FCC CFR47 PART 15 SUBPART C

C2PC CERTIFICATION TEST REPORT

FOR

GSM/WCDMA/LTE PHABLET + BLUETOOTH, DTS/UNII a/b/g/n & NFC

MODEL NUMBER: LG-H740, LGH740, H740

FCC ID: ZNFH740

REPORT NUMBER: 15I21442-E2V1

ISSUE DATE: AUGUST 31, 2015

Prepared for

LG ELECTRONICS MOBILECOMM U.S.A., INC
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Prepared by

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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	8/31/15	Initial Issue	

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LG ELECTRONICS MOBILECOMM U.S.A., INC.

EUT DESCRIPTION: GSM/WCDMA/LTE PHABLET + BLUETOOTH, DTS/UNII a/b/g/n & NFC

MODEL: LG-H740, LGH740, H740

SERIAL NUMBER: 506CYBD000413

DATE TESTED: AUGUST 8-9, 2015

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

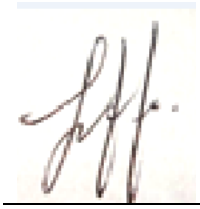
UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement 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:



JEFFREY WU
CONSUMER TECHNOLOGY DIVISION
WiSE LAB ENGINEER
UL VERIFICATION SERVICES INC

2. TEST METHODOLOGY

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

ANSI C63.10-2009 Deviation

Radiated spurious emission above 1GHz was performed with the EUT elevated at 1.5m instead of 0.8m. 1.5m is the required height in ANSI C63.10:2013 as referenced by RSS GEN issue 4.

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
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 PHABLET + BLUETOOTH, DTS/UNII a/b/g/n & NFC.

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 -2.0 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-N04WS	SA560000030	N/A
Earphone	LG	N/A	N/A	N/A

I/O CABLES

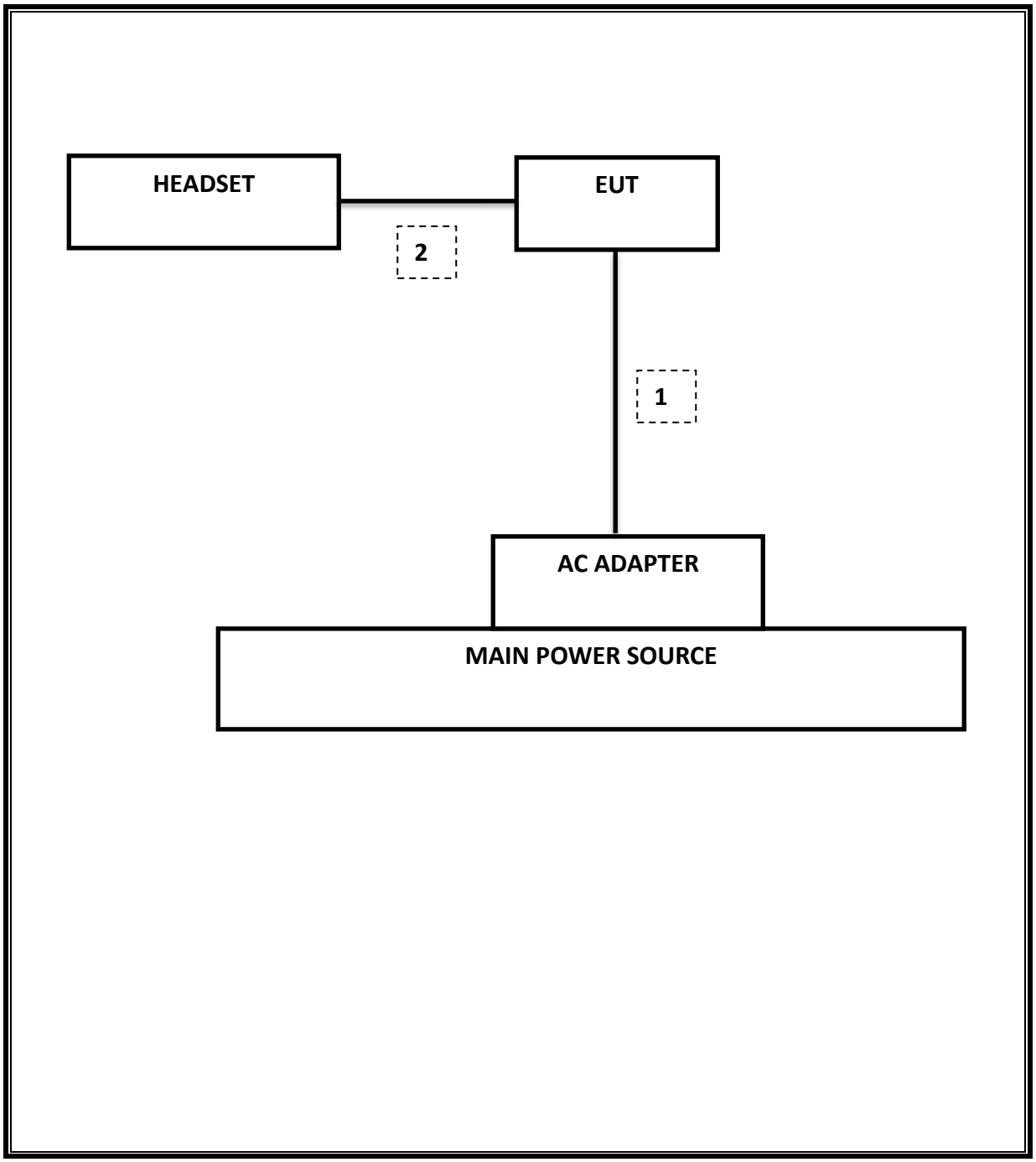
I/O Cable List						
Cable No	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	DC Power	1	Mini-USB	Shielded	1.2m	N/A
2	Audio	1	Mini-Jack	Unshielded	1m	N/A

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**	**Asset**	**Cal Due**
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB1	C01171	02/13/16
Antenna, Horn, 18GHz	EMCO	3115	T119	01/15/16
Antenna, Horn, 18GHz	EMCO	3115	T136	03/03/16
Antenna, Horn, 26.5 GHz	ARA	MWH-1826/B	C00980	11/14/15
RF Preamplifier, 100KHz -> 1300MHz	HP	TBD	C00825	06/01/16
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/16
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	T404	06/29/16
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/15
CBT Bluetooth Tester	R & S	CBT	T258	06/30/16
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	01/14/16
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-H740 change note 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-247 5.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass	See original
15.247 (b)(1)	RSS-247 5.4.2	TX conducted output power	<21dBm		Pass	See original
15.247 (a)(1)	RSS-247 5.1.2	Hopping frequency separation	> 25KHz		Pass	See original
15.247 (a)(1)(iii)	RSS-247 5.1.4	Number of Hopping channels	More than 15 non-overlapping channels		Pass	See original
15.247 (a)(1)(iii)	RSS-247 5.1.4	Avg Time of Occupancy	< 0.4sec		Pass	See original
15.207 (a)	RSS-GEN 8.8	AC Power Line conducted emissions	Section 10	Radiated	Pass	See original
15.205, 15.209	RSS-GEN 8.9/7	Radiated Spurious Emission	< 54dBuV/m		Pass	43.11 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 / 0.002856S = 360Hz.

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.

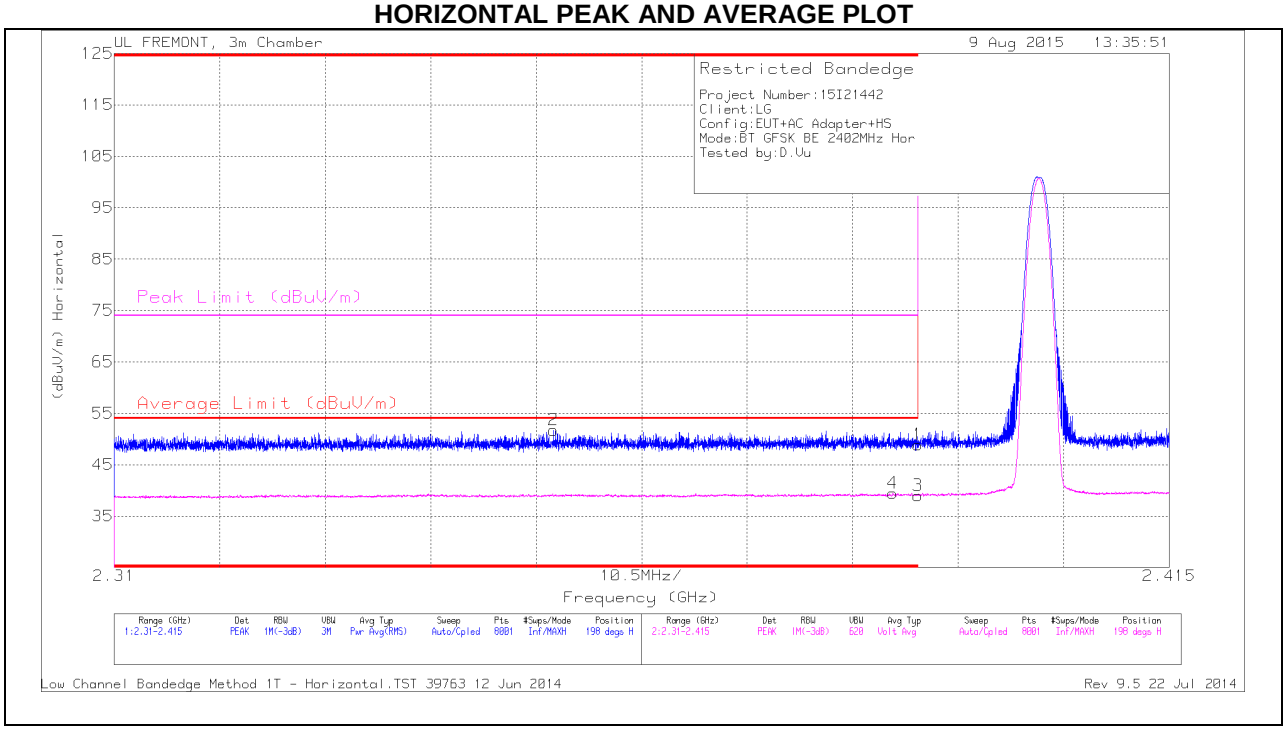
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

