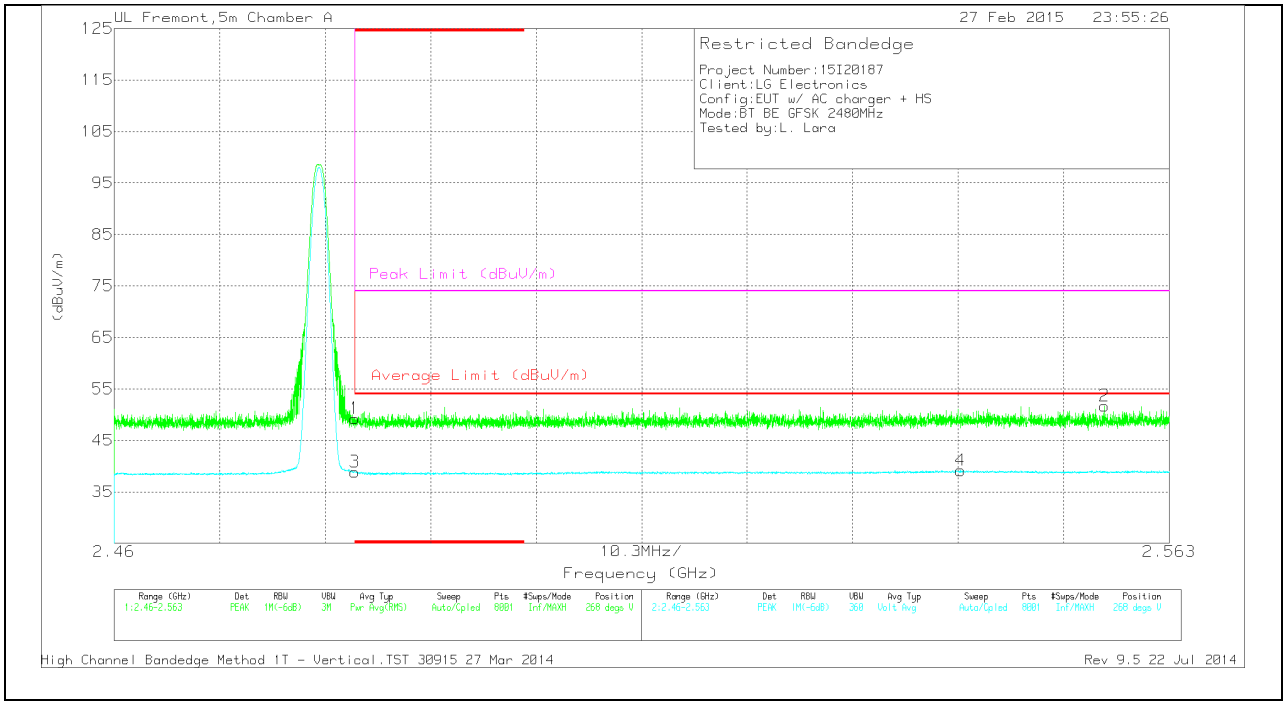
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (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	39.55	PK	32.1	-21.9	49.75	-	-	74	-24.25	334	104	H
3	* 2.484	29.24	VB1T	32.1	-21.9	39.44	54	-14.56	-	-	334	104	H
4	* 2.484	29.2	VB1T	32.1	-21.9	39.4	54	-14.6	-	-	334	104	H
2	2.543	41.08	PK	32.2	-21.6	51.68	-	-	74	-22.32	334	104	H

VERTICAL PEAK AND AVERAGE PLOT

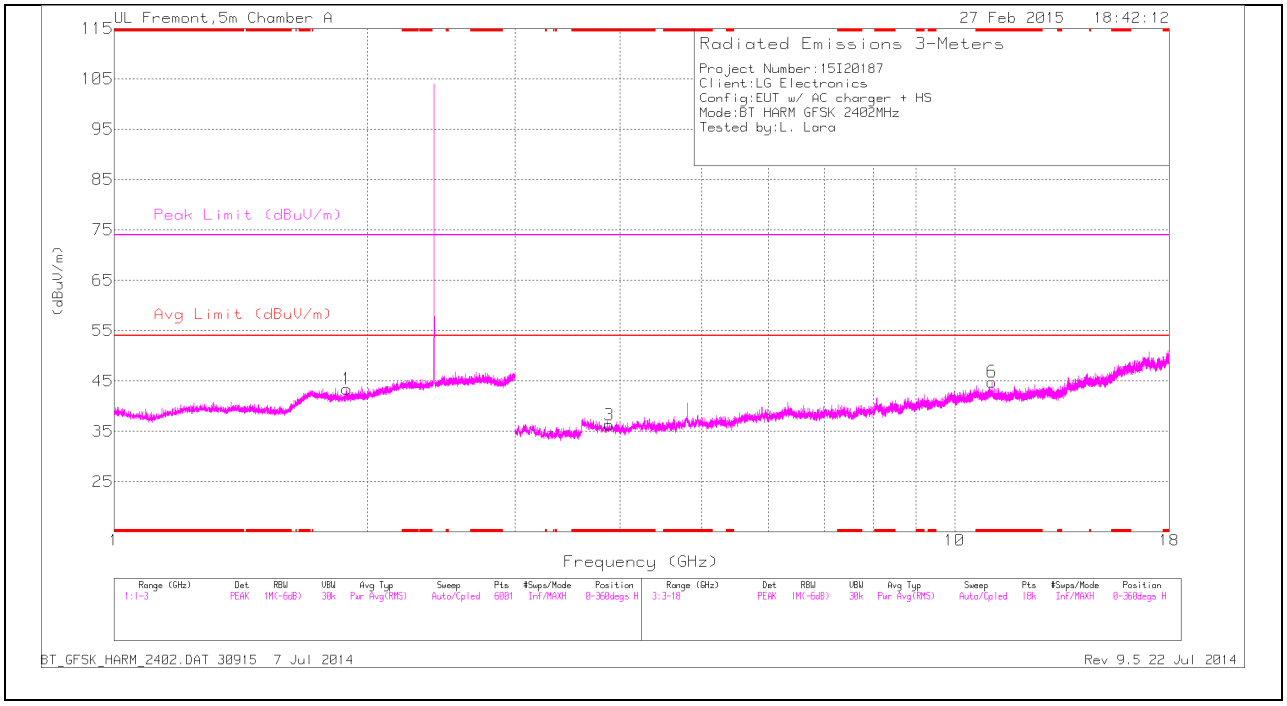


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (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	39.05	PK	32.1	-21.9	49.25	-	-	74	-24.75	268	290	V
3	* 2.484	28.68	VB1T	32.1	-21.9	38.88	54	-15.12	-	-	268	290	V
4	2.543	28.56	VB1T	32.2	-21.6	39.16	54	-14.84	-	-	268	290	V
2	2.557	41.19	PK	32.2	-21.7	51.69	-	-	74	-22.31	268	290	V

