FCC 47 CFR PART 15 SUBPART C
INDUSTRY CANADA RSS-210 ISSUE 8

C2PC CERTIFICATION TEST REPORT

FOR

GSM/CDMA/WCDMA/LTE Phone + Bluetooth, DTS/UNII a/b/g/n/ac and NFC

MODEL NUMBER: LG-VS985, VS985, LGVS985, AS985, LG-AS985 & LGAS985

FCC ID: ZNFVS985
IC: 2703C-VS985

REPORT NUMBER: 14U17777-2
ISSUE DATE: MAY 20, 2014

Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	5/20/14	Initial Issue	P. Zhang

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1. ATTESTATION OF TEST RESULTS

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

EUT DESCRIPTION: **GSM/CDMA/WCDMA/LTE Phone + Bluetooth, DTS/UNII a/b/g/n/ac and NFC.**

MODEL: **LG-VS985, VS985, LGVS985, AS985, LG-AS985 & LGAS985**

SERIAL NUMBER: **1873283 (Radiated)**

DATE TESTED: **MAY 12 - 20, 2014**

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

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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Tested By:

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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, FCC CFR 47 Part 15, RSS-GEN Issue 3, and RSS-210 Issue 8.

3. FACILITIES AND ACCREDITATION

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

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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/CDMA/WCDMA/LTE Phone + Bluetooth, DTS/UNII a/b/g/n/ac and NFC.

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	Basic GFSK	7.66	5.83
2402 - 2480	Enhanced 8PSK	8.02	6.34

Note: GFSK, Pi/4-DQPSK, 8PSK average Power are all investigated, The GFSK & 8PSK Power are the worst case. Testing is based on this mode to showing compliance. For average power data please refer to section 8.6.

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of -1.74 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-04WT2	TA350000050	N/A
Earphone	LG	N/A	N/A	N/A
Smart Cover	LG	N/A	N/A	N/A

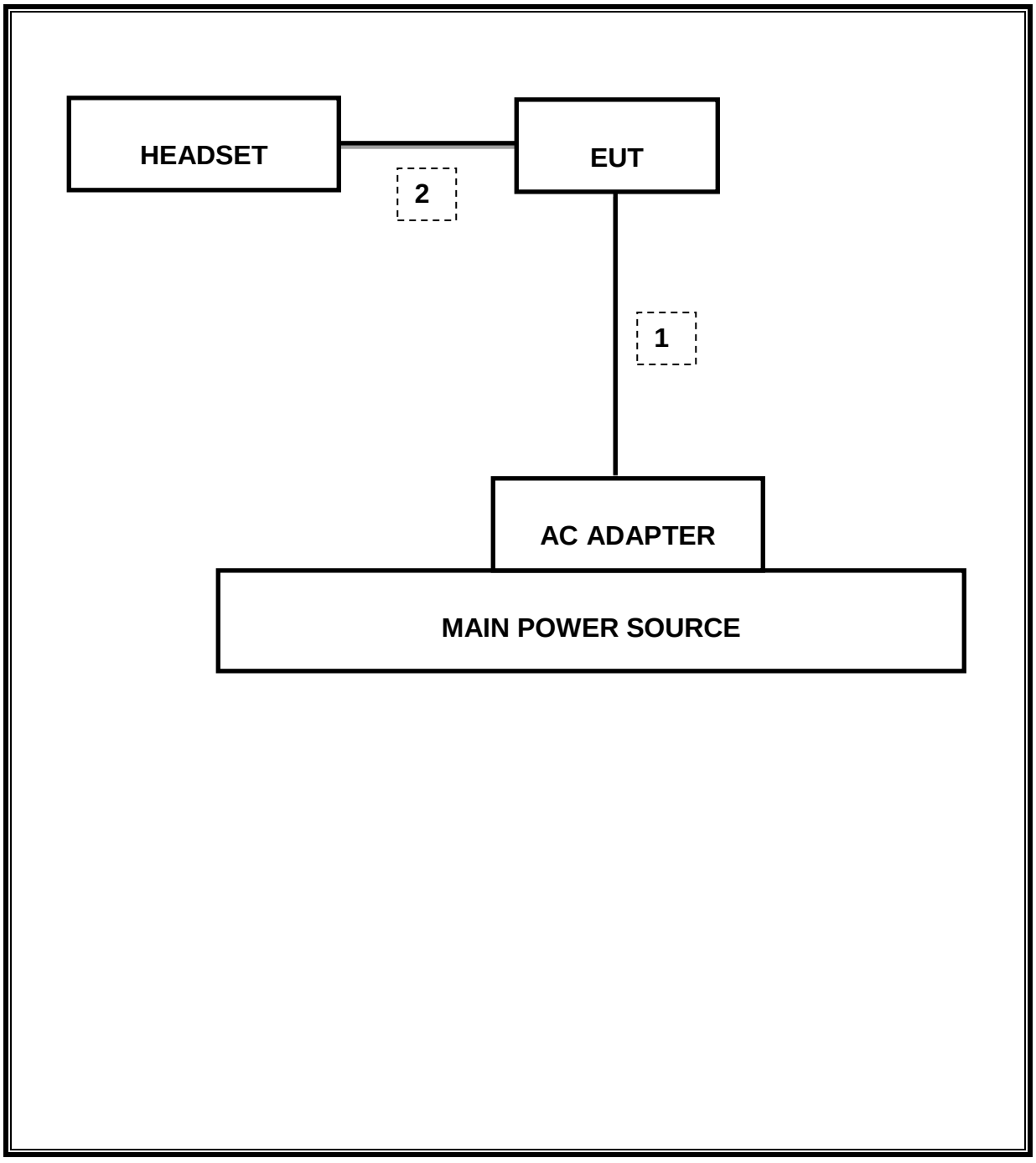
I/O CABLES

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	02/13/15
Antenna, Horn, 18GHz	EMCO	3115	C00783	10/25/14
Antenna, Horn, 25.5 GHz	ARA	MWH-1826/B	C00980	11/14/14
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00580	01/28/15
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01052	10/22/14
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/14
CBT Bluetooth Tester	R & S	CBT	None	07/12/14
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/14
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/14
LISN, 30 MHz	FCC	50/250-25-2	C00626	01/14/15
Reject Filter, 2.4GHz	Micro-Tronics	BRM50702	N02684	CNR

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	44.93dBuV/m

8. RADIATED TEST RESULTS

8.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-210 Clause 2.6 (Transmitter)

IC RSS-GEN Clause 6 (Receiver)

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.4. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For 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 / 0.0029S = 344Hz.

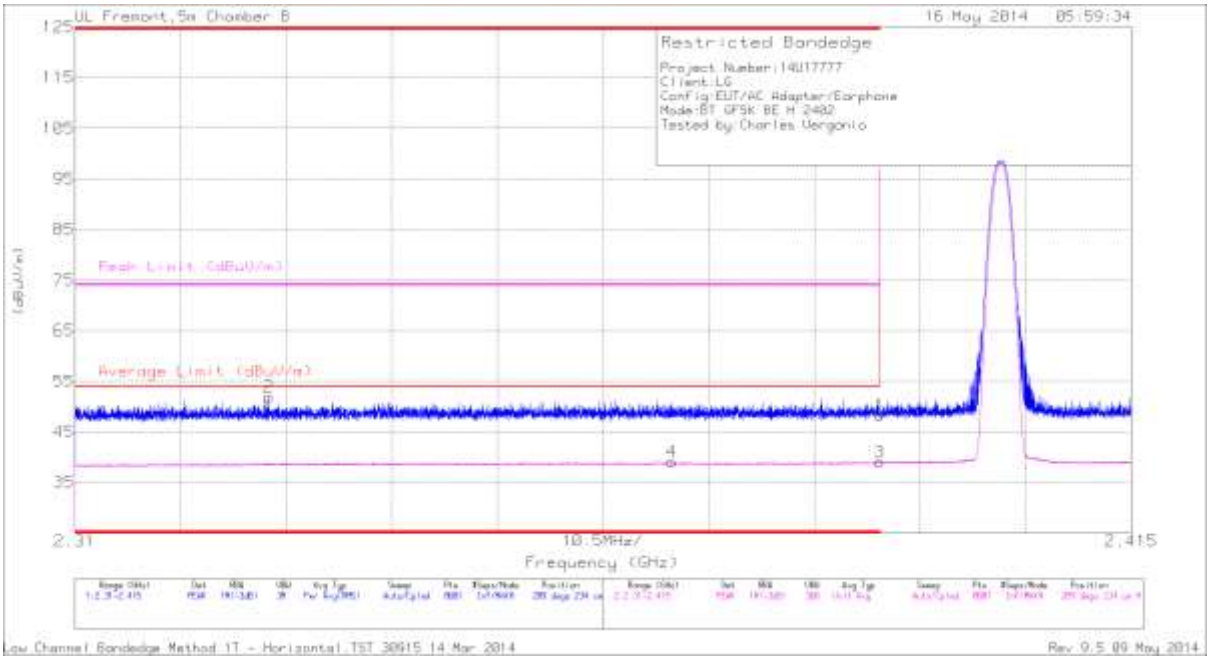
The spectrum from 1GHzHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

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)

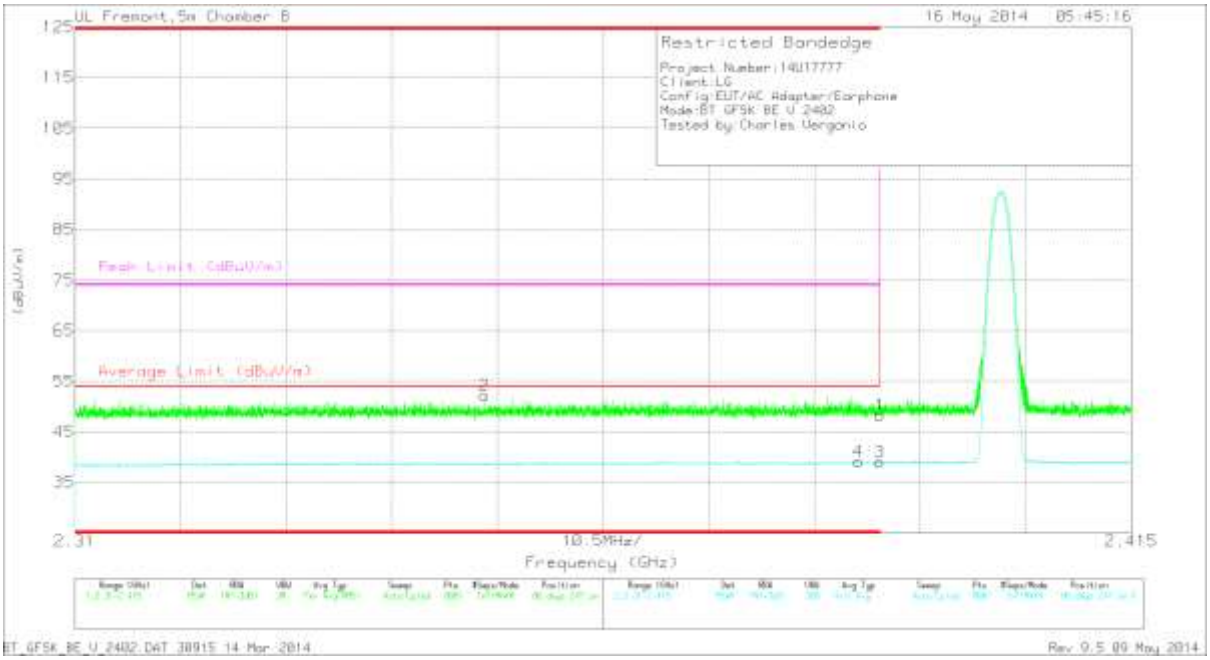


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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	39.02	PK	32.1	-22.8	0	48.32	-	-	74	-25.68	289	234	H
2	* 2.329	43	PK	31.8	-22.9	0	51.9	-	-	74	-22.1	289	234	H
3	* 2.39	29.67	VB1T	32.1	-22.8	0	38.97	54	-15.03	-	-	289	234	H
4	* 2.369	29.94	VB1T	32	-22.8	0	39.14	54	-14.86	-	-	289	234	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector
VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