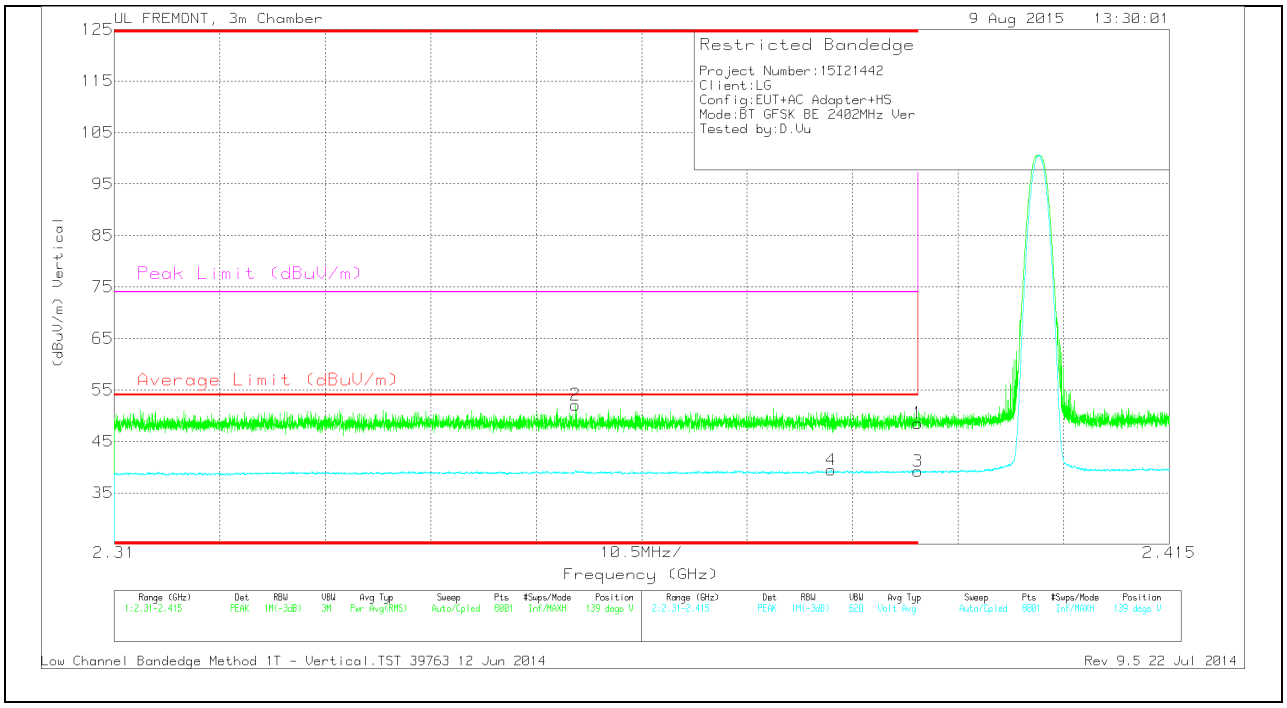
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	39.3	PK	32	-22.4	48.9	-	-	74	-25.1	198	222	H
2	* 2.354	42.34	PK	31.8	-22.4	51.74	-	-	74	-22.26	198	222	H
3	* 2.39	29.41	VB1T	32	-22.4	39.01	54	-14.99	-	-	198	222	H
4	* 2.387	29.87	VB1T	32	-22.4	39.47	54	-14.53	-	-	198	222	H

VERTICAL PEAK AND AVERAGE PLOT

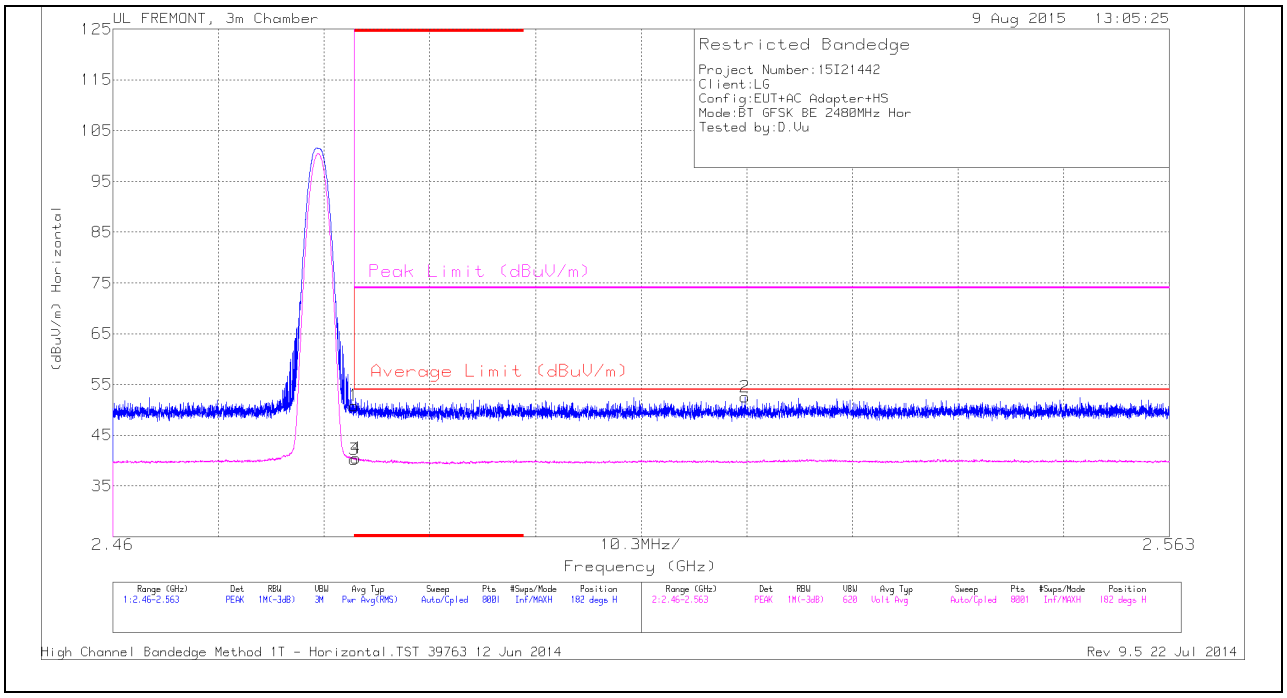


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	38.93	PK	32	-22.4	48.53	-	-	74	-25.47	139	356	V
2	* 2.356	42.67	PK	31.8	-22.4	52.07	-	-	74	-21.93	139	356	V
3	* 2.39	29.6	VB1T	32	-22.4	39.2	54	-14.8	-	-	139	356	V
4	* 2.381	29.82	VB1T	32	-22.4	39.42	54	-14.58	-	-	139	356	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

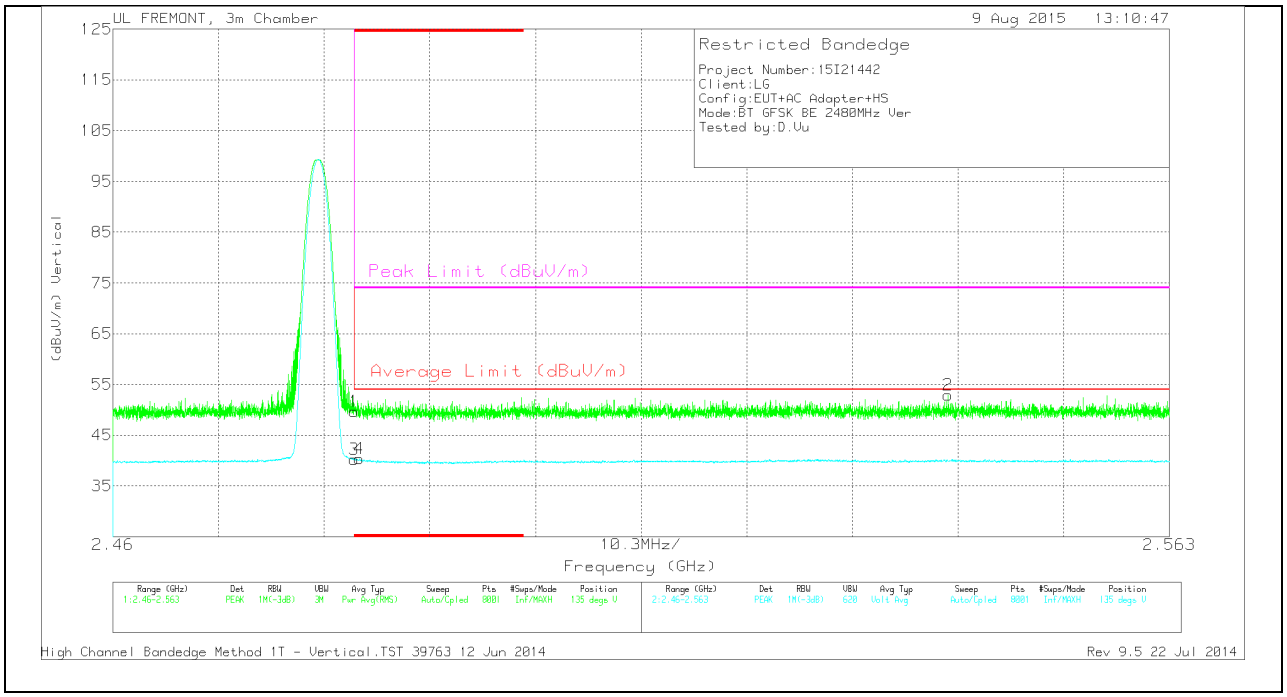
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	40.65	PK	32.3	-22.1	50.85	-	-	74	-23.15	182	242	H
3	* 2.484	30	VB1T	32.3	-22.1	40.2	54	-13.8	-	-	182	242	H
4	* 2.484	30.25	VB1T	32.3	-22.1	40.45	54	-13.55	-	-	182	242	H
2	2.522	42.21	PK	32.4	-22.1	52.51	-	-	74	-21.49	182	242	H

