FCC CFR47 PART 15 SUBPART E

C2PC CERTIFICATION TEST REPORT

FOR

GSM/CDMA/WCDMA/LTE PHONE + BLUETOOTH, with DTS/UNII a/b/g/n/ac & NFC

MODEL NUMBER: LG-LS991, LS991, LGLS991, LGAS991, AS991, LG-AS991

FCC ID: ZNFLS991

REPORT NUMBER: 15I20514-E5 REVISION B

ISSUE DATE: MAY 6, 2015

Prepared for

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Prepared by

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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	05/4/15	Initial Issue	D. Coronia
A	05/05/15	Added Additional Model Names to Header, Page 1, and Page 5	J. Ko
B	05/06/15	Update antenna information page 8 and 189	D. Coronia

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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, with DTS/UNII a/b/g/n/ac & NFC
MODEL:	LG-LS991, LS991, LGLS991, LGAS991, AS991, LG-AS991
SERIAL NUMBER:	1TLT6 (Radiated) and 1W43W (Radiated)
DATE TESTED:	APRIL 15-23, 2015

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart E	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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UL VERIFICATION SERVICES INC

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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, and ANSI C63.4-2009, 789033 D02 General UNII Test Procedures New Rules v01.

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/CDMA/WCDMA/LTE PHONE + BLUETOOTH, with DTS/UNII a/b/g/n/ac & NFC

5.2. MAXIMUM OUTPUT POWER

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

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PIFA antenna, with a maximum gain of -1.09dBi.

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 the X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in the X orientation.

Based on the baseline scan, the worst-case data rates were:

802.11a mode: 6 Mbps
802.11n HT20mode: MCS0
802.11n HT40mode: MCS0
802.11AC HT80mode: MCS0

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
AC Adapter	LG	MCS-04WD2	EAY62991904	N/A
Smart Case Cover	LG	LG-P1	DK0227	N/A
Wireless Charger	LG	WCD-110	LF1212625283010049	N/A
Earphone	LG	N/A	N/A	N/A

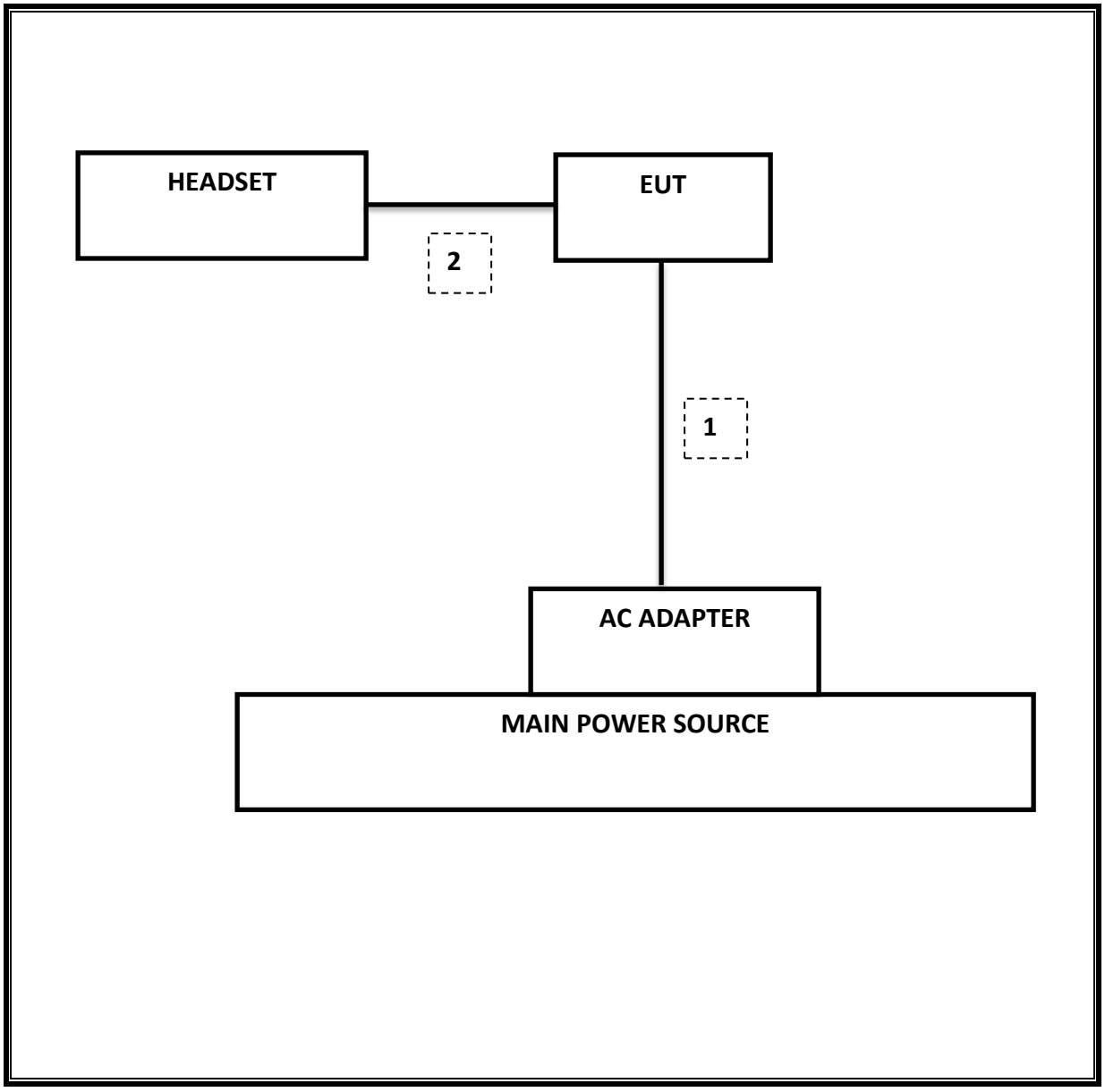
I/O CABLES

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 setup as a stand-alone device.

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**
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/15
EMI Test Receiver, 9 kHz-7 GHz	R & S	ESCI 7	100773	08/15/15
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/15
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/15
Antenna, Horn, 18GHz	EMCO	3115	C00783	10/25/15
Antenna, Horn,18- 26 GHz	ARA	MWH-1826/B	C00946	11/12/15
Antenna, Horn, 26-40 GHz	ARA	MWH-2640	C00891	06/28/15
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	T243	12/08/15
RF Preamplifier, 100KHz -> 1300MHz	HP	TBD	C00825	06/01/15
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	F00351	06/27/15
AC Power Supply, 2,500VA 45-500Hz	Elgar-Ametek	CW2501M	F00013	CNR
RF Preamplifier, 1GHz - 18GHz	Miteq	AFS42-00101800-25-S-42	1818466	05/09/15
Attenuator / Switch driver	HP	11713A	F00204	CNR
Low Pass Filter 3GHz	Micro-Tronics	LPS17541	F00219	05/23/15
High Pass Filter 5GHz	Micro-Tronics	HPS17542	F00222	05/22/15
High Pass Filter 6GHz	Micro-Tronics	HPM17543	F00224	05/22/15

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

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

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result	Worst Case
15.407 (a)	Occupied Band width (26dB)	N/A	Conducted	Pass	See Original
15.407	6dB Band width (5.8Ghz)	500KHz		Pass	See Original
15.407 (a)(2)	TX Cond. Power5.15-2.25, 5.25-5.35 & 5.47-5.725	<24dBm or 11+10Log(OBW)		Pass	See Original
15.407 (a)(3)	TX Cond. Power 5.725-5.825	< 30dBm or 17+10Log(OBW)		Pass	See Original
15.407 (a)(5)	PSD (5.2,5.3,5.5GHz)	<11dBm		Pass	See Original
15.407 (a)(5)	PSD (5.8GHz)	30dBm per 500kHz			See Original
15.207 (a)	AC Power Line conducted emissions	Section 10	Radiated	Pass	See Original
15.407 (b) & 15.209	Radiated Spurious Emission	< 54dBuV/m		Pass	51.28dBuV/m
15.407 (h)(2)	Dynamic Frequency Selection	N/A	Radiated / Condcuted	Pass	See Original

8. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS

LIMITS

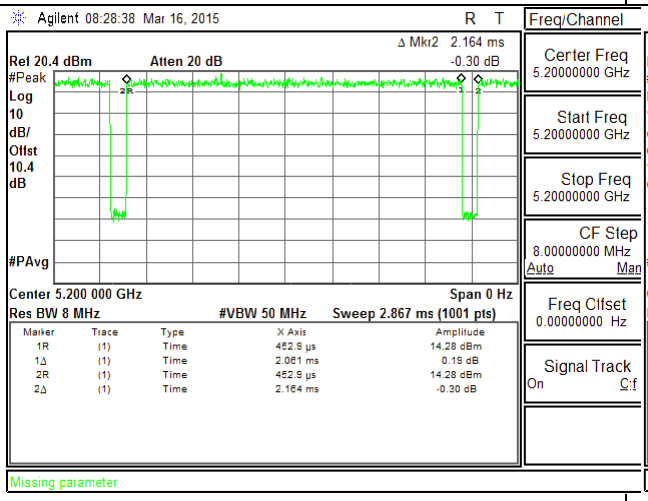
None; for reporting purposes only.

8.1. DUTY CYCLE PLOT

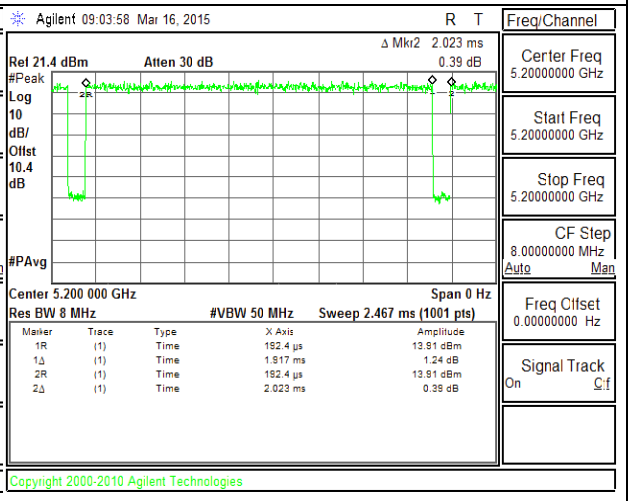
ON TIME AND DUTY CYCLE RESULT AND PLOTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)
802.11a	2.061	2.164	0.952	95.2%	0.21	0.485
802.11ac HT80	1.156	1.278	0.905	90.5%	0.44	0.865
802.11n HT20	1.917	2.023	0.948	94.8%	0.23	0.522
802.11n HT40	0.940	1.046	0.899	89.9%	0.46	1.064

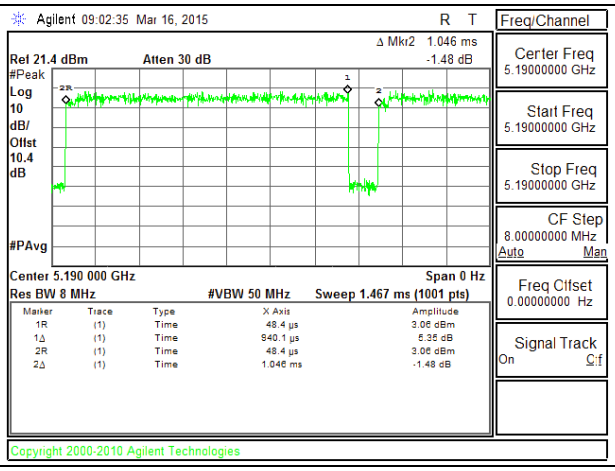
DUTY CYCLE 802.11a MODE



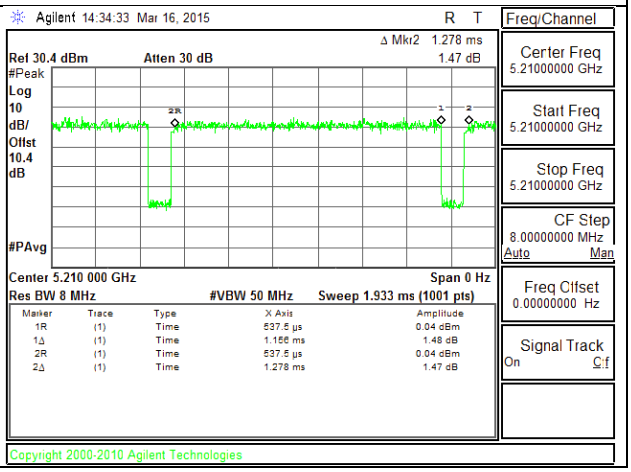
DUTY CYCLE 802.11n HT20 MODE



DUTY CYCLE 802.11n HT40 MODE



DUTY CYCLE 802.11ac HT80 MODE



9. MEASUREMENT METHOD

789033 D02 General UNII Test Procedures New Rules v01

The Duty Cycle is less than 98% and consistent therefore KDB 789033 Method SA-2 is used for .power and PPSD

The Duty Cycle is less than 98% and consistent, KDB 789033 Method AD with Power RMS Averaging and duty cycle correction is used.

10. TRANSMITTER ABOVE 1 GHz

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.

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.

Reference to KDB 789033 UNII part G) 6) d) Method AD:
For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and add duty cycle factor to the reading offset for average measurements.