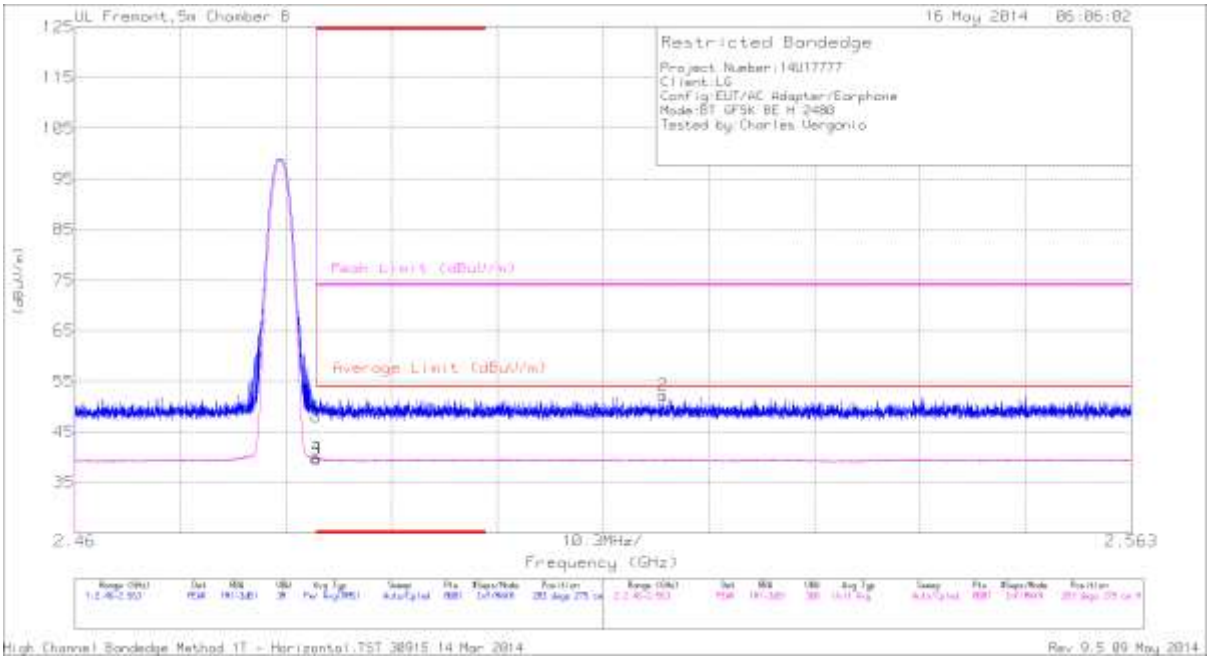


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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	38.95	PK	32.1	-22.8	0	48.25	-	-	74	-25.75	86	247	V
2	* 2.351	43.12	PK	31.9	-22.9	0	52.12	-	-	74	-21.88	86	247	V
3	* 2.39	29.69	VB1T	32.1	-22.8	0	38.99	54	-15.01	-	-	86	247	V
4	* 2.388	29.86	VB1T	32.1	-22.8	0	39.16	54	-14.84	-	-	86	247	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector
VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

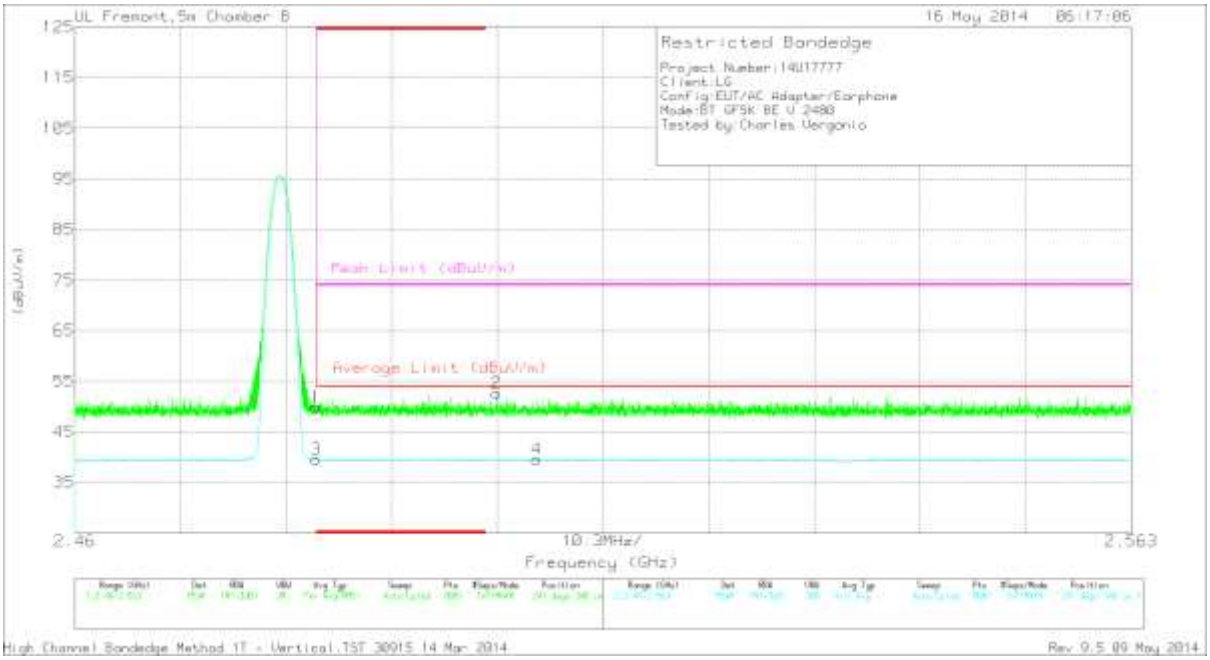


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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	38.42	PK	32.4	-22.7	0	48.12	-	-	74	-25.88	283	275	H
3	* 2.484	29.97	VB1T	32.4	-22.7	0	39.67	54	-14.33	-	-	283	275	H
4	* 2.484	30.18	VB1T	32.4	-22.7	0	39.88	54	-14.12	-	-	283	275	H
2	2.517	42.32	PK	32.5	-22.6	0	52.22	-	-	74	-21.78	283	275	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector
VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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	40.26	PK	32.4	-22.7	0	49.96	-	-	74	-24.04	241	348	V
3	* 2.484	29.96	VB1T	32.4	-22.7	0	39.66	54	-14.34	-	-	241	348	V
2	2.501	42.94	PK	32.4	-22.7	0	52.64	-	-	74	-21.36	241	348	V
4	2.505	29.96	VB1T	32.4	-22.7	0	39.66	54	-14.34	-	-	241	348	V

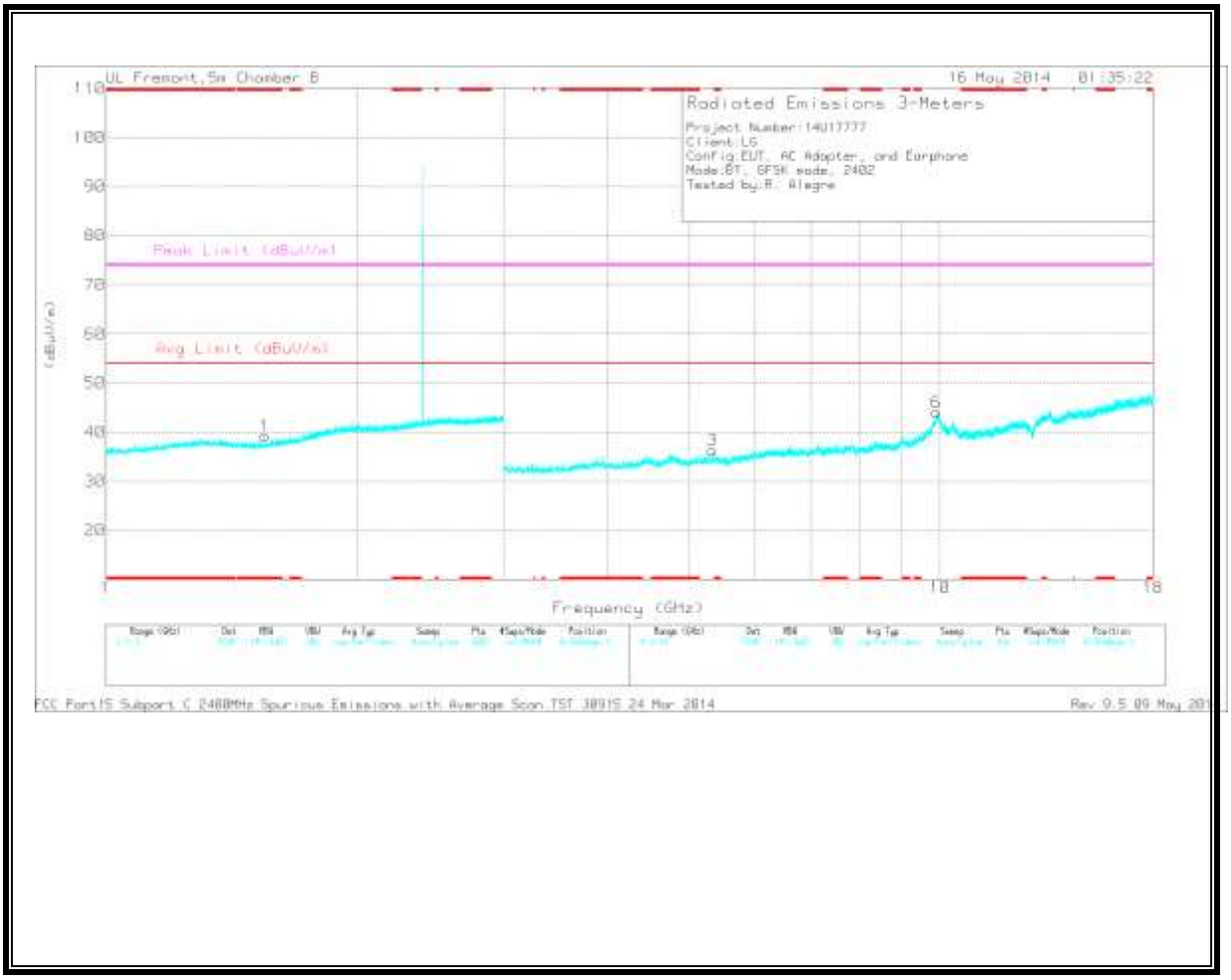
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector
VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

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.