VERTICAL PEAK AND AVERAGE PLOT

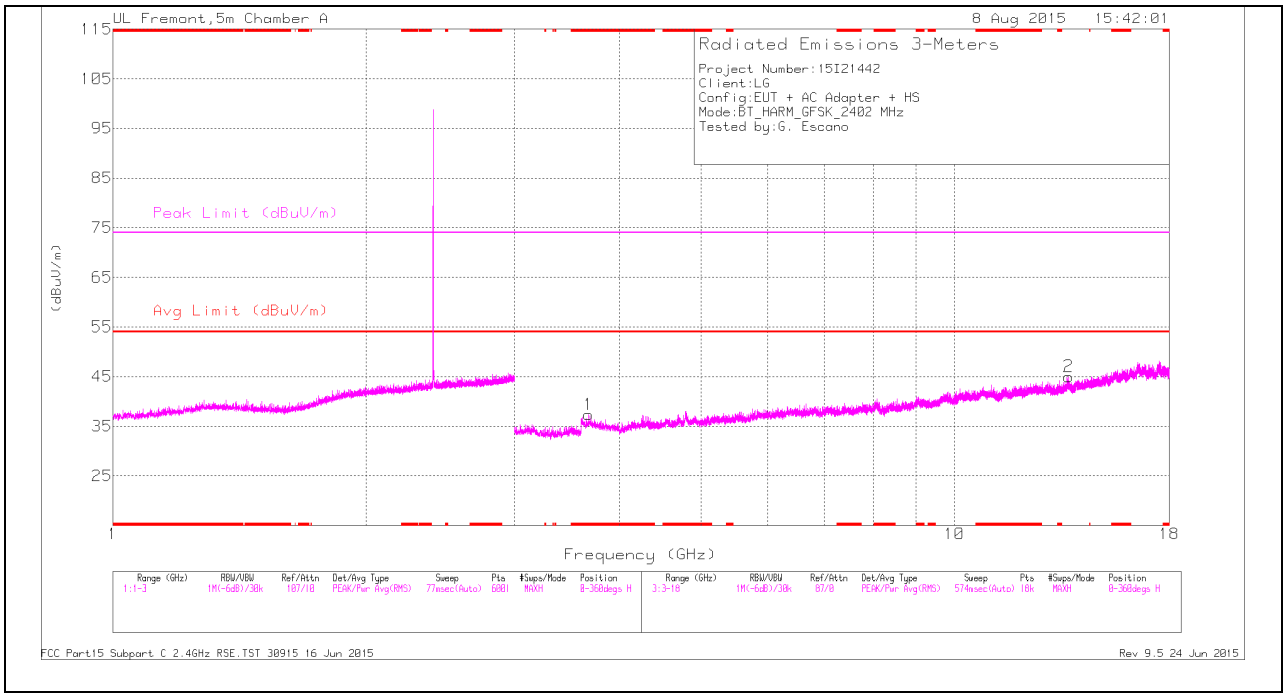


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	39.44	PK	32.3	-22.1	49.64	-	-	74	-24.36	135	396	V
3	* 2.484	30.06	VB1T	32.3	-22.1	40.26	54	-13.74	-	-	135	396	V
4	* 2.484	30.17	VB1T	32.3	-22.1	40.37	54	-13.63	-	-	135	396	V
2	2.541	42.35	PK	32.4	-21.9	52.85	-	-	74	-21.15	135	396	V

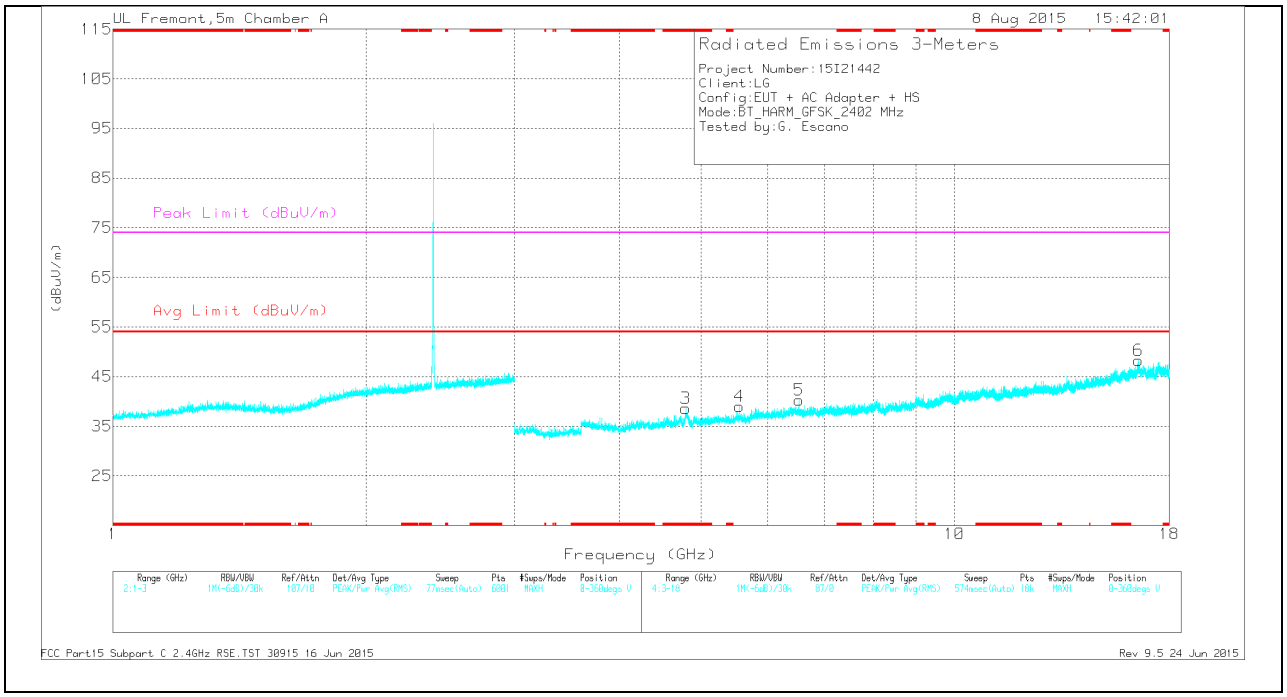
HARMONICS AND SPURIOUS EMISSIONS

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

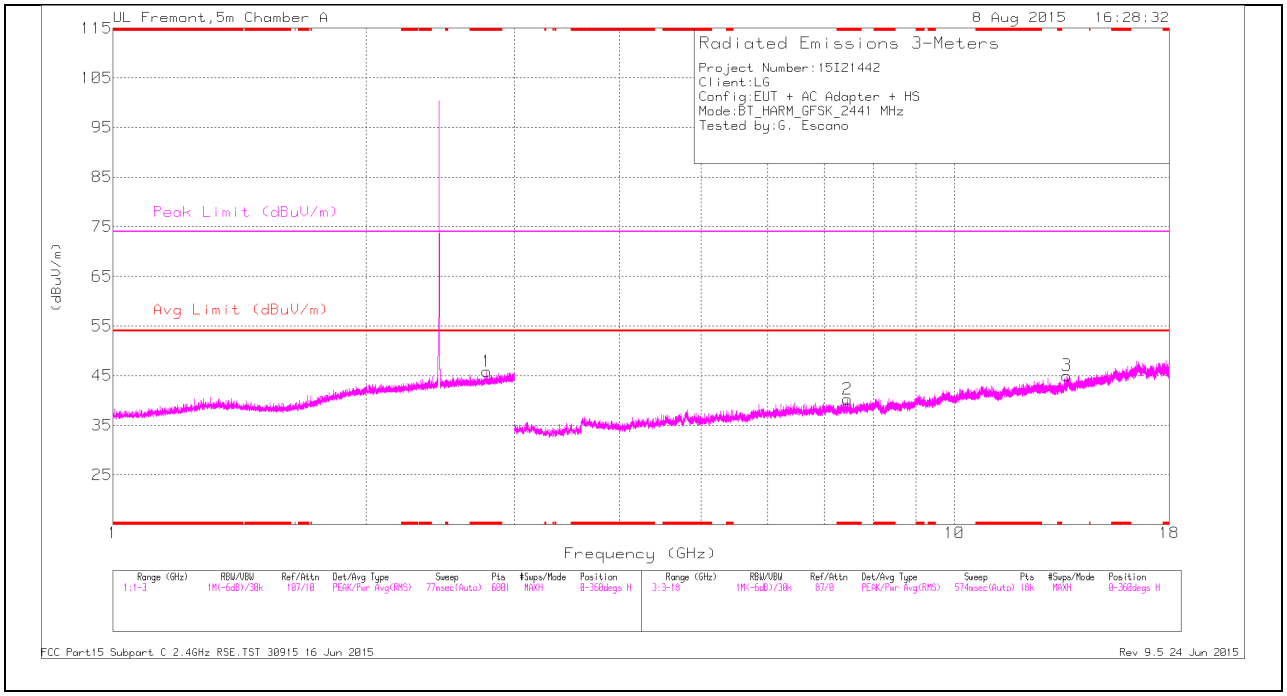
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.677	35.74	Pk	33.2	-31.6	37.34	-	-	74	-36.66	0-360	100	H
3	* 4.792	34.48	Pk	34	-29.9	38.58	-	-	74	-35.42	0-360	100	V
4	5.553	33.43	Pk	34.5	-28.9	39.03	-	-	-	-	0-360	200	V
5	6.533	31.33	Pk	35.6	-26.7	40.23	-	-	-	-	0-360	200	V
2	13.666	28.13	Pk	38.8	-21.9	45.03	-	-	-	-	0-360	100	H
6	16.528	28.26	Pk	41.6	-21.6	48.26	-	-	-	-	0-360	100	V

PK - Peak detector

RADIATED EMISSIONS

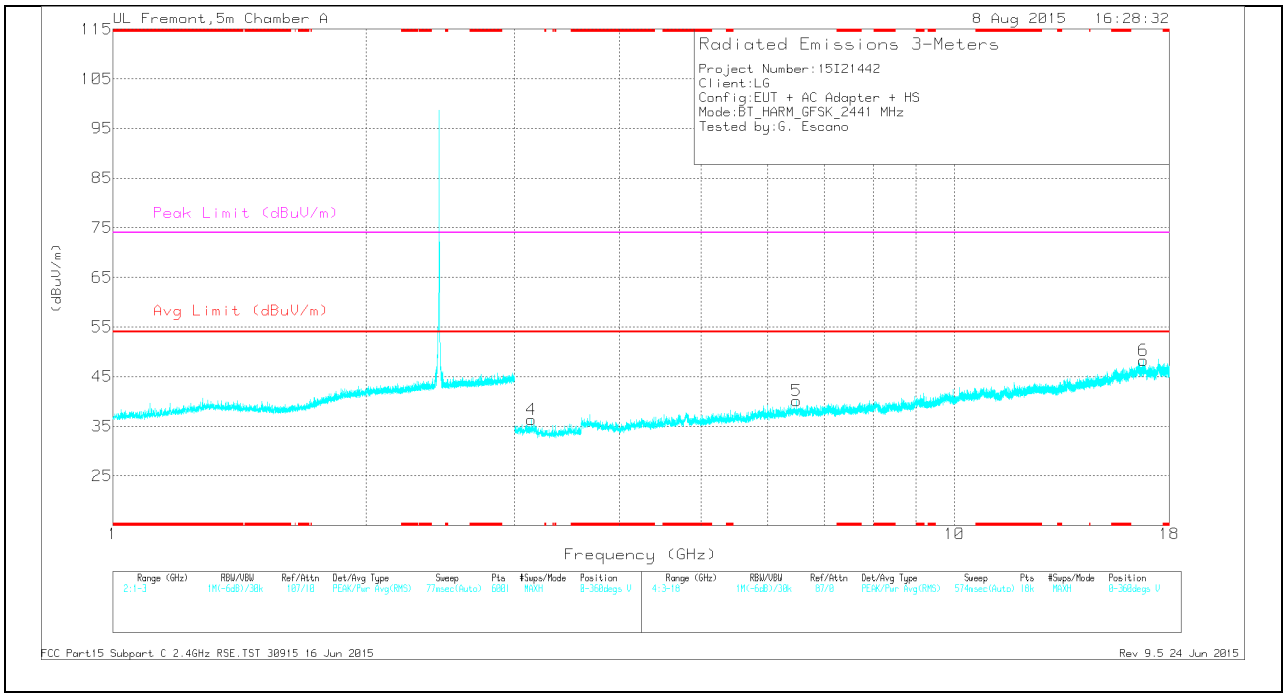
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.676	42.59	PK2	33.2	-31.6	44.19	-	-	74	-29.81	77	396	H
* 3.677	29.83	VA1T	33.2	-31.6	31.43	54	-22.57	-	-	77	396	H
* 4.792	41.4	PK2	34	-29.9	45.5	-	-	74	-28.5	13	106	V
* 4.791	28.78	VA1T	34	-29.9	32.88	54	-21.12	-	-	13	106	V
5.553	40.42	PK2	34.5	-28.9	46.02	-	-	74	-	0	188	V
5.554	27.5	VA1T	34.5	-28.9	33.1	54	-20.9	-	-	0	188	V
6.534	37.9	PK2	35.6	-26.7	46.8	-	-	74	-	25	206	V
6.534	25.29	VA1T	35.6	-26.7	34.19	54	-19.81	-	-	25	206	V
13.664	22.63	VA1T	38.8	-21.9	39.53	54	-14.47	-	-	77	100	H
13.665	34.67	PK2	38.8	-21.9	51.57	-	-	74	- 22.43	77	100	H
16.526	35.42	PK2	41.6	-21.7	55.32	-	-	74	-18.68	0	100	V
16.526	22.98	VA1T	41.6	-21.7	42.88	54	-11.12	-	-	0	100	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

