



FCC 47 CFR PART 15 SUBPART C

C2PC CERTIFICATION TEST REPORT

FOR

GSM/WCDMA/LTE PHONE + BLUETOOTH & 2.4GHz DTS b/g/n

MODEL NUMBER: LG-L33L, LGL33L, L33L, LG-H343, LGH343, H343

FCC ID: ZNFL33L

REPORT NUMBER: 15I19923-E2

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Prepared for

**LG ELECTRONICS MOBILECOMM U.S.A., INC
1000 SYLVAN AVENUE
ENGLEWOOD CLIFFS,
NEW JERSEY, 07632, U.S.A**

Prepared by

**UL VERIFICATION SERVICES INC.
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.	Date	Revisions	Revised By
--	02/16/15	Initial Issue	D. Corona

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LG ELECTRONICS MOBILECOMM U.S.A., INC
EUT DESCRIPTION: GSM/WCDMA/LTE PHONE + BLUETOOTH & 2.4GHz DTS b/g/n
MODEL: LG-L33L, LGL33L, L33L, LG-H343, LGH343, H343
SERIAL NUMBER: 501CYMR000195
DATE TESTED: February 5-6, 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.

Approved & Released For
UL Verification Services Inc. By:



DAN CORONIA
CONSUMER TECHNOLOGY DIVISION
WISE PROJECT LEAD
UL VERIFICATION SERVICES INC

Tested By:



STEVEN TRAN
CONSUMER TECHNOLOGY DIVISION
WISE LAB ENGINEER
UL VERIFICATION SERVICES INC

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
<input checked="" type="checkbox"/> Chamber A(IC: 2324B-1)	<input type="checkbox"/> Chamber D(IC: 2324B-4)
<input checked="" type="checkbox"/> Chamber B(IC: 2324B-2)	<input type="checkbox"/> Chamber E(IC: 2324B-5)
<input type="checkbox"/> Chamber C(IC: 2324B-3)	<input type="checkbox"/> Chamber F(IC: 2324B-6)
	<input type="checkbox"/> Chamber G(IC: 2324B-7)
	<input type="checkbox"/> 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:

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

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 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 GSM/WCDMA/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 -2.7 dBi.

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	RA4Y1031433	N/A
Earphone	LG	N/A	N/A	N/A

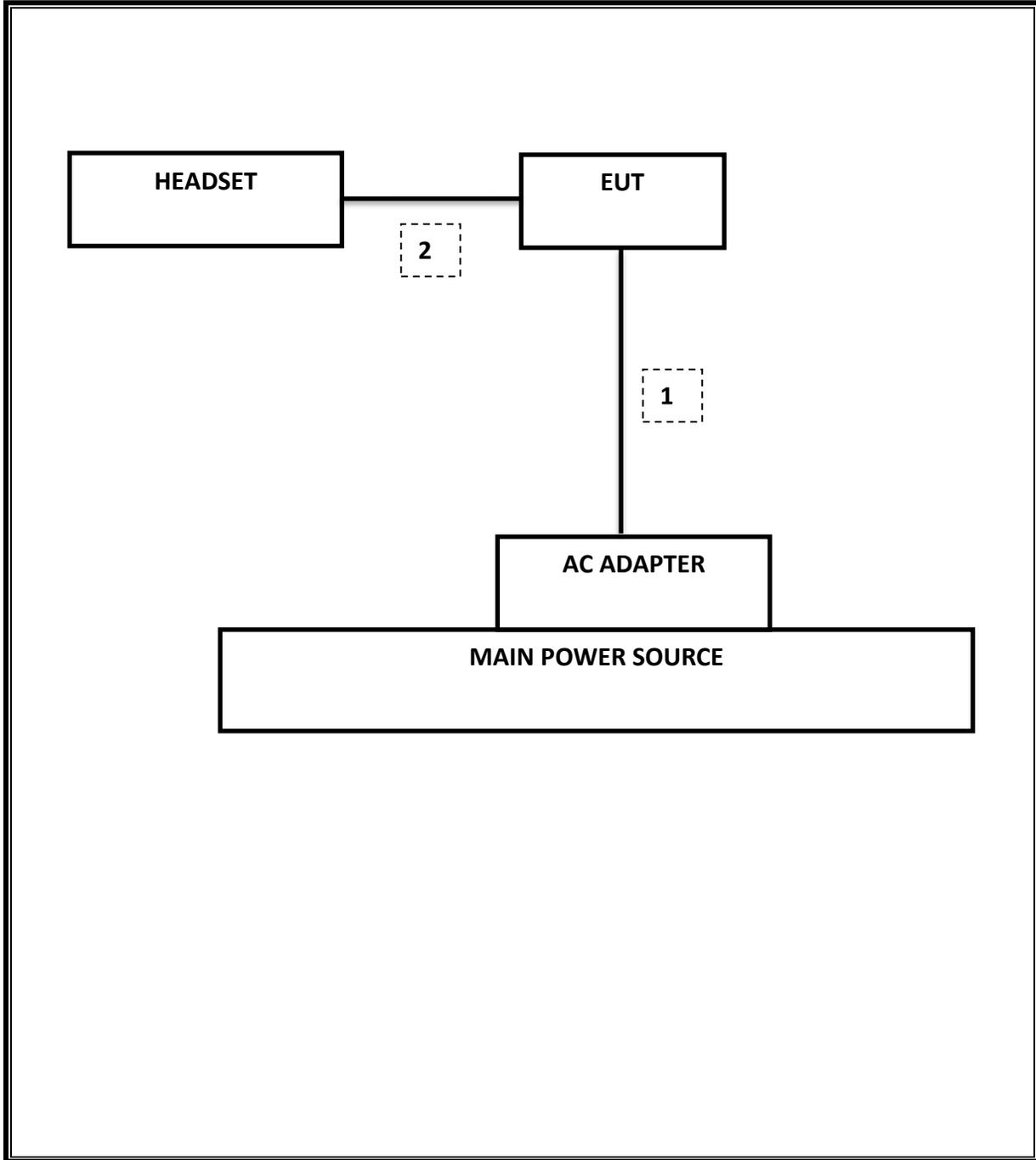
I/O CABLES

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.

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	Asset	Cal Due
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB1	C01171	02/13/15
Antenna, Horn, 18 GHz	EMCO	3115	C00783	10/25/15
Antenna, Horn, 26.5 GHz	ARA	MWH-1826/B	C00980	11/14/15
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00580	04/28/15
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01052	10/22/15
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

Test Software List			
Description	Manufacturer	Model	Version
Radiated Software	UL	UL EMC	Version 9.5, 07/22/14
Conducted Software	UL	UL EMC	Version 9.5, 05/17/14
CLT Software	UL	UL RF	Version 1.0, 02/02/15
Antenna Port Software	UL	UL RF	Version 2.1.1.1, 1/20/15

7. SUMMARY TABLE

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 7.2.2	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	45.27 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.
 $GFSK = 1/T = 1 / 0.0038S = 263Hz.$

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.

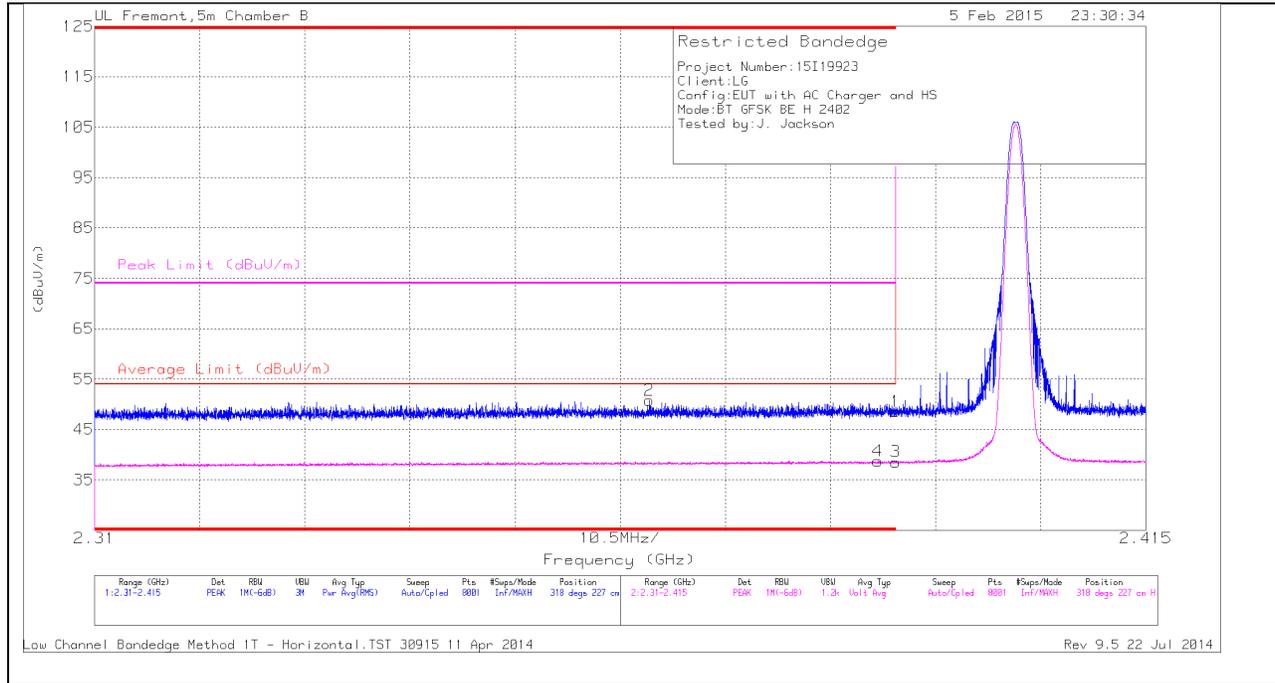
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

8.2. TRANSMITTER ABOVE 1 GHz

8.2.1. BASIC DATA RATE GFSK MODULATION

RESTRICTED BANDEDGE (LOW CHANNEL)