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/Fltr/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	* 1.45	35	PK	28.2	-24.3	0	38.9	-	-	74	-35.1	0-360	202	H
1	* 1.55	35.09	PK	28.2	-24.1	0	39.19	-	-	74	-34.81	0-360	202	V
4	* 4.689	31.72	PK	34.2	-29.9	0	36.02	-	-	74	-37.98	0-360	99	H
5	* 13.31	26.9	PK	39.3	-21.3	0	44.9	-	-	74	-29.1	0-360	202	H
3	5.335	30.47	PK	34.5	-28.7	0	36.27	-	-	-	-	0-360	99	V
6	9.887	30.71	PK	37	-23.7	0	44.01	-	-	-	-	0-360	99	V

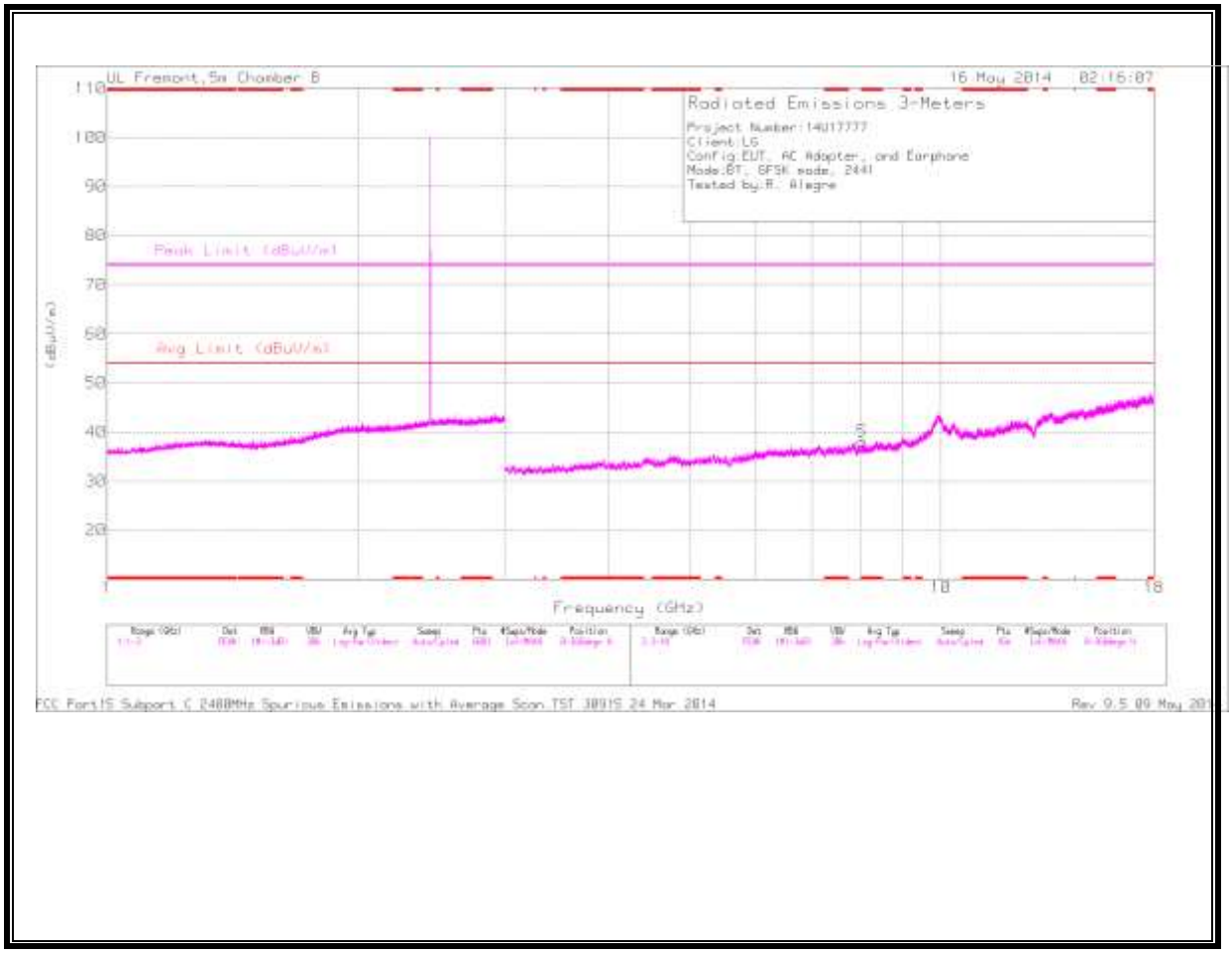
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 1.55	43.89	PK3	28.2	-24.1	47.99	-	-	74	-26.01	1	204	V
* 13.31	34.91	PK3	39.3	-21.3	52.91	-	-	74	-21.09	1	204	H
* 13.31	22.04	VB1T	39.3	-21.3	41.24	54	-12.76	-	-	1	204	H
* 4.69	40.5	PK3	34.2	-29.9	44.8	-	-	74	-29.2	1	100	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK3 - FHSS Method: Maximum Peak
VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

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.

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 T345 (dB/m)	Amp/Cbl/Fltr/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	* 1.55	34.86	PK	28.2	-24.1	0	38.96	-	-	74	-35.04	0-360	202	V
2	* 1.319	34.68	PK	28.8	-24.5	0	38.98	-	-	74	-35.02	0-360	202	V
5	* 8.053	28.51	PK	35.7	-26.2	0	38.01	-	-	74	-35.99	0-360	202	H
3	* 3.817	31.78	PK	33.7	-30.6	0	34.88	-	-	74	-39.12	0-360	99	V
4	* 11.14	26.6	PK	37.8	-22.3	0	42.1	-	-	74	-31.9	0-360	202	V
6	9.908	30.37	PK	37	-23.6	0	43.77	-	-	-	-	0-360	99	V

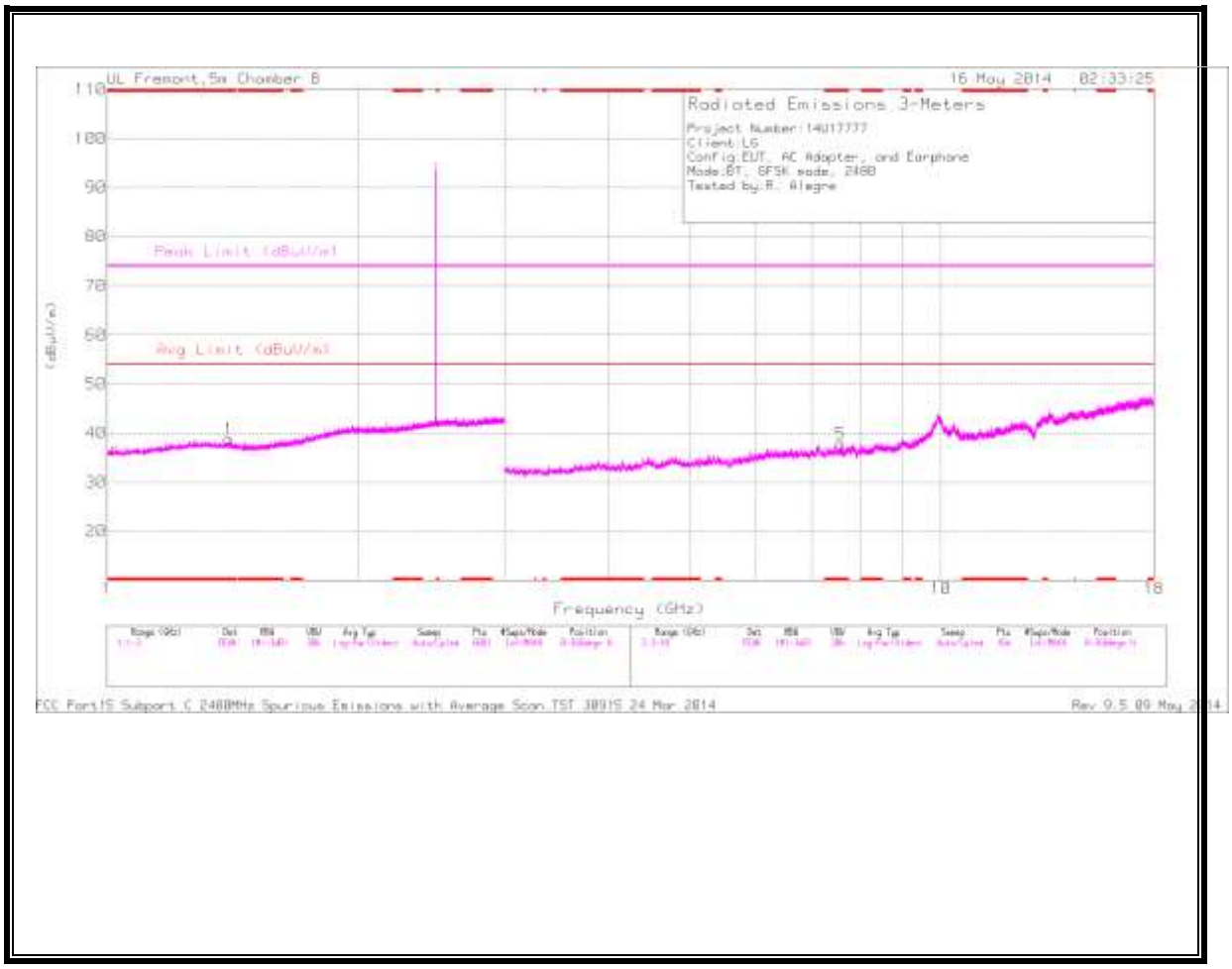
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 1.318	43.76	PK3	28.8	-24.5	48.06	-	-	74	-25.94	1	204	V
* 8.055	24.17	VB1T	35.7	-26.2	33.67	54	-20.33	-	-	1	204	H
* 8.054	38.04	PK3	35.7	-26.2	47.54	-	-	74	-26.46	1	204	H
* 11.14	34.52	PK3	37.8	-22.3	50.02	-	-	74	-23.98	1	204	V
* 11.139	21.72	VB1T	37.8	-22.2	38.52	54	-15.48	-	-	1	204	V
* 3.819	41.18	PK3	33.7	-30.6	44.28	-	-	74	-29.72	1	100	V
* 11.14	34.93	PK3	37.8	-22.3	50.43	-	-	74	-23.57	1	204	V
* 11.139	21.85	VB1T	37.8	-22.2	38.65	54	-15.35	-	-	1	204	V
9.91	38.7	PK3	37	-23.6	52.1	-	-	-	-	1	100	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK3 - FHSS Method: Maximum Peak
VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

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.