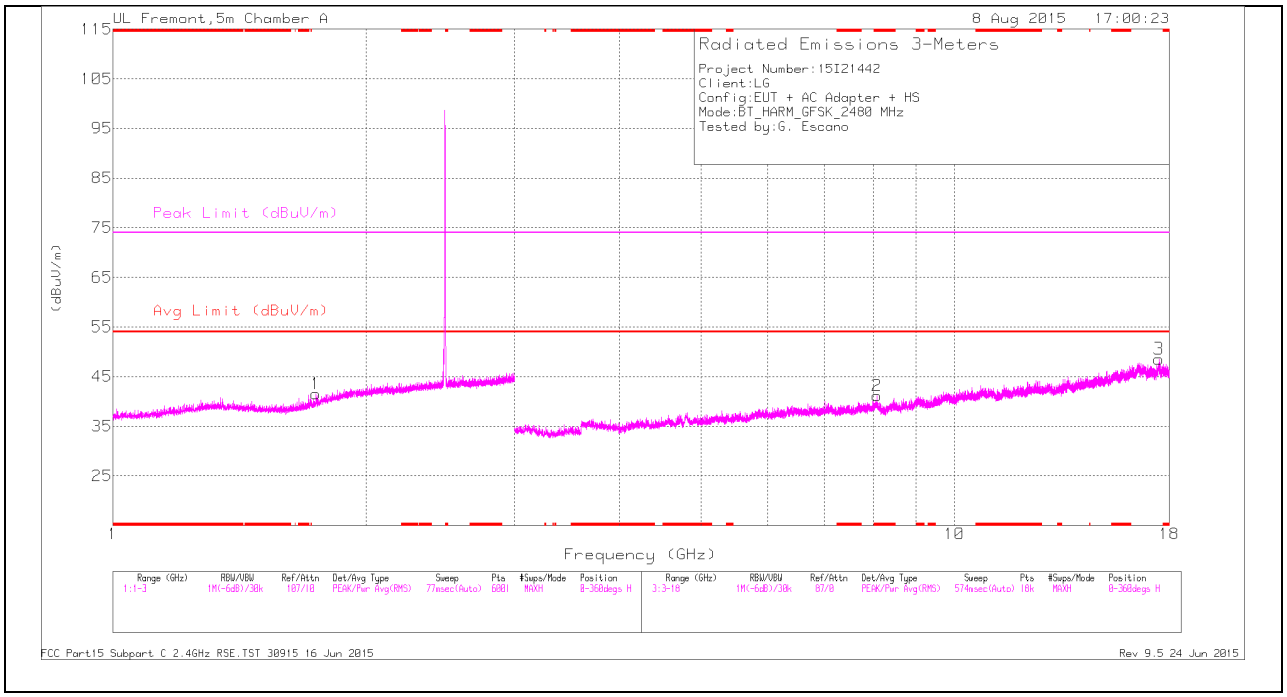
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.781	37.56	Pk	32.4	-24.1	45.86	-	-	74	-28.14	0-360	100	H
2	* 7.466	29.62	Pk	35.5	-24.8	40.32	-	-	74	-33.68	0-360	201	H
4	3.143	35.09	Pk	32.8	-31.6	36.29	-	-	-	-	0-360	100	V
5	6.493	31.65	Pk	35.5	-27	40.15	-	-	-	-	0-360	100	V
3	13.605	27.83	Pk	38.9	-21.7	45.03	-	-	-	-	0-360	201	H
6	16.782	28.83	Pk	41.8	-22.4	48.23	-	-	-	-	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

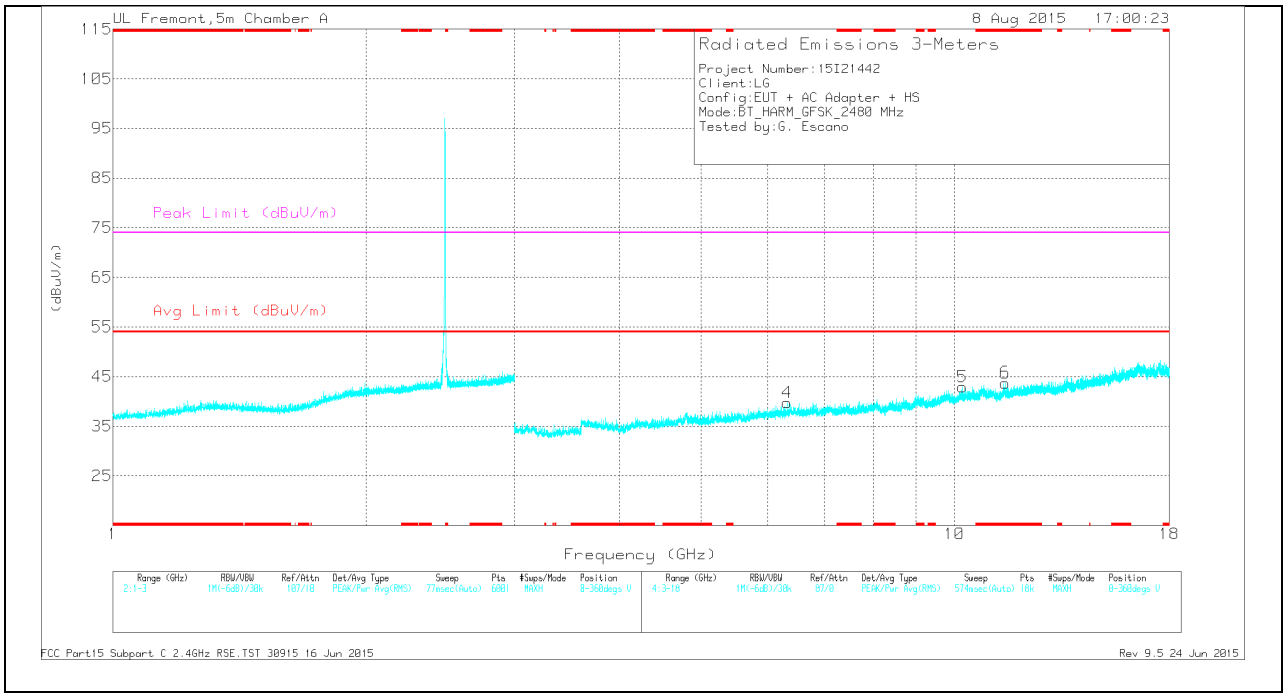
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 2.779	44.2	PK2	32.4	-24.2	52.4	-	-	74	-21.6	29	156	H
* 2.78	31.38	VA1T	32.4	-24.1	39.68	54	-14.32	-	-	29	156	H
* 7.466	36.42	PK2	35.5	-24.8	47.12	-	-	74	-26.88	110	233	H
* 7.468	23.95	VA1T	35.5	-24.8	34.65	54	-19.35	-	-	110	233	H
3.143	29.37	VA1T	32.8	-31.6	30.57	54	-23.43	-	-	205	116	V
3.144	41.96	PK2	32.8	-31.6	43.16	-	-	74	-30.84	205	116	V
6.493	38.4	PK2	35.5	-27	46.9	-	-	74	-27.1	302	165	V
6.493	25.57	VA1T	35.5	-27	34.07	54	-19.93	-	-	302	165	V
13.606	35.59	PK2	38.9	-21.7	52.79	-	-	74	-21.21	11	147	H
13.606	22.69	VA1T	38.9	-21.7	39.89	54	-14.11	-	-	11	147	H
16.78	36.14	PK2	41.8	-22.5	55.44	-	-	74	-18.56	356	201	V
16.781	23.39	VA1T	41.8	-22.4	42.79	54	-11.21	-	-	356	201	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 T136 (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	* 8.096	29.56	Pk	35.7	-24.1	41.16	-	-	74	-32.84	0-360	201	H
6	* 11.481	27.46	Pk	38	-21.7	43.76	-	-	74	-30.24	0-360	100	V
1	1.742	37.73	Pk	29.2	-25.4	41.53	-	-	-	-	0-360	100	H
4	6.323	32.26	Pk	35.5	-28	39.76	-	-	-	-	0-360	100	V
5	10.213	28.01	Pk	37.2	-22.3	42.91	-	-	-	-	0-360	200	V
3	17.492	28.18	Pk	41.6	-21.2	48.58	-	-	-	-	0-360	201	H