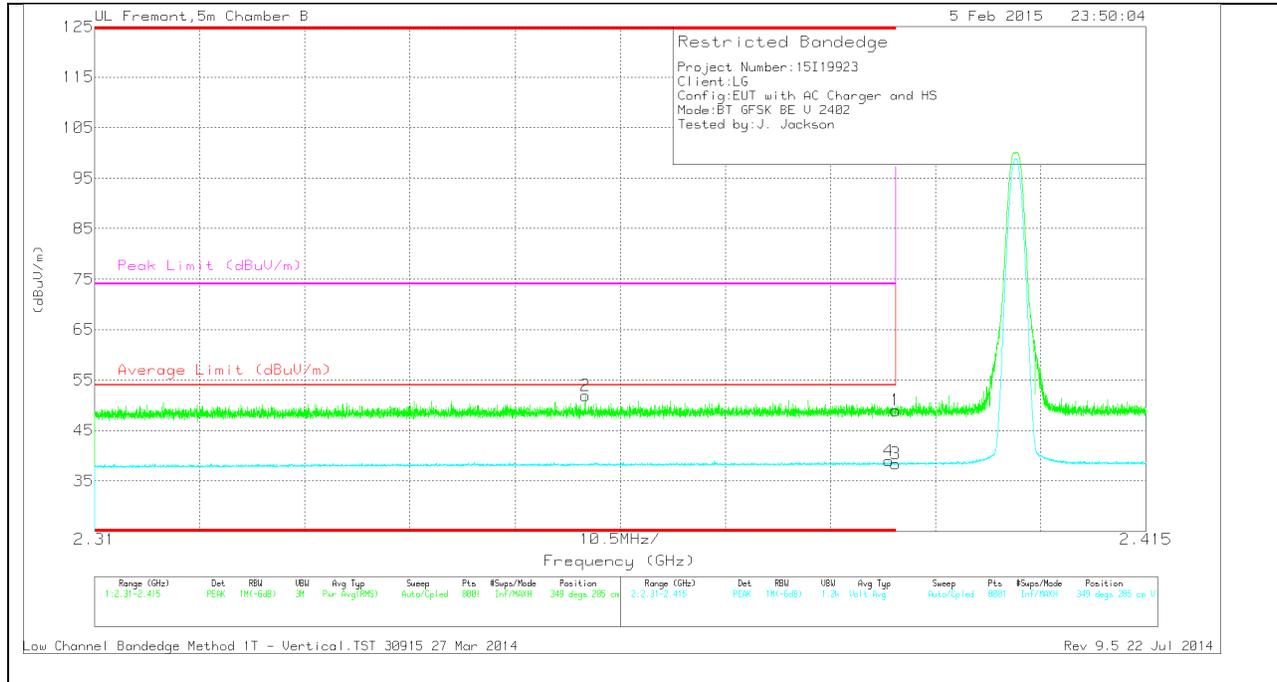
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/ Ftr/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	39.08	PK	32.1	-22.6	48.58	-	-	74	-25.42	318	227	H
2	* 2.365	41.37	PK	32	-22.6	50.77	-	-	74	-23.23	318	227	H
3	* 2.39	29.06	VB1T	32.1	-22.6	38.56	54	-15.44	-	-	318	227	H
4	* 2.388	29.28	VB1T	32.1	-22.6	38.78	54	-15.22	-	-	318	227	H

VERTICAL PEAK AND AVERAGE PLOT

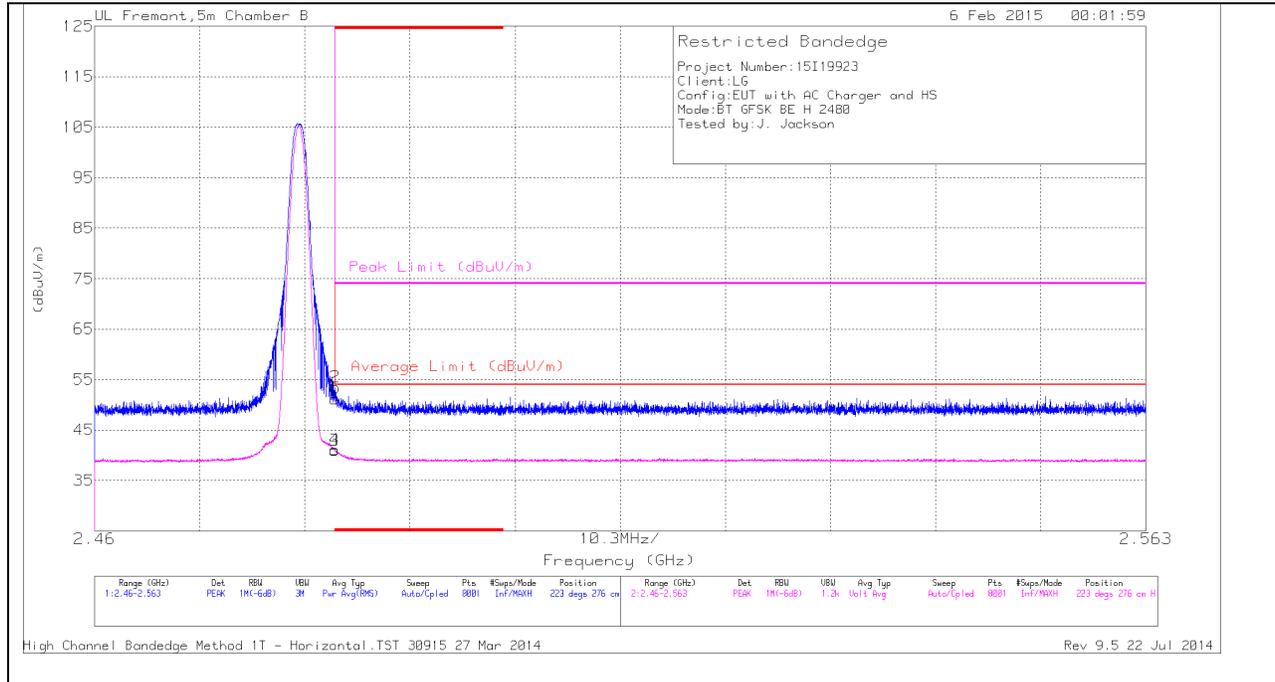


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fitr/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	39.49	PK	32.1	-22.6	48.99	-	-	74	-25.01	349	285	V
2	* 2.359	42.6	PK	31.9	-22.6	51.9	-	-	74	-22.1	349	285	V
3	* 2.39	28.93	VB1T	32.1	-22.6	38.43	54	-15.57	-	-	349	285	V
4	* 2.389	29.45	VB1T	32.1	-22.6	38.95	54	-15.05	-	-	349	285	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

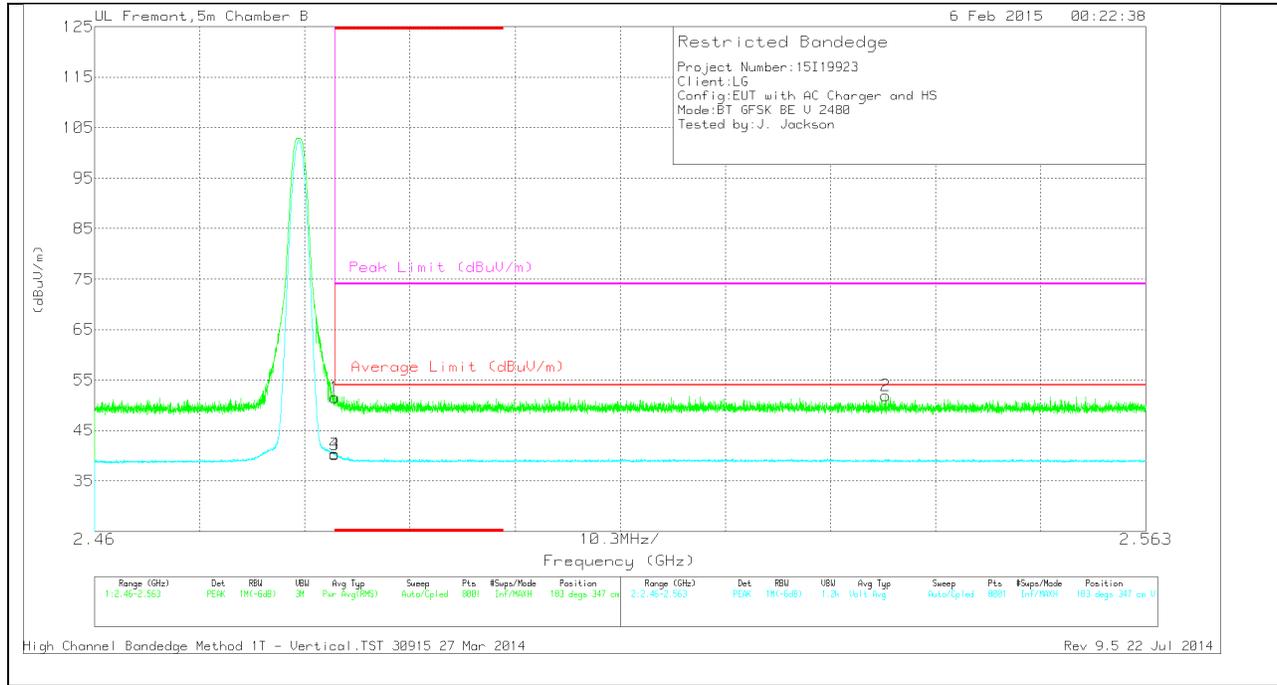
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fitr/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	41.11	PK	32.4	-22.4	51.11	-	-	74	-22.89	223	276	H
2	* 2.484	43.46	PK	32.4	-22.4	53.46	-	-	74	-20.54	223	276	H
3	* 2.484	31.03	VB1T	32.4	-22.4	41.03	54	-12.97	-	-	223	276	H
4	* 2.484	31.07	VB1T	32.4	-22.4	41.07	54	-12.93	-	-	223	276	H