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/Fltr/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	* 1.401	34.69	PK	28.5	-24.4	0	38.79	-	-	74	-35.21	0-360	99	H
2	* 1.212	34.74	PK	28.3	-24.6	0	38.44	-	-	74	-35.56	0-360	99	V
5	* 7.572	29.37	PK	35.6	-27.2	0	37.77	-	-	74	-36.23	0-360	99	H
3	* 4.753	31.06	PK	34.2	-29.3	0	35.96	-	-	74	-38.04	0-360	202	V
4	* 3.907	31.18	PK	33.8	-30.3	0	34.68	-	-	74	-39.32	0-360	202	V
6	13.556	26.04	PK	38.9	-20.1	0	44.84	-	-	-	-	0-360	202	V

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

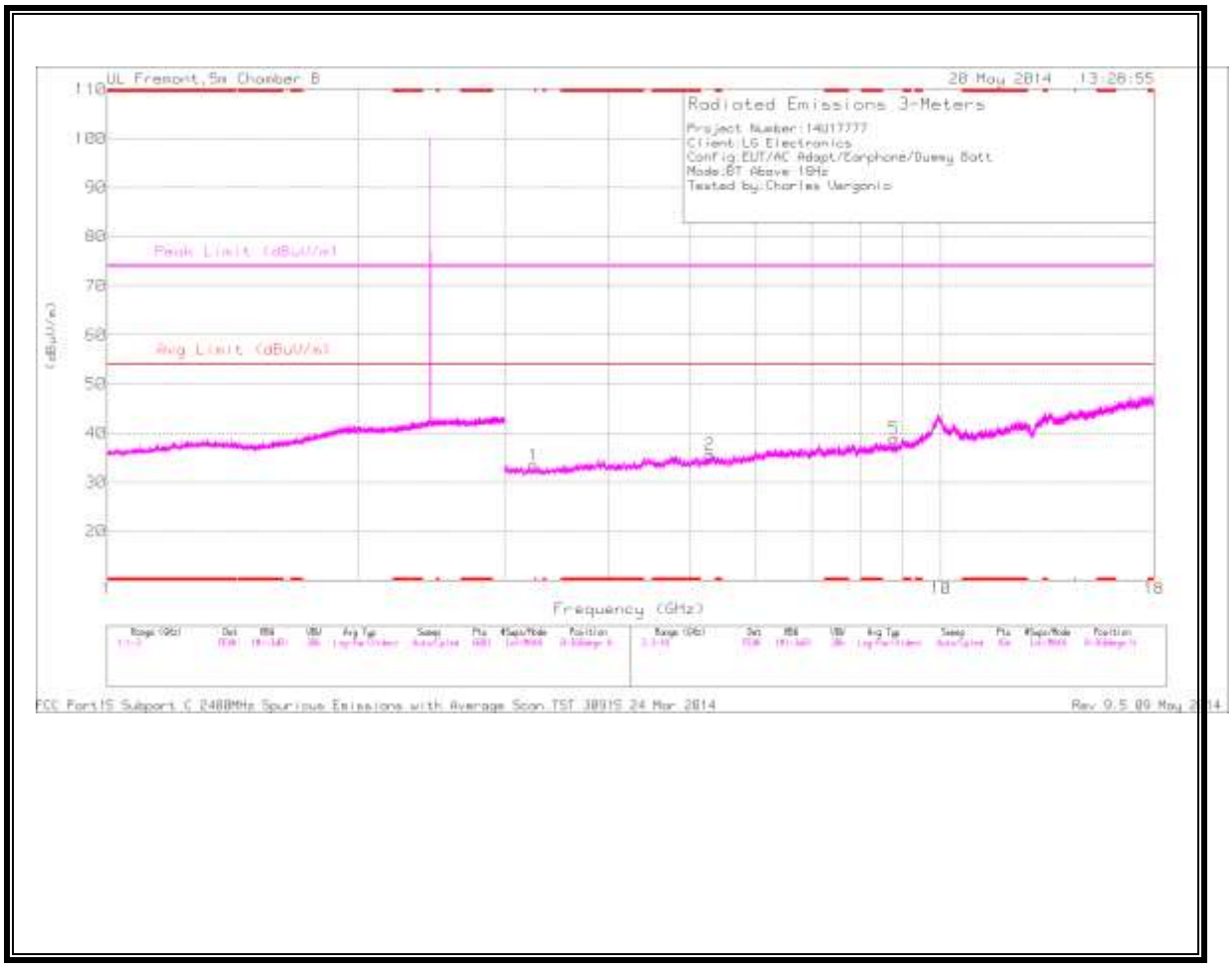
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 1.211	44.25	PK3	28.3	-24.6	47.95	-	-	74	-26.05	1	100	V
* 7.571	38.9	PK3	35.6	-27.2	47.3	-	-	74	-26.7	1	100	H
* 4.752	40.12	PK3	34.2	-29.3	45.02	-	-	74	-28.98	1	204	V
* 4.753	27.13	VB1T	34.2	-29.3	33.23	54	-20.77	-	-	1	204	V
* 3.907	40.14	PK3	33.8	-30.3	43.64	-	-	74	-30.36	1	204	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK3 - FHSS Method: Maximum Peak
VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

WORST CASE HARMONICS AND SPURIOUS EMISSIONS WITH SMART COVER

HORIZONTAL



VERTICAL

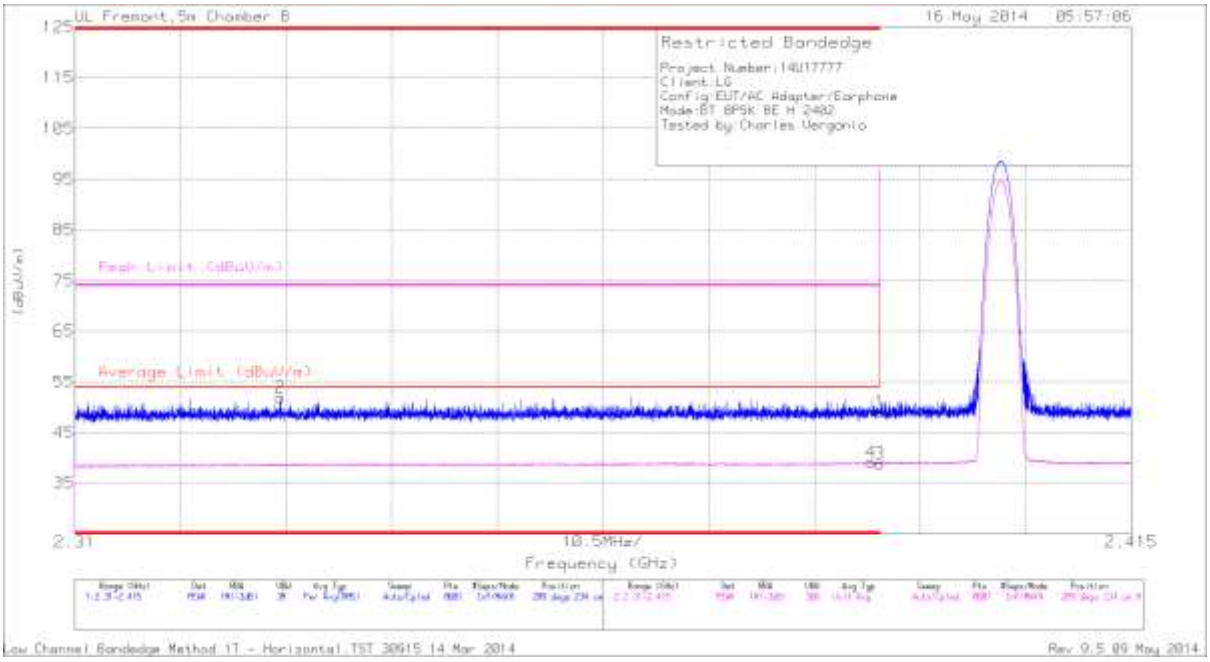
CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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	3.248	31.99	PK	32.8	-31.3	33.49	-	-	-	-	0-360	202	H
2	5.284	30.85	PK	34.4	-29.6	35.65	-	-	-	-	0-360	99	H
3	5.985	30.23	PK	35.2	-28.5	36.93	-	-	-	-	0-360	99	V
4	7.149	29.08	PK	35.6	-26.9	37.78	-	-	-	-	0-360	99	V
5	8.789	28.11	PK	36	-25.2	38.91	-	-	-	-	0-360	99	H
6	9.909	30.52	PK	37	-23.6	43.92	-	-	-	-	0-360	99	V