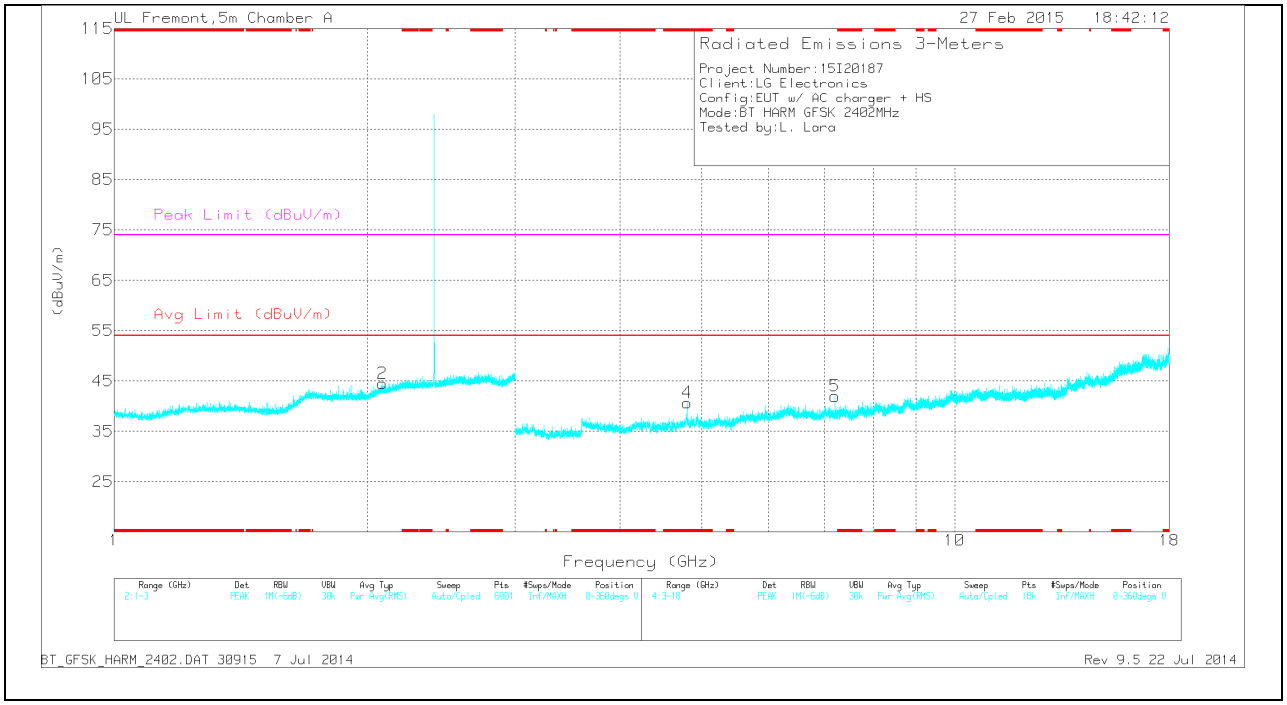
HARMONICS AND SPURIOUS EMISSIONS

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

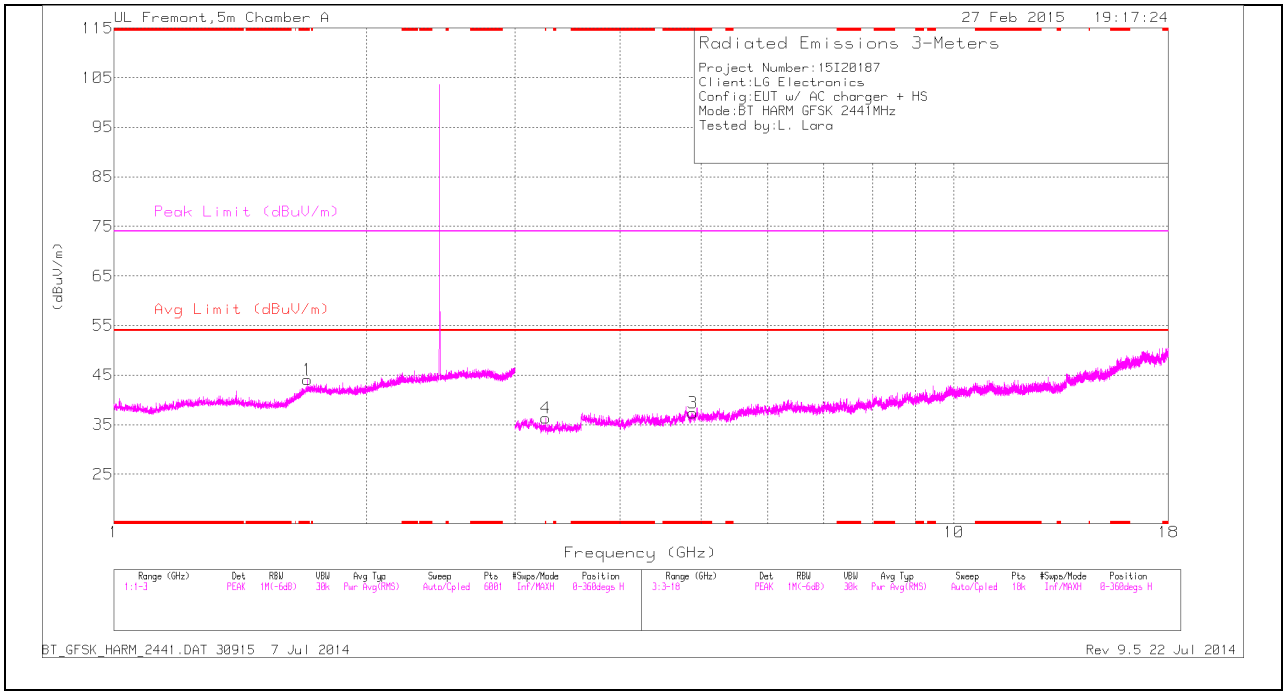
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 3.881	32.38	PK	33.1	-29.2	36.28	-	-	74	-37.72	0-360	100	H
6	* 11.07	27.53	PK	38.3	-21	44.83	-	-	74	-29.17	0-360	201	H
4	* 4.804	35.08	PK	34	-28.4	40.68	-	-	74	-33.32	0-360	201	V
1	1.892	36.22	PK	30.3	-23.1	43.42	-	-	-	-	0-360	100	H
2	2.085	35.9	PK	31	-22.4	44.5	-	-	-	-	0-360	201	V
5	7.206	32.58	PK	35.6	-26.2	41.98	-	-	-	-	0-360	201	V

PK - Peak detector

RADIATED EMISSIONS

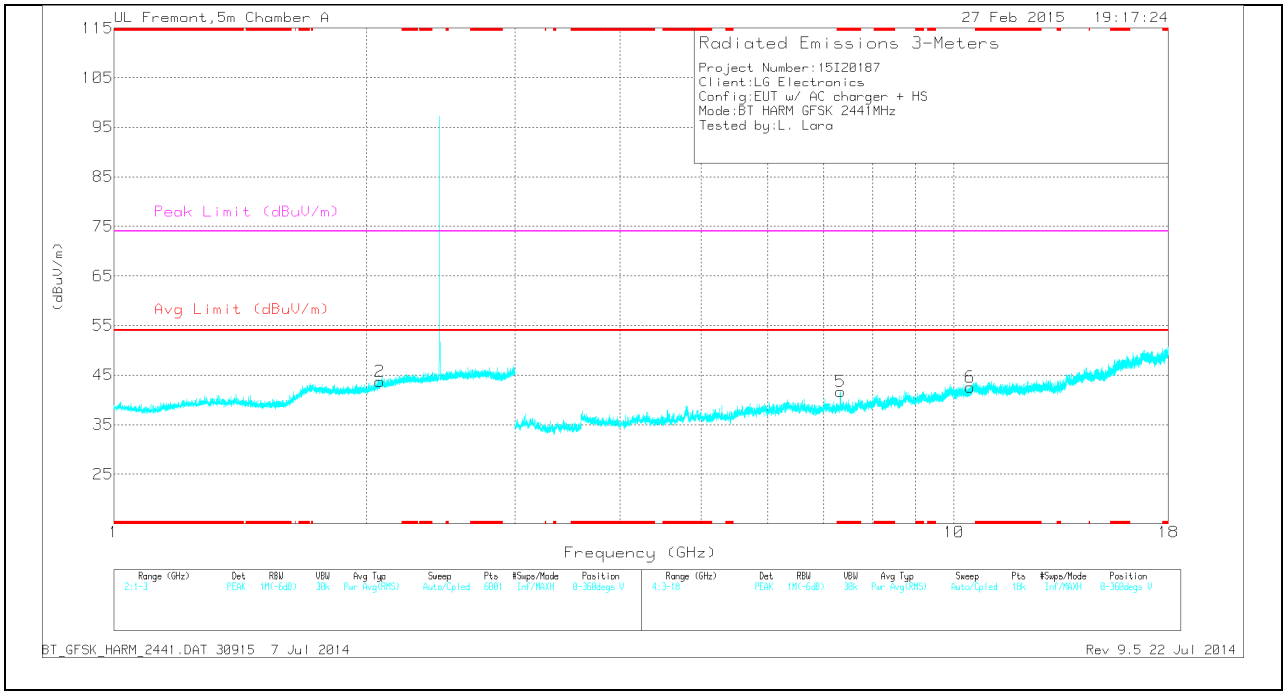
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.805	43.56	PK3	34	-28.4	49.16	-	-	74	-24.84	331	284	V
* 4.804	34.44	VB1T	34	-28.4	40.04	54	-13.96	-	-	331	284	V