VERTICAL PEAK AND AVERAGE PLOT

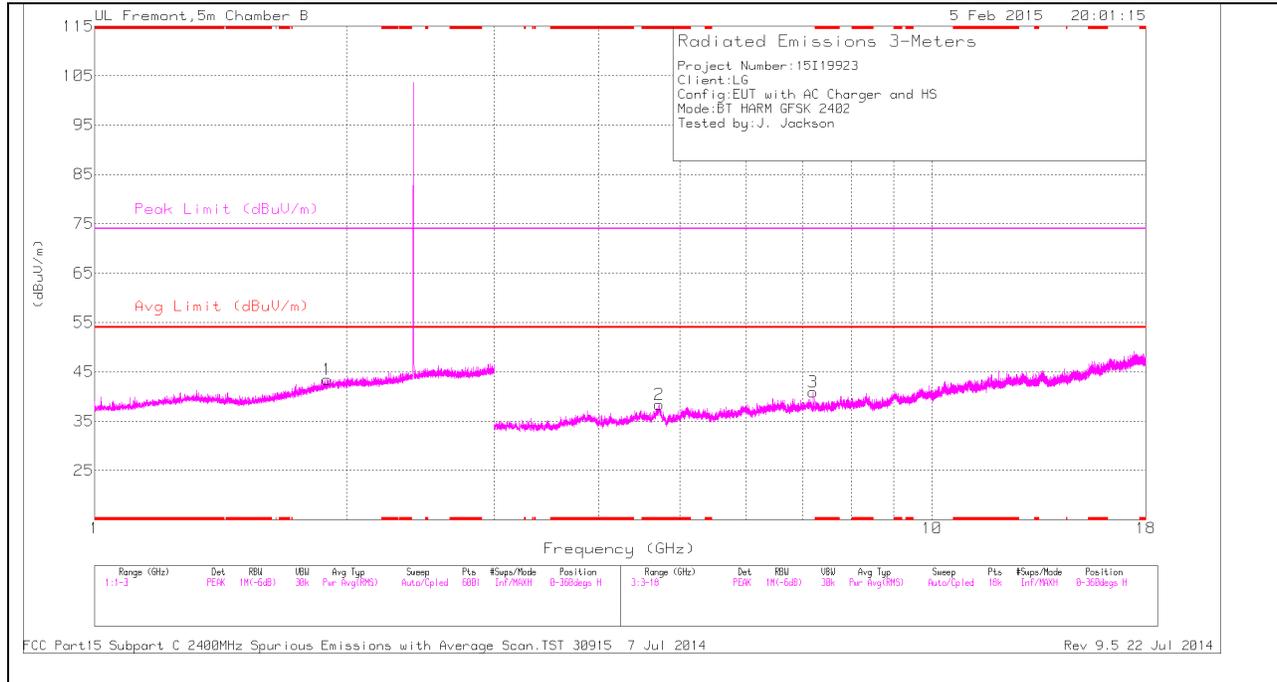


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Filt/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	41.56	PK	32.4	-22.4	51.56	-	-	74	-22.44	183	347	V
3	* 2.484	30.19	VB1T	32.4	-22.4	40.19	54	-13.81	-	-	183	347	V
4	* 2.484	30.31	VB1T	32.4	-22.4	40.31	54	-13.69	-	-	183	347	V
2	2.537	41.83	PK	32.5	-22.4	51.93	-	-	74	-22.07	183	347	V

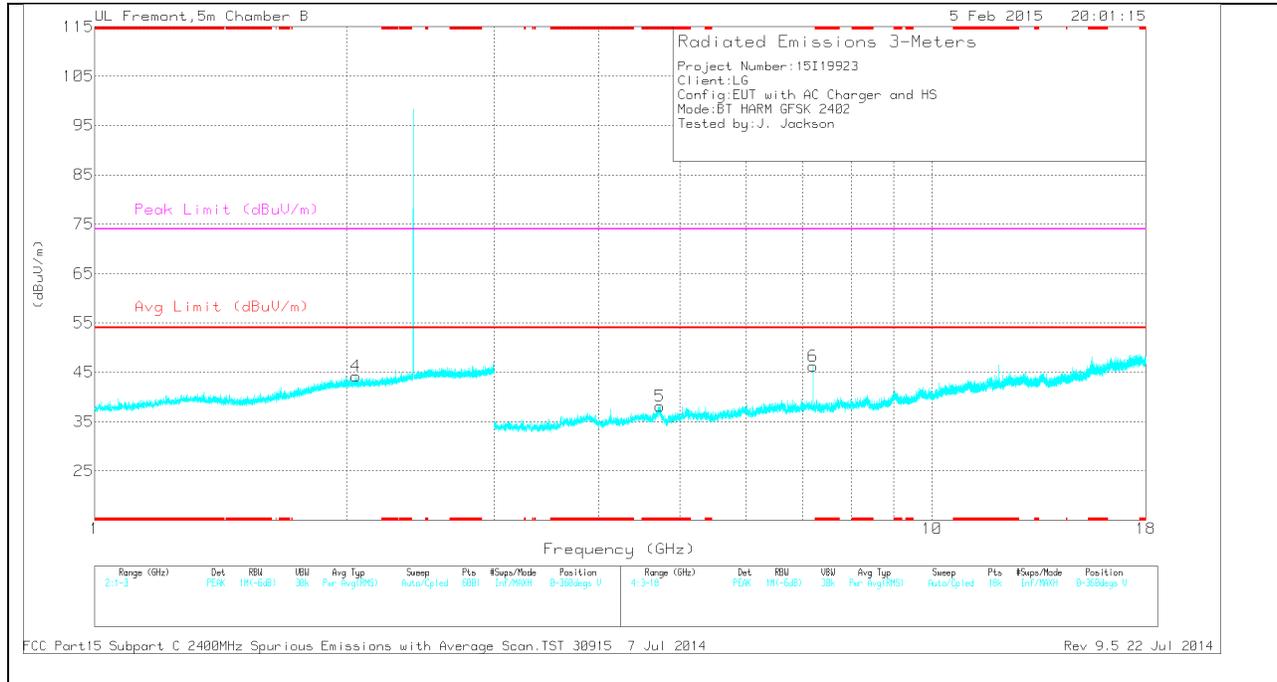
HARMONICS AND SPURIOUS EMISSIONS

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

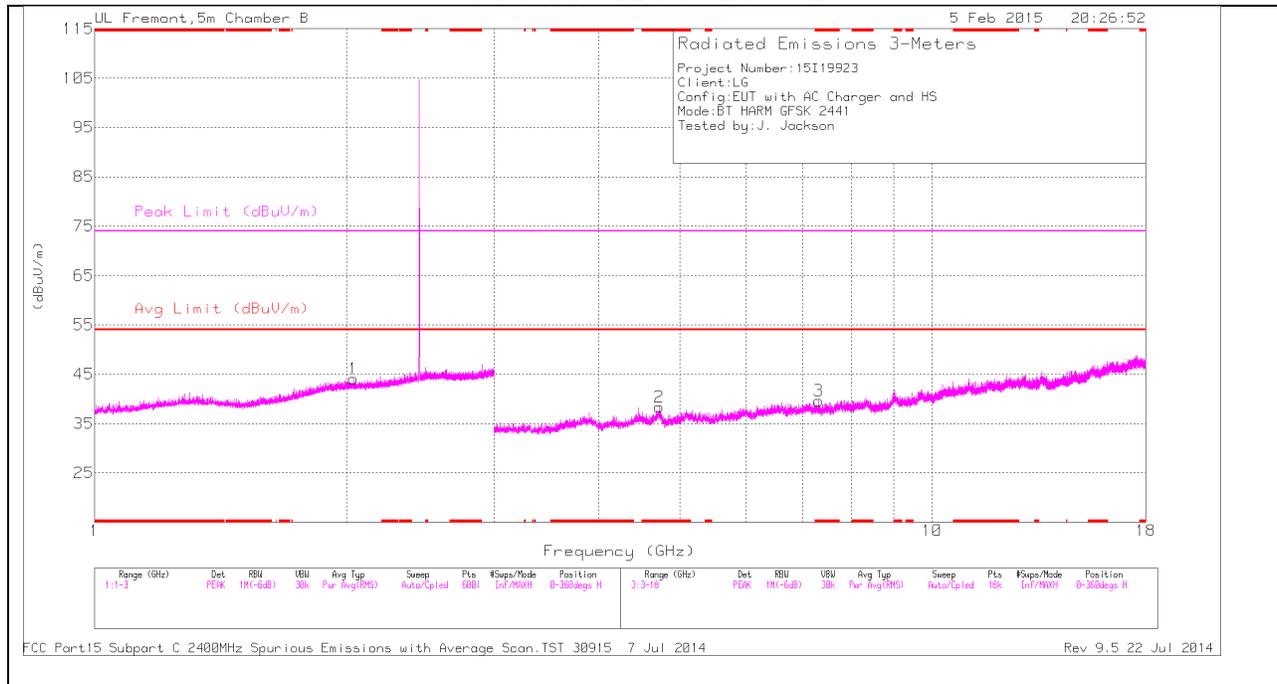
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/F ltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 4.72	33.3	PK	34.2	-29.1	38.4	-	-	74	-35.6	0-360	199	H
5	* 4.731	33.06	PK	34.2	-29.1	38.16	-	-	74	-35.84	0-360	199	V
1	1.895	35.68	PK	31	-23.2	43.48	-	-	-	-	0-360	200	H
4	2.051	36.11	PK	31.3	-23.2	44.21	-	-	-	-	0-360	101	V
3	7.206	32.63	PK	35.5	-27.2	40.93	-	-	-	-	0-360	199	H
6	7.206	37.93	PK	35.5	-27.2	46.23	-	-	-	-	0-360	199	V