PK - Peak detector

8.2.2. ENHANCED DATA RATE 8PSK MODULATION

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

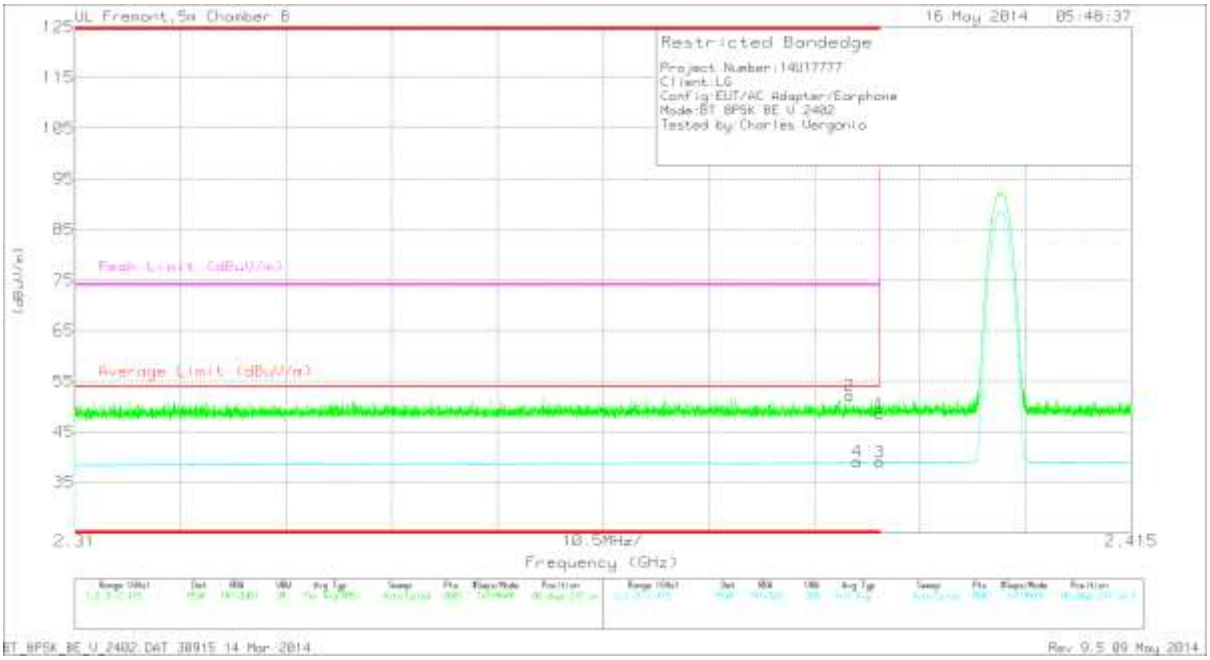


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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	39.84	PK	32.1	-22.8	0	49.14	-	-	74	-24.86	289	234	H
2	* 2.33	43.04	PK	31.8	-22.9	0	51.94	-	-	74	-22.06	289	234	H
3	* 2.39	29.62	VB1T	32.1	-22.8	0	38.92	54	-15.08	-	-	289	234	H
4	* 2.389	29.82	VB1T	32.1	-22.8	0	39.12	54	-14.88	-	-	289	234	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector
VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

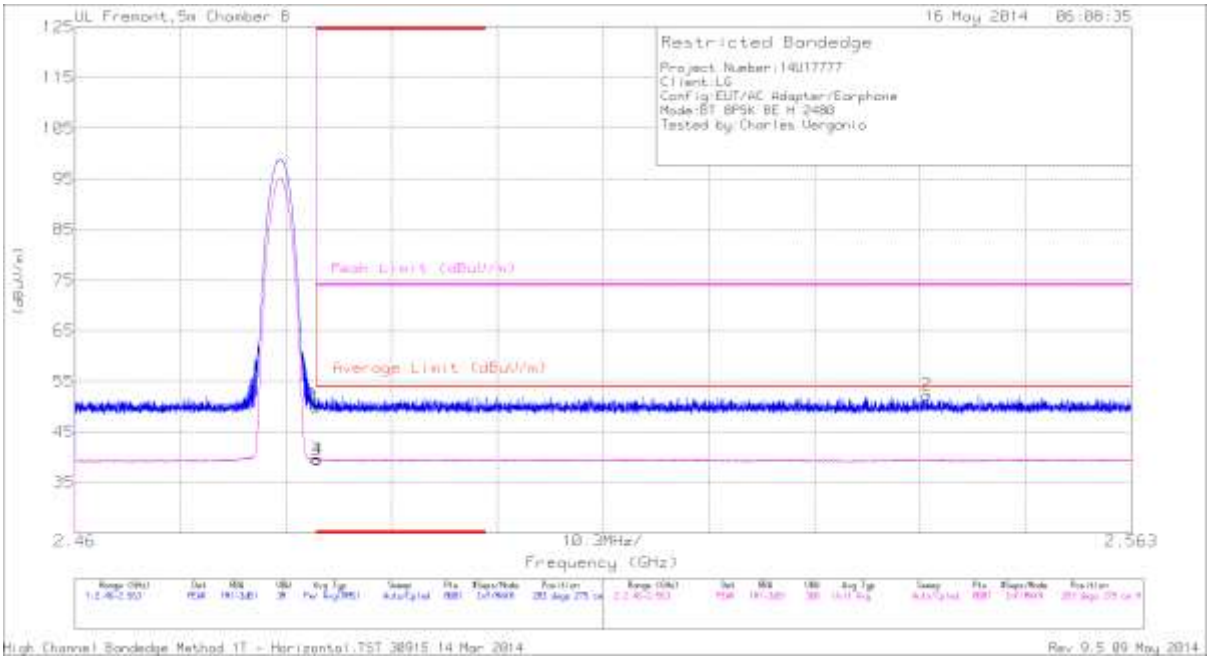


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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	39.21	PK	32.1	-22.8	0	48.51	-	-	74	-25.49	86	247	V
2	* 2.387	42.82	PK	32.1	-22.8	0	52.12	-	-	74	-21.88	86	247	V
3	* 2.39	29.71	VB1T	32.1	-22.8	0	39.01	54	-14.99	-	-	86	247	V
4	* 2.388	29.8	VB1T	32.1	-22.8	0	39.1	54	-14.9	-	-	86	247	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector
VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

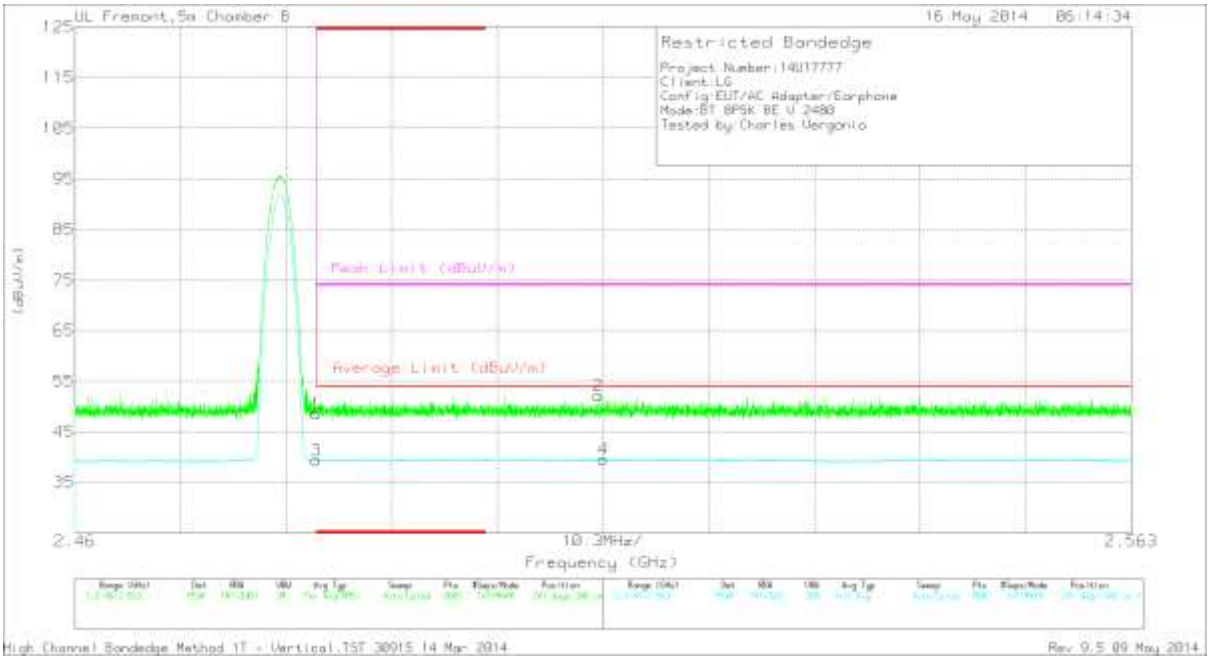


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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	40.26	PK	32.4	-22.7	0	49.96	-	-	74	-24.04	283	275	H
3	* 2.484	29.74	VB1T	32.4	-22.7	0	39.44	54	-14.56	-	-	283	275	H
4	* 2.484	29.95	VB1T	32.4	-22.7	0	39.65	54	-14.35	-	-	283	275	H
2	2.543	42.44	PK	32.5	-22.6	0	52.34	-	-	74	-21.66	283	275	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector
VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



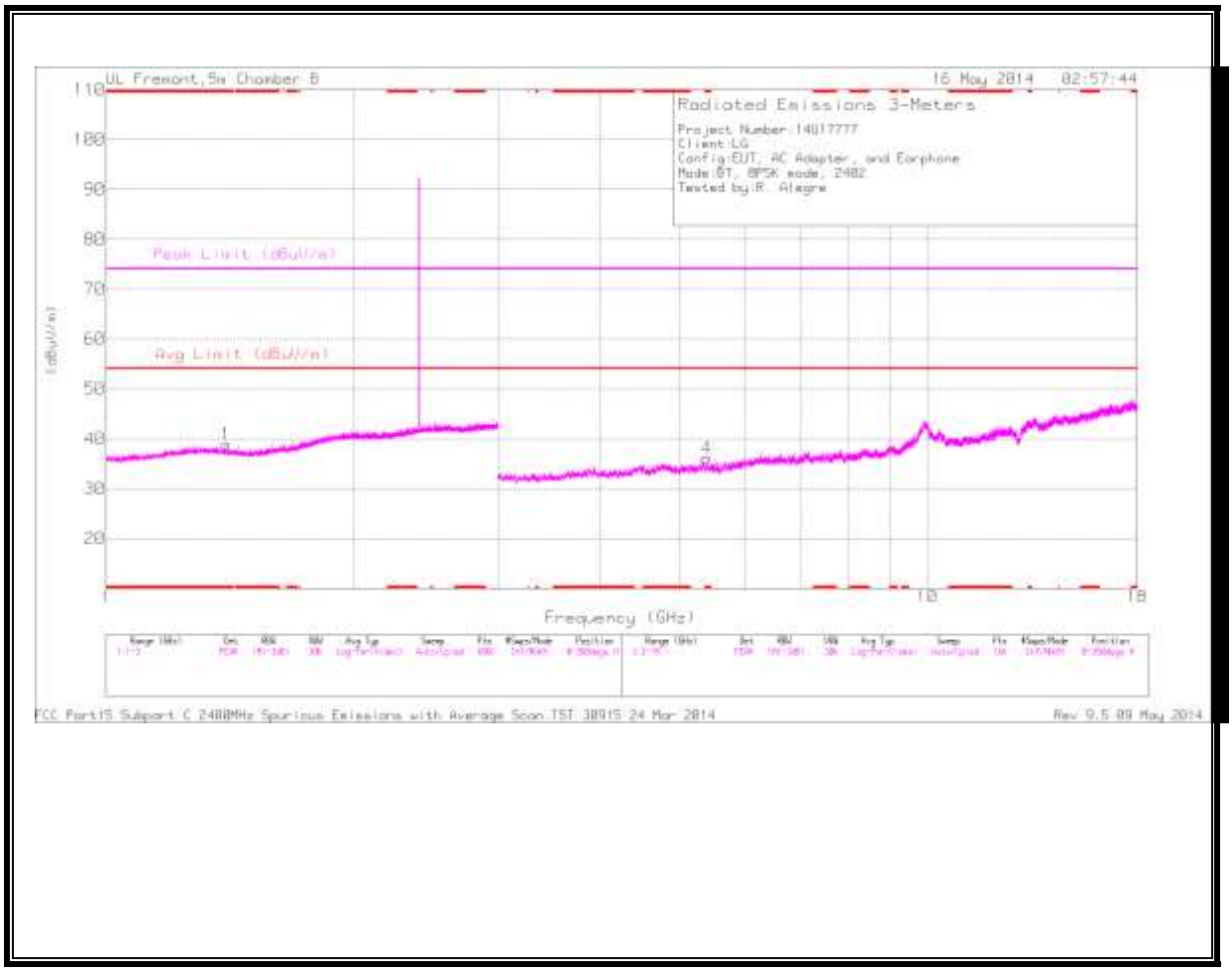
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/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	38.83	PK	32.4	-22.7	0	48.53	-	-	74	-25.47	241	348	V
3	* 2.484	29.69	VB1T	32.4	-22.7	0	39.39	54	-14.61	-	-	241	348	V
2	2.511	42.31	PK	32.5	-22.7	0	52.11	-	-	74	-21.89	241	348	V
4	2.512	29.86	VB1T	32.5	-22.7	0	39.66	54	-14.34	-	-	241	348	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector
VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

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.