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

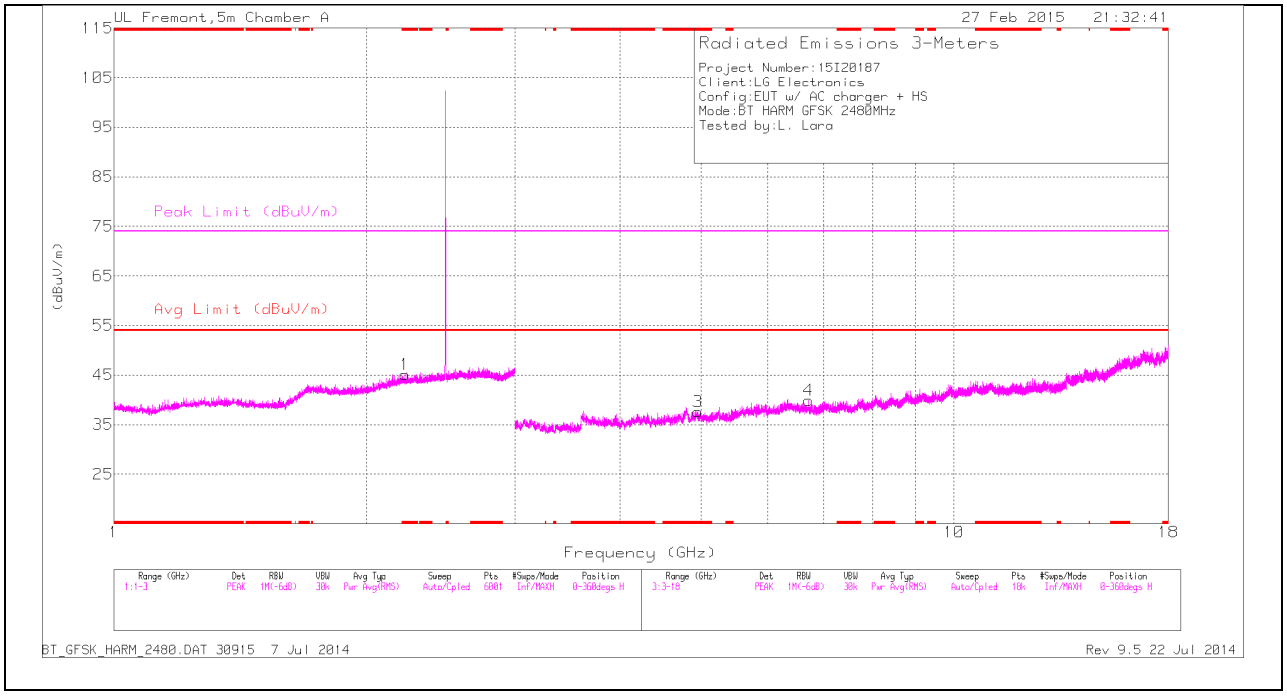
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.699	36.65	PK	30.7	-23.3	44.05	-	-	74	-29.95	0-360	201	H
3	* 4.886	31.18	PK	33.9	-27.7	37.38	-	-	74	-36.62	0-360	100	H
4	* 3.265	34.02	PK	32.9	-30.6	36.32	-	-	74	-37.68	0-360	201	H
5	* 7.323	31.39	PK	35.6	-25.3	41.69	-	-	74	-32.31	0-360	100	V
2	2.074	35.54	PK	30.9	-22.7	43.74	-	-	-	-	0-360	201	V
6	10.459	26.68	PK	38.1	-22.2	42.58	-	-	-	-	0-360	100	V

PK - Peak detector

RADIATED EMISSIONS

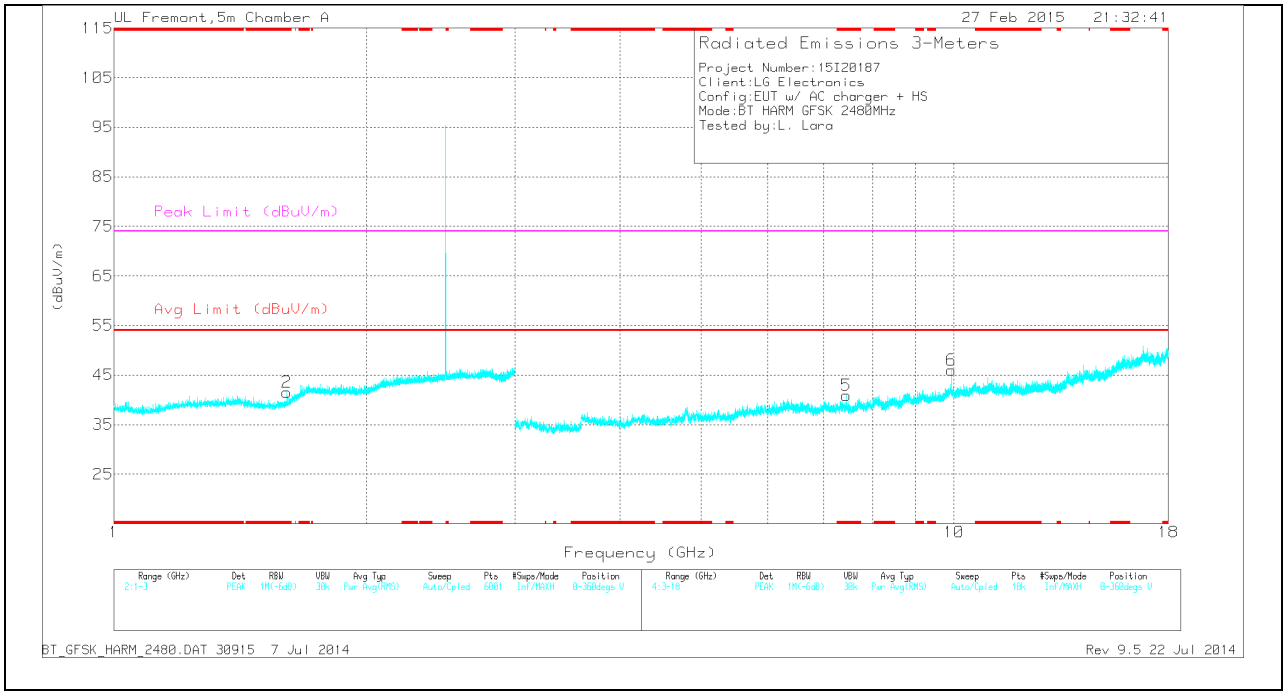
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.887	38.22	PK3	33.9	-27.7	44.42	-	-	74	-29.58	70	305	H
* 4.884	26.52	VB1T	33.9	-27.7	32.72	54	-21.28	-	-	70	305	H

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 T711 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.221	35.59	PK	32	-22.5	45.09	-	-	74	-28.91	0-360	100	H
2	* 1.607	37.13	PK	27.9	-23.5	41.53	-	-	74	-32.47	0-360	100	V
3	* 4.96	31.66	PK	33.9	-28	37.56	-	-	74	-36.44	0-360	100	H
5	* 7.44	29.78	PK	35.5	-24.4	40.88	-	-	74	-33.12	0-360	100	V
4	6.714	30.39	PK	35.8	-26.3	39.89	-	-	-	-	0-360	201	H
6	9.92	30.01	PK	37.5	-21.5	46.01	-	-	-	-	0-360	201	V