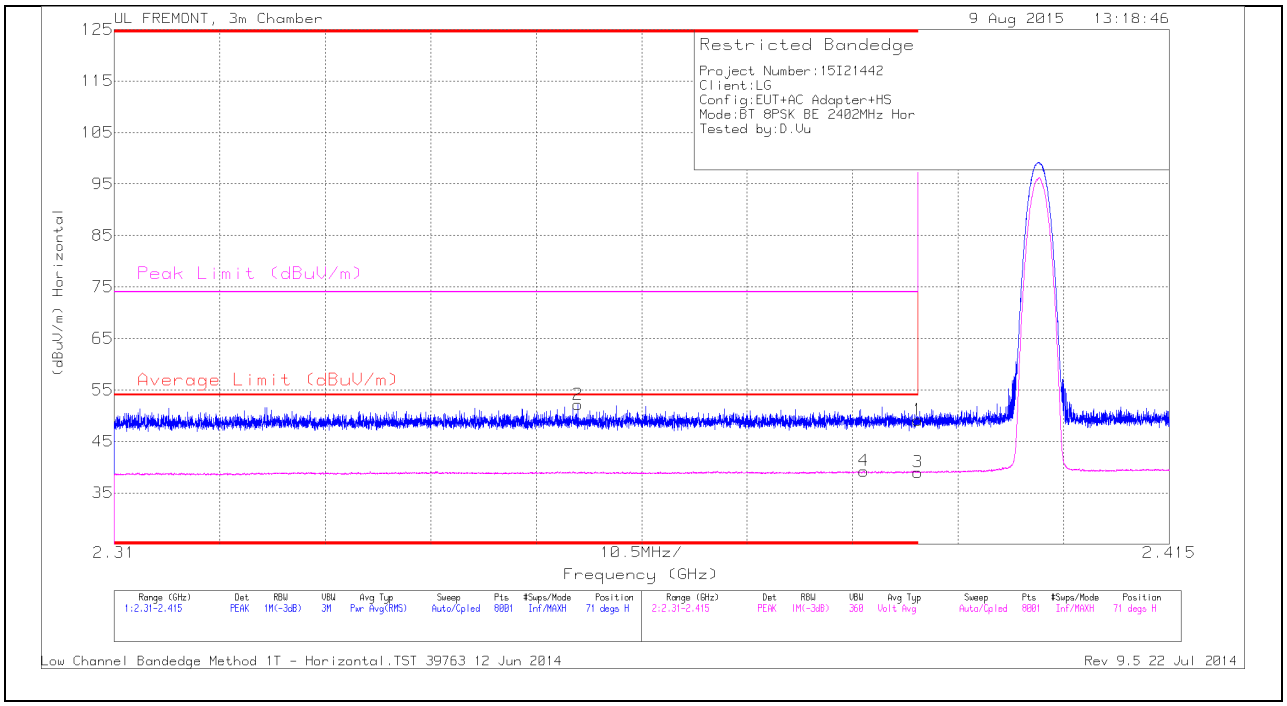
PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
* 8.096	36.29	PK2	35.7	-24.1	47.89	-	-	74	-26.11	349	202	H
* 8.095	23.74	VA1T	35.7	-24.1	35.34	54	-18.66	-	-	349	202	H
* 11.483	34.81	PK2	38	-21.7	51.11	-	-	74	-22.89	13	146	V
* 11.481	21.73	VA1T	38	-21.7	38.03	54	-15.97	-	-	13	146	V
1.743	44.55	PK2	29.2	-25.4	48.35	-	-	74	-25.65	301	176	H
1.743	31.81	VA1T	29.2	-25.4	35.61	54	-18.39	-	-	301	176	H
6.323	26.65	VA1T	35.5	-28	34.15	54	-19.85	-	-	102	110	V
6.325	39.33	PK2	35.5	-28	46.83	-	-	74	-27.17	102	110	V
10.213	22.48	VA1T	37.2	-22.3	37.38	54	-16.62	-	-	59	164	V
10.214	34.7	PK2	37.2	-22.3	49.6	-	-	74	-24.4	59	164	V
17.49	22.66	VA1T	41.6	-21.2	43.06	54	-10.94	-	-	284	231	H
17.491	35.86	PK2	41.6	-21.2	56.26	-	-	74	-17.74	284	231	H

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

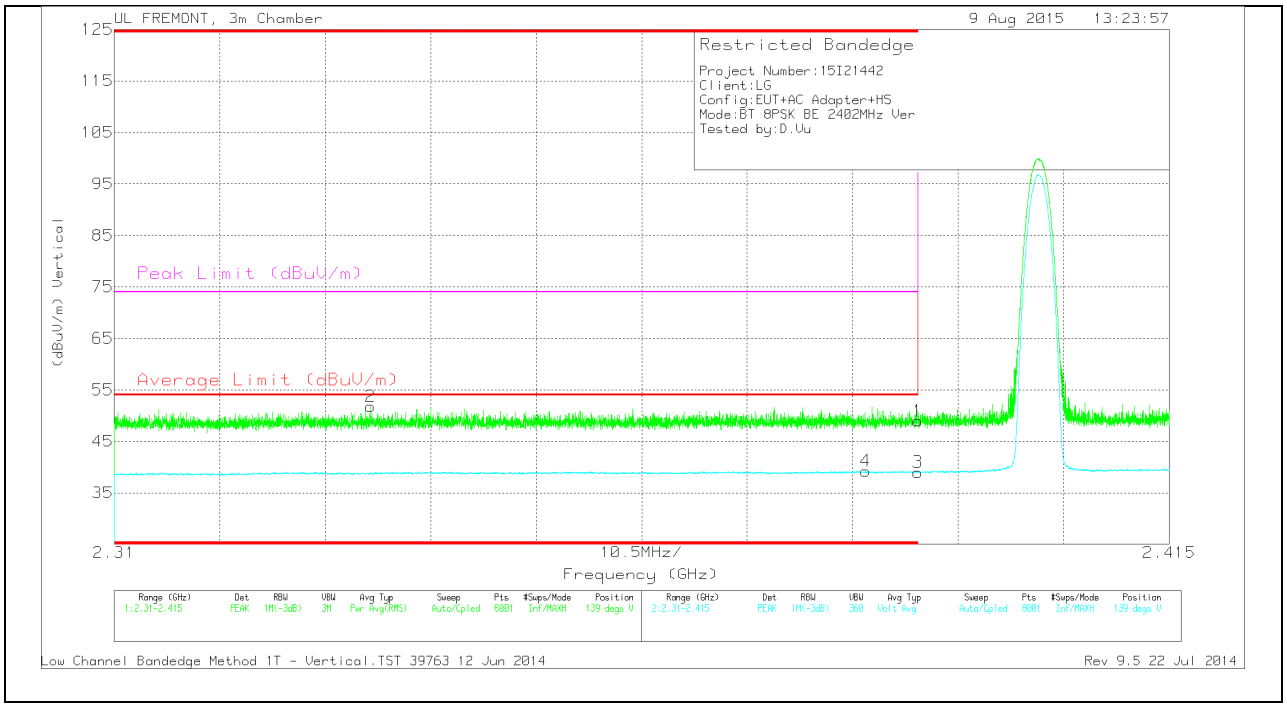
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	39.54	PK	32	-22.4	49.14	-	-	74	-24.86	71	357	H
2	* 2.356	42.74	PK	31.8	-22.4	52.14	-	-	74	-21.86	71	357	H
3	* 2.39	29.42	VB1T	32	-22.4	39.02	54	-14.98	-	-	71	357	H
4	* 2.385	29.67	VB1T	32	-22.4	39.27	54	-14.73	-	-	71	357	H

VERTICAL PEAK AND AVERAGE PLOT

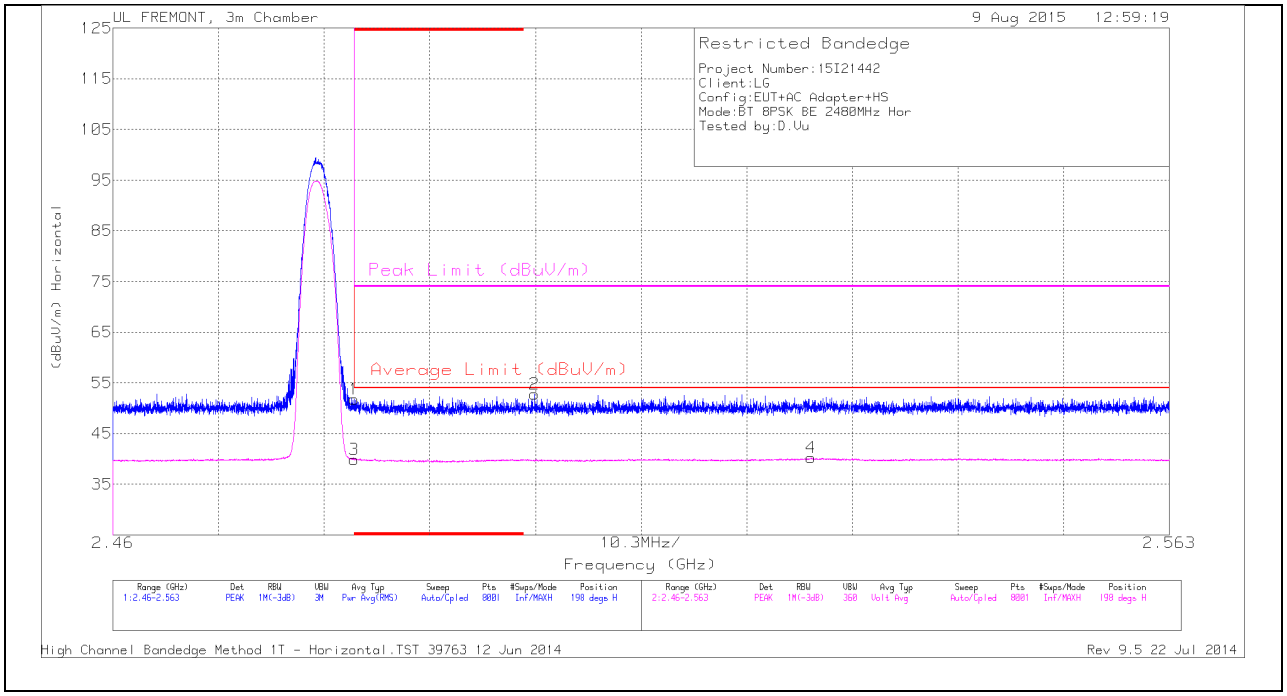


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	39.38	PK	32	-22.4	48.98	-	-	74	-25.02	139	307	V
2	* 2.336	42.46	PK	31.8	-22.5	51.76	-	-	74	-22.24	139	307	V
3	* 2.39	29.4	VB1T	32	-22.4	39	54	-15	-	-	139	307	V
4	* 2.385	29.63	VB1T	32	-22.4	39.23	54	-14.77	-	-	139	307	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