The spectrum from 1GHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

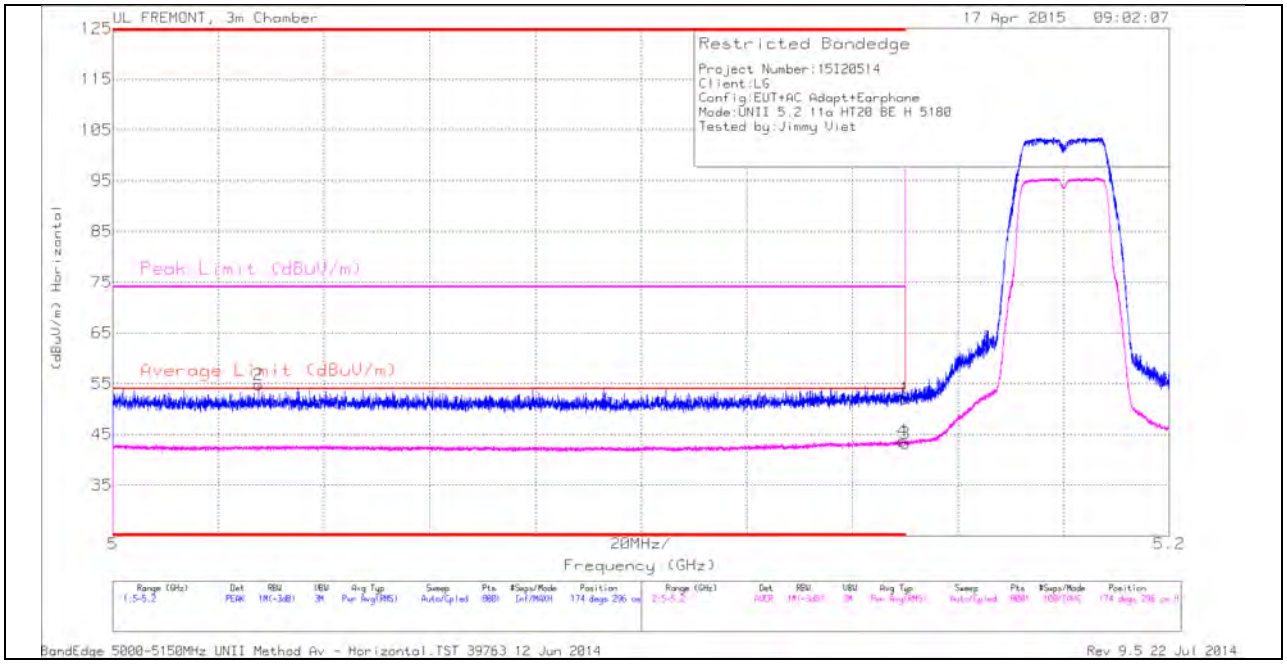
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

10.1. 5.2 GHz

10.1.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.2 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

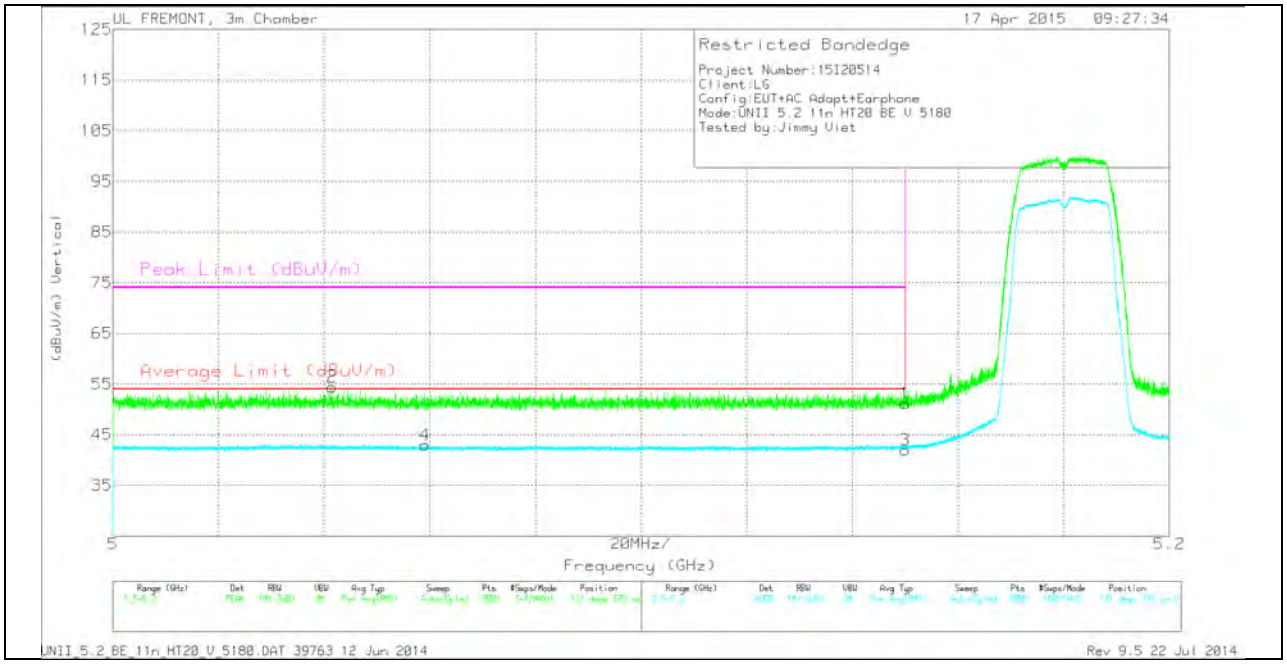
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	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	* 5.15	39.39	PK	34.2	-21.6	0	51.99	-	-	74	-22.01	174	296	H
2	* 5.028	42.24	PK	34	-21.5	0	54.74	-	-	74	-19.26	174	296	H
3	* 5.15	30.43	RMS	34.2	-21.6	.2	43.23	54	-10.77	-	-	174	296	H
4	* 5.15	30.95	RMS	34.2	-21.6	.2	43.75	54	-10.25	-	-	174	296	H

VERTICAL PEAK AND AVERAGE PLOT

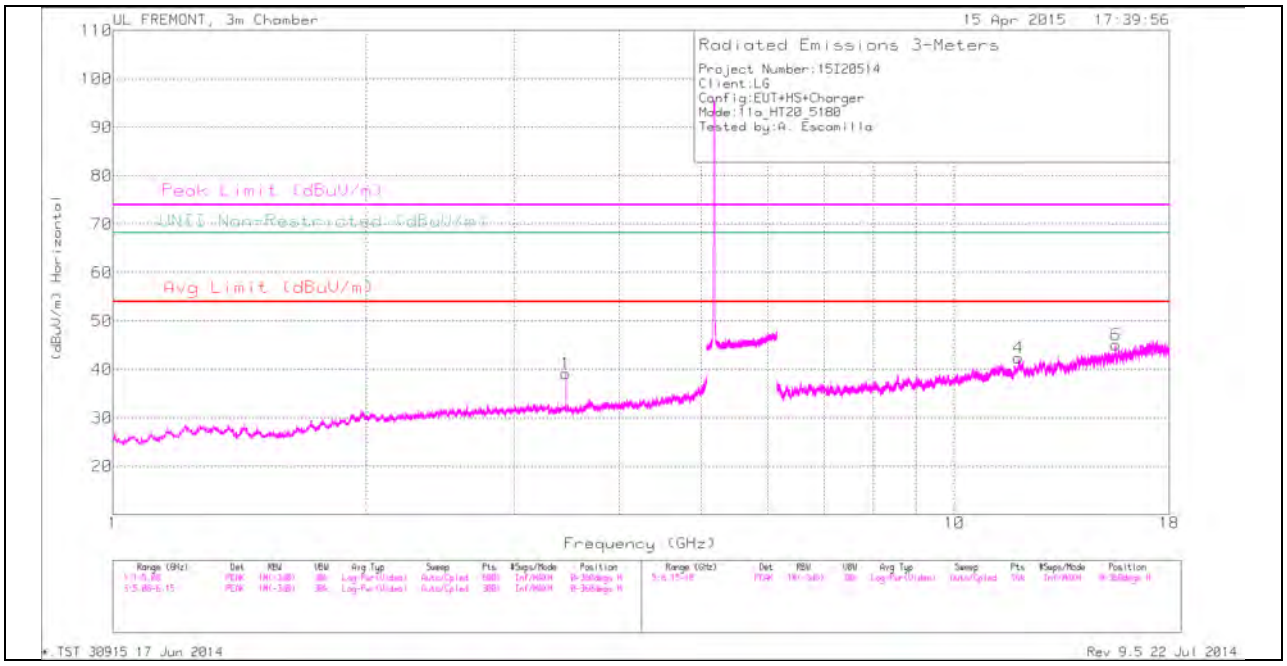


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/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
2	5.042	41.85	PK	34.1	-21.5	0	54.45	-	-	74	-19.55	131	375	V
4	5.059	30.28	RMS	34.1	-21.4	.2	43.18	54	-10.82	-	-	131	375	V
1	5.15	38.61	PK	34.2	-21.6	0	51.21	-	-	74	-22.79	131	375	V
3	5.15	29.33	RMS	34.2	-21.6	.2	42.13	54	-11.87	-	-	131	375	V

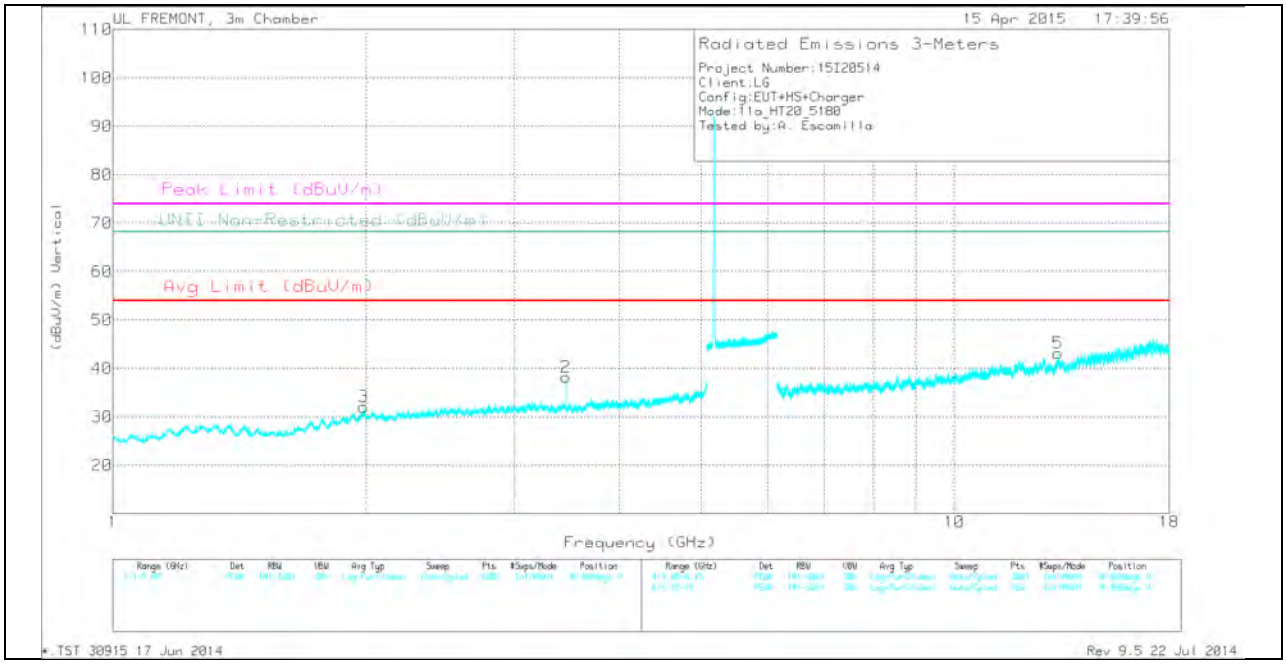
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