PK - Peak detector

RADIATED EMISSIONS

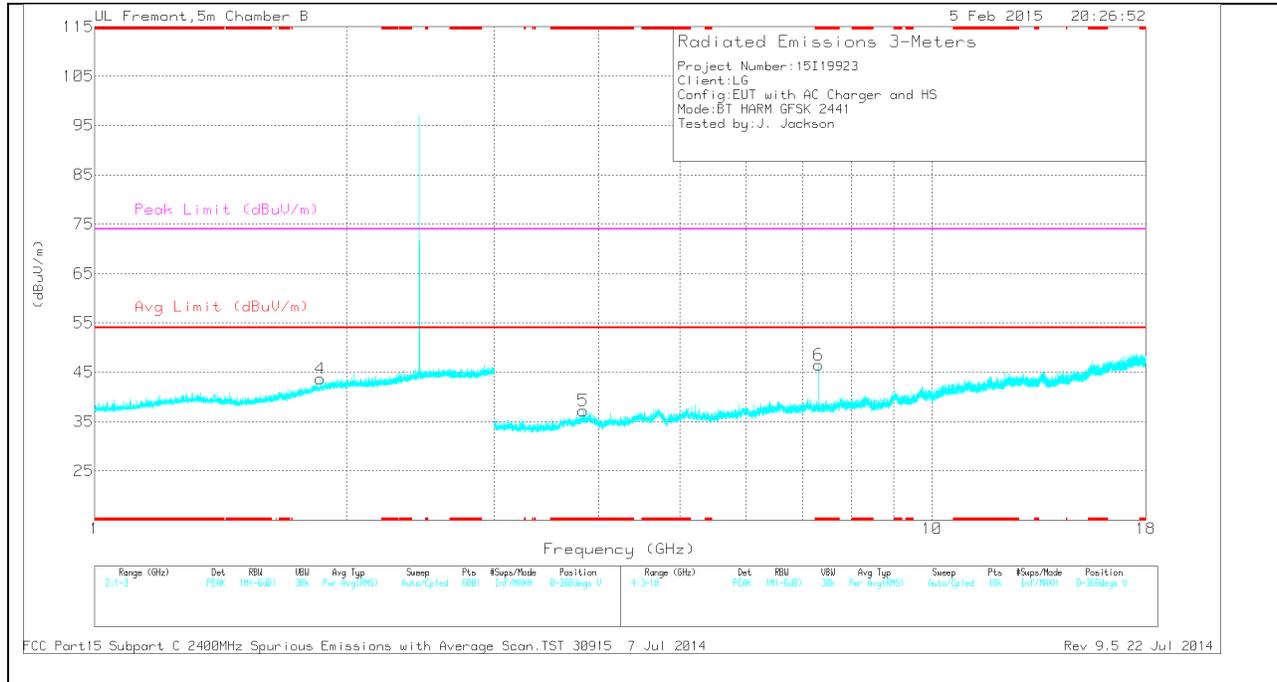
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/F ltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.721	40.63	PK3	34.2	-29.1	45.73	-	-	74	-28.27	64	199	H
* 4.73	41.72	PK3	34.2	-29.1	46.82	-	-	74	-27.18	108	199	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

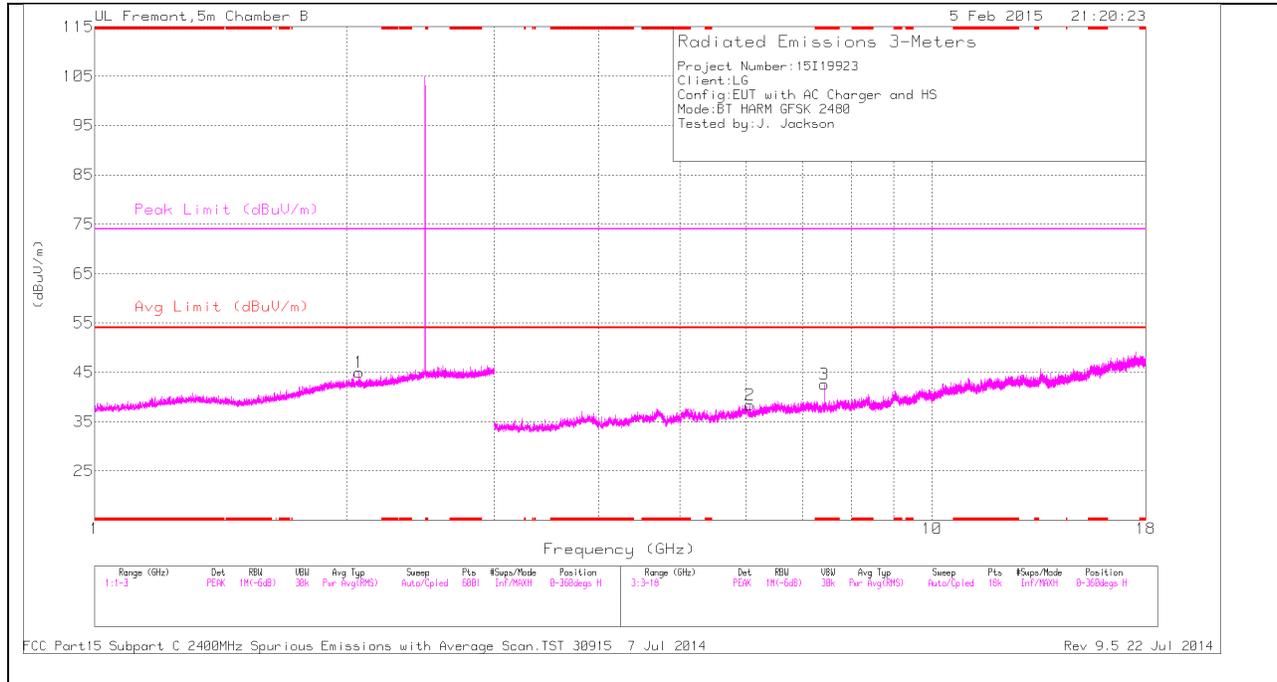
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 4.72	33.24	PK	34.2	-29.1	38.34	-	-	74	-35.66	0-360	101	H
3	* 7.322	32.23	PK	35.6	-28.2	39.63	-	-	74	-34.37	0-360	199	H
5	* 3.832	33.77	PK	33.7	-30.2	37.27	-	-	74	-36.73	0-360	199	V
6	* 7.323	39.09	PK	35.6	-28.2	46.49	-	-	74	-27.51	0-360	199	V
4	1.86	36.35	PK	30.7	-23.3	43.75	-	-	-	-	0-360	101	V
1	2.038	35.95	PK	31.3	-23.2	44.05	-	-	-	-	0-360	199	H

PK - Peak detector

RADIATED EMISSIONS

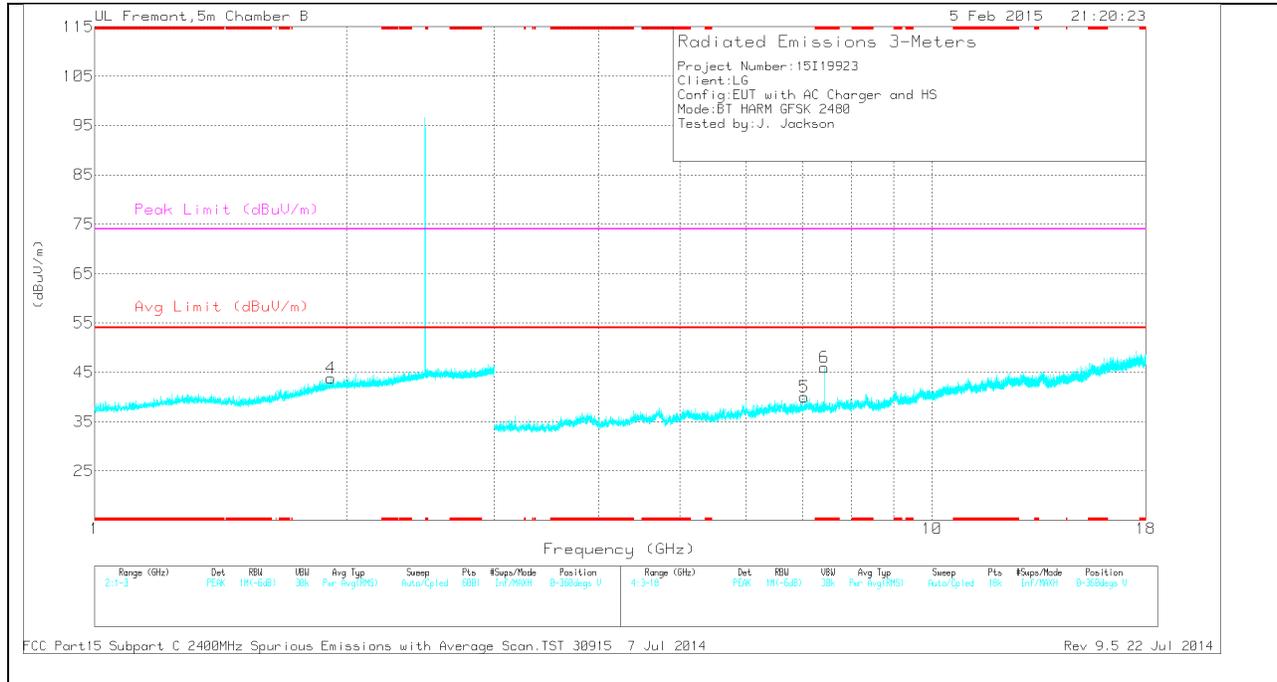
Frequency (GHz)	Meter Reading (dBuV)	Det	AFT345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.721	40.49	PK3	34.2	-29.1	45.59	-	-	74	-28.41	174	200	H
* 7.323	42.96	PK3	35.6	-28.2	50.36	-	-	74	-23.64	158	389	H
* 7.323	34.79	VB1T	35.6	-28.2	42.19	54	-11.81	-	-	158	389	H
* 3.831	40.96	PK3	33.7	-30.2	44.46	-	-	74	-29.54	82	102	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 T345 (dB/m)	Amp/Cbl/Filtr/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	* 7.44	33.62	PK	35.6	-26.7	42.52	-	-	74	-31.48	0-360	199	H
6	* 7.44	37.14	PK	35.6	-26.7	46.04	-	-	74	-27.96	0-360	199	V
4	1.914	35.98	PK	31.1	-23.2	43.88	-	-	-	-	0-360	101	V
1	2.068	36.89	PK	31.3	-23.2	44.99	-	-	-	-	0-360	199	H
2	6.059	32.79	PK	35.3	-29.7	38.39	-	-	-	-	0-360	101	H
5	7.042	32.6	PK	35.6	-28.2	40	-	-	-	-	0-360	199	V