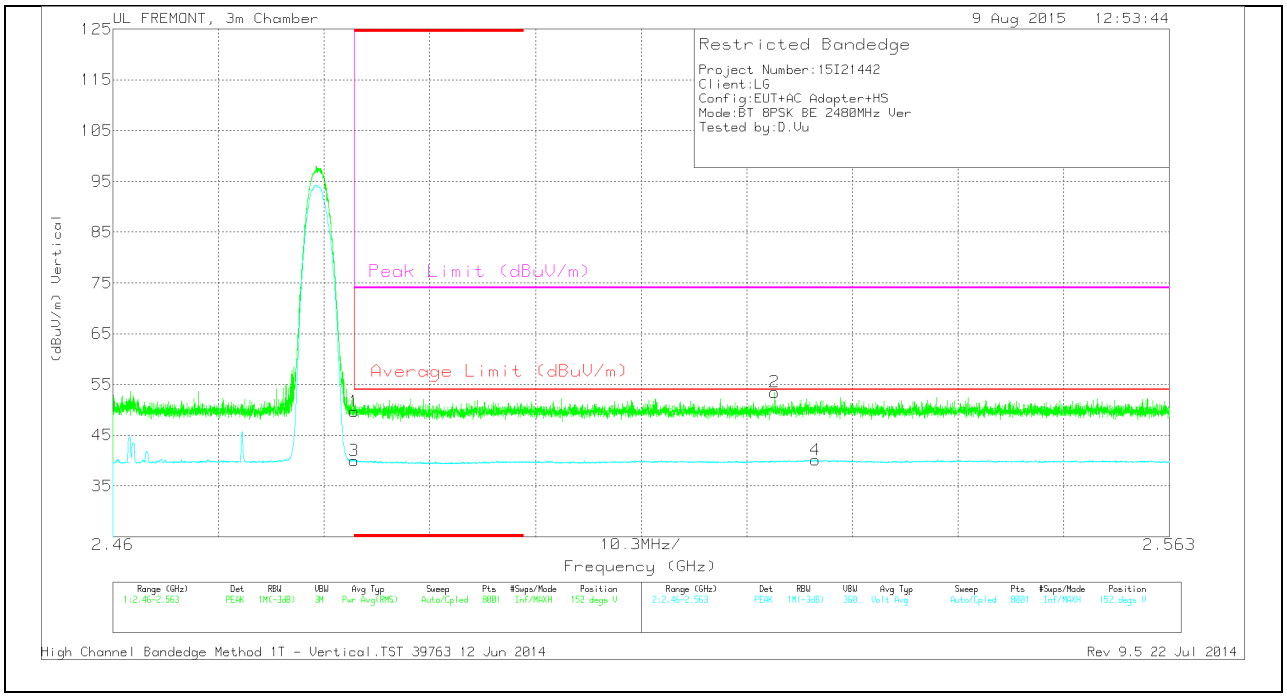
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	41.55	PK	32.3	-22.1	51.75	-	-	74	-22.25	198	244	H
3	* 2.484	29.65	VB1T	32.3	-22.1	39.85	54	-14.15	-	-	198	244	H
2	2.501	42.56	PK	32.3	-22.1	52.76	-	-	74	-21.24	198	244	H
4	2.528	29.81	VB1T	32.4	-22	40.21	54	-13.79	-	-	198	244	H

VERTICAL PEAK AND AVERAGE PLOT

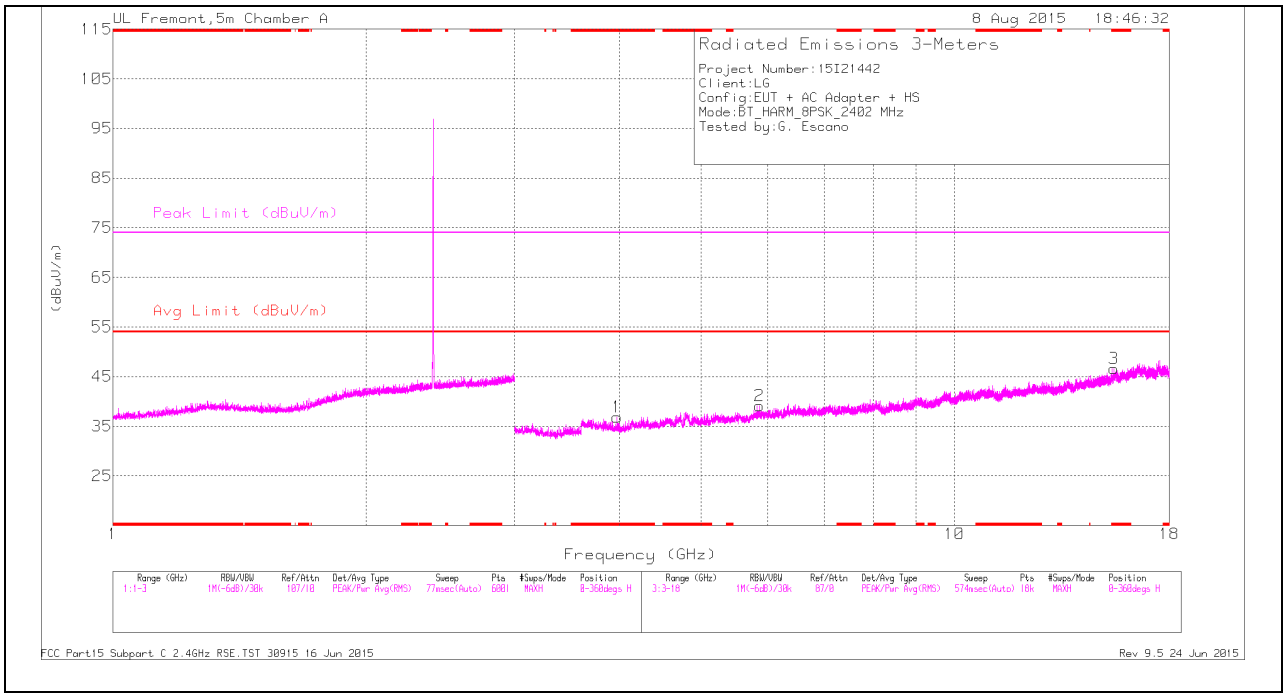


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filter/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	39.47	PK	32.3	-22.1	0	49.67	-	-	74	-24.33	152	392	V
3	* 2.484	29.84	VB1T	32.3	-22.1	0	40.04	54	-13.96	-	-	152	392	V
2	2.525	43.06	PK	32.4	-22	0	53.46	-	-	74	-20.54	152	392	V
4	2.528	29.7	VB1T	32.4	-22	0	40.1	54	-13.9	-	-	152	392	V

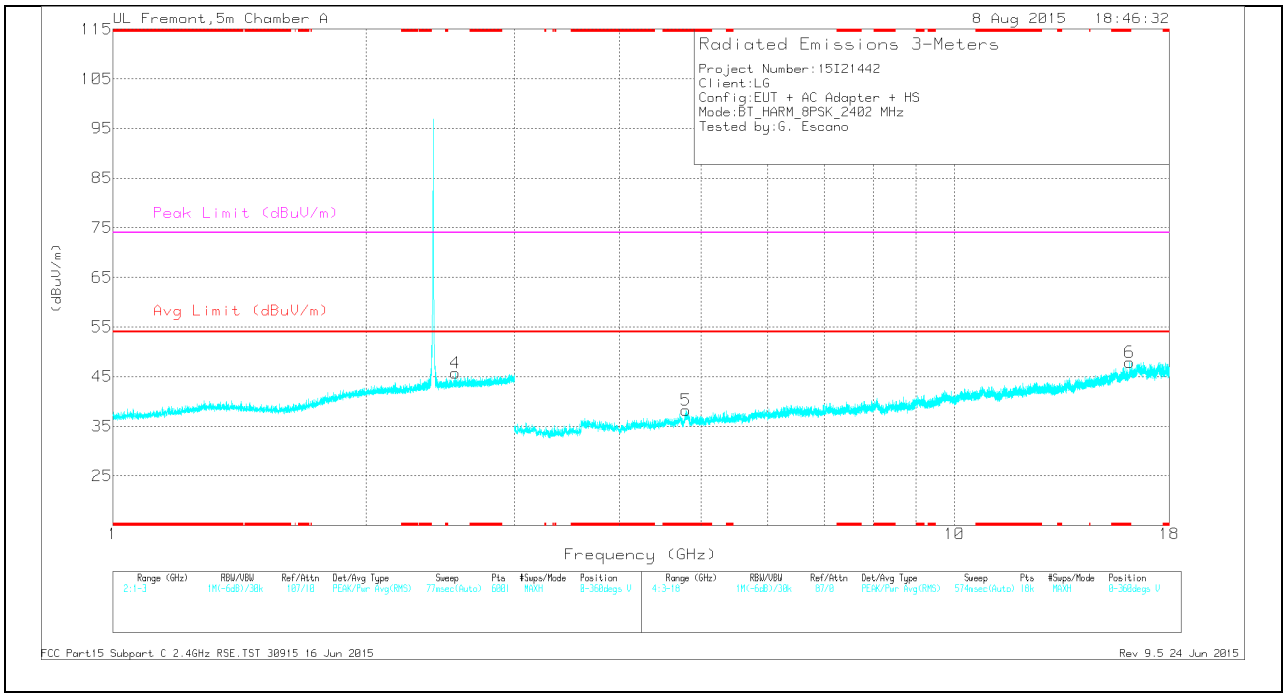
HARMONICS AND SPURIOUS EMISSIONS

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

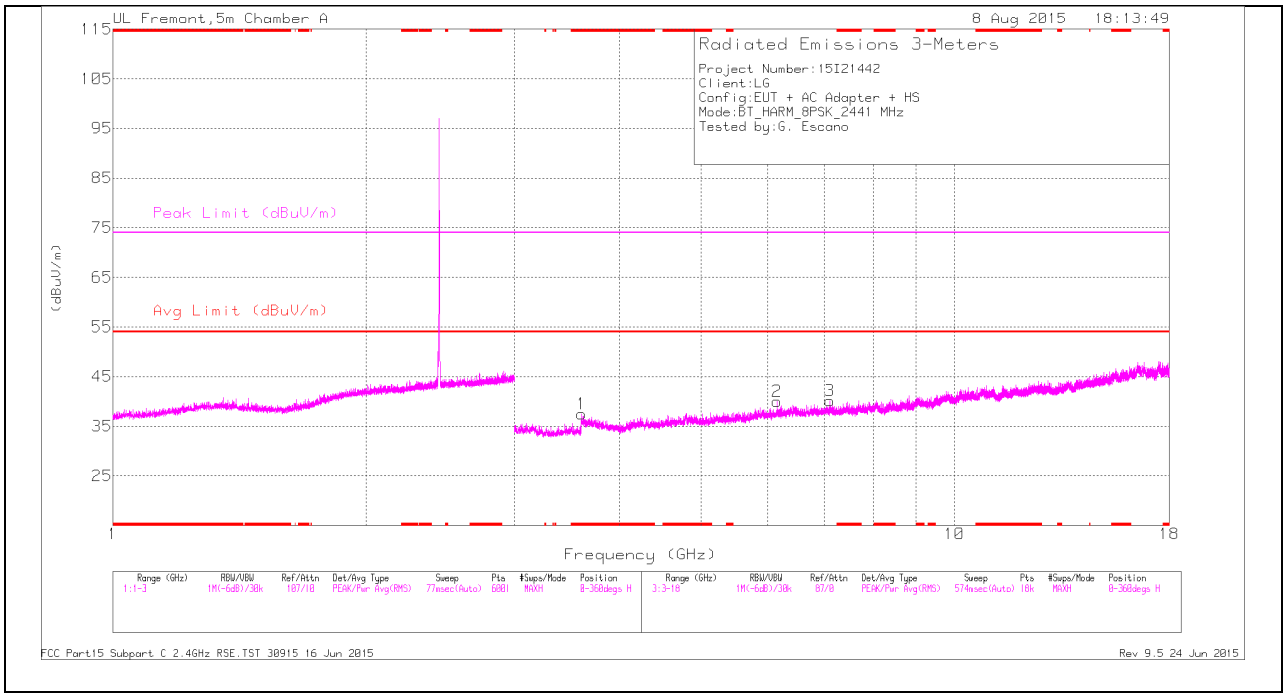
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.973	35	Pk	33.4	-31.6	36.8	-	-	74	-37.2	0-360	201	H
3	* 15.458	27.94	Pk	40.2	-21.5	46.64	-	-	74	-27.36	0-360	201	H
5	* 4.798	34.02	Pk	34	-29.8	38.22	-	-	74	-35.78	0-360	200	V
6	* 16.153	28.98	Pk	40.9	-22	47.88	-	-	74	-26.12	0-360	200	V
4	2.552	37.88	Pk	32.2	-24.4	45.68	-	-	-	-	0-360	200	V
2	5.863	31.81	Pk	35.1	-27.8	39.11	-	-	-	-	0-360	201	H