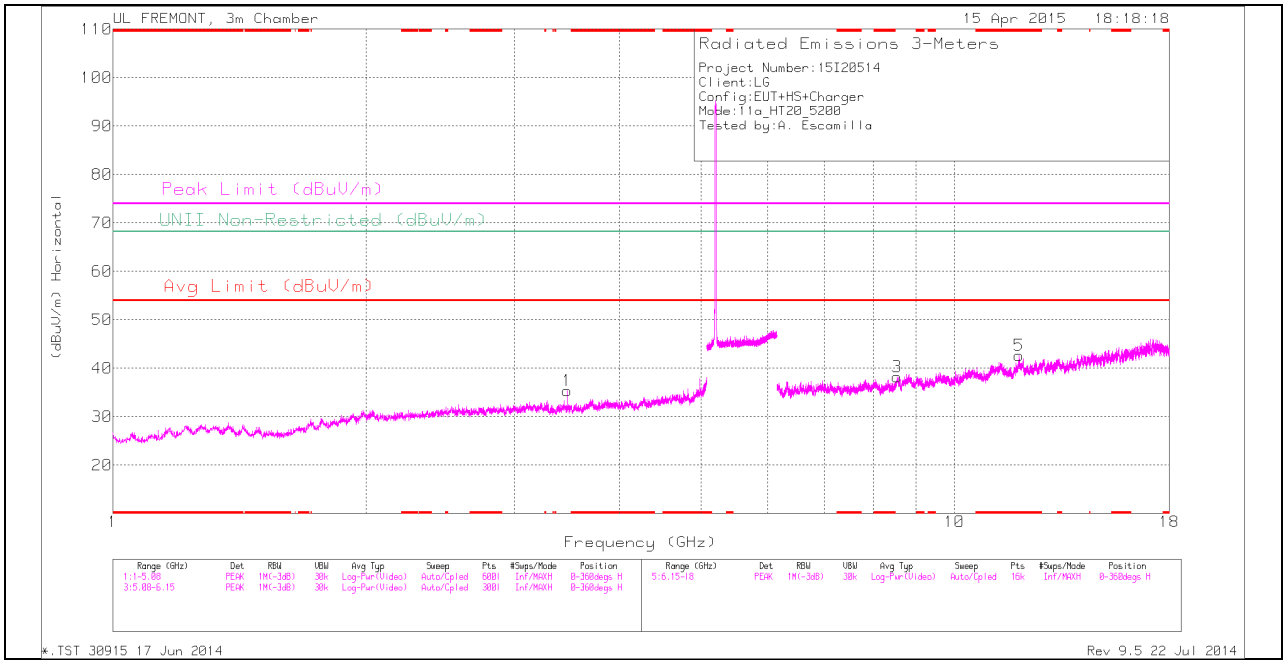
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	1.987	32.57	PK	31.5	-32	0	32.07	-	-	-	-	68.2	-36.13	0-360	200	V
1	3.453	37.6	PK	32.8	-31.3	0	39.1	-	-	-	-	68.2	-29.1	0-360	200	H
2	3.453	36.79	PK	32.8	-31.3	0	38.29	-	-	-	-	68.2	-29.91	0-360	200	V
4	11.907	29.54	PK	39.1	-26.3	0	42.34	-	-	74	-31.66	-	-	0-360	100	H
5	13.283	30.33	PK	39	-26.2	0	43.13	-	-	74	-30.87	-	-	0-360	200	V
6	15.536	31.67	PK	40.2	-26.8	0	45.07	-	-	74	-28.93	-	-	0-360	200	H

PK - Peak detector

RADIATED EMISSIONS

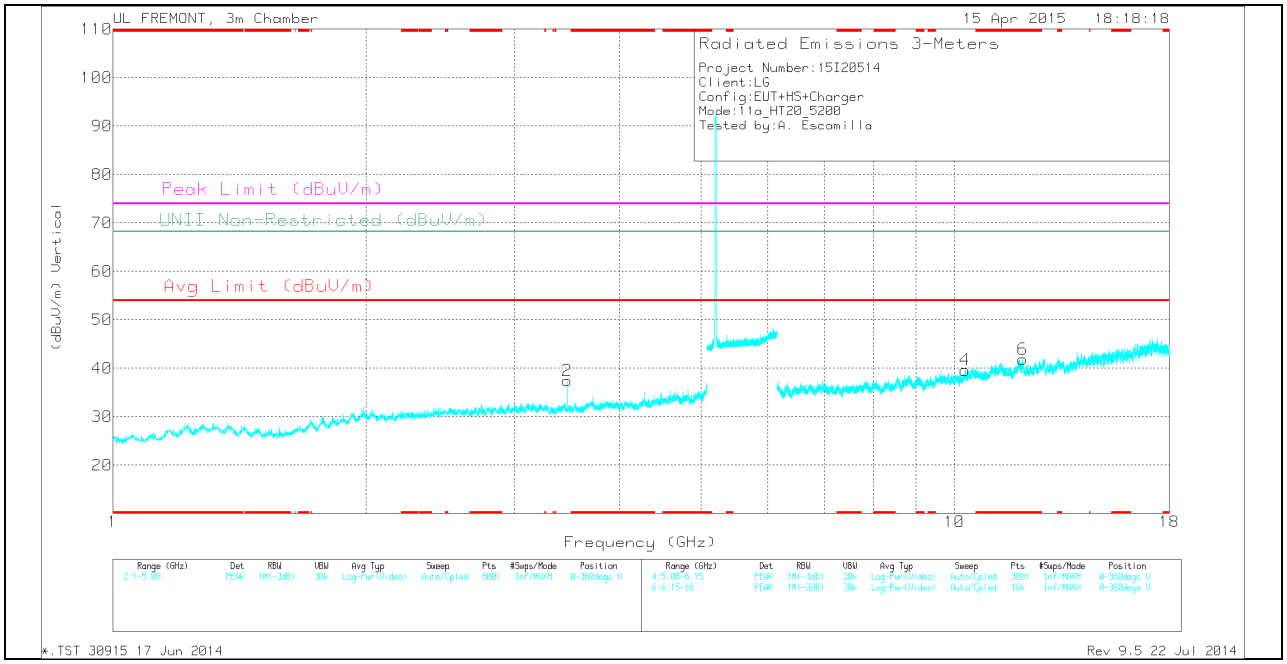
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3.453	48.78	PK1	32.8	-31.3	0	50.28	-	-	-	-	68.2	-17.92	177	199	H
3.453	45.47	AD1	32.8	-31.3	.21	47.18	-	-	-	-	-	-	177	199	H
3.453	47.96	PK1	32.8	-31.3	0	49.46	-	-	-	-	68.2	-18.74	298	288	V
3.453	43.2	AD1	32.8	-31.3	.21	44.91	-	-	-	-	-	-	298	288	V

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

TRACE MARKERS

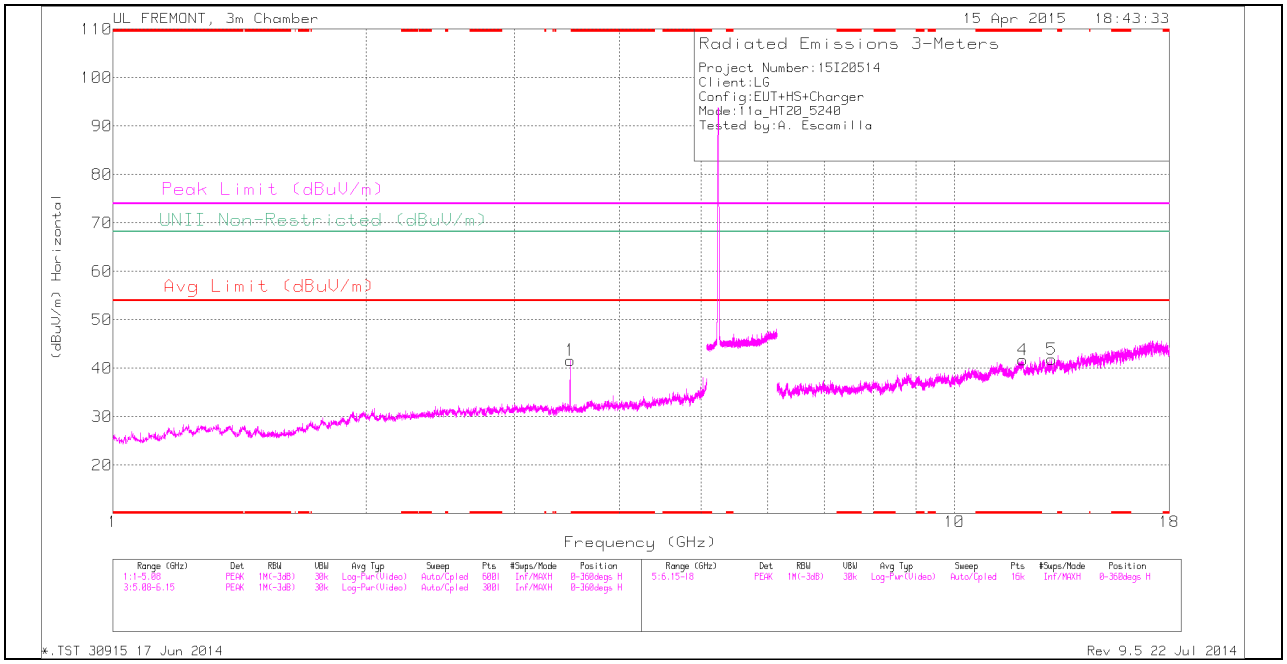
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 11.924	29.78	PK	39.1	-26.2	0	42.68	-	-	74	-31.32	-	-	0-360	100	H
6	* 12.047	28.98	PK	39.1	-26.2	0	41.88	-	-	74	-32.12	-	-	0-360	200	V
1	3.466	33.78	PK	32.8	-31.2	0	35.38	-	-	-	-	68.2	-32.82	0-360	100	H
2	3.466	35.9	PK	32.8	-31.2	0	37.5	-	-	-	-	68.2	-30.7	0-360	200	V
3	8.545	28.41	PK	35.8	-26	0	38.21	-	-	-	-	68.2	-29.99	0-360	100	H
4	10.299	27.5	PK	37.1	-25	0	39.6	-	-	-	-	68.2	-28.6	0-360	100	V

PK - Peak detector

RADIATED EMISSIONS

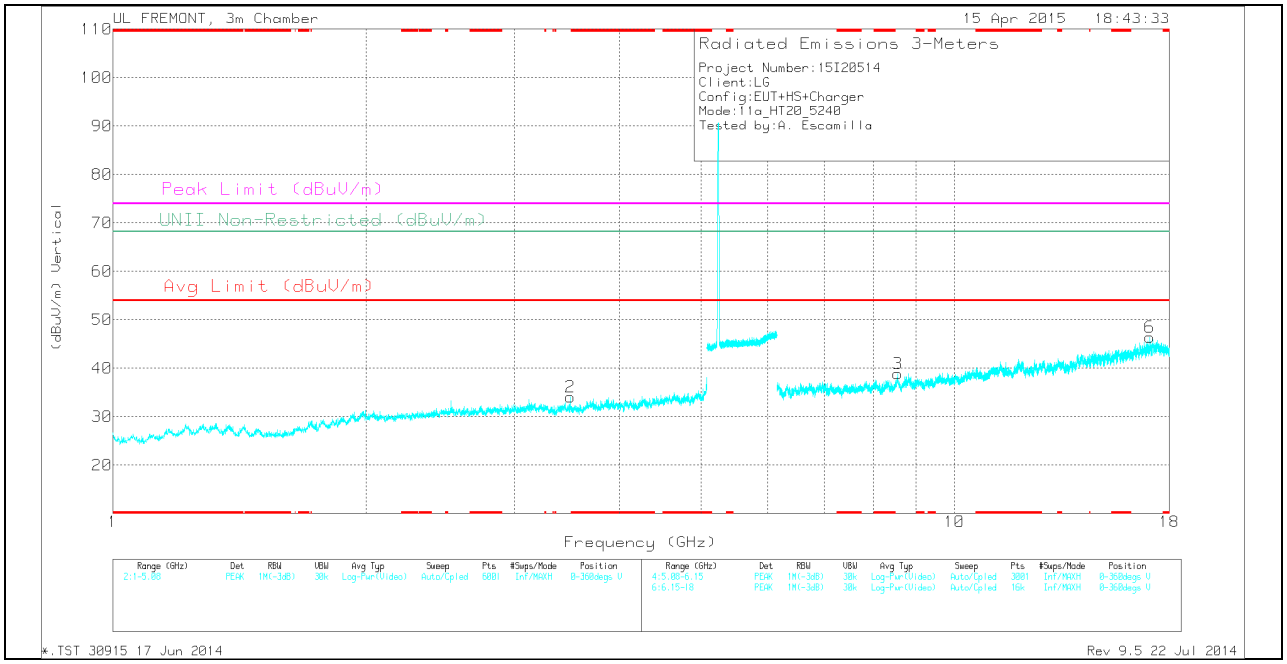
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3.467	49.8	PK1	32.8	-31.3	0	51.3	-	-	-	-	68.2	-16.9	57	324	H
3.467	46.35	AD1	32.8	-31.3	.21	48.06	-	-	-	-	-	-	57	324	H
3.467	50.4	PK1	32.8	-31.3	0	51.9	-	-	-	-	68.2	-16.3	294	282	V
3.467	47.05	AD1	32.8	-31.3	.21	48.76	-	-	-	-	-	-	294	282	V

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 12.045	28.89	PK	39.1	-26.2	0	41.79	-	-	74	-32.21	-	-	0-360	100	H
1	3.494	40.37	PK	32.8	-31.5	0	41.67	-	-	-	-	68.2	-26.53	0-360	200	H
2	3.494	32.73	PK	32.8	-31.5	0	34.03	-	-	-	-	68.2	-34.17	0-360	200	V
3	8.568	29.31	PK	35.8	-26.2	0	38.91	-	-	-	-	68.2	-29.29	0-360	200	V
5	13.054	29.81	PK	39	-27	0	41.81	-	-	-	-	68.2	-26.39	0-360	100	H
6	17.069	29.26	PK	41.4	-24.3	0	46.36	-	-	-	-	68.2	-21.84	0-360	100	V