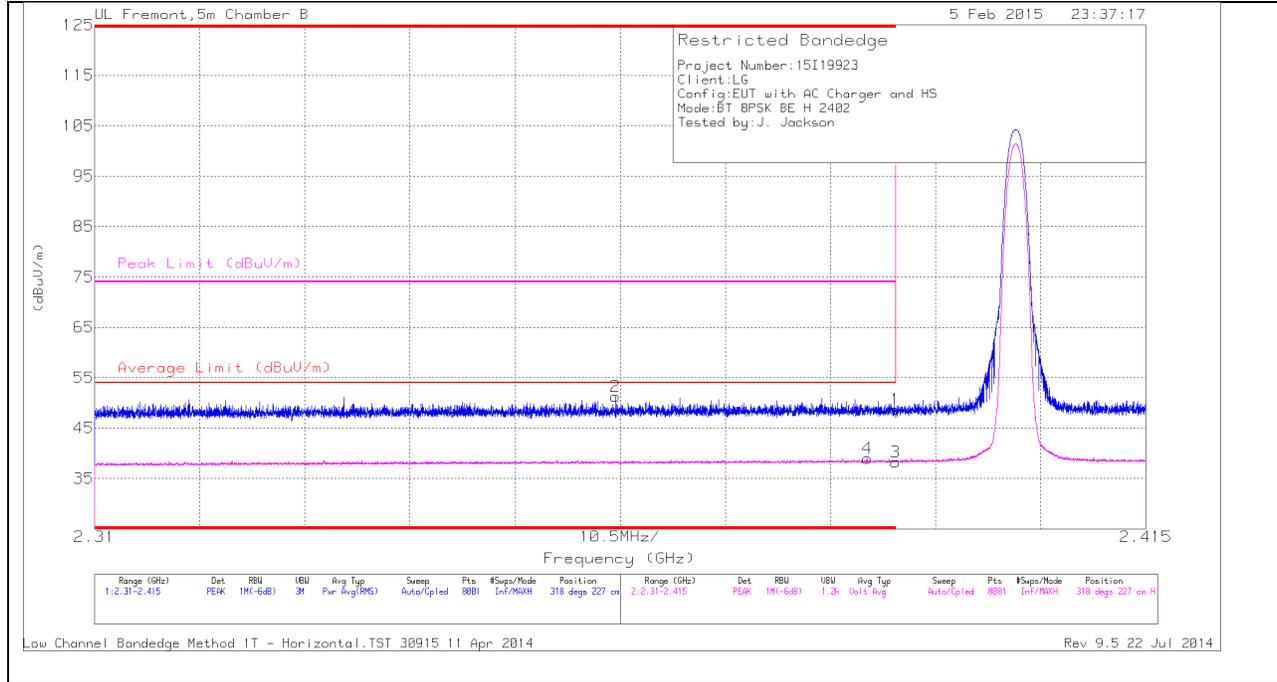
PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 7.44	43	PK3	35.6	-26.7	51.9	-	-	74	-22.1	38	351	H
* 7.44	35.55	VB1T	35.6	-26.7	44.45	54	-9.55	-	-	38	351	H
* 7.44	43.67	PK3	35.6	-26.7	52.57	-	-	74	-21.43	122	229	V
* 7.44	36.37	VB1T	35.6	-26.7	45.27	54	-8.73	-	-	122	229	V

8.2.2. ENHANCED DATA RATE 8PSK MODULATION RESTRICTED BANDEDGE (LOW CHANNEL)

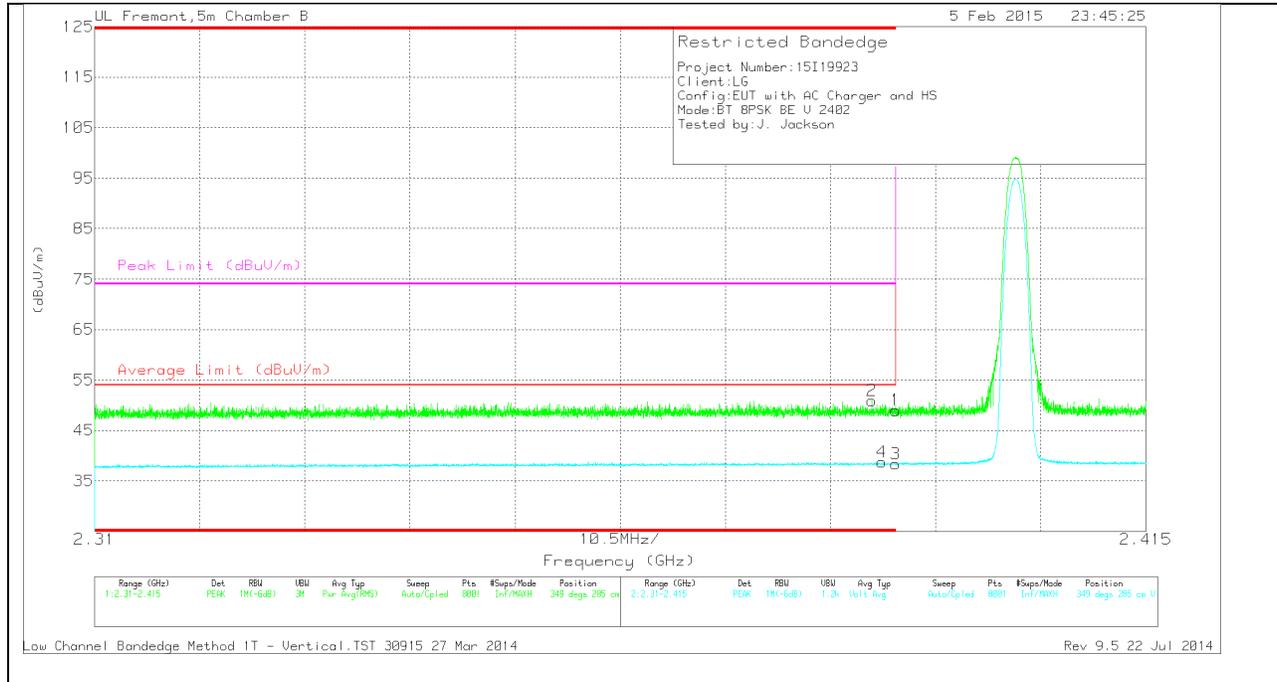
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/ Ftr/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	39.14	PK	32.1	-22.6	48.64	-	-	74	-25.36	318	227	H
2	* 2.362	41.97	PK	31.9	-22.6	51.27	-	-	74	-22.73	318	227	H
3	* 2.39	28.79	VB1T	32.1	-22.6	38.29	54	-15.71	-	-	318	227	H
4	* 2.387	29.46	VB1T	32.1	-22.6	38.96	54	-15.04	-	-	318	227	H

VERTICAL PEAK AND AVERAGE PLOT

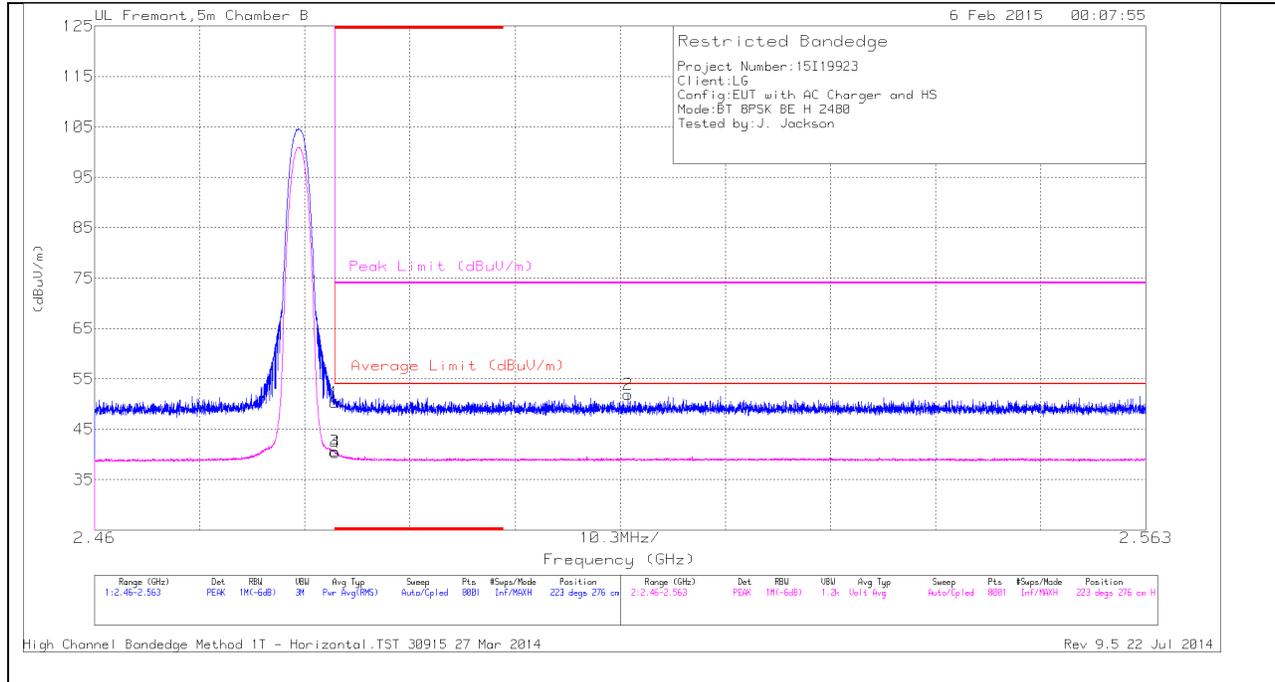


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Filt/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	39.49	PK	32.1	-22.6	48.99	-	-	74	-25.01	349	285	V
2	* 2.388	41.4	PK	32.1	-22.6	50.9	-	-	74	-23.1	349	285	V
3	* 2.39	28.89	VB1T	32.1	-22.6	38.39	54	-15.61	-	-	349	285	V
4	* 2.389	29.21	VB1T	32.1	-22.6	38.71	54	-15.29	-	-	349	285	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