PK - Peak detector

RADIATED EMISSIONS

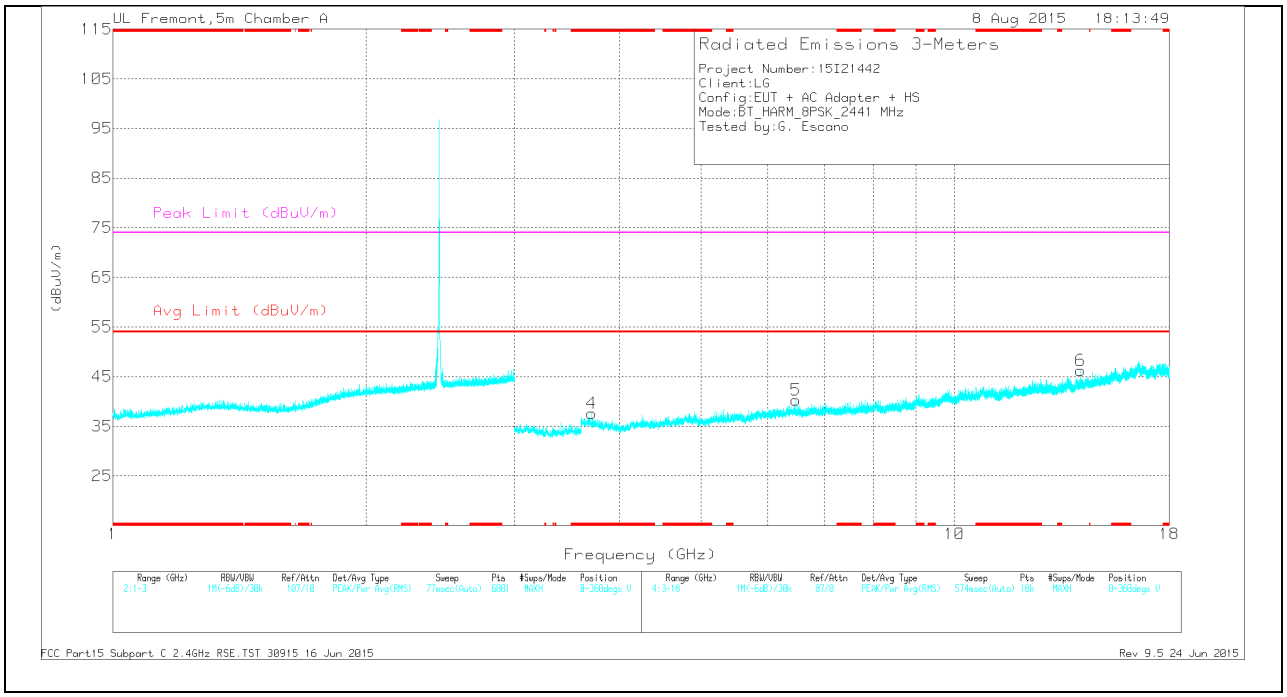
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.975	41.34	PK2	33.4	-31.6	43.14	-	-	74	-30.86	108	174	H
* 3.975	29.04	VA1T	33.4	-31.6	30.84	54	-23.16	-	-	108	174	H
* 15.457	35.08	PK2	40.2	-21.6	53.68	-	-	74	-20.32	171	262	H
* 15.457	22.64	VA1T	40.2	-21.5	41.34	54	-12.66	-	-	171	262	H
* 4.799	41.14	PK2	34	-29.8	45.34	-	-	74	-28.66	67	183	V
* 4.799	28.97	VA1T	34	-29.8	33.17	54	-20.83	-	-	67	183	V
* 16.154	35.19	PK2	40.9	-22	54.09	-	-	74	-19.91	15	132	V
* 16.154	23.07	VA1T	40.9	-22	41.97	54	-12.03	-	-	15	132	V
2.551	44.44	PK2	32.2	-24.4	52.24	-	-	74	-21.76	35	295	V
2.551	31.56	VA1T	32.2	-24.4	39.36	54	-14.64	-	-	35	295	V
5.863	26.47	VA1T	35.1	-27.8	33.77	54	-20.23	-	-	294	306	H
5.864	38.73	PK2	35.1	-27.8	46.03	-	-	74	-27.97	294	306	H

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

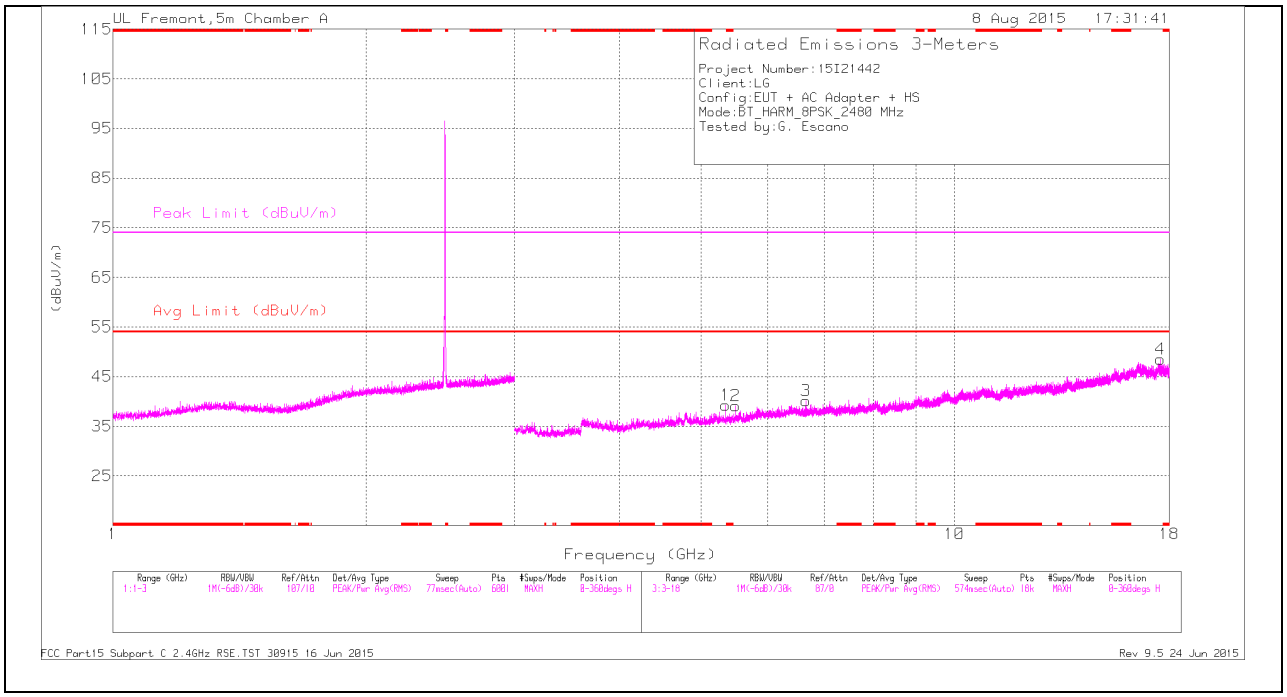
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.605	36.71	Pk	33.1	-32.3	37.51	-	-	74	-36.49	0-360	201	H
4	* 3.709	35.98	Pk	33.2	-31.6	37.58	-	-	74	-36.42	0-360	100	V
2	6.156	32.14	Pk	35.4	-27.5	40.04	-	-	-	-	0-360	201	H
5	6.481	31.59	Pk	35.5	-26.8	40.29	-	-	-	-	0-360	100	V
3	7.107	30.56	Pk	35.6	-26	40.16	-	-	-	-	0-360	100	H
6	14.119	29.32	Pk	38.7	-21.8	46.22	-	-	-	-	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