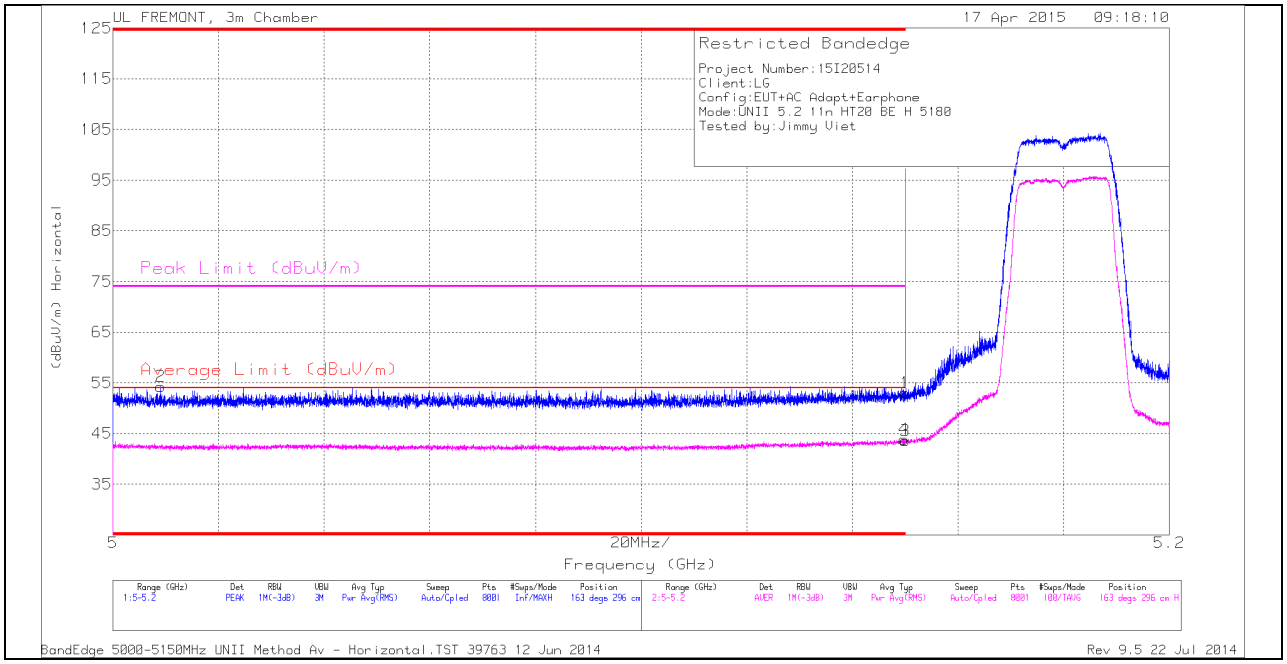
PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3.493	49.2	PK1	32.8	-31.5	0	50.5	-	-	-	-	68.2	-17.7	57	360	H
3.493	45.99	AD1	32.8	-31.5	.21	47.5	-	-	-	-	-	-	57	360	H
3.493	50.56	PK1	32.8	-31.5	0	51.86	-	-	-	-	68.2	-16.34	296	225	V
3.493	47.44	AD1	32.8	-31.5	.21	48.95	-	-	-	-	-	-	296	225	V

10.1.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

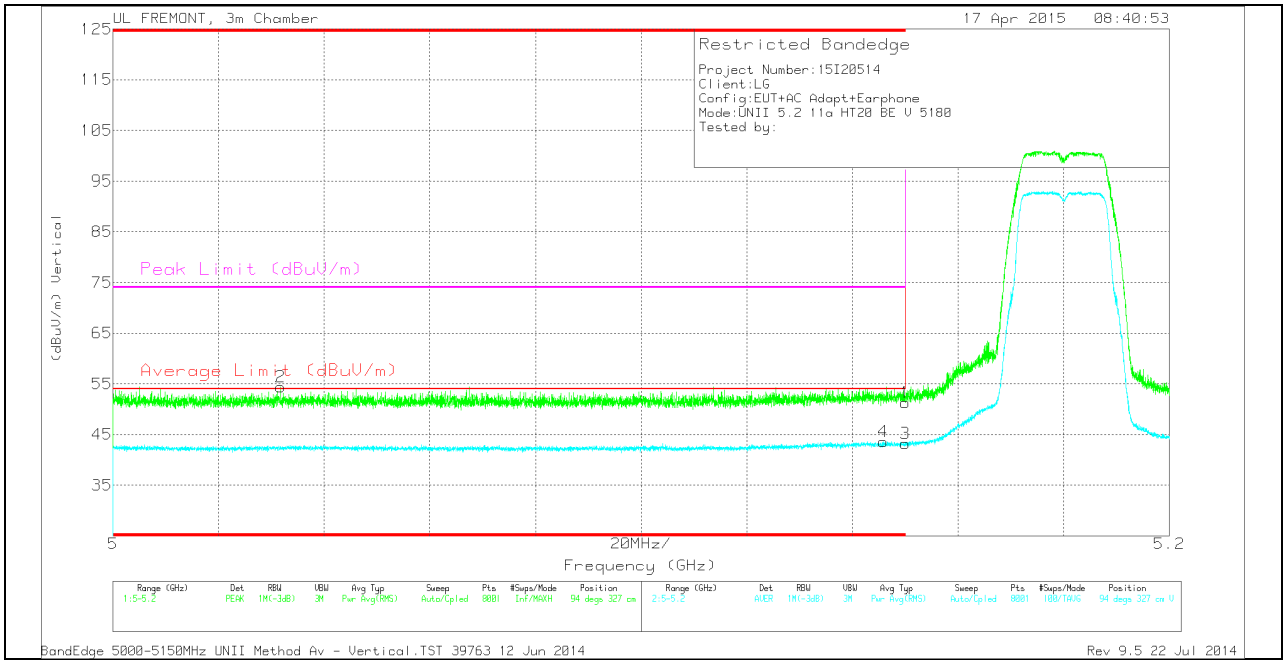
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/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	* 5.15	40.46	PK	34.2	-21.6	0	53.06	-	-	74	-20.94	163	296	H
2	* 5.009	41.74	PK	34	-21.5	0	54.24	-	-	74	-19.76	163	296	H
3	* 5.15	30.8	RMS	34.2	-21.6	.2	43.6	54	-10.4	-	-	163	296	H
4	* 5.15	31.04	RMS	34.2	-21.6	.2	43.84	54	-10.16	-	-	163	296	H

VERTICAL PEAK AND AVERAGE PLOT

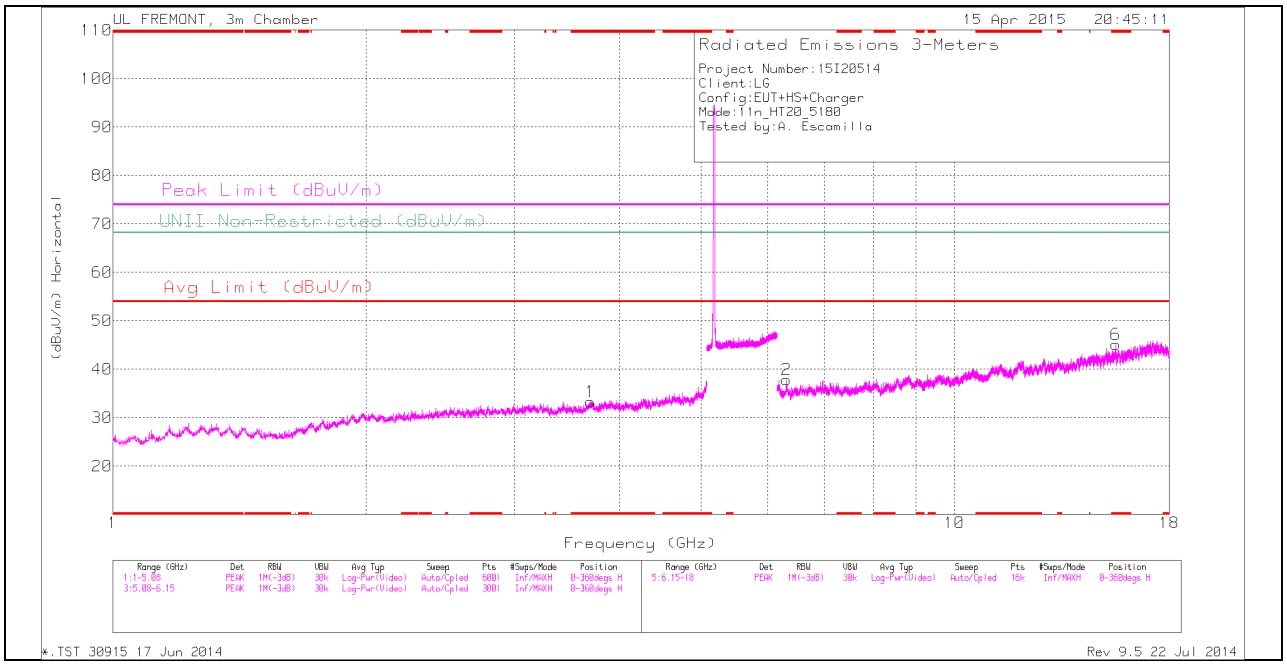


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/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	* 5.15	38.72	PK	34.2	-21.6	0	51.32	-	-	74	-22.68	94	327	V
2	* 5.032	41.84	PK	34	-21.4	0	54.44	-	-	74	-19.56	94	327	V
3	* 5.15	30.38	RMS	34.2	-21.6	.2	43.18	54	-10.82	-	-	94	327	V
4	* 5.146	30.8	RMS	34.2	-21.6	.2	43.6	54	-10.4	-	-	94	327	V

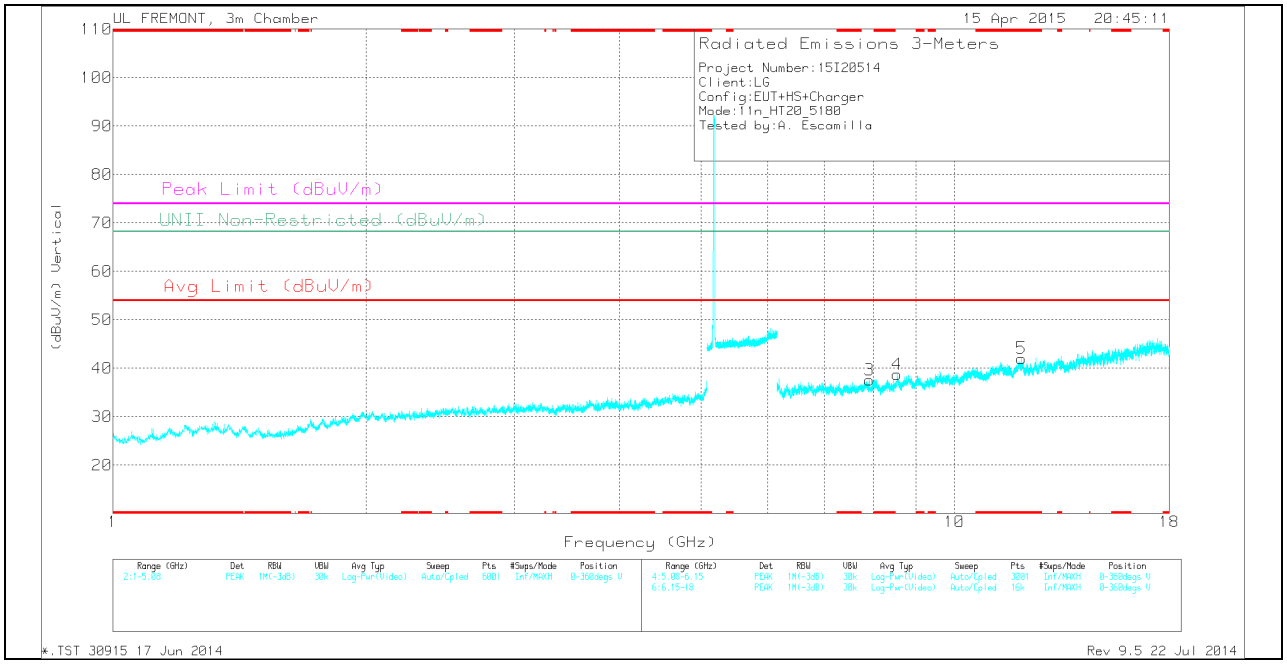
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