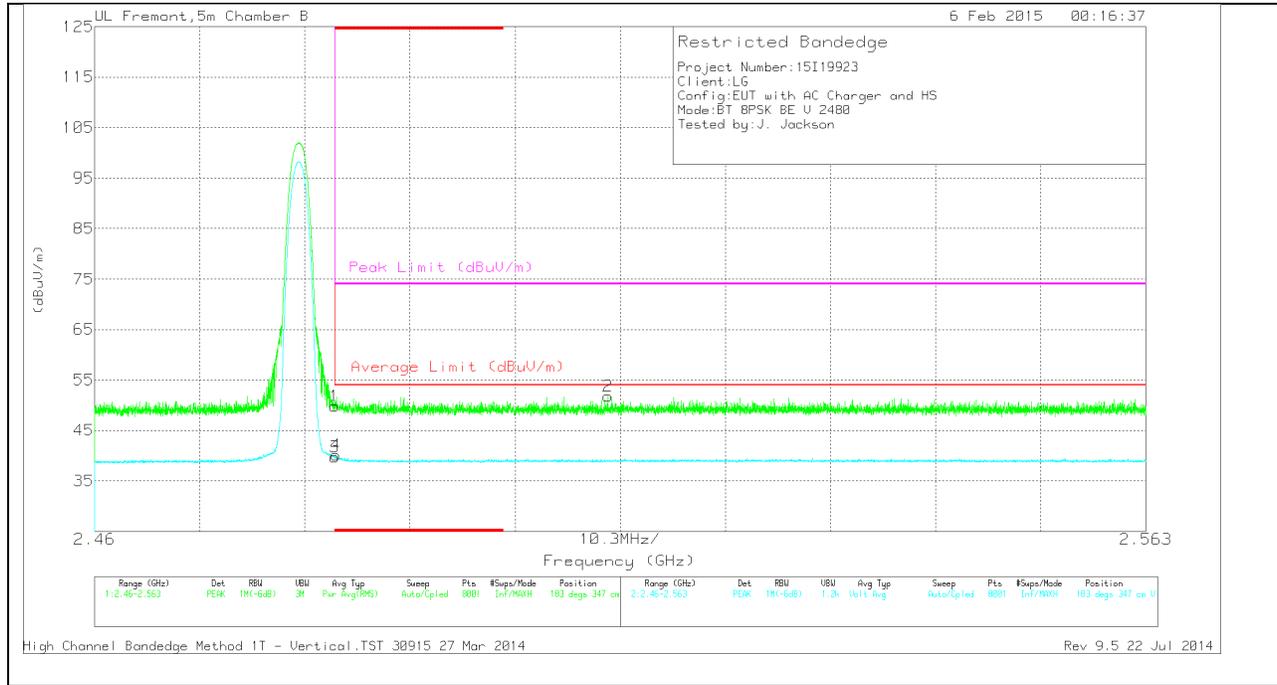
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/ Fitr/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	40.29	PK	32.4	-22.4	50.29	-	-	74	-23.71	223	276	H
3	* 2.484	30.62	VB1T	32.4	-22.4	40.62	54	-13.38	-	-	223	276	H
4	* 2.484	30.36	VB1T	32.4	-22.4	40.36	54	-13.64	-	-	223	276	H
2	2.512	41.85	PK	32.5	-22.4	51.95	-	-	74	-22.05	223	276	H

VERTICAL PEAK AND AVERAGE PLOT

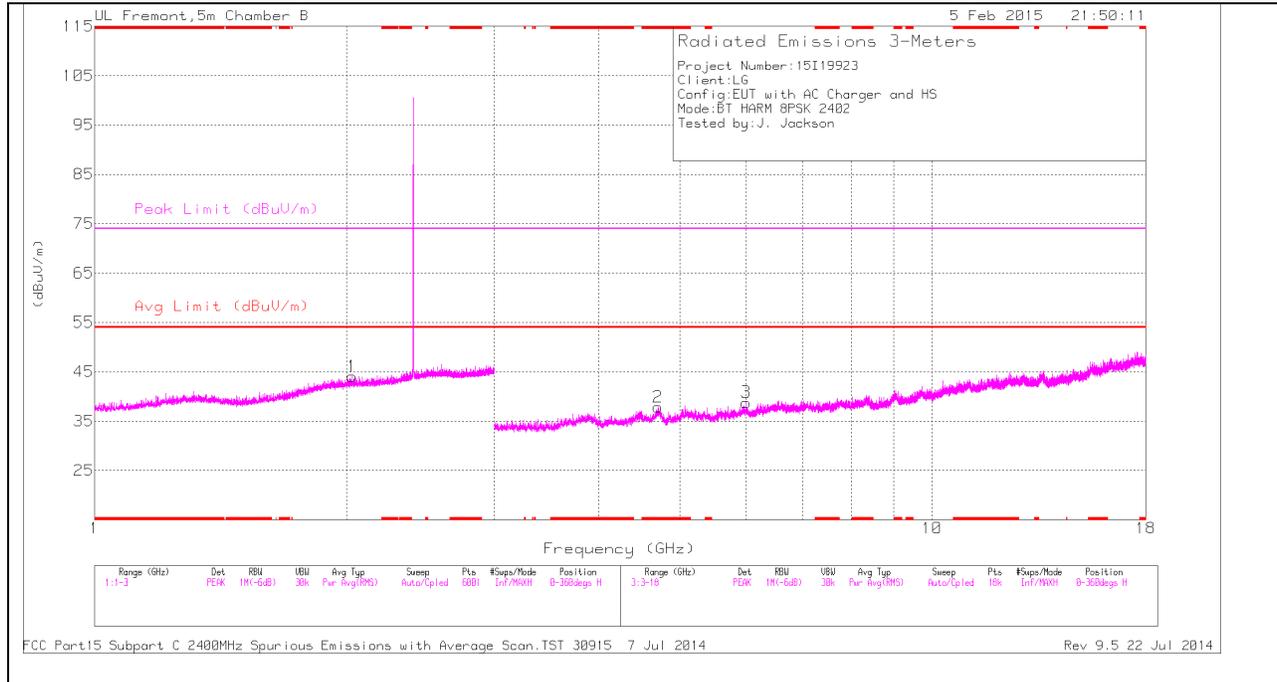


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Filt/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	39.77	PK	32.4	-22.4	49.77	-	-	74	-24.23	183	347	V
3	* 2.484	29.75	VB1T	32.4	-22.4	39.75	54	-14.25	-	-	183	347	V
4	* 2.484	30.07	VB1T	32.4	-22.4	40.07	54	-13.93	-	-	183	347	V
2	2.51	41.78	PK	32.4	-22.4	51.78	-	-	74	-22.22	183	347	V