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/Fltr/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	* 1.4	34.79	PK	28.5	-24.4	0	38.89	-	-	74	-35.11	0-360	202	H
2	* 1.471	34.91	PK	28.1	-24.2	0	38.81	-	-	74	-35.19	0-360	202	V
4	* 5.391	30.61	PK	34.5	-29	0	36.11	-	-	74	-37.89	0-360	99	H
3	* 3.866	31.3	PK	33.7	-30.4	0	34.6	-	-	74	-39.4	0-360	99	V
6	* 8.041	28.62	PK	35.7	-26.4	0	37.92	-	-	74	-36.08	0-360	202	V
5	9.9	30.38	PK	37	-23.6	0	43.78	-	-	-	-	0-360	99	V

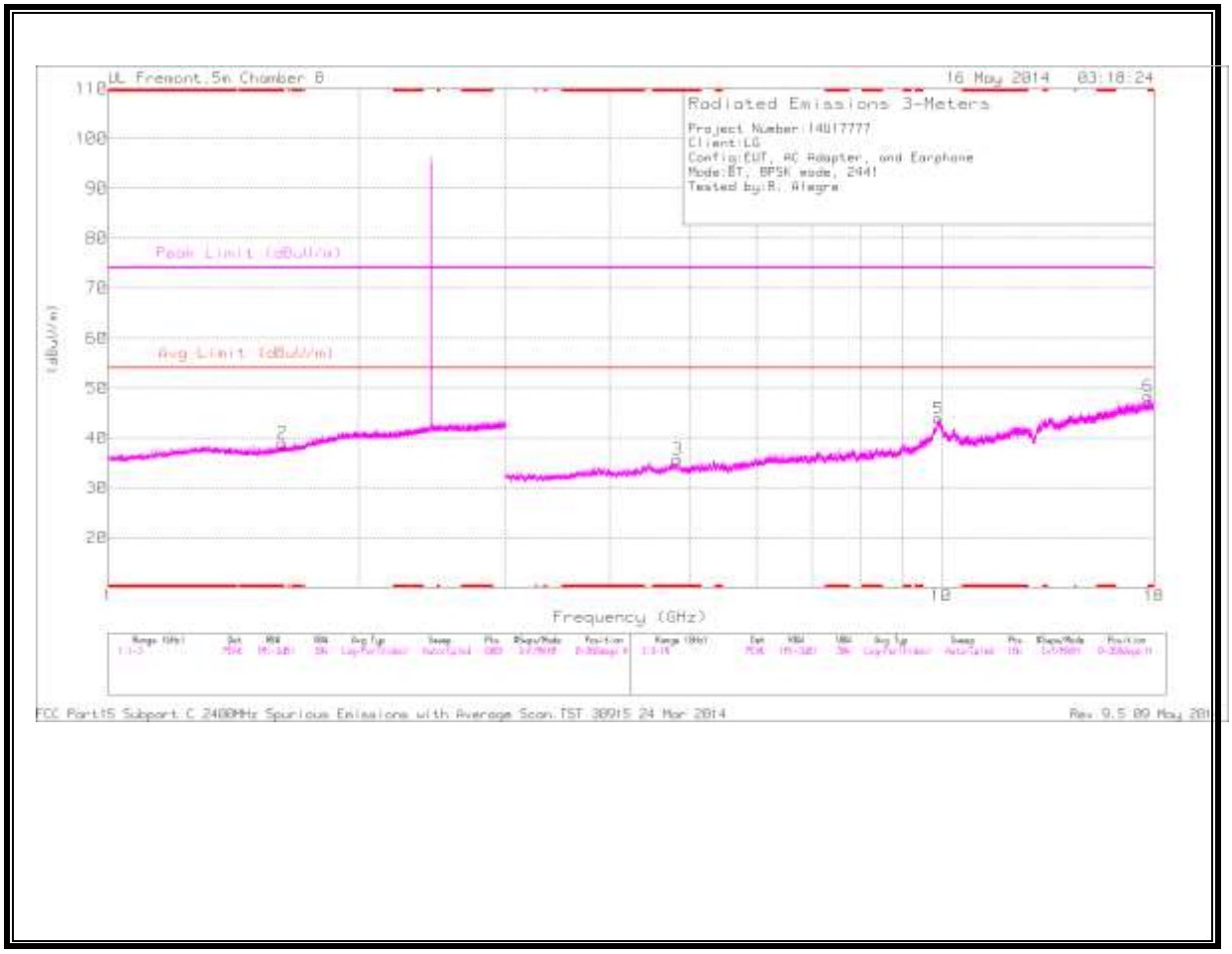
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 1.401	43.59	PK3	28.5	-24.4	47.69	-	-	74	-26.31	1	204	H
* 1.473	43.19	PK3	28.1	-24.2	47.09	-	-	74	-26.91	1	204	V
* 5.392	39.85	PK3	34.5	-29	45.35	-	-	74	-28.65	1	100	H
* 8.041	37.57	PK3	35.7	-26.4	46.87	-	-	74	-27.13	1	204	V
* 8.041	24.51	VB1T	35.7	-26.4	35.01	54	-18.99	-	-	1	204	V
* 3.866	40.44	PK3	33.7	-30.4	43.74	-	-	74	-30.26	1	100	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK3 - FHSS Method: Maximum Peak
VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

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.

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 T345 (dB/m)	Amp/Cbl/Fltr/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	* 1.62	34.28	PK	28.6	-23.9	0	38.98	-	-	74	-35.02	0-360	99	H
1	* 1.271	34.5	PK	28.7	-24.5	0	38.7	-	-	74	-35.3	0-360	202	V
3	* 4.823	31.33	PK	34.2	-29.8	0	35.73	-	-	74	-38.27	0-360	99	H
6	* 17.712	25.18	PK	41.5	-18.3	0	48.38	-	-	74	-25.62	0-360	99	H
4	* 4.696	30.68	PK	34.2	-29.7	0	35.18	-	-	74	-38.82	0-360	99	V
5	9.92	30.39	PK	37	-23.5	0	43.89	-	-	-	-	0-360	99	H

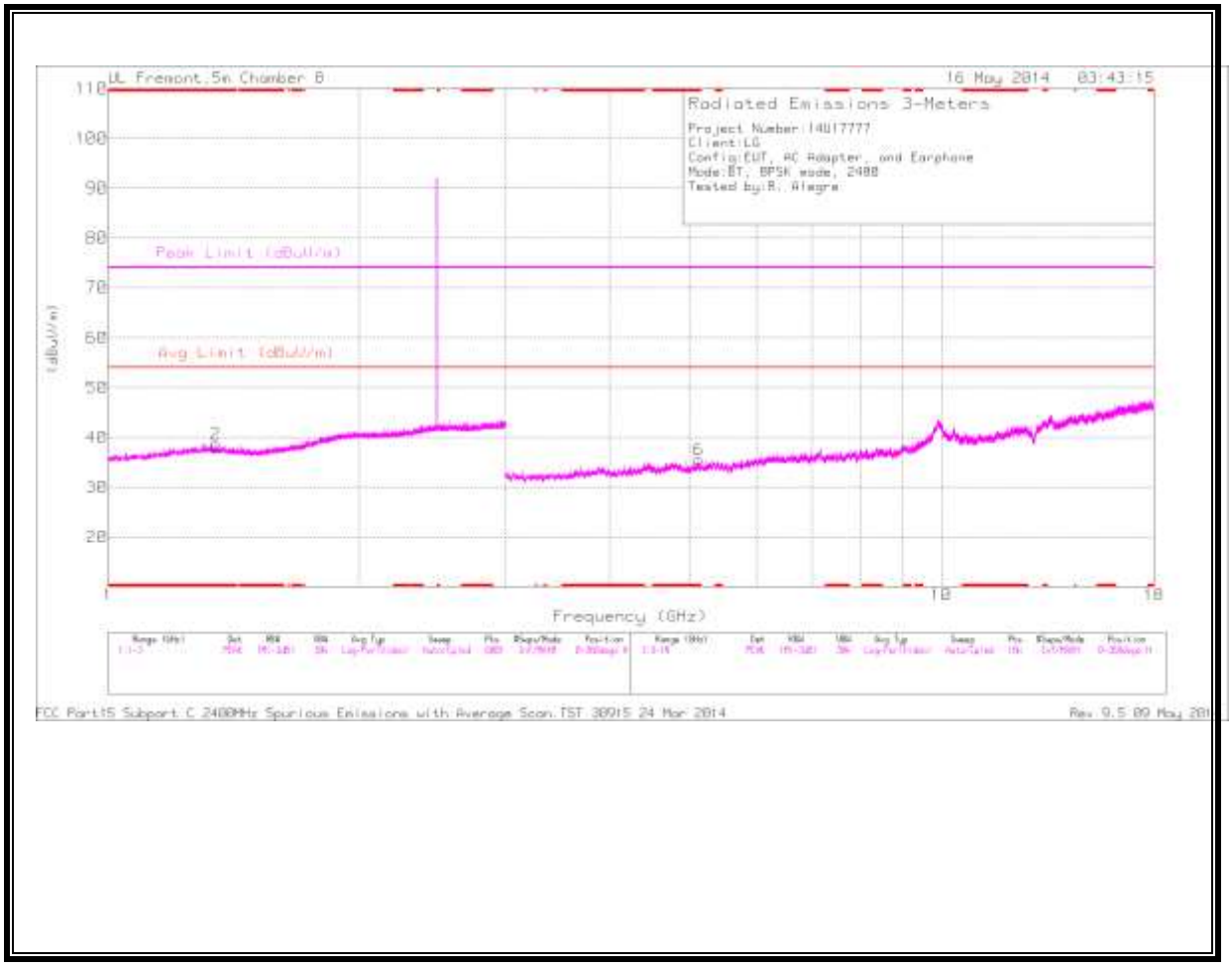
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 1.622	43.13	PK3	28.6	-23.9	47.83	-	-	74	-26.17	1	100	H
* 1.272	43.44	PK3	28.7	-24.5	47.64	-	-	74	-26.36	1	204	V
* 17.711	33.66	PK3	41.5	-18.4	56.76	-	-	74	-17.24	1	100	H
* 17.712	20.57	VB1T	41.5	-18.4	44.87	54	-9.13	-	-	1	100	H
* 4.823	40.16	PK3	34.2	-29.8	44.56	-	-	74	-29.44	1	100	H
* 17.712	34	PK3	41.5	-18.3	57.2	-	-	74	-16.8	245	323	H
* 17.713	20.53	VB1T	41.5	-18.3	44.93	54	-9.07	-	-	245	323	H
* 4.696	39.98	PK3	34.2	-29.7	44.48	-	-	74	-29.52	1	100	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK3 - FHSS Method: Maximum Peak
VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

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.