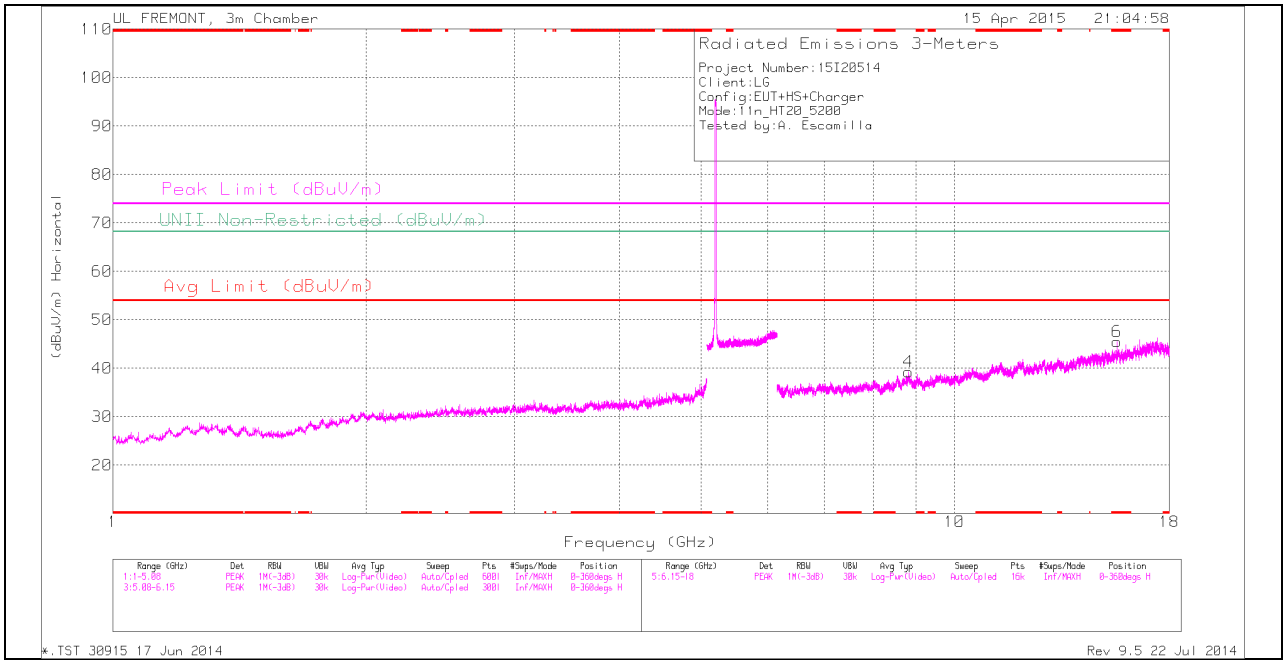
LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.694	30.89	PK	33	-30.6	0	33.29	-	-	74	-40.71	-	-	0-360	200	H
6	* 15.536	31.74	PK	40.2	-26.8	0	45.14	-	-	74	-28.86	-	-	0-360	200	H
5	* 12.018	29.06	PK	39.1	-26.1	0	42.06	-	-	74	-31.94	-	-	0-360	100	V
2	6.319	31.79	PK	35.4	-29.4	0	37.79	-	-	-	-	68.2	-30.41	0-360	100	H
3	7.921	30.08	PK	35.8	-28.3	0	37.58	-	-	-	-	68.2	-30.62	0-360	100	V
4	8.547	28.9	PK	35.8	-26	0	38.7	-	-	-	-	68.2	-29.5	0-360	100	V

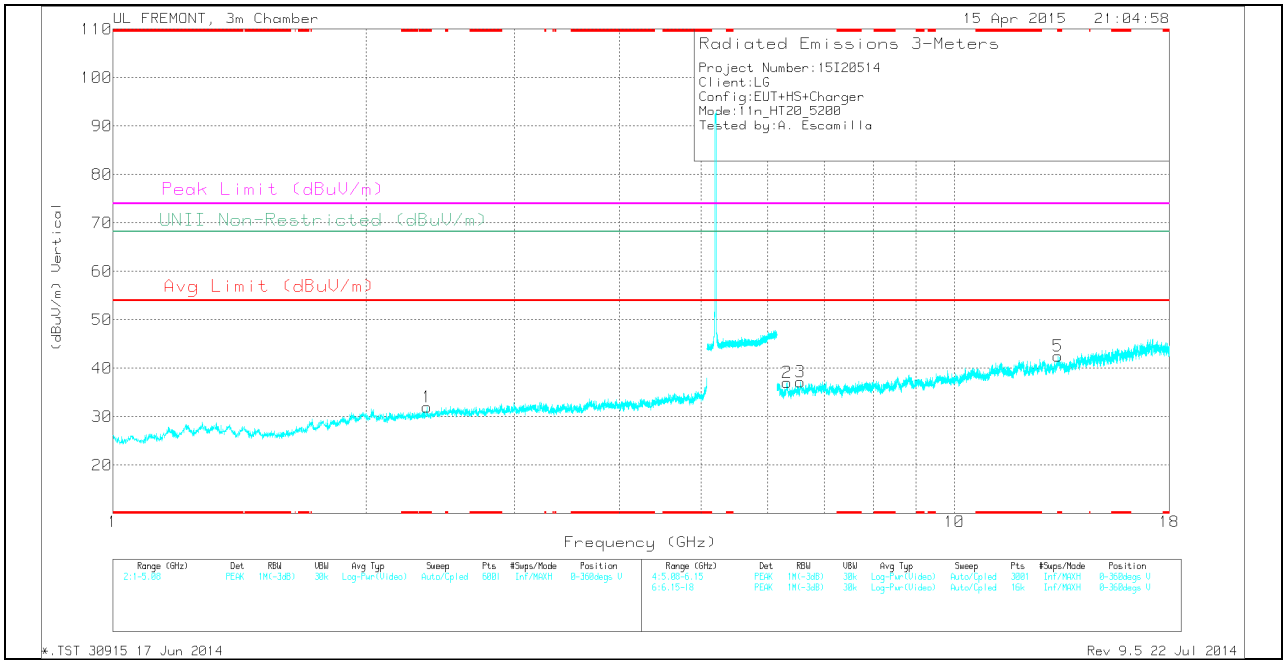
PK - Peak detector

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

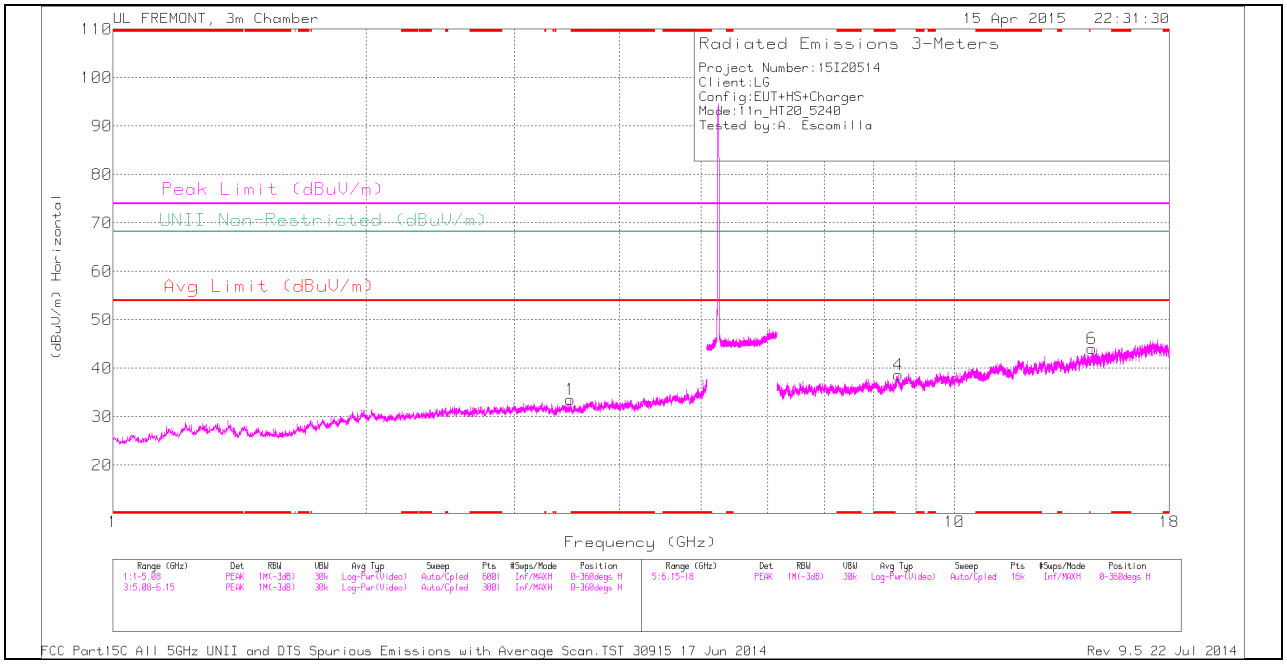
MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.361	32.95	PK	31.9	-32.8	0	32.05	-	-	74	-41.95	-	-	0-360	100	V
6	* 15.603	31.99	PK	40.3	-26.8	0	45.49	-	-	74	-28.51	-	-	0-360	100	H
5	* 13.274	29.66	PK	39	-26.1	0	42.56	-	-	74	-31.44	-	-	0-360	100	V
2	6.321	31.08	PK	35.4	-29.4	0	37.08	-	-	-	-	68.2	-31.12	0-360	100	V
3	6.563	30.95	PK	35.6	-29.4	0	37.15	-	-	-	-	68.2	-31.05	0-360	200	V
4	8.822	29.05	PK	35.9	-25.7	0	39.25	-	-	-	-	68.2	-28.95	0-360	100	H

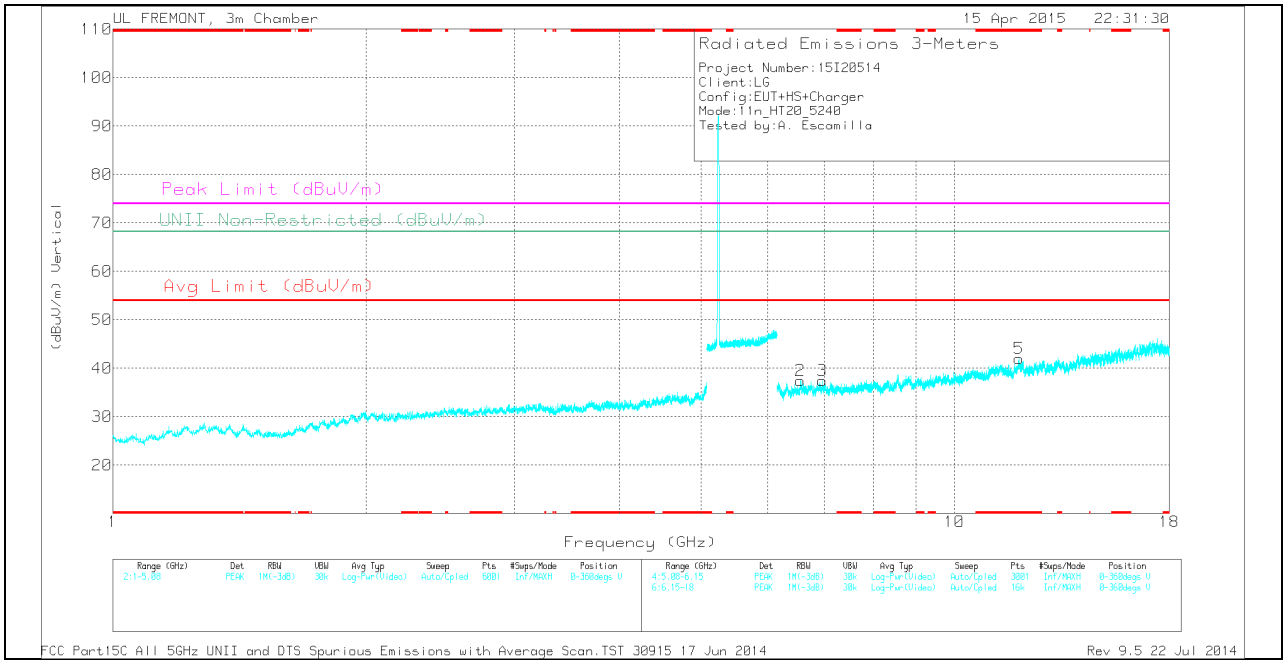
PK - Peak detector

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

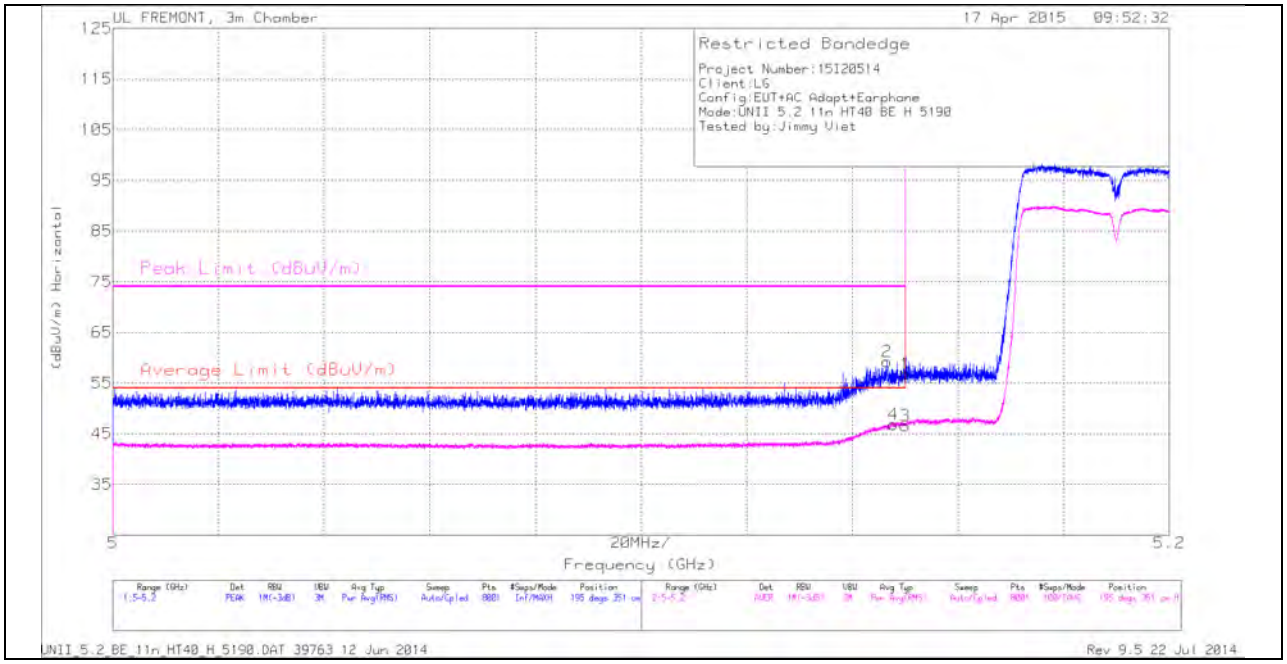
TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 11.94	29.18	PK	39.1	-26.3	0	41.98	-	-	74	-32.02	-	-	0-360	100	V
1	3.493	32.2	PK	32.8	-31.5	0	33.5	-	-	-	-	68.2	-34.7	0-360	100	H
2	6.558	31.2	PK	35.6	-29.3	0	37.5	-	-	-	-	68.2	-30.7	0-360	100	V
3	6.963	30.47	PK	35.6	-28.6	0	37.47	-	-	-	-	68.2	-30.73	0-360	100	V
4	8.572	29.01	PK	35.8	-26.2	0	38.61	-	-	-	-	68.2	-29.59	0-360	100	H
6	14.576	31.37	PK	39.8	-27.1	0	44.07	-	-	-	-	68.2	-24.13	0-360	100	H