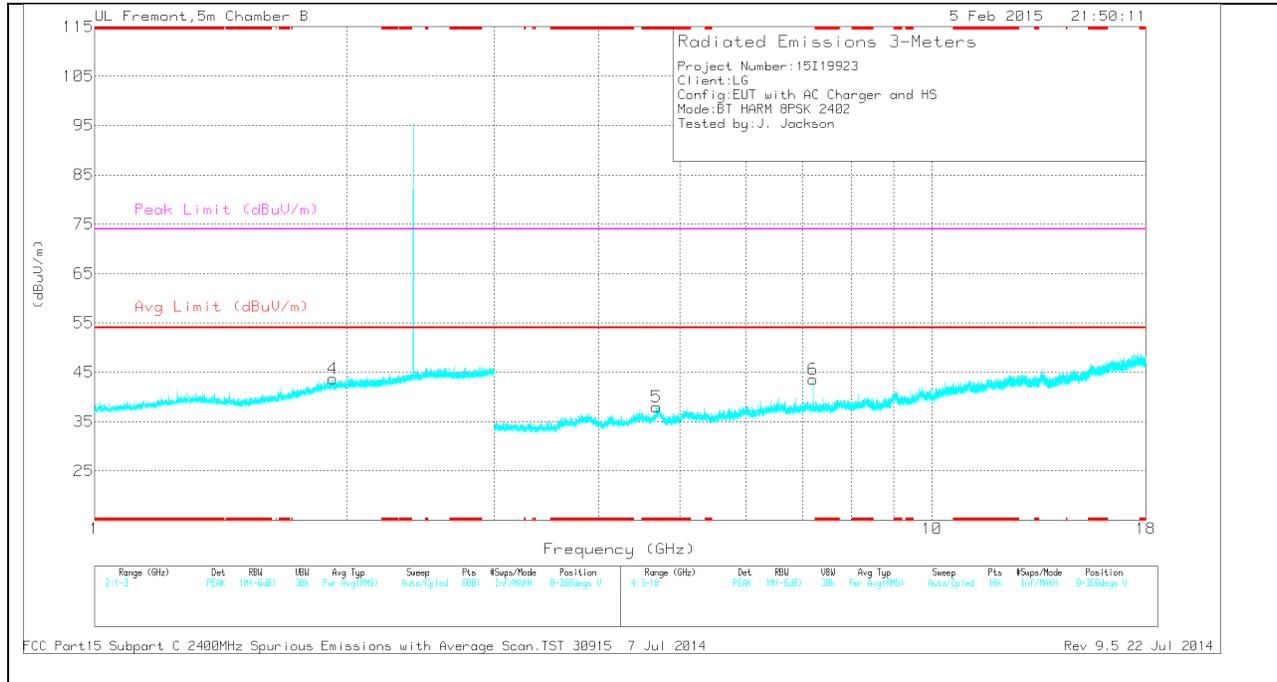
HARMONICS AND SPURIOUS EMISSIONS

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

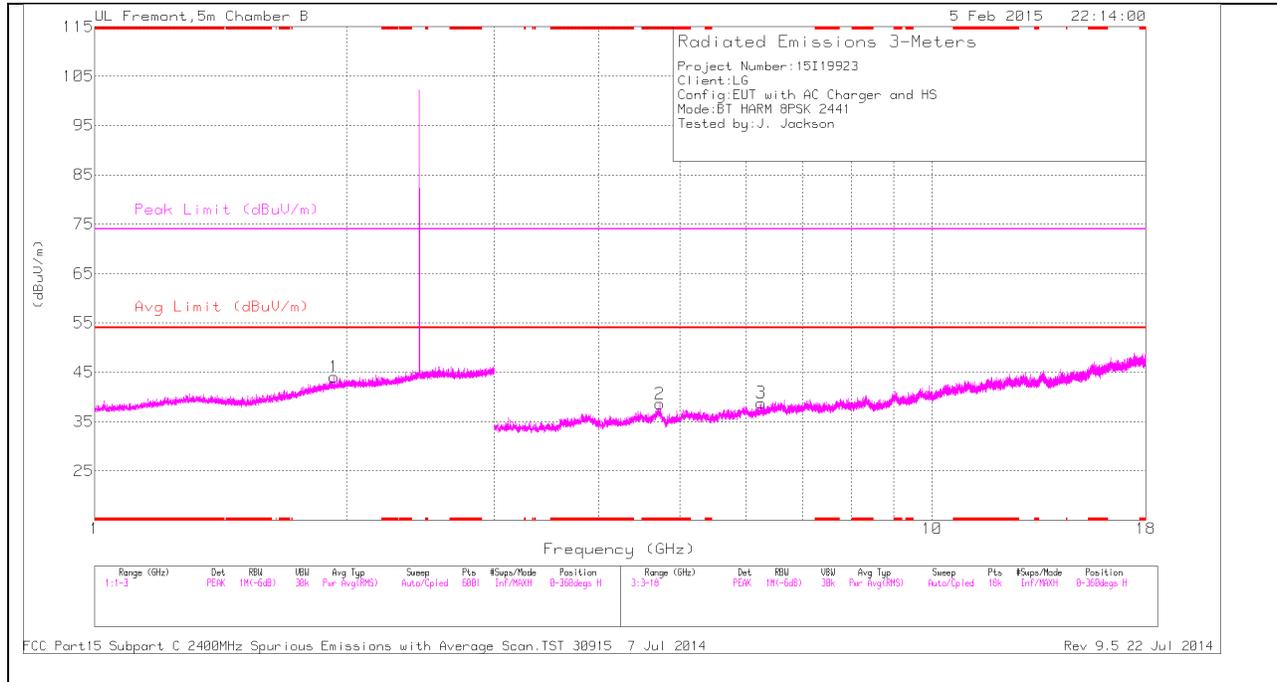
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/F ltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 4.704	33.01	PK	34.2	-29.3	37.91	-	-	74	-36.09	0-360	101	H
5	* 4.687	33.45	PK	34.2	-29.7	37.95	-	-	74	-36.05	0-360	101	V
4	1.924	35.79	PK	31.1	-23.2	43.69	-	-	-	-	0-360	101	V
1	2.03	36.02	PK	31.3	-23.2	44.12	-	-	-	-	0-360	101	H
3	5.994	32.21	PK	35.2	-28.6	38.81	-	-	-	-	0-360	200	H
6	7.206	35.26	PK	35.5	-27.2	43.56	-	-	-	-	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

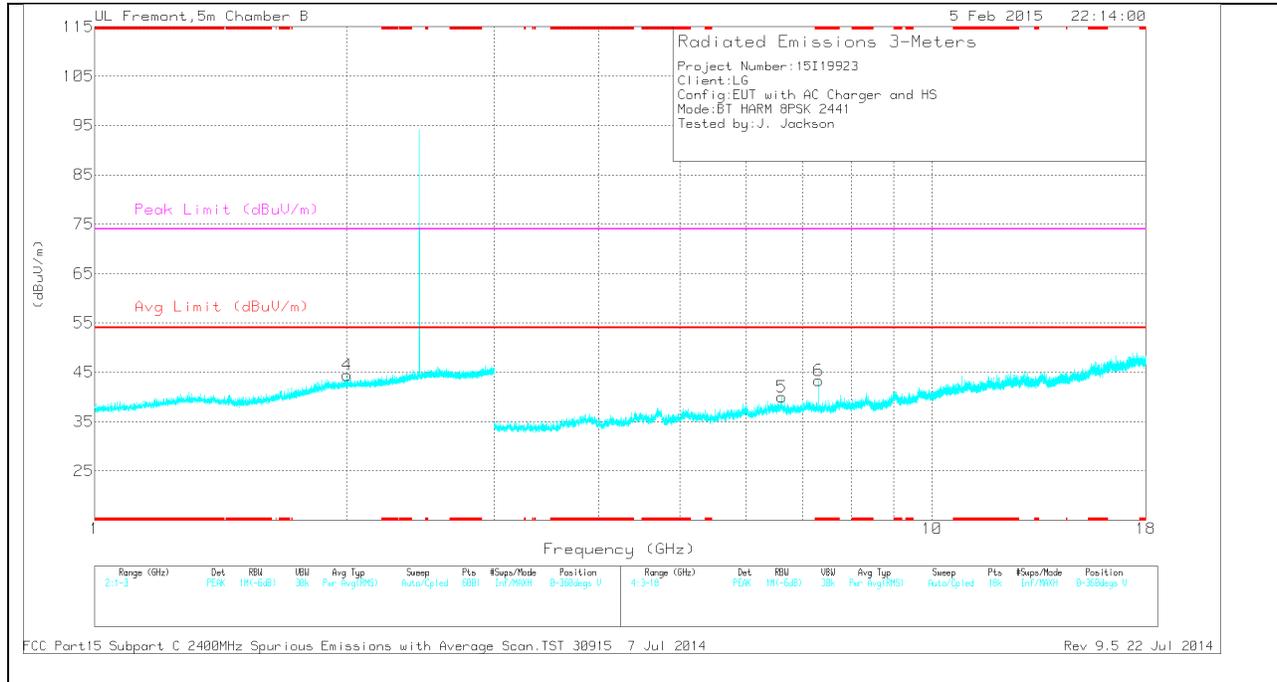
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/F ltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.702	40.48	PK3	34.2	-29.4	45.28	-	-	74	-28.72	158	201	H
* 4.687	41.66	PK3	34.2	-29.7	46.16	-	-	74	-27.84	119	102	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

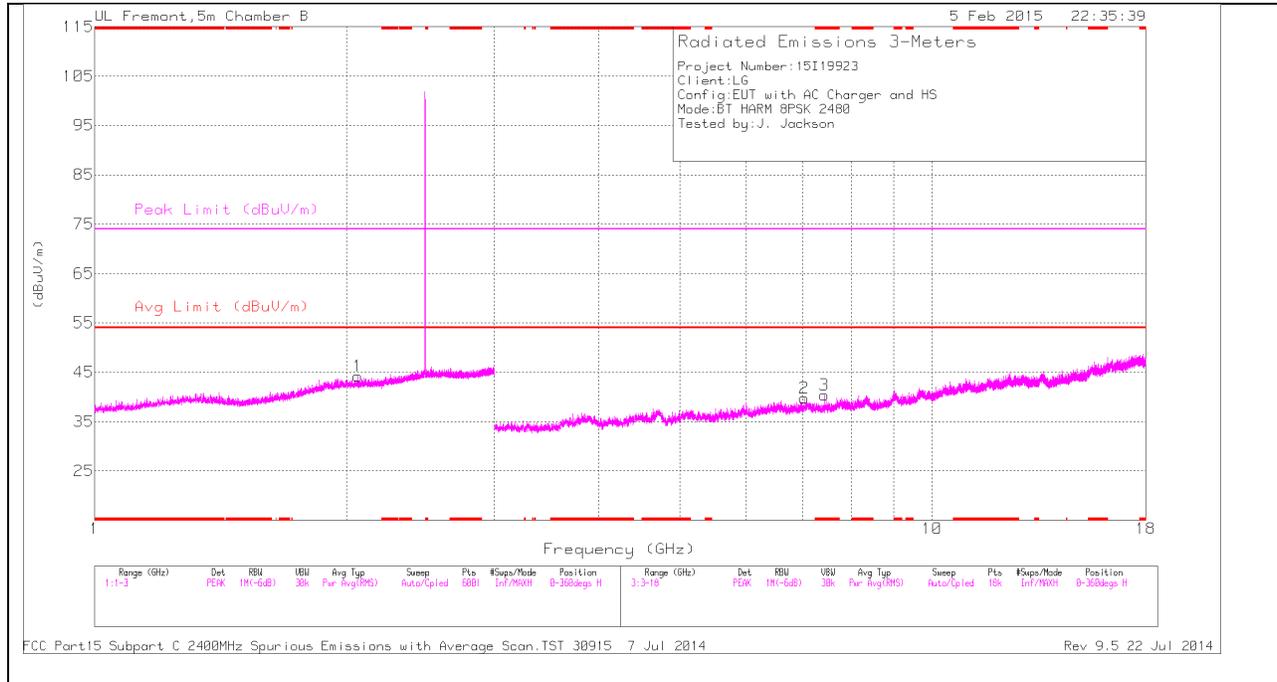
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 4.729	33.55	PK	34.2	-29.1	38.65	-	-	74	-35.35	0-360	199	H
6	* 7.323	35.97	PK	35.6	-28.2	43.37	-	-	74	-30.63	0-360	199	V
1	1.932	36.04	PK	31.2	-23.2	44.04	-	-	-	-	0-360	199	H
4	2.004	36.3	PK	31.3	-23.2	44.4	-	-	-	-	0-360	199	V
3	6.25	31.81	PK	35.4	-28.4	38.81	-	-	-	-	0-360	199	H
5	6.613	32.32	PK	35.7	-28	40.02	-	-	-	-	0-360	199	V