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/Fltr/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	* 1.347	34.35	PK	28.7	-24.4	0	38.65	-	-	74	-35.35	0-360	99	H
1	* 1.55	34.95	PK	28.2	-24.1	0	39.05	-	-	74	-34.95	0-360	99	V
3	* 2.332	33.61	PK	31.8	-22.9	0	42.51	-	-	74	-31.49	0-360	99	V
6	* 5.111	30.13	PK	34.3	-28.9	0	35.53	-	-	74	-38.47	0-360	99	H
4	* 3.889	31.19	PK	33.8	-30.2	0	34.79	-	-	74	-39.21	0-360	99	V
5	9.892	30.32	PK	37	-23.7	0	43.62	-	-	-	-	0-360	202	V

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

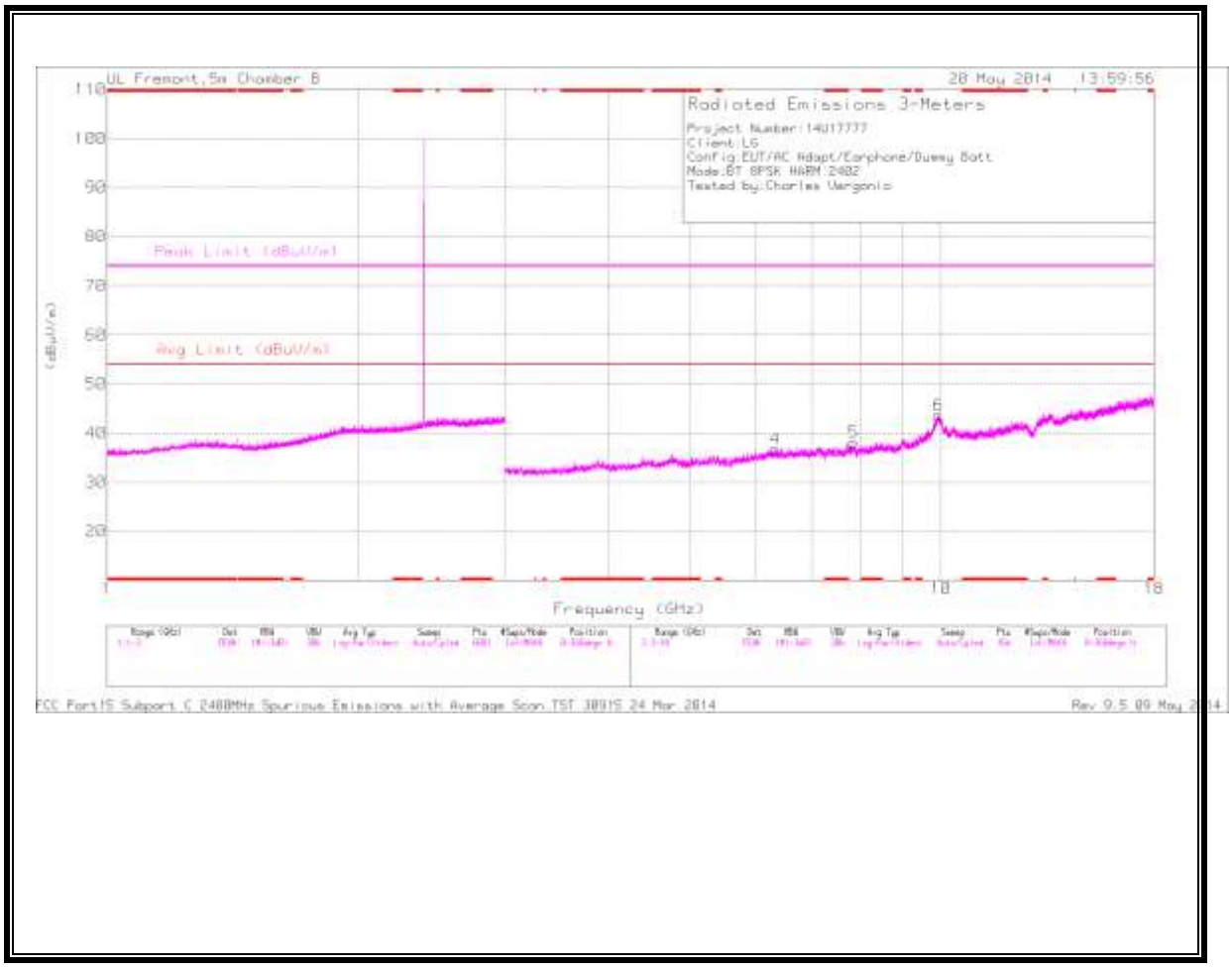
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 1.347	43.89	PK3	28.7	-24.4	48.19	-	-	74	-25.81	360	100	H
* 2.333	42.77	PK3	31.8	-22.9	51.67	-	-	74	-22.33	360	100	V
* 1.55	43.37	PK3	28.2	-24.1	47.47	-	-	74	-26.53	360	100	V
* 5.112	24.39	VB1T	34.3	-28.9	29.79	54	-24.21	-	-	360	100	H
* 5.11	39.3	PK3	34.3	-28.9	44.7	-	-	74	-29.3	360	100	H
* 5.109	26.43	VB1T	34.3	-28.9	33.03	54	-20.97	-	-	360	100	H
* 3.888	40.61	PK3	33.8	-30.2	44.21	-	-	74	-29.79	360	100	V
* 3.887	27.66	VB1T	33.8	-30.2	32.46	54	-21.54	-	-	360	100	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK3 - FHSS Method: Maximum Peak
VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

WORST CASE HARMONICS AND SPURIOUS EMISSIONS WITH SMART COVER

HORIZONTAL



VERTICAL

CHANNEL DATA

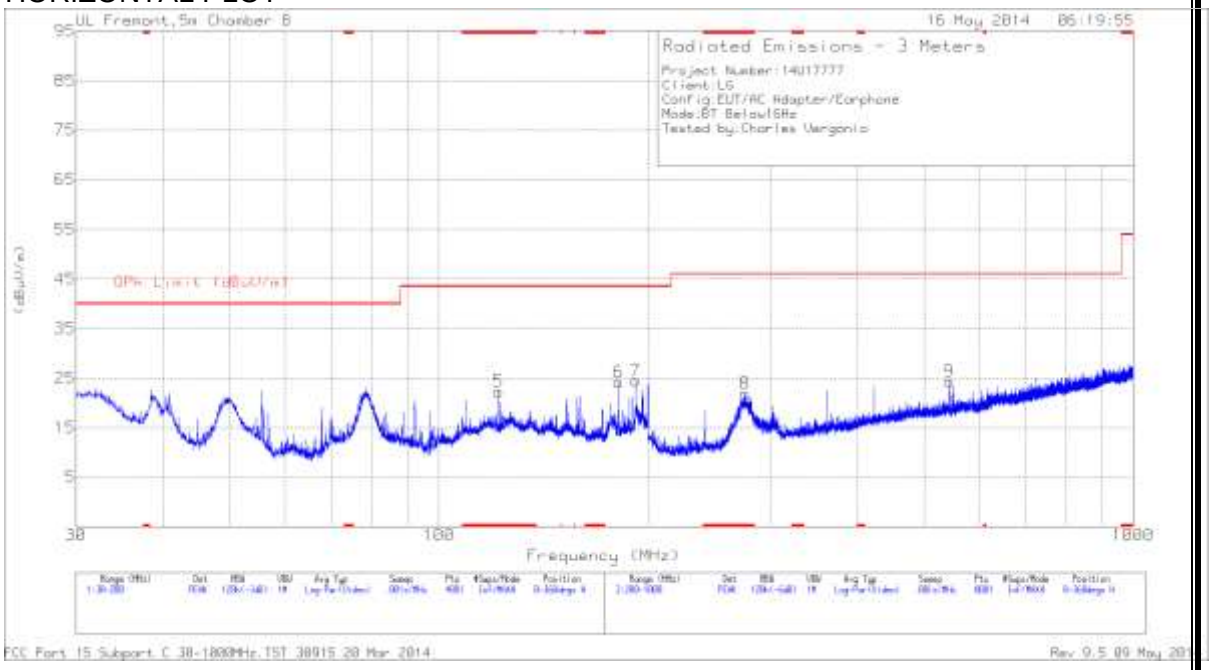
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	3.138	32.09	PK	32.8	-31.2	33.69	-	-	-	-	0-360	202	V
2	3.426	31.43	PK	32.8	-31	33.23	-	-	-	-	0-360	99	V
3	5.688	30.48	PK	34.5	-29.1	35.88	-	-	-	-	0-360	202	V
4	6.324	29.94	PK	35.5	-28.7	36.74	-	-	-	-	0-360	99	H
5	7.853	28.98	PK	35.7	-26.6	38.08	-	-	-	-	0-360	99	H
6	9.933	30.01	PK	37	-23.4	43.61	-	-	-	-	0-360	202	H