PK - Peak detector

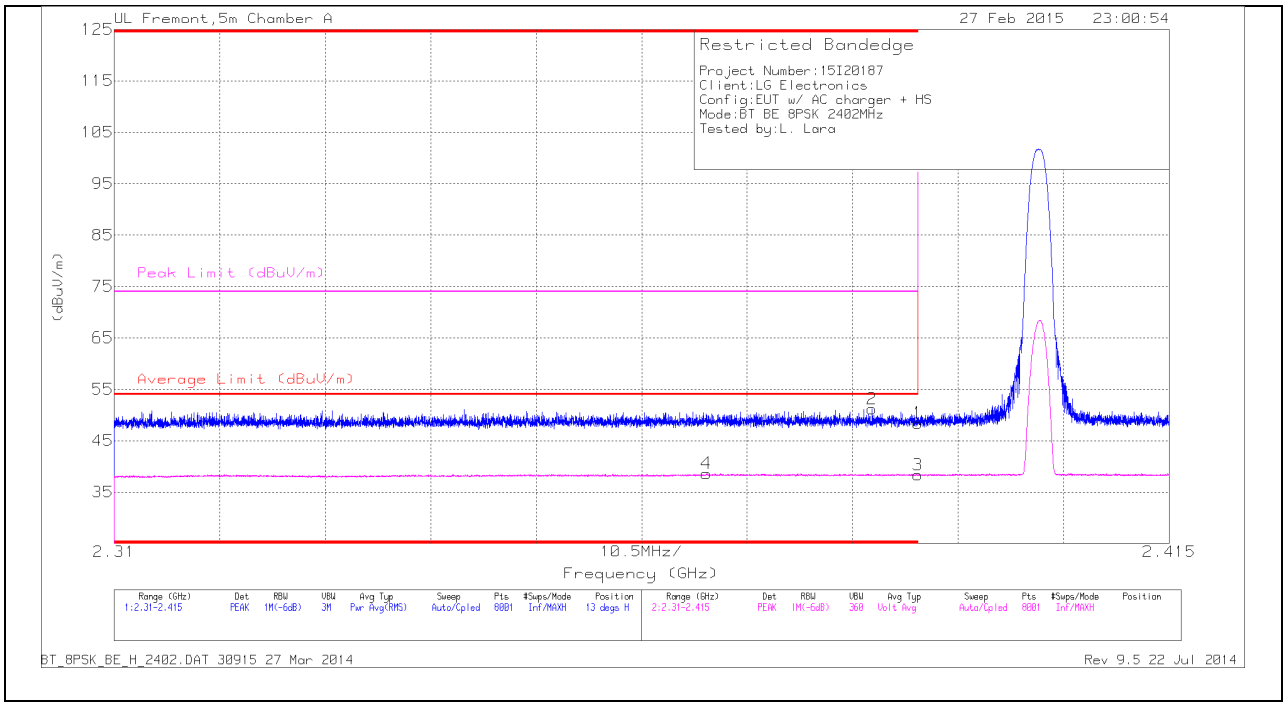
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.96	39.41	PK3	33.9	-28	45.31	-	-	74	-28.69	228	221	H
* 4.96	28.5	VB1T	33.9	-28	34.4	54	-19.6	-	-	228	221	H

8.2.2. ENHANCED DATA RATE 8PSK MODULATION

RESTRICTED BANDEDGE (LOW CHANNEL)

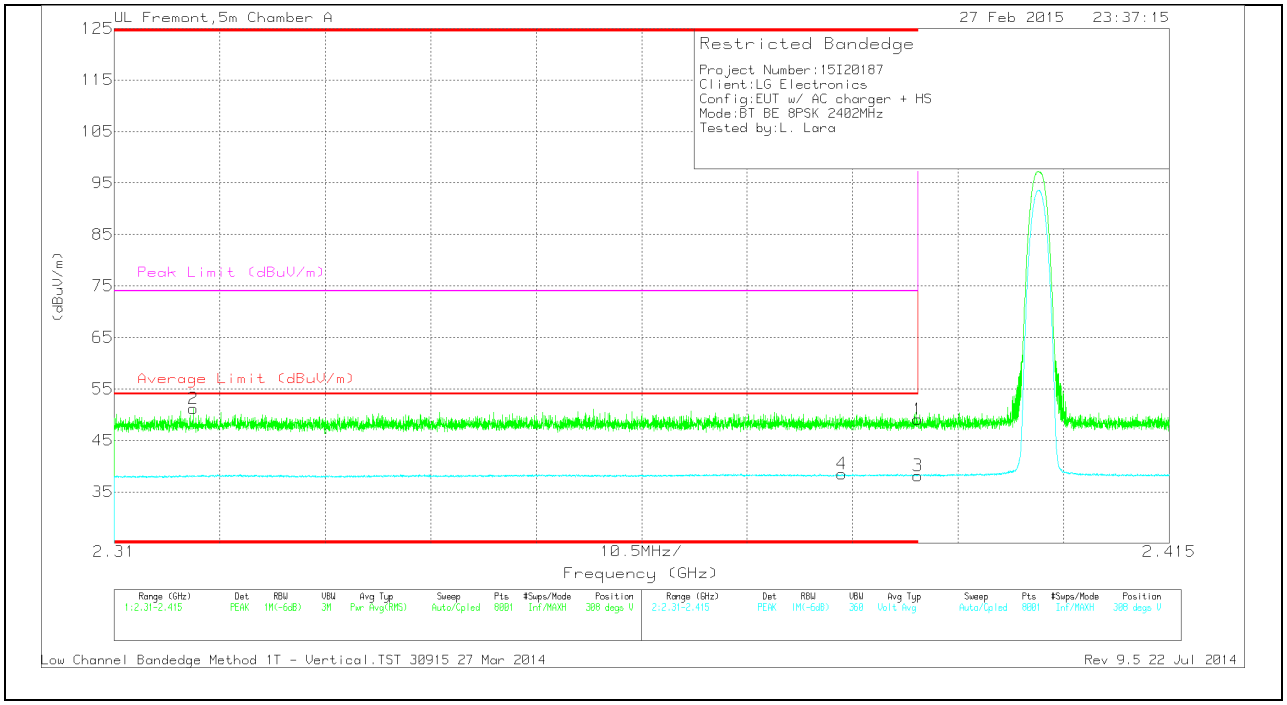
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/Pad (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	38.5	PK	32.1	-22.2	48.4	-	-	74	-25.6	13	106	H
2	* 2.385	41.25	PK	32.1	-22.2	51.15	-	-	74	-22.85	13	106	H

VERTICAL PEAK AND AVERAGE PLOT

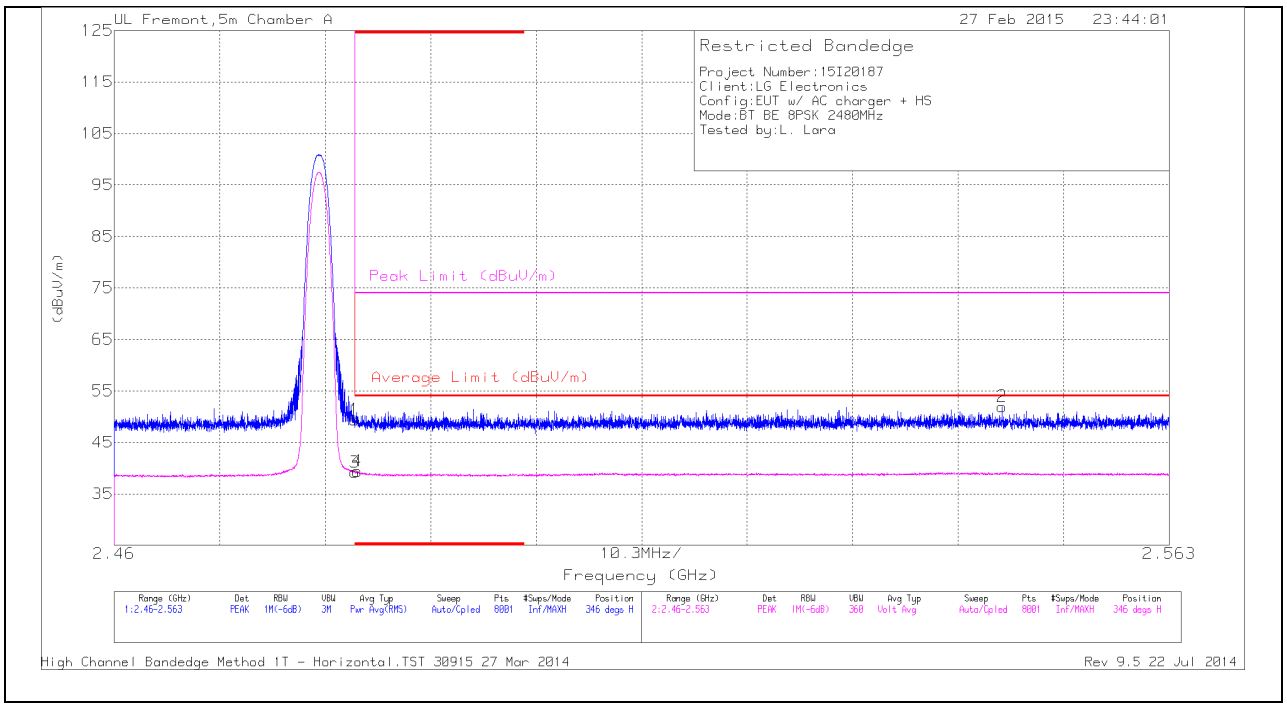


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.318	41.46	PK	31.9	-22.2	51.16	-	-	74	-22.84	308	309	V
4	* 2.382	28.69	VB1T	32.1	-22.3	38.49	54	-15.51	-	-	308	309	V
1	* 2.39	39.19	PK	32.1	-22.2	49.09	-	-	74	-24.91	308	309	V
3	* 2.39	28.25	VB1T	32.1	-22.2	38.15	54	-15.85	-	-	308	309	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