PK - Peak detector

RADIATED EMISSIONS

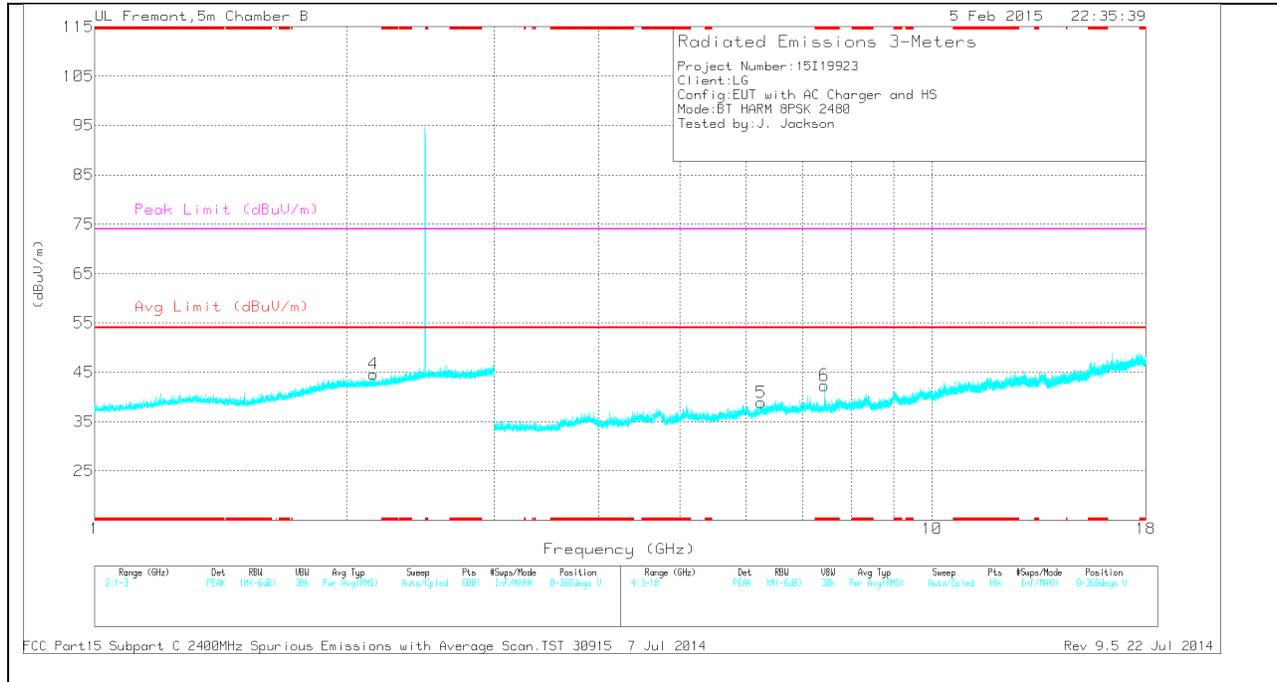
Frequency (GHz)	Meter Reading (dBuV)	Det	AFT345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.73	39.78	PK3	34.2	-29.1	44.88	-	-	74	-29.12	100	198	H
* 7.323	43.6	PK3	35.6	-28.2	51	-	-	74	-23	287	301	V
* 7.323	34.41	VB1T	35.6	-28.2	41.81	54	-12.19	-	-	287	301	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	AFT345 (dB/m)	Amp/Cbl/Filtr/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	* 7.44	31.48	PK	35.6	-26.7	40.38	-	-	74	-33.62	0-360	200	H
6	* 7.44	33.46	PK	35.6	-26.7	42.36	-	-	74	-31.64	0-360	200	V
1	2.061	36.03	PK	31.3	-23.1	44.23	-	-	-	-	0-360	199	H
4	2.151	36.35	PK	31.3	-23	44.65	-	-	-	-	0-360	101	V
5	6.255	31.74	PK	35.5	-28.4	38.84	-	-	-	-	0-360	200	V
2	7.035	32.41	PK	35.6	-28.2	39.81	-	-	-	-	0-360	101	H

PK - Peak detector

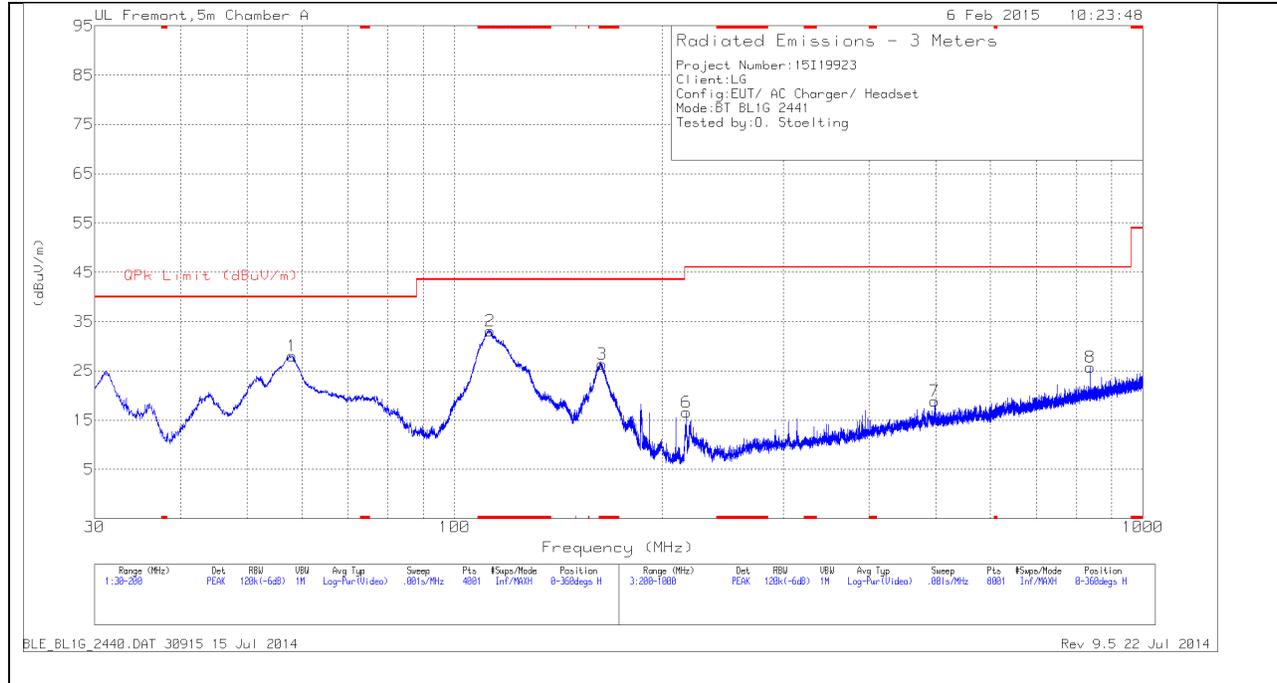
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AFT345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 7.44	41.94	PK3	35.6	-26.7	50.84	-	-	74	-23.16	37	381	H
* 7.44	32.91	VB1T	35.6	-26.7	41.81	54	-12.19	-	-	37	381	H
* 7.44	41.95	PK3	35.6	-26.7	50.85	-	-	74	-23.15	121	284	V
* 7.44	32.89	VB1T	35.6	-26.7	41.79	54	-12.21	-	-	121	284	V

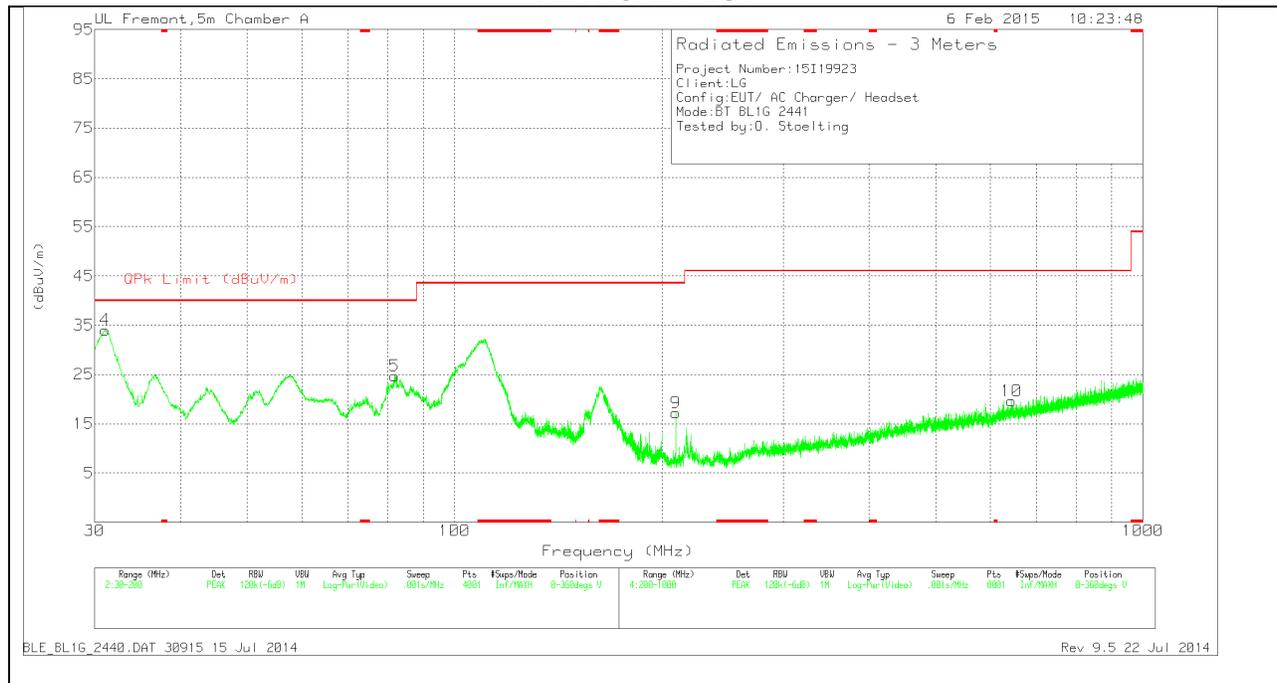
8.3. WORST-CASE BELOW 1 GHz

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

HORIZONTAL PLOT



VERTICAL PLOT



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AFT477 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 112.6625	51.61	PK	13	-31.5	33.11	43.52	-10.41	0-360	301	H
3	* 163.9175	45.47	PK	12.1	-31.2	26.37	43.52	-17.15	0-360	101	H
4	31.105	45.54	PK	20.5	-32	34.04	40	-5.96	0-360	100	V
1	58.0925	52.31	PK	7.4	-31.7	28.01	40	-11.99	0-360	401	H
5	81.8075	48.86	PK	7.5	-31.7	24.66	40	-15.34	0-360	100	V
9	209.5	37.74	PK	10.5	-31	17.24	43.52	-26.28	0-360	100	V
6	217	36.96	PK	10.6	-31	16.56	46.02	-29.46	0-360	100	H
7	497.6	31.4	PK	17.5	-30	18.9	46.02	-27.12	0-360	100	H
10	644.5	29.65	PK	19.9	-29.9	19.65	46.02	-26.37	0-360	100	V
8	838.1	33.08	PK	21.7	-29.1	25.68	46.02	-20.34	0-360	100	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	AFT477 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 112.8814	31.42	QP	13.1	-31.5	13.02	43.52	-30.5	312	299	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

QP - Quasi-Peak detector