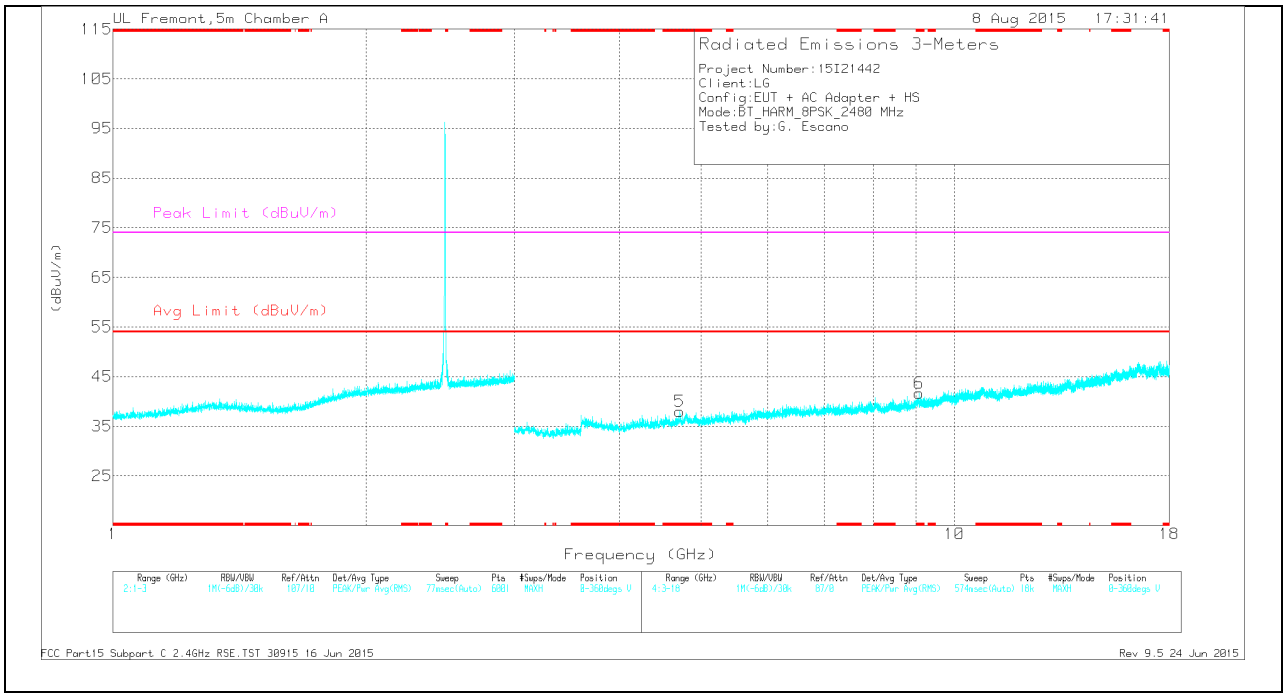
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.605	43.02	PK2	33.1	-32.3	43.82	-	-	74	-30.18	60	213	H
* 3.605	30.25	VA1T	33.1	-32.3	31.05	54	-22.95	-	-	60	213	H
* 3.71	42.42	PK2	33.2	-31.7	43.92	-	-	74	-30.08	305	124	V
* 3.709	29.63	VA1T	33.2	-31.6	31.23	54	-22.77	-	-	305	124	V
6.154	38.25	PK2	35.4	-27.5	46.15	-	-	74	-27.85	159	306	H
6.154	26.01	VA1T	35.4	-27.5	33.91	54	-20.09	-	-	159	306	H
6.48	25.41	VA1T	35.5	-26.8	34.11	54	-19.89	-	-	231	210	V
6.483	38.03	PK2	35.5	-26.8	46.73	-	-	74	-27.27	231	210	V
7.106	37.31	PK2	35.6	-26	46.91	-	-	74	-27.09	211	171	H
7.109	25.01	VA1T	35.6	-26	34.61	54	-19.39	-	-	211	171	H
14.118	35.38	PK2	38.7	-21.7	52.38	-	-	74	-21.62	59	137	V
14.12	22.75	VA1T	38.7	-21.8	39.65	54	-14.35	-	-	59	137	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 T136 (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
5	* 4.716	34.53	Pk	34.1	-30.7	37.93	-	-	74	-36.07	0-360	100	V
6	* 9.072	28.97	Pk	36.2	-23.5	41.67	-	-	74	-32.33	0-360	200	V
1	5.347	34.4	Pk	34.6	-29.7	39.3	-	-	-	-	0-360	201	H
2	5.497	33.27	Pk	34.5	-28.7	39.07	-	-	-	-	0-360	201	H
3	6.657	32.17	Pk	35.6	-27.6	40.17	-	-	-	-	0-360	201	H
4	17.555	27.87	Pk	41.7	-21.1	48.47	-	-	-	-	0-360	100	H

PK - Peak detector

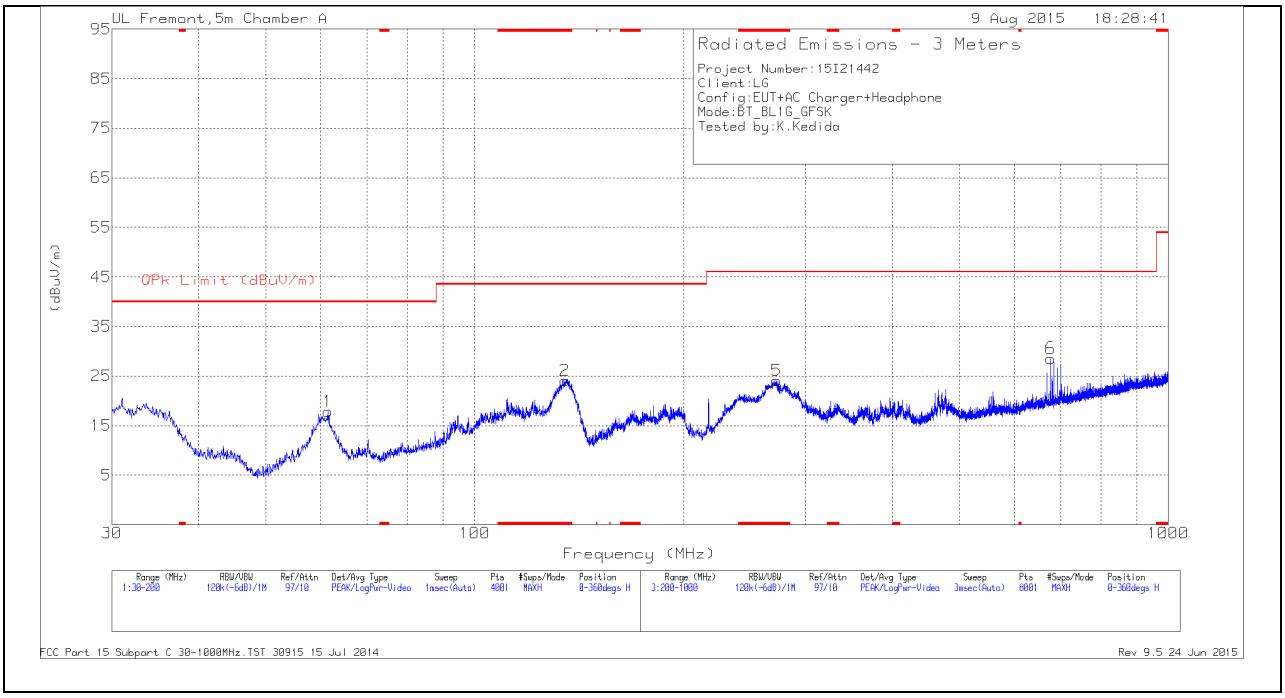
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
* 4.715	41.91	PK2	34.1	-30.7	45.31	-	-	74	-28.69	80	174	V
* 4.718	29.41	VA1T	34.1	-30.7	32.81	54	-21.19	-	-	80	174	V
* 9.074	36.18	PK2	36.2	-23.5	48.88	-	-	74	-25.12	12	116	V
* 9.074	23.27	VA1T	36.2	-23.5	35.97	54	-18.03	-	-	12	116	V
5.346	27.73	VA1T	34.6	-29.7	32.63	54	-21.37	-	-	45	210	H
5.347	40	PK2	34.6	-29.7	44.9	-	-	74	-29.1	45	210	H
5.496	40.29	PK2	34.5	-28.7	46.09	-	-	74	-27.91	105	190	H
5.496	27.28	VA1T	34.5	-28.8	32.98	54	-21.02	-	-	105	190	H
6.656	25.89	VA1T	35.6	-27.6	33.89	54	-20.11	-	-	213	125	H
6.657	38.22	PK2	35.6	-27.6	46.22	-	-	74	-27.78	213	125	H
17.557	34.49	PK2	41.7	-21.1	55.09	-	-	74	-18.91	336	152	H
17.557	22.51	VA1T	41.7	-21.1	43.11	54	-10.89	-	-	336	152	H

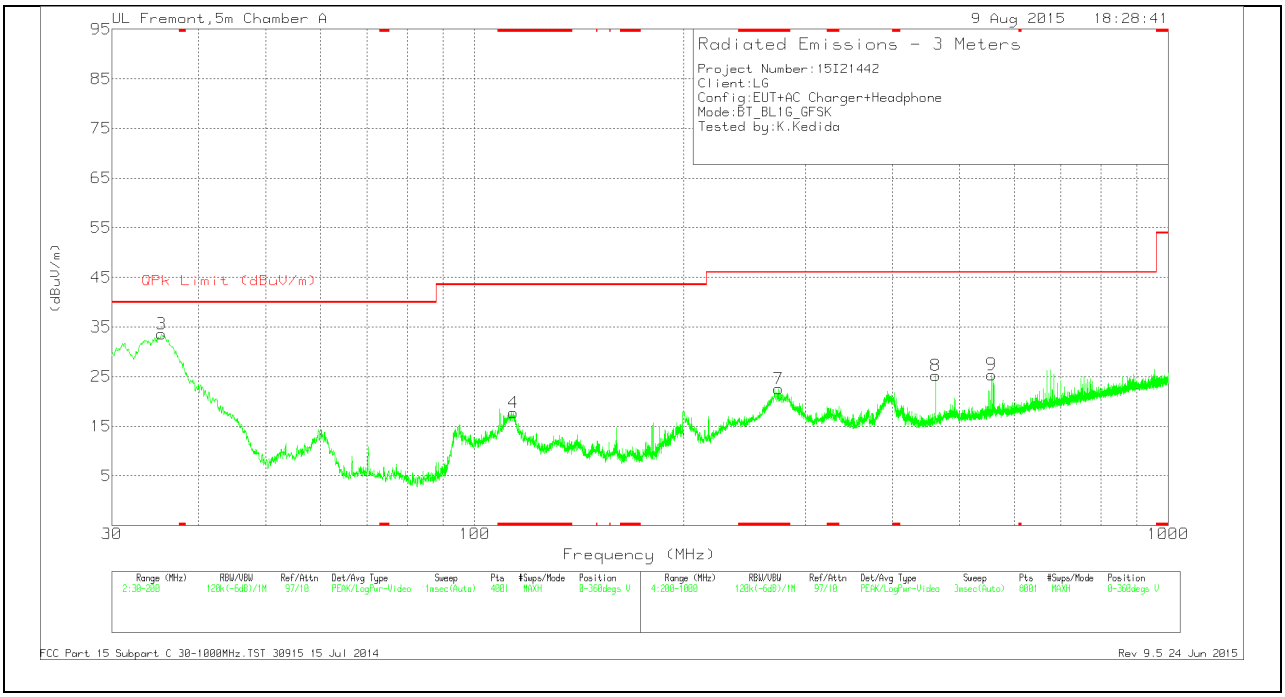
8.3. WORST-CASE BELOW 1 GHz

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

HORIZONTAL PLOT



VERTICAL PLOT



* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
Pk - Peak detector
Radiated Emissions

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	* 134.89	40.42	Pk	14	-30.3	24.12	43.52	-19.4	0-360	399	H
4	* 113.725	34.98	Pk	13.1	-30.4	17.68	43.52	-25.84	0-360	101	V
5	* 272.3	40.52	Pk	13.1	-29.5	24.12	46.02	-21.9	0-360	101	H
7	* 274.5	38.8	Pk	13.2	-29.5	22.5	46.02	-23.52	0-360	299	V
3	35.3975	47.29	Pk	17.5	-31.2	33.59	40	-6.41	0-360	101	V
1	61.45	41	Pk	7.7	-30.9	17.8	40	-22.2	0-360	399	H
8	461.9	37.05	Pk	17	-28.8	25.25	46.02	-20.77	0-360	101	V
9	556.3	35.61	Pk	18.4	-28.6	25.41	46.02	-20.61	0-360	101	V
6	676.3	36.98	Pk	19.8	-28.2	28.58	46.02	-17.44	0-360	199	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
Qp - Quasi-Peak detector