PK - Peak detector

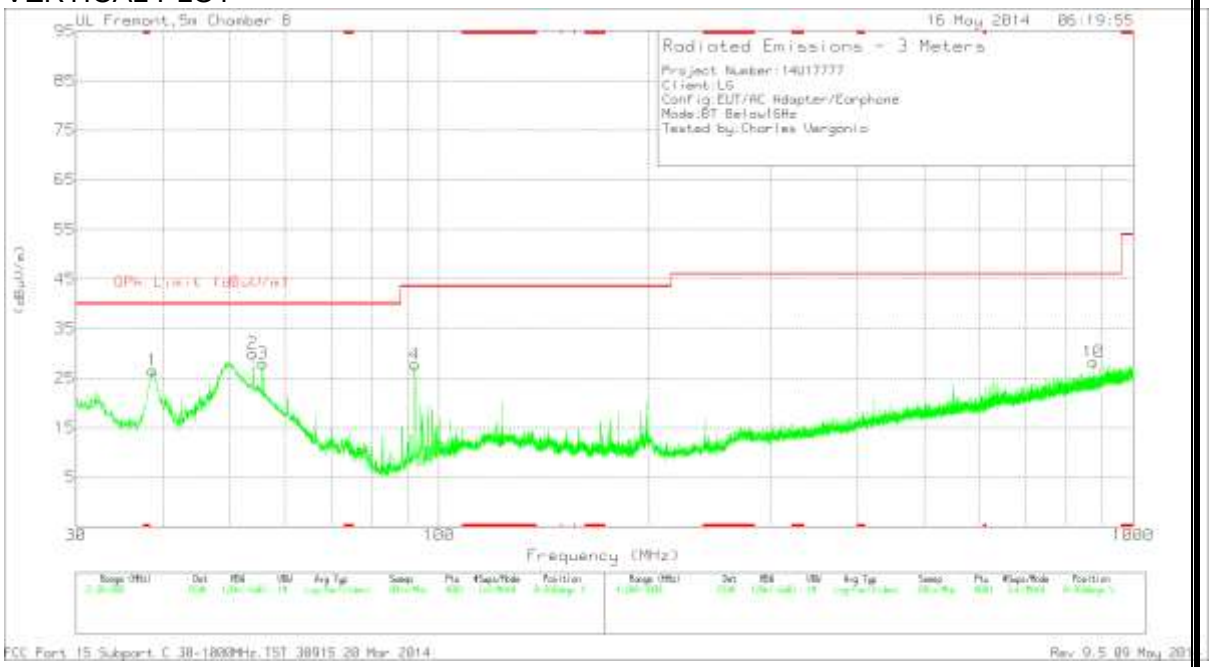
8.3. WORST-CASE BELOW 1 GHz

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

HORIZONTAL PLOT



VERTICAL PLOT



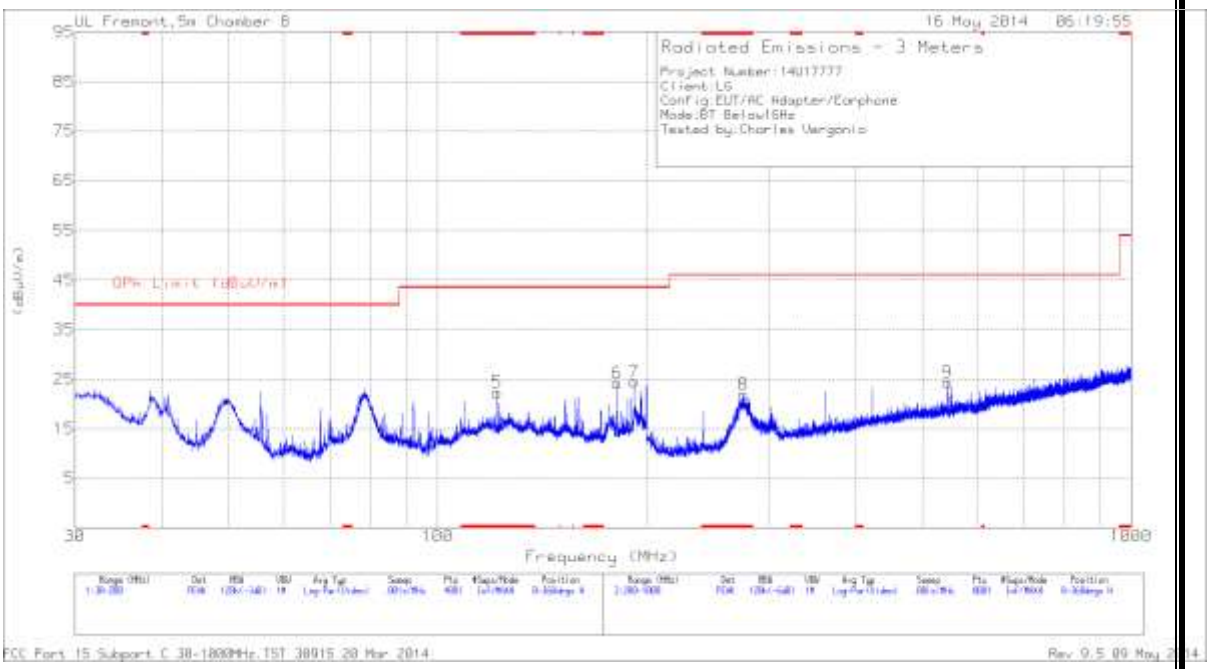
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T243 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 121.8	36.15	PK	14	-27.8	22.35	43.52	-21.17	0-360	300	H
8	* 275.9	34.57	PK	13.4	-26.1	21.87	46.02	-24.15	0-360	101	H
1	38.67	40.28	PK	14.9	-28.7	26.48	40	-13.52	0-360	101	V
2	53.9275	51.31	PK	7.2	-28.5	30.01	40	-9.99	0-360	101	V
3	55.755	49.27	PK	7.2	-28.5	27.97	40	-12.03	0-360	101	V
4	92.305	47.67	PK	8.2	-28.1	27.77	43.52	-15.75	0-360	101	V
6	181.4275	40.37	PK	10.9	-27.1	24.17	43.52	-19.35	0-360	200	H
7	192.01	40.18	PK	11.3	-27	24.48	43.52	-19.04	0-360	101	H
9	544.2	31.8	PK	18.1	-25.6	24.3	46.02	-21.72	0-360	200	H
10	877.2	29.73	PK	21.8	-23.3	28.23	46.02	-17.79	0-360	101	V

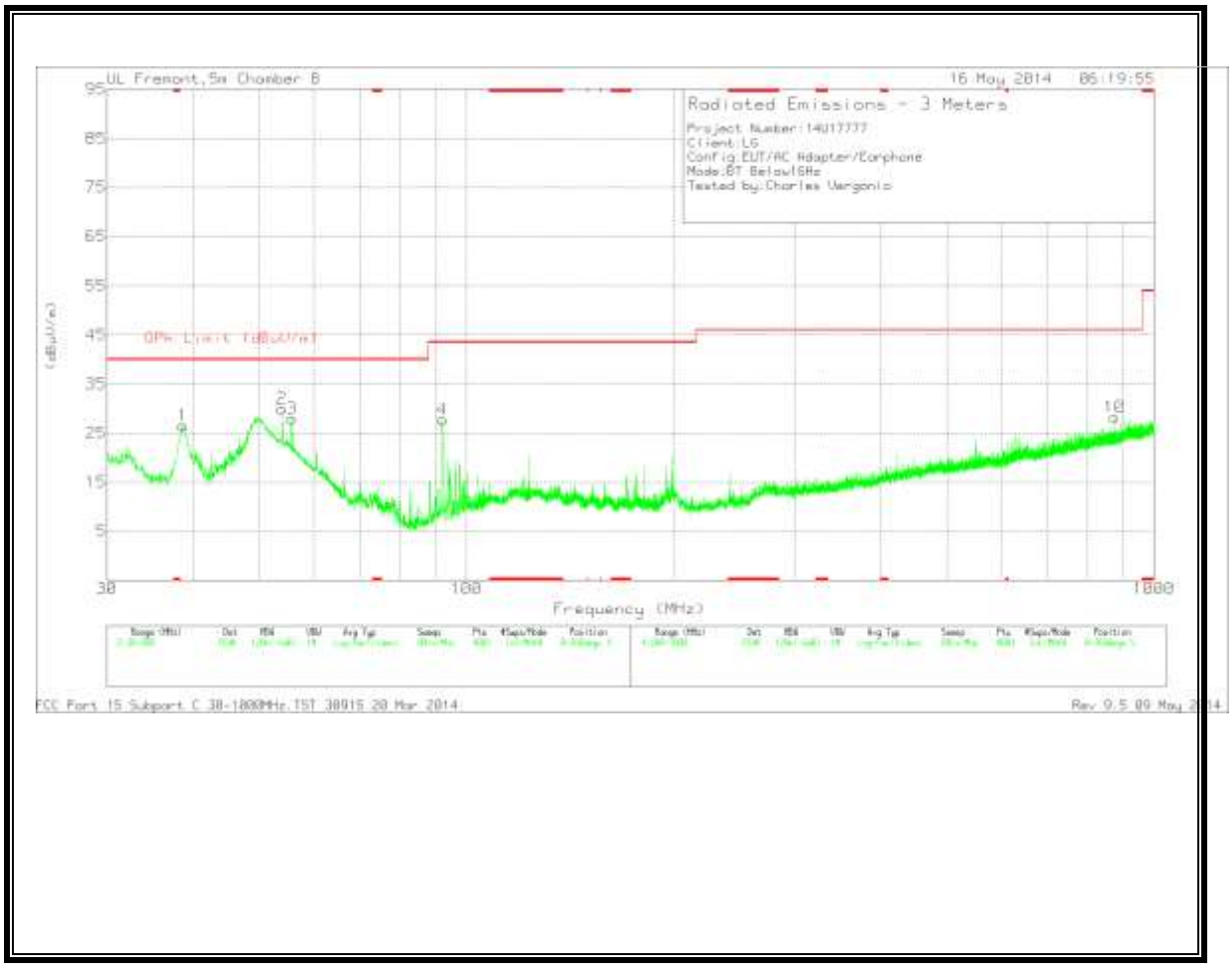
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector

WORST CASE HARMONICS AND SPURIOUS EMISSIONS WITH SMART COVER

HORIZONTAL



VERTICAL



CHANNEL DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T243 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 121.8	36.15	PK	14	-27.8	22.35	43.52	-21.17	0-360	300	H
8	* 275.9	34.57	PK	13.4	-26.1	21.87	46.02	-24.15	0-360	101	H
1	38.67	40.28	PK	14.9	-28.7	26.48	40	-13.52	0-360	101	V
2	53.9275	51.31	PK	7.2	-28.5	30.01	40	-9.99	0-360	101	V
3	55.755	49.27	PK	7.2	-28.5	27.97	40	-12.03	0-360	101	V
4	92.305	47.67	PK	8.2	-28.1	27.77	43.52	-15.75	0-360	101	V
6	181.4275	40.37	PK	10.9	-27.1	24.17	43.52	-19.35	0-360	200	H
7	192.01	40.18	PK	11.3	-27	24.48	43.52	-19.04	0-360	101	H
9	544.2	31.8	PK	18.1	-25.6	24.3	46.02	-21.72	0-360	200	H
10	877.2	29.73	PK	21.8	-23.3	28.23	46.02	-17.79	0-360	101	V

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

PK - Peak detector