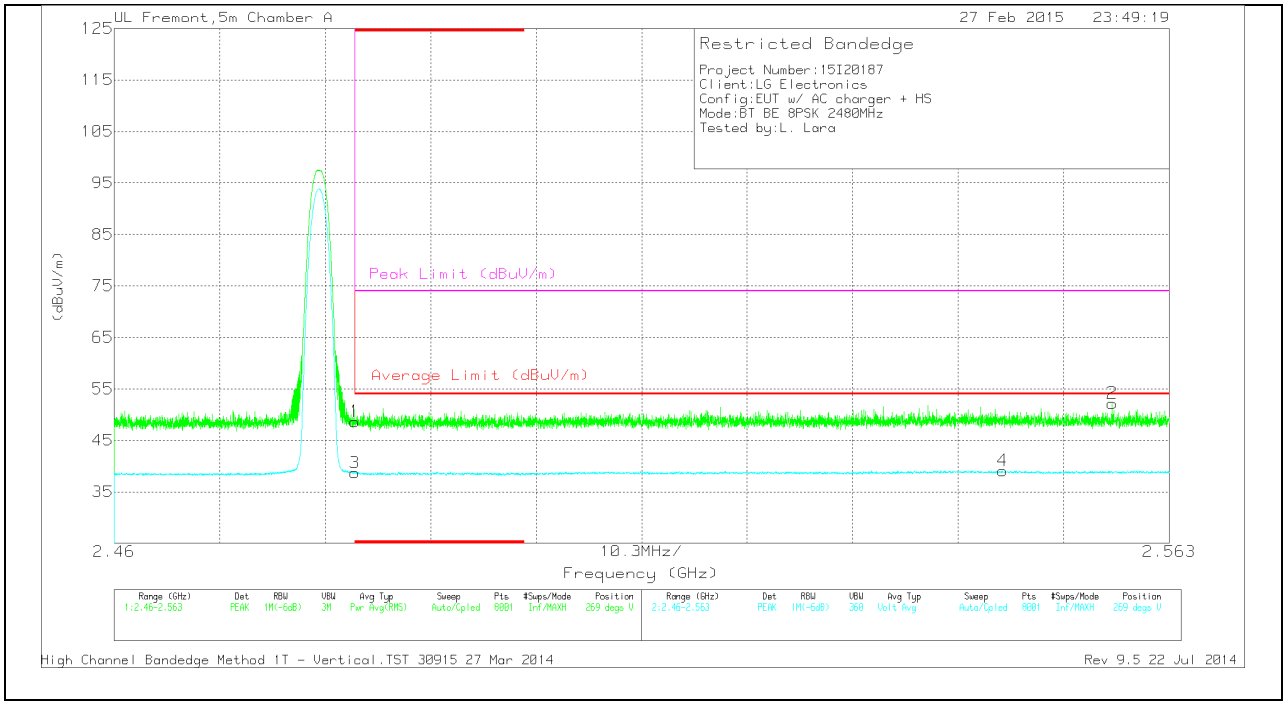
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (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	39.23	PK	32.1	-21.9	49.43	-	-	74	-24.57	346	231	H
3	* 2.484	28.99	VB1T	32.1	-21.9	39.19	54	-14.81	-	-	346	231	H
4	* 2.484	29.2	VB1T	32.1	-21.9	39.4	54	-14.6	-	-	346	231	H
2	2.547	41.43	PK	32.2	-21.7	51.93	-	-	74	-22.07	346	231	H

VERTICAL PEAK AND AVERAGE PLOT

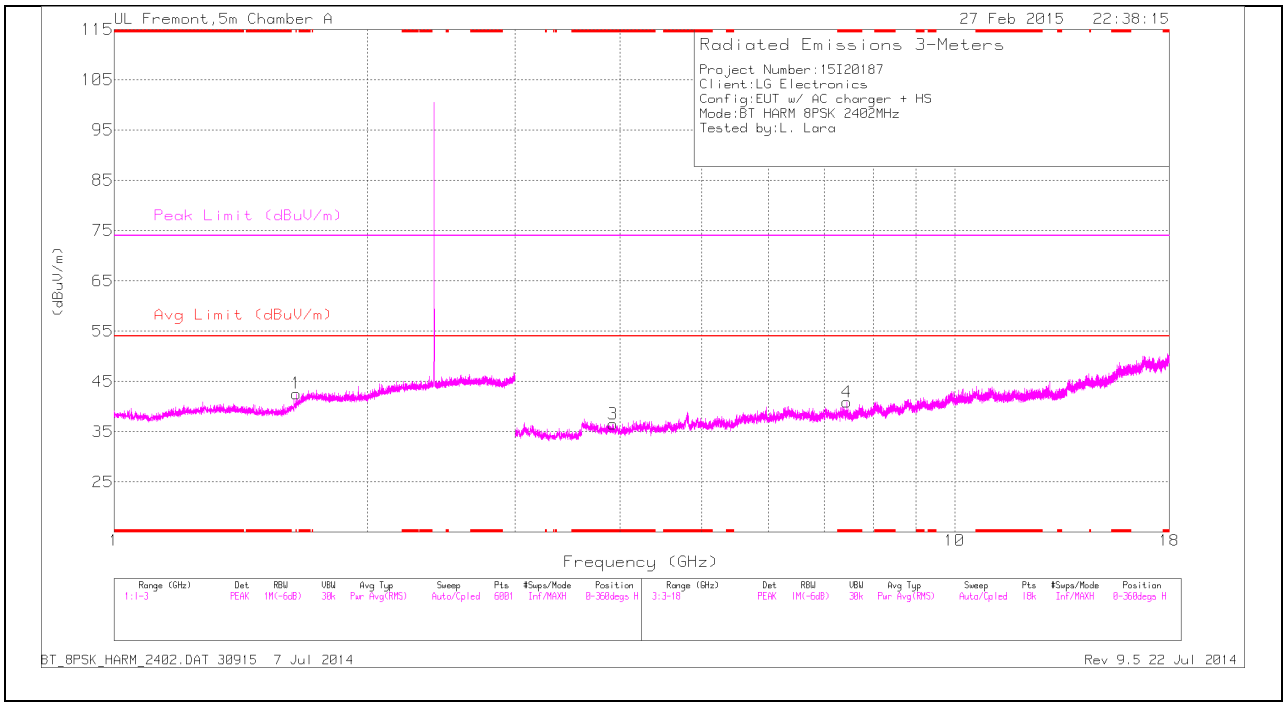


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (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	38.46	PK	32.1	-21.9	48.66	-	-	74	-25.34	269	290	V
3	* 2.484	28.5	VB1T	32.1	-21.9	38.7	54	-15.3	-	-	269	290	V
4	2.547	28.61	VB1T	32.2	-21.7	39.11	54	-14.89	-	-	269	290	V
2	2.557	41.7	PK	32.2	-21.7	52.2	-	-	74	-21.8	269	290	V