PK - Peak detector

10.1.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

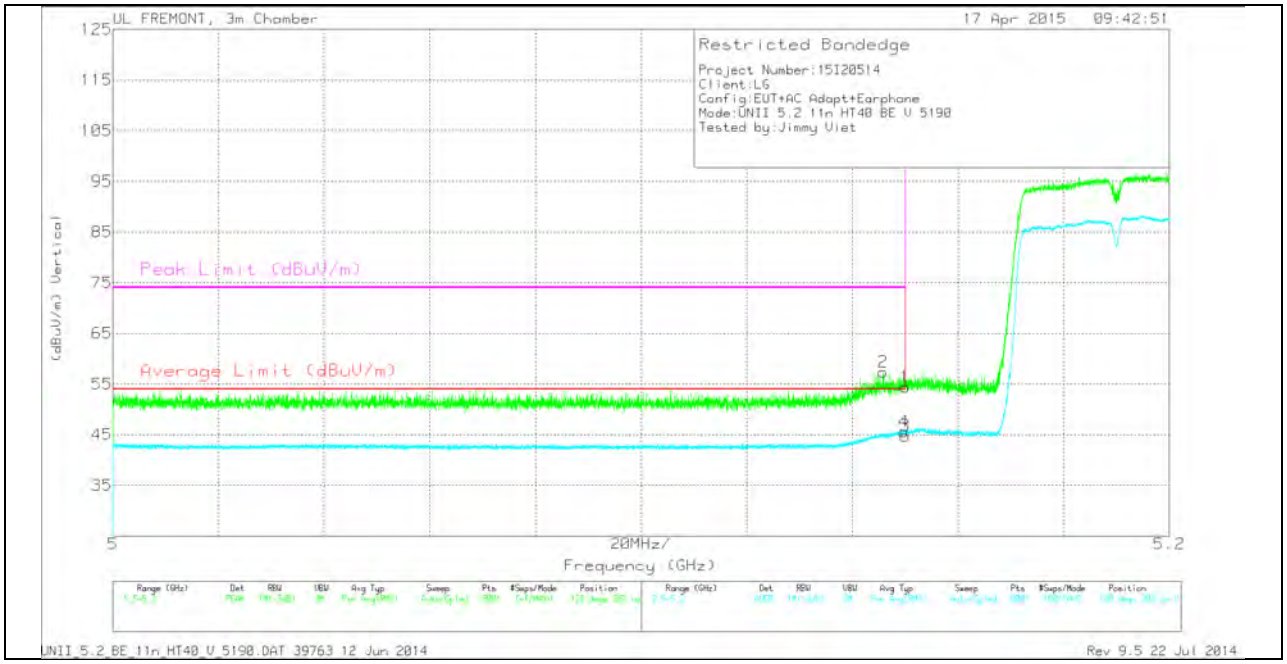
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	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
2	5.147	46.6	PK	34.2	-21.6	0	59.2	-	-	74	-14.8	195	351	H
4	5.148	34.26	RMS	34.2	-21.6	.5	47.36	54	-6.64	-	-	195	351	H
1	5.15	44.12	PK	34.2	-21.6	0	56.72	-	-	74	-17.28	195	351	H
3	5.15	33.91	RMS	34.2	-21.6	.5	47.01	54	-6.99	-	-	195	351	H

VERTICAL PEAK AND AVERAGE PLOT

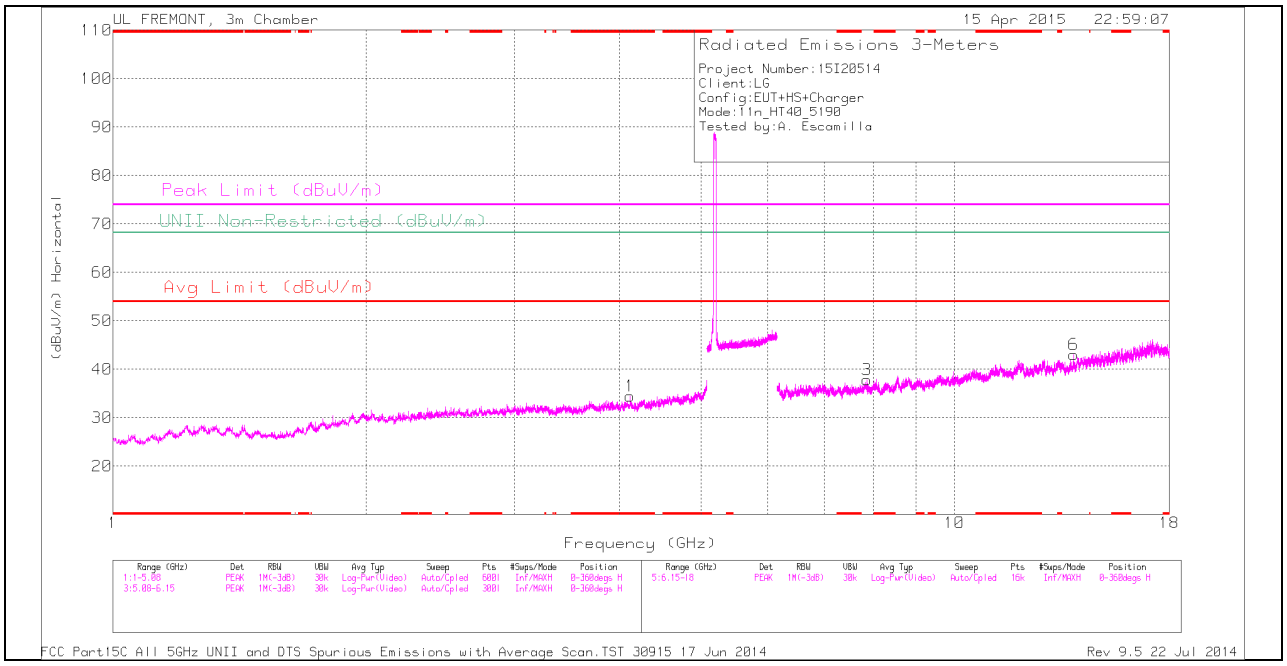


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
2	5.146	44.76	PK	34.2	-21.6	0	57.36	-	-	74	-16.64	128	382	V
1	5.15	41.84	PK	34.2	-21.6	0	54.44	-	-	74	-19.56	128	382	V
3	5.15	32.17	RMS	34.2	-21.6	.5	45.27	54	-8.73	-	-	128	382	V
4	5.15	32.96	RMS	34.2	-21.6	.5	46.06	54	-7.94	-	-	128	382	V

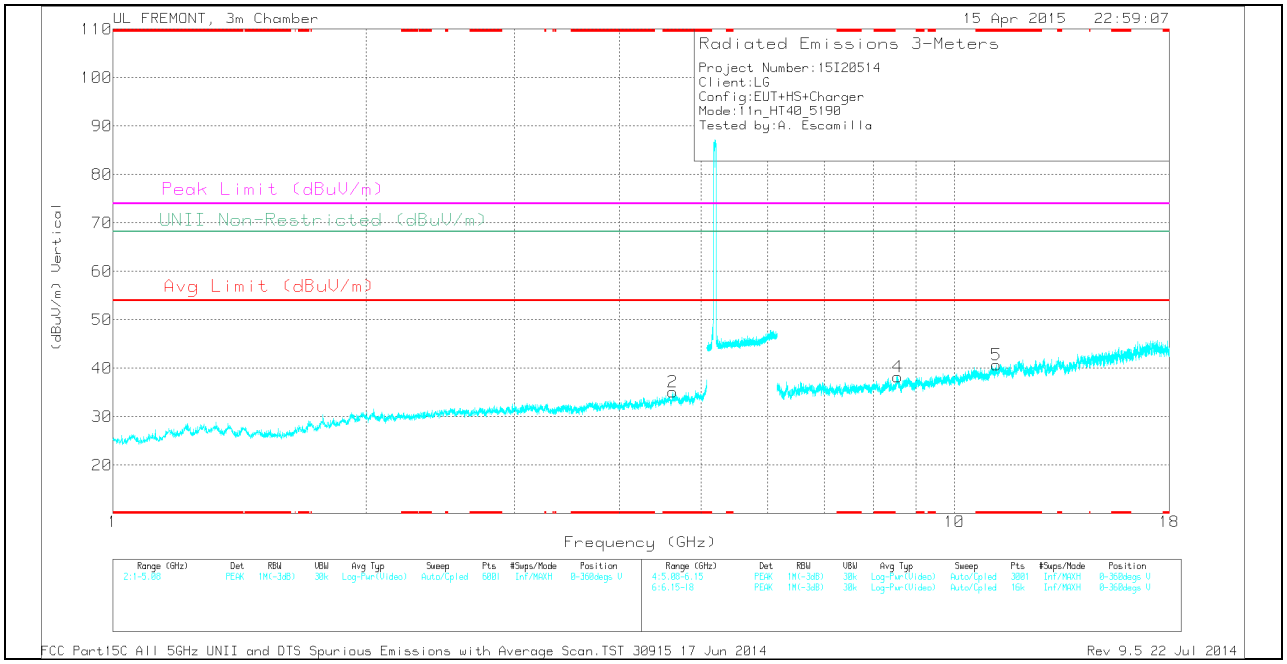
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

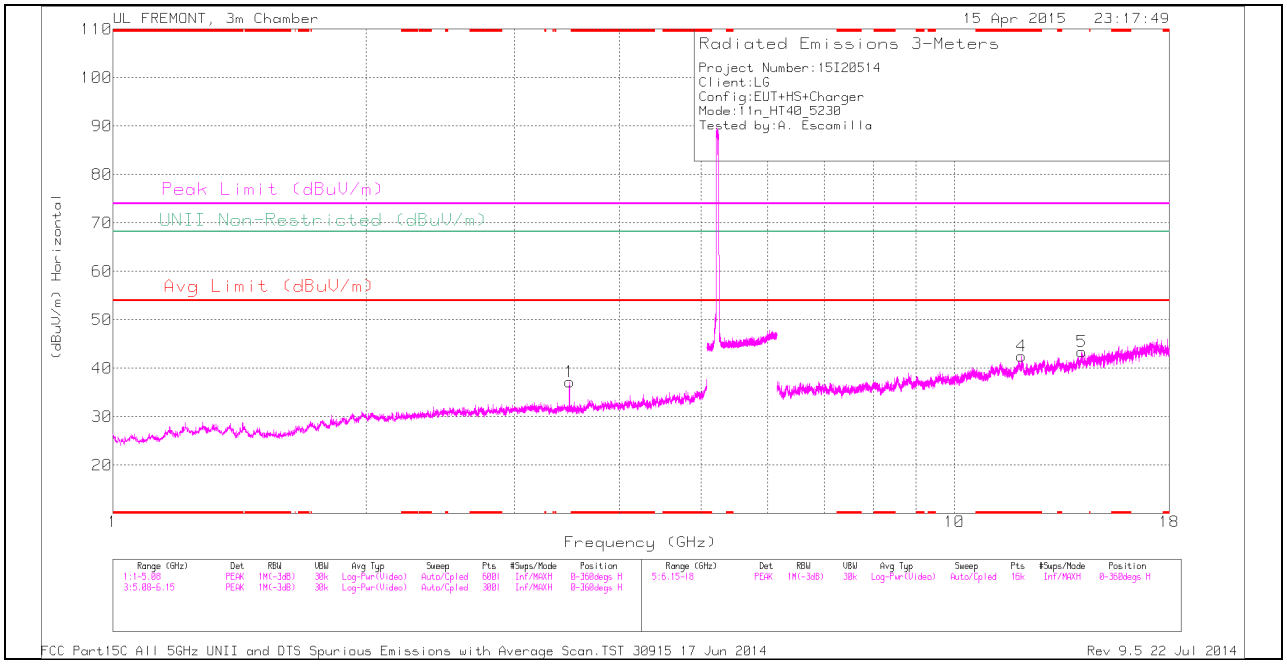
LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 11.219	28.63	PK	37.9	-25.8	0	40.73	-	-	74	-33.27	-	-	0-360	200	V
1	* 4.118	32.04	PK	33.3	-30.9	0	34.44	-	-	74	-39.56	-	-	0-360	200	H
2	* 4.624	31.37	PK	33.9	-30.2	0	35.07	-	-	74	-38.93	-	-	0-360	100	V
6	13.846	31.88	PK	38.7	-27.5	0	43.08	-	-	-	-	68.2	-25.12	0-360	200	H
3	7.867	29.51	PK	35.8	-27.5	0	37.81	-	-	-	-	68.2	-30.39	0-360	100	H
4	8.564	28.65	PK	35.8	-26.2	0	38.25	-	-	-	-	68.2	-29.95	0-360	100	V