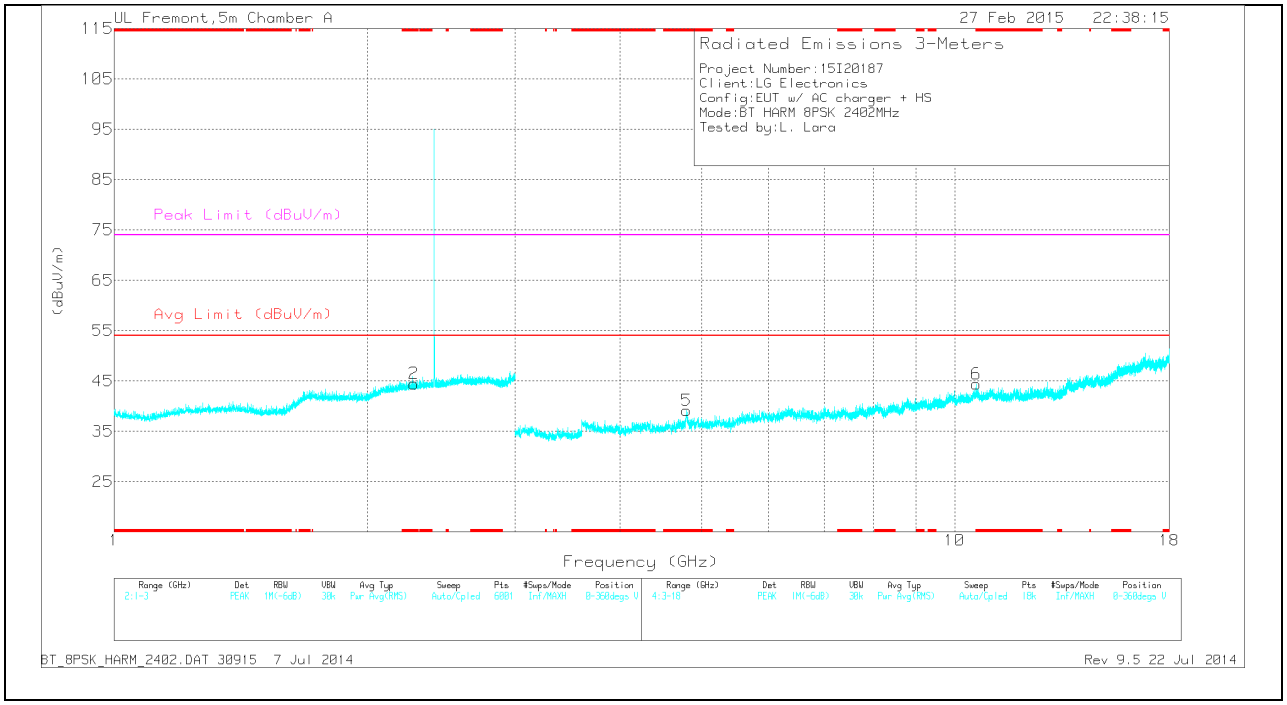
HARMONICS AND SPURIOUS EMISSIONS

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

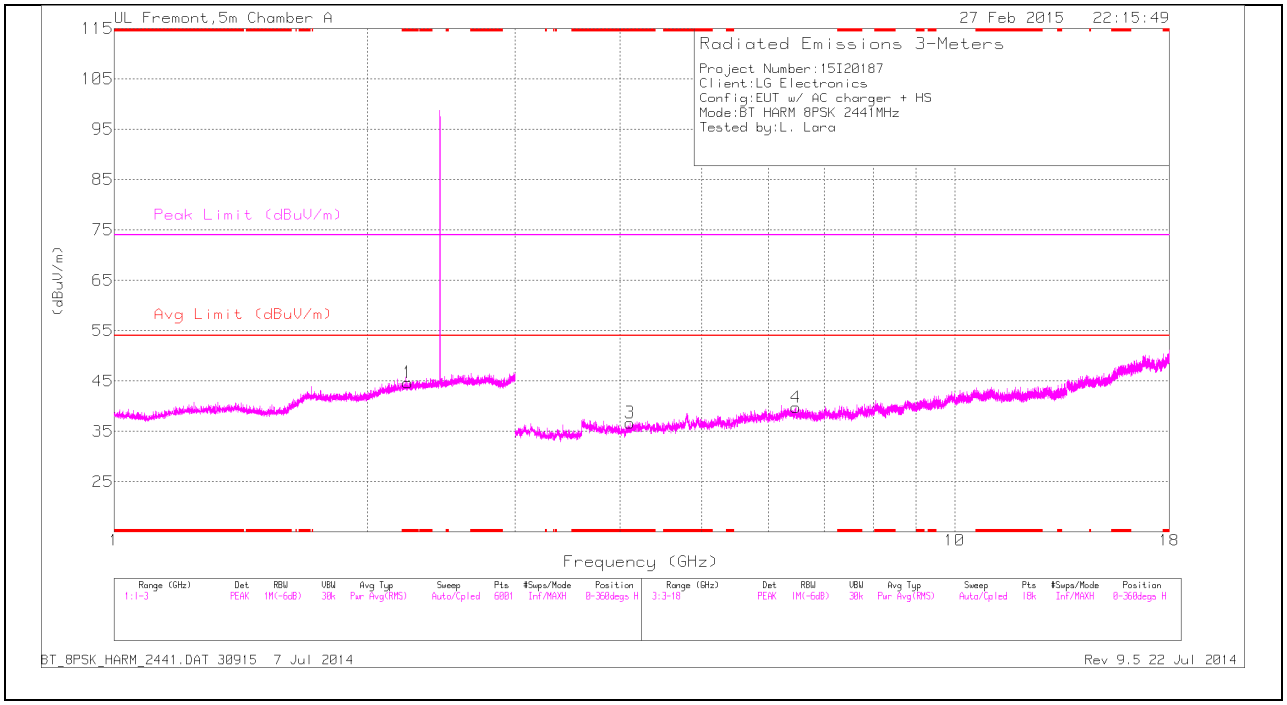
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.275	34.97	PK	31.9	-22.4	44.47	-	-	74	-29.53	0-360	100	V
3	* 3.921	33.14	PK	33.1	-29.7	36.54	-	-	74	-37.46	0-360	201	H
4	* 7.441	29.88	PK	35.5	-24.5	40.88	-	-	74	-33.12	0-360	100	H
5	* 4.798	33.56	PK	34	-28.4	39.16	-	-	74	-34.84	0-360	201	V
6	* 10.61	26.99	PK	38.1	-20.7	44.39	-	-	74	-29.61	0-360	201	V
1	1.648	36.99	PK	29.1	-23.5	42.59	-	-	-	-	0-360	201	H

PK - Peak detector

RADIATED EMISSIONS

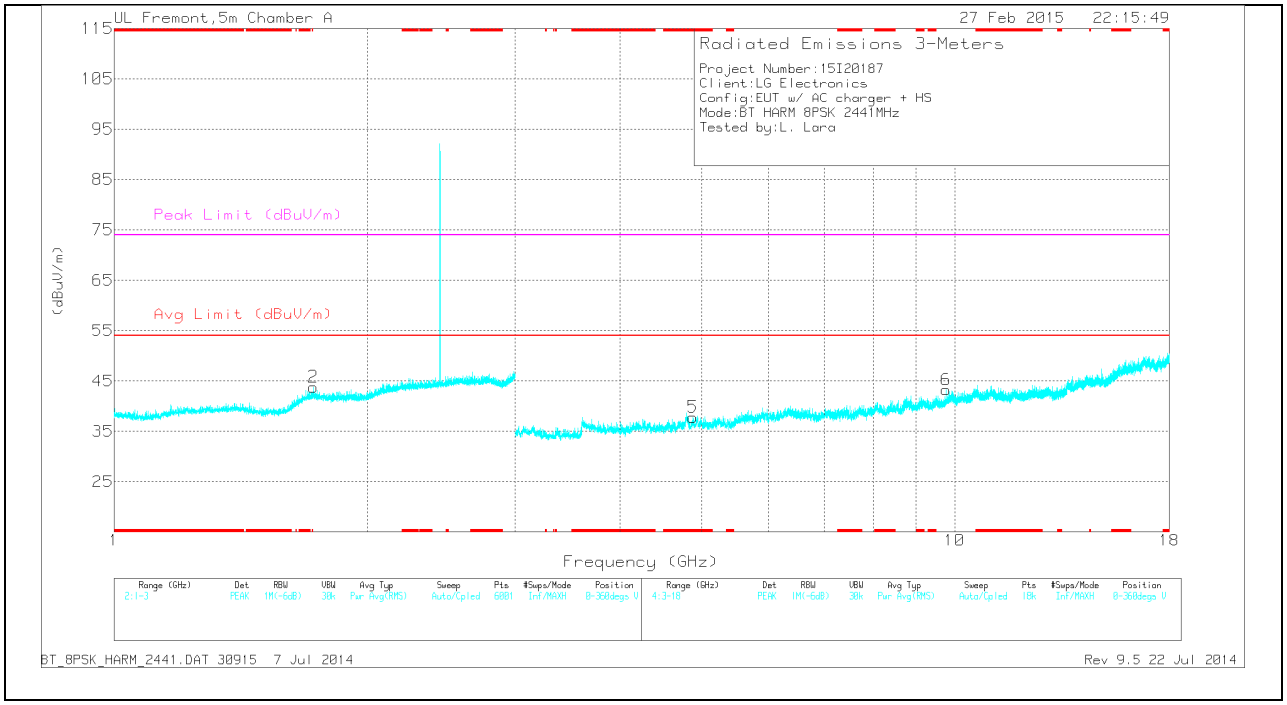
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.797	40.59	PK3	34	-28.4	46.19	-	-	74	-27.81	75	177	V
* 4.797	28.53	VB1T	34	-28.4	34.13	54	-19.87	-	-	75	177	V

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

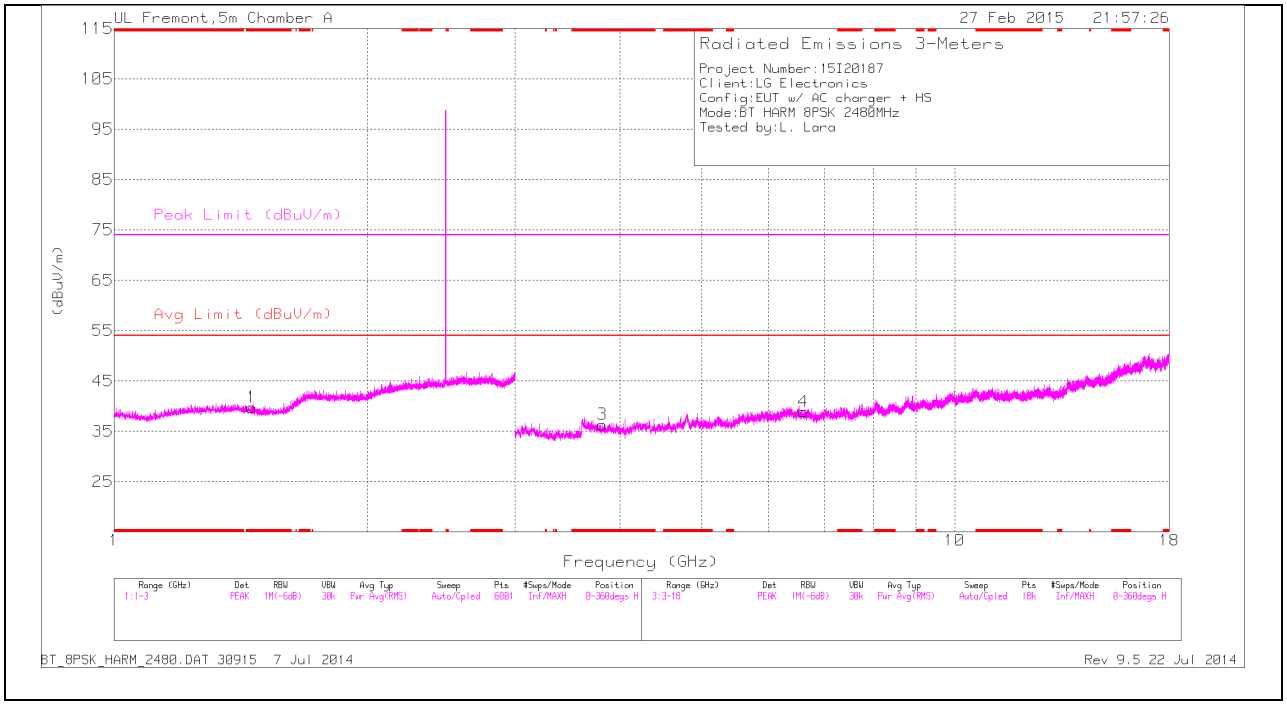
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.236	35.07	PK	32	-22.4	44.67	-	-	74	-29.33	0-360	201	H
3	* 4.111	33.11	PK	33.2	-29.6	36.71	-	-	74	-37.29	0-360	100	H
5	* 4.884	31.63	PK	33.9	-27.7	37.83	-	-	74	-36.17	0-360	100	V
2	1.725	36.3	PK	30.6	-23.1	43.8	-	-	-	-	0-360	100	V
4	6.473	31.59	PK	35.9	-27.7	39.79	-	-	-	-	0-360	201	H
6	9.764	28.95	PK	37.2	-22.9	43.25	-	-	-	-	0-360	201	V

PK - Peak detector

RADIATED EMISSIONS

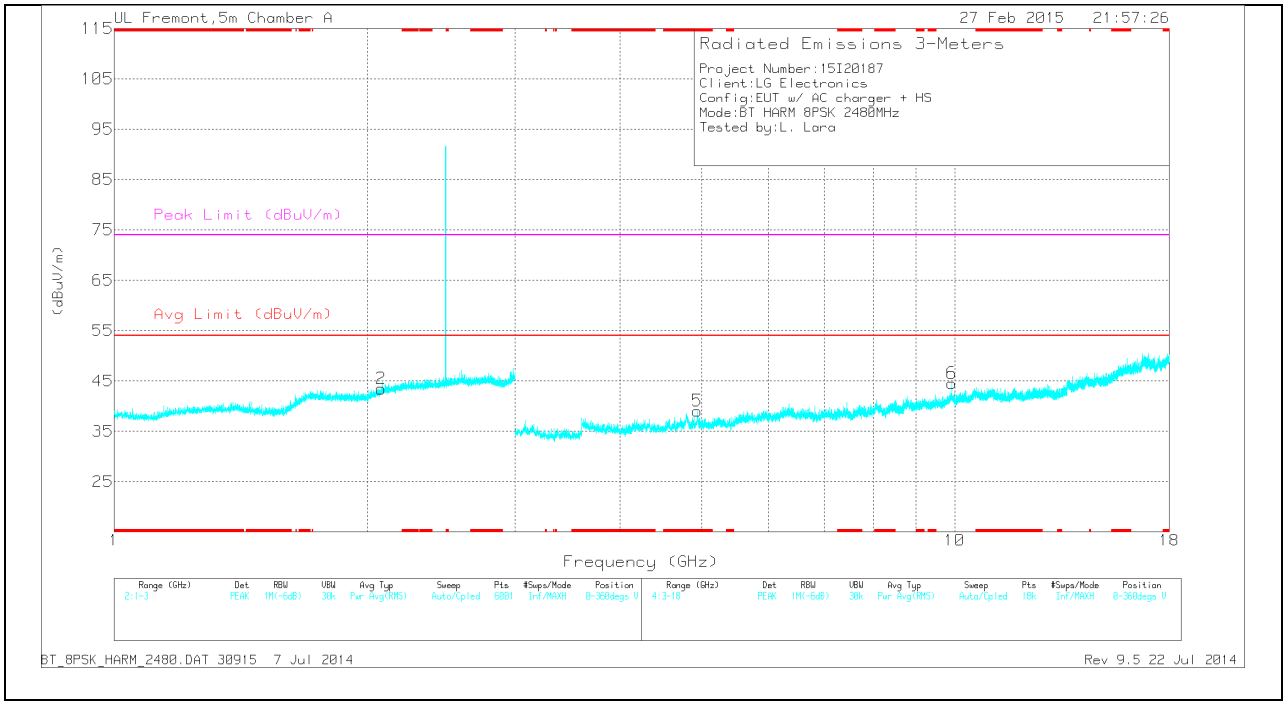
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.882	39.17	PK3	33.9	-27.7	45.37	-	-	74	-28.63	327	272	V
* 4.882	28.11	VB1T	33.9	-27.7	34.31	54	-19.69	-	-	327	272	V

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 T711 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.458	35.58	PK	28	-23.8	39.78	-	-	74	-34.22	0-360	100	H
3	* 3.808	33.24	PK	32.9	-29.8	36.34	-	-	74	-37.66	0-360	201	H
5	* 4.941	32.56	PK	33.9	-27.4	39.06	-	-	74	-34.94	0-360	100	V
2	2.078	34.98	PK	31	-22.5	43.48	-	-	-	-	0-360	100	V
4	6.613	28.99	PK	35.8	-25.9	38.89	-	-	-	-	0-360	100	H
6	9.92	28.56	PK	37.5	-21.5	44.56	-	-	-	-	0-360	201	V