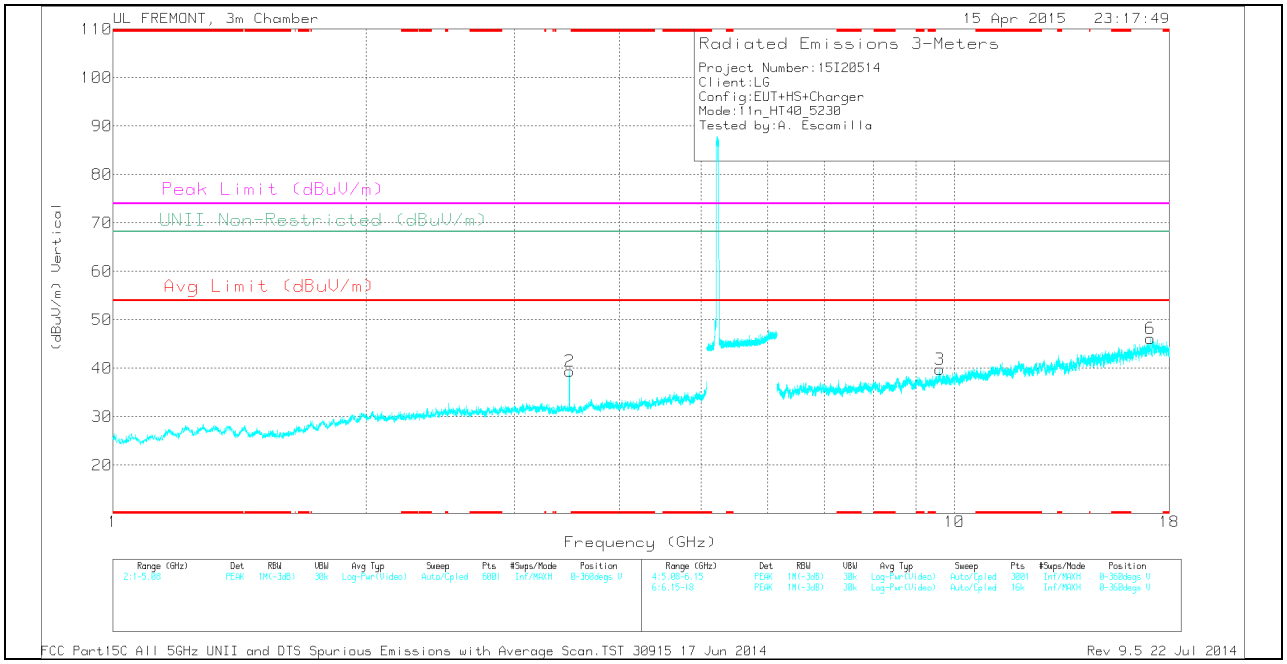
PK - Peak detector

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

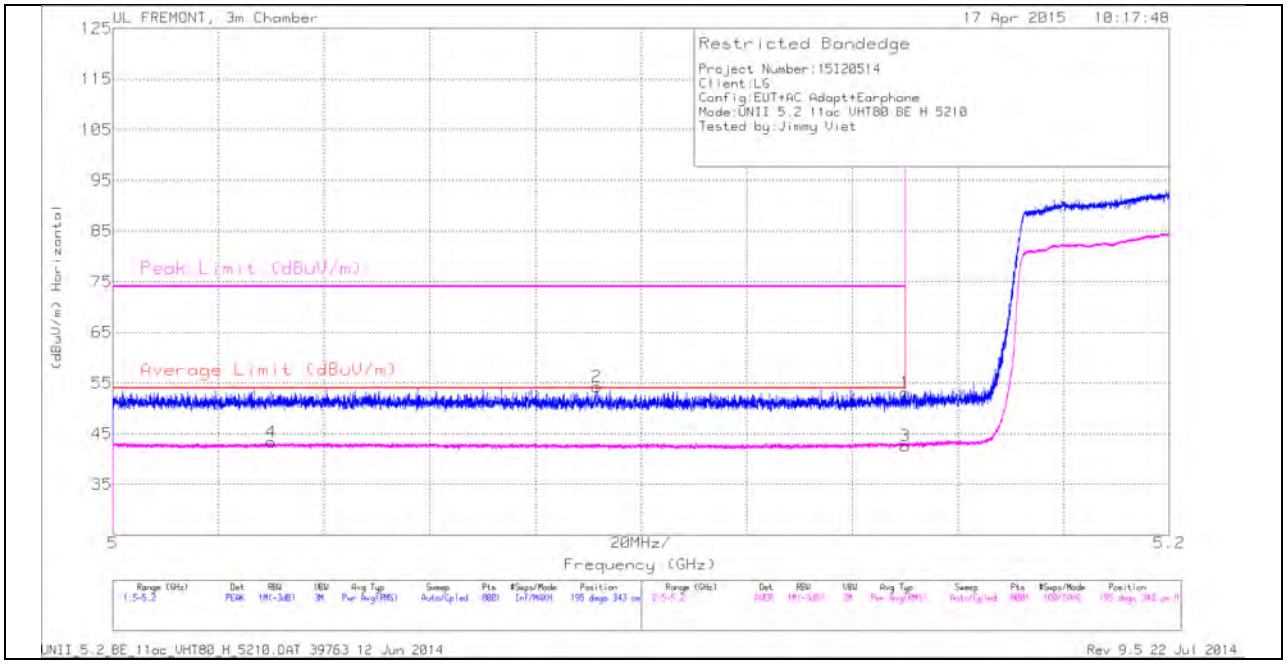
TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 12.005	29.75	PK	39.1	-26.3	0	42.55	-	-	74	-31.45	-	-	0-360	100	H
1	3.487	35.88	PK	32.8	-31.5	0	37.18	-	-	-	-	68.2	-31.02	0-360	100	H
2	3.487	38.05	PK	32.8	-31.5	0	39.35	-	-	-	-	68.2	-28.85	0-360	200	V
3	9.603	28.19	PK	36.7	-25.1	0	39.79	-	-	-	-	68.2	-28.41	0-360	100	V
5	14.171	31.27	PK	39.1	-27	0	43.37	-	-	-	-	68.2	-24.83	0-360	100	H
6	17.082	28.44	PK	41.4	-23.7	0	46.14	-	-	-	-	68.2	-22.06	0-360	200	V

PK - Peak detector

10.1.4. TX ABOVE 1 GHz 802.11ac HT80 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

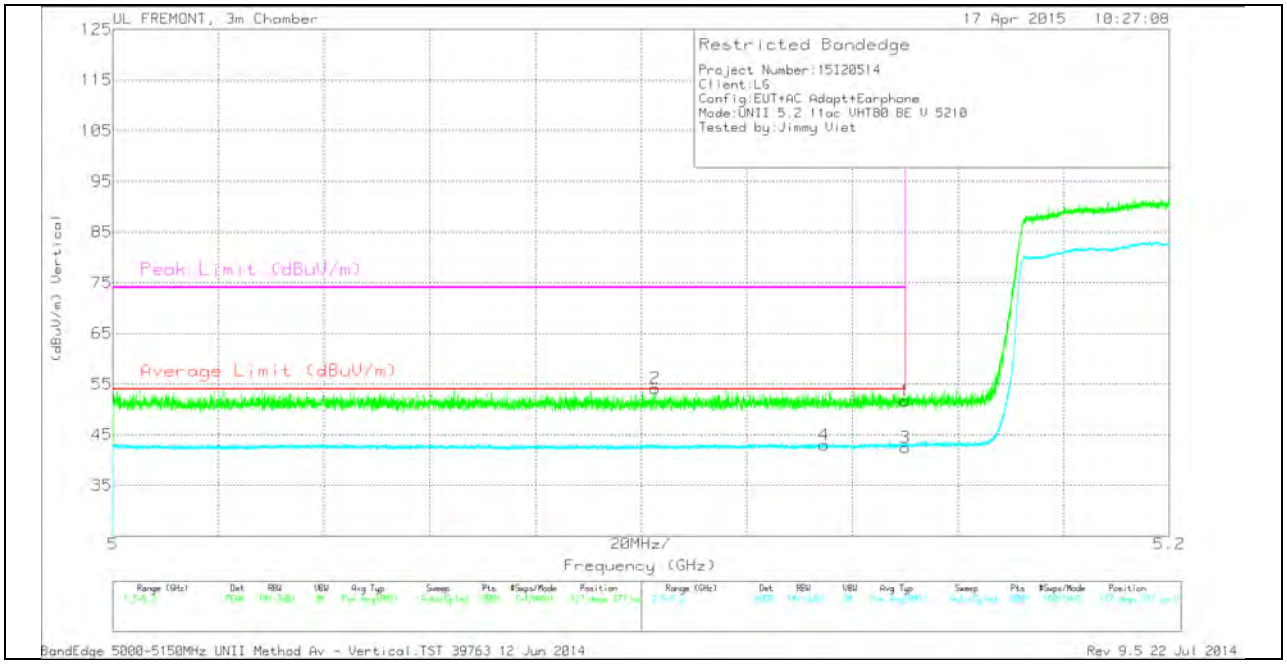
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	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
4	5.03	30.43	RMS	34	-21.5	.44	43.37	54	-10.63	-	-	195	343	H
2	5.092	41.79	PK	34.1	-21.6	0	54.29	-	-	74	-19.71	195	343	H
1	5.15	40.6	PK	34.2	-21.6	0	53.2	-	-	74	-20.8	195	343	H
3	5.15	29.55	RMS	34.2	-21.6	.44	42.59	54	-11.41	-	-	195	343	H

VERTICAL PEAK AND AVERAGE PLOT

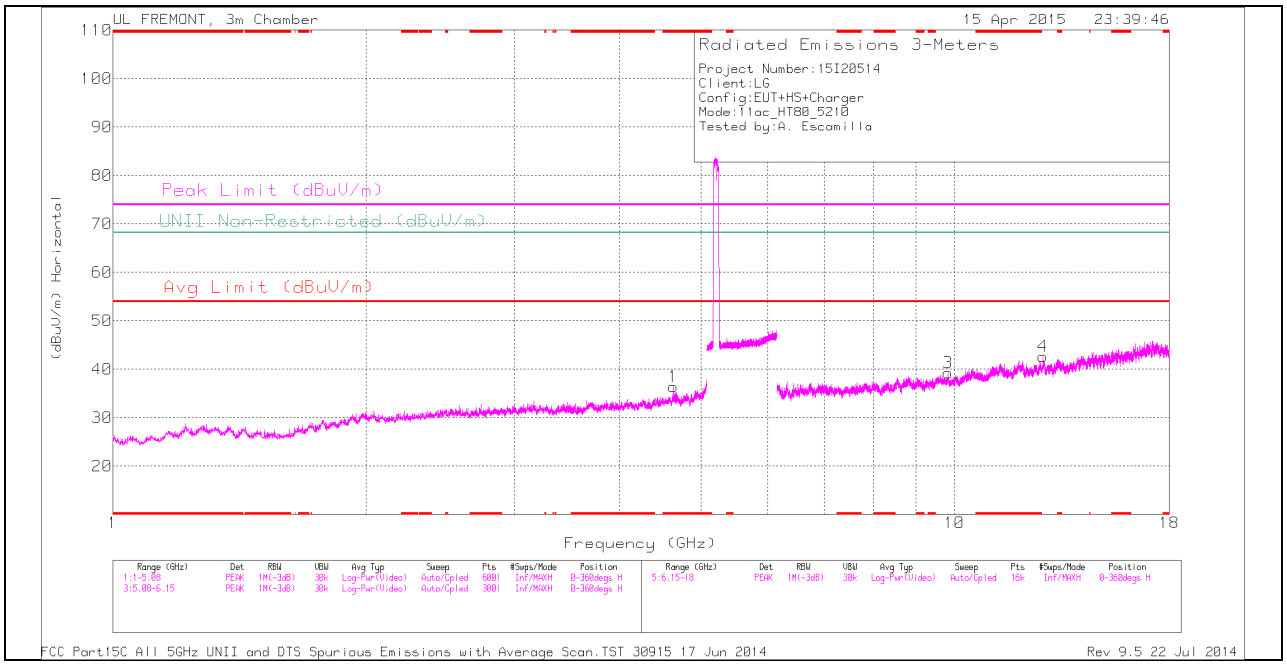


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/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
2	5.103	41.63	PK	34.1	-21.6	0	54.13	-	-	74	-19.87	127	377	V
4	5.135	30.36	RMS	34.2	-21.6	.44	43.4	54	-10.6	-	-	127	377	V
1	5.15	39.03	PK	34.2	-21.6	0	51.63	-	-	74	-22.37	127	377	V
3	5.15	29.85	RMS	34.2	-21.6	.44	42.89	54	-11.11	-	-	127	377	V