PK - Peak detector

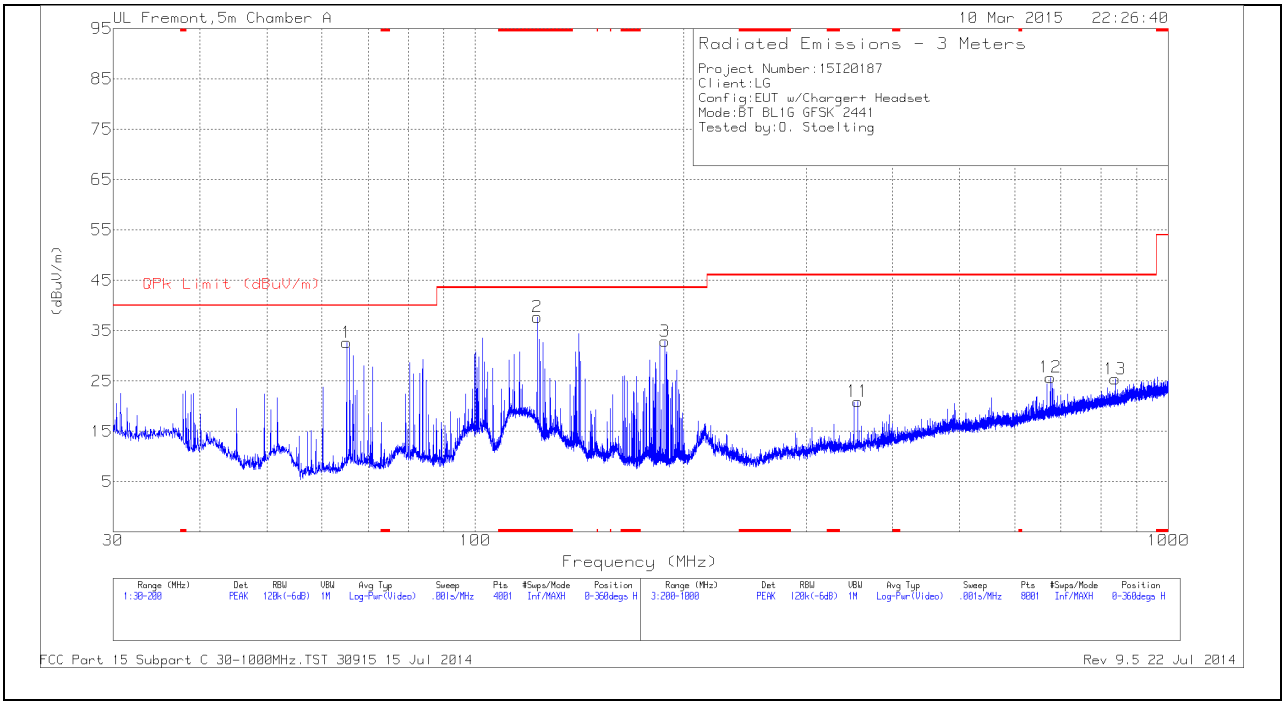
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.941	38.78	PK3	33.9	-27.4	45.28	-	-	74	-28.72	10	144	V
* 4.939	27.16	VB1T	33.9	-27.5	33.56	54	-20.44	-	-	10	144	V

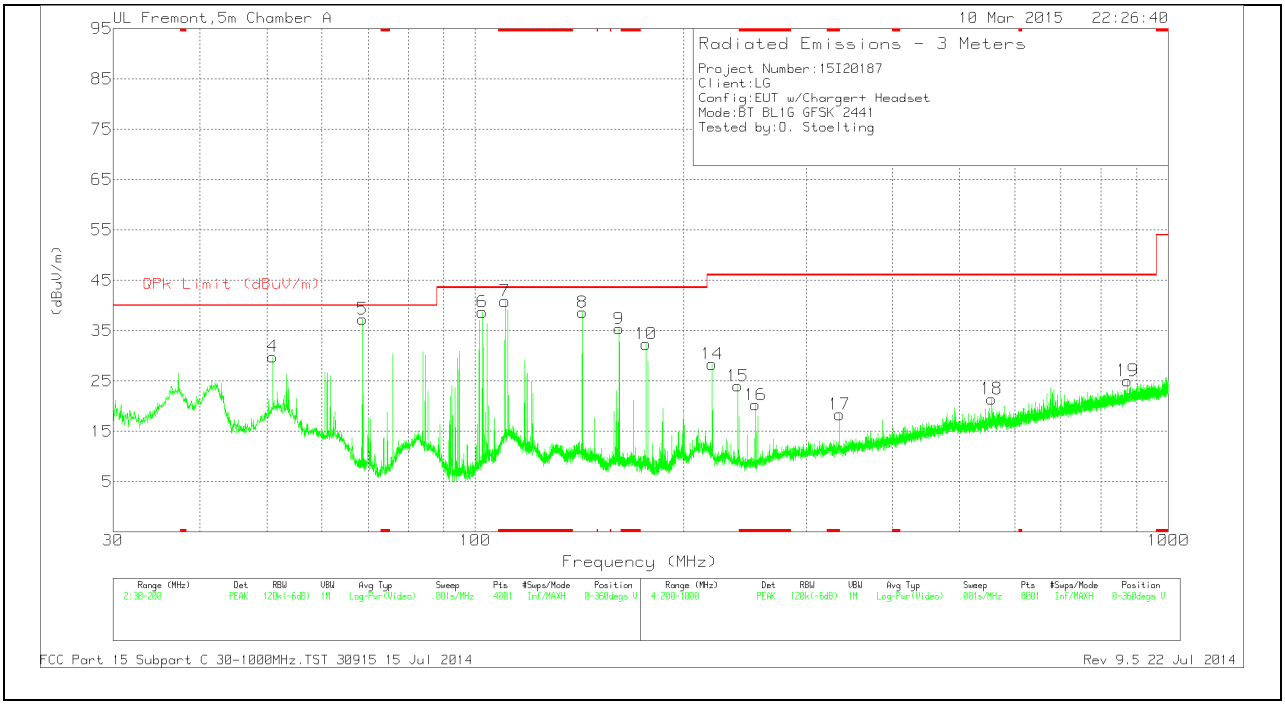
8.3. TRANSMITTER BELOW 1 GHz

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

HORIZONTAL PLOT



VERTICAL PLOT



BELOW 1 GHz TABLE

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T130 (dB/m)	Amp/Cbl (dB/m)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 122.82	54.11	PK	14	-30.4	37.71	43.52	-5.81	0-360	400	H
7	* 110.325	58.74	PK	12.6	-30.5	40.84	43.52	-2.68	0-360	100	V
16	* 253.7	38.27	PK	11.6	-29.6	20.27	46.02	-25.75	0-360	200	V
17	* 335.4	33.66	PK	13.9	-29.2	18.36	46.02	-27.66	0-360	200	V
4	50.995	53.24	PK	7.6	-31	29.84	40	-10.16	0-360	100	V
1	65.19	55.52	PK	8	-30.9	32.62	40	-7.38	0-360	400	H
5	68.8025	60.11	PK	8.1	-30.9	37.31	40	-2.69	0-360	100	V
6	102.335	58.81	PK	10.4	-30.5	38.71	43.52	-4.81	0-360	100	V
8	142.8375	55.61	PK	13.3	-30.3	38.61	43.52	-4.91	0-360	100	V
9	161.155	53.57	PK	12	-30.2	35.37	43.52	-8.15	0-360	100	V
10	176.2425	50.96	PK	11.5	-30.1	32.36	43.52	-11.16	0-360	100	V
3	187.59	51.48	PK	11.4	-30	32.88	43.52	-10.64	0-360	101	H
14	219.7	47.46	PK	10.7	-29.8	28.36	46.02	-17.66	0-360	200	V
15	239.1	42.24	PK	11.5	-29.7	24.04	46.02	-21.98	0-360	200	V
11	356.4	35.63	PK	14.4	-29.1	20.93	46.02	-25.09	0-360	101	H
18	556	31.64	PK	18.4	-28.6	21.44	46.02	-24.58	0-360	300	V
12	676	34.11	PK	19.8	-28.2	25.71	46.02	-20.31	0-360	400	H
13	838.1	31.59	PK	21.6	-27.8	25.39	46.02	-20.63	0-360	200	H
19	873.4	30.55	PK	22	-27.5	25.05	46.02	-20.97	0-360	101	V

PK - Peak detector