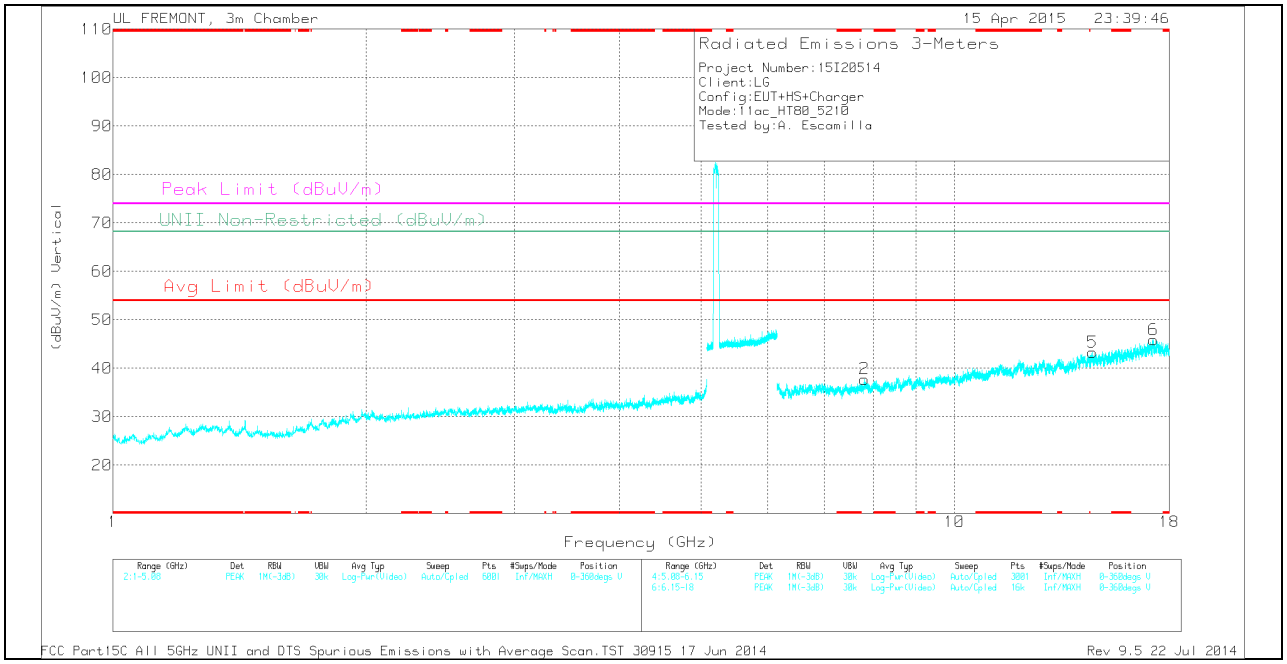
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

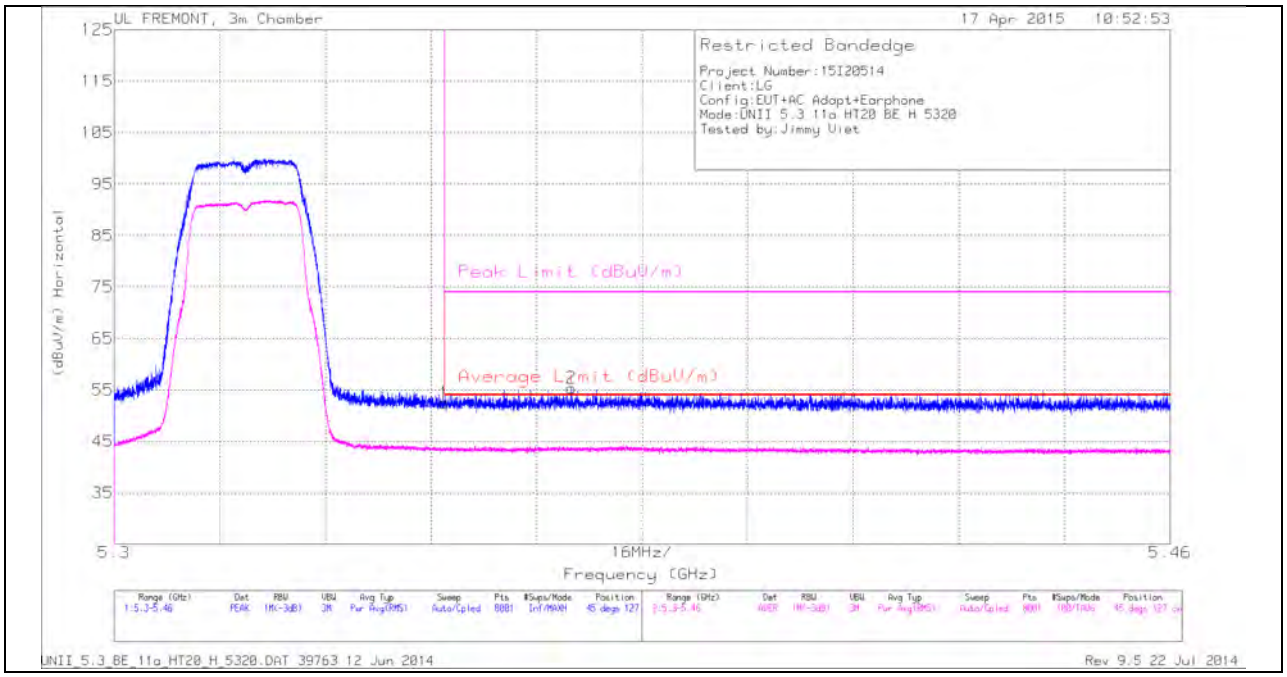
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.631	32.59	PK	33.9	-30.1	0	36.39	-	-	74	-37.61	-	-	0-360	100	H
4	12.727	29.3	PK	39.1	-25.8	0	42.6	-	-	-	-	68.2	-25.6	0-360	200	H
5	14.592	30.69	PK	39.8	-27.2	0	43.29	-	-	-	-	68.2	-24.91	0-360	100	V
6	17.228	28.08	PK	41.3	-23.5	0	45.88	-	-	-	-	68.2	-22.32	0-360	200	V
2	7.813	30.08	PK	35.8	-28.1	0	37.78	-	-	-	-	68.2	-30.42	0-360	100	V
3	9.827	27.47	PK	36.9	-25.1	0	39.27	-	-	-	-	68.2	-28.93	0-360	100	H

PK - Peak detector

10.2. 5.3 GHz

10.2.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

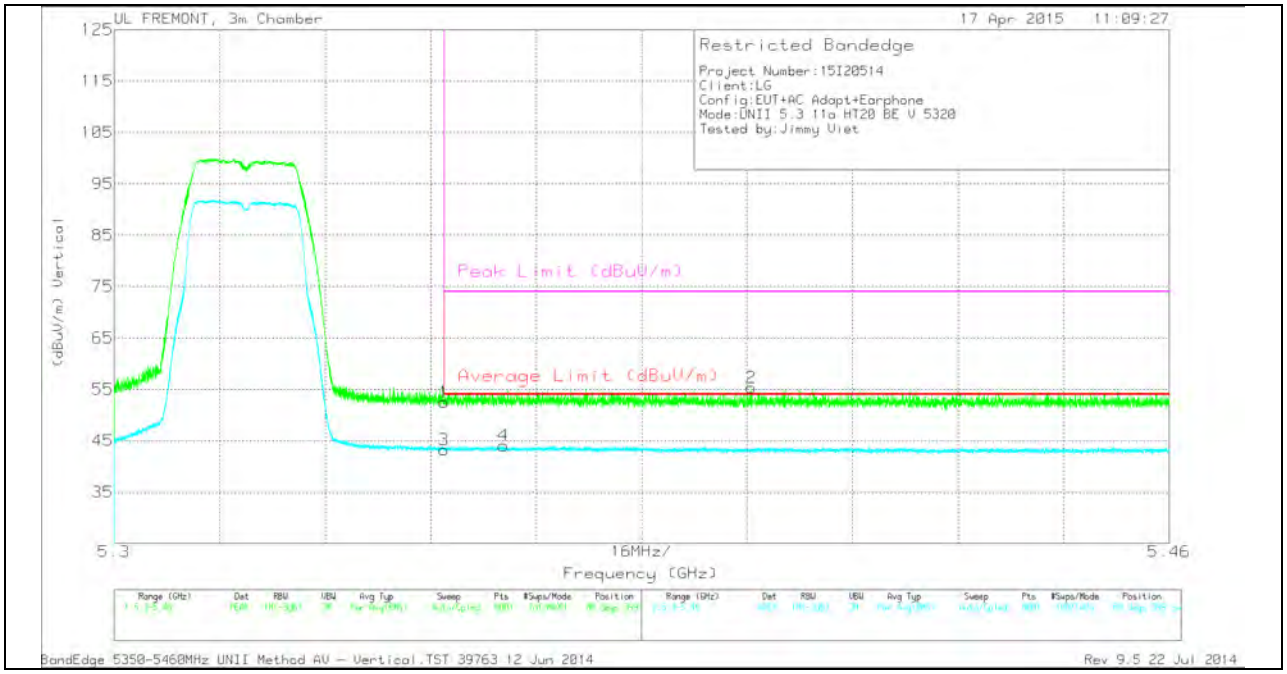
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/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	5.35	39.34	PK	34.5	-21.4	0	52.44	-	-	74	-21.56	45	127	H
3	5.35	29.79	RMS	34.5	-21.4	.2	43.09	54	-10.91	-	-	45	127	H
2	5.369	42.37	PK	34.5	-21.5	0	55.37	-	-	74	-18.63	45	127	H
4	5.377	30.82	RMS	34.6	-21.3	.2	44.32	54	-9.68	-	-	45	127	H

VERTICAL PEAK AND AVERAGE PLOT

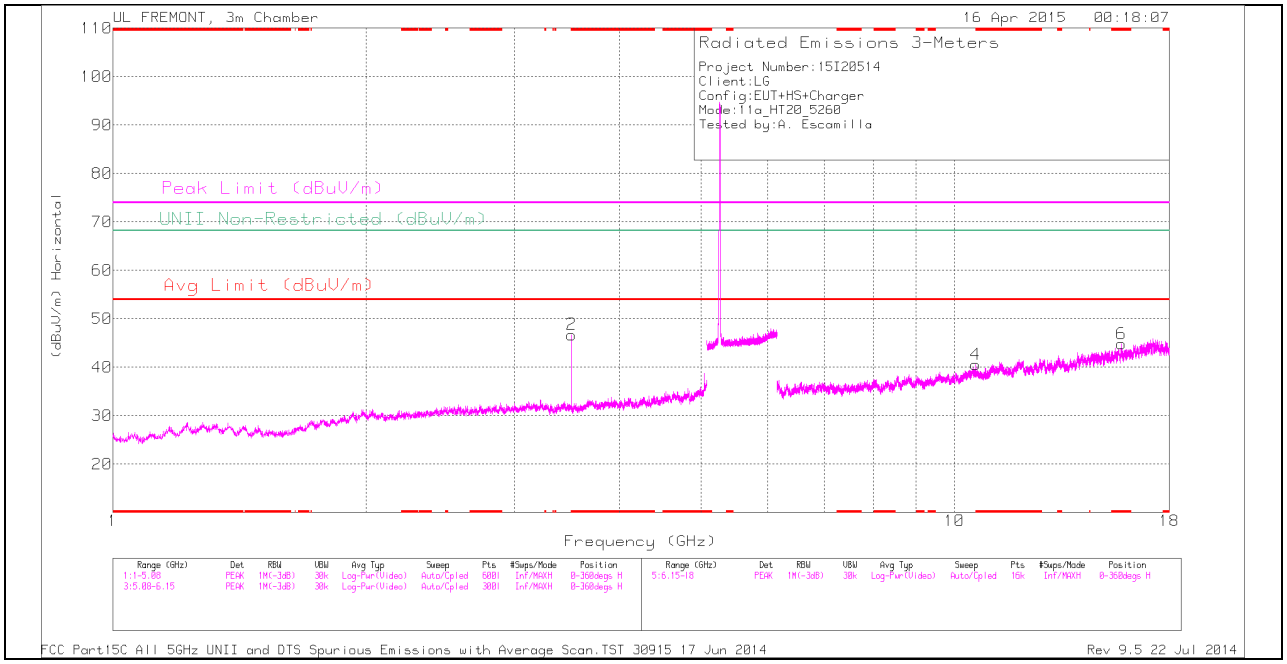


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	5.35	39.42	PK	34.5	-21.4	0	52.52	-	-	74	-21.48	88	399	V
3	5.35	29.93	RMS	34.5	-21.4	.2	43.23	54	-10.77	-	-	88	399	V
4	5.359	30.84	RMS	34.5	-21.5	.2	44.04	54	-9.96	-	-	88	399	V
2	5.397	42.22	PK	34.6	-21.5	0	55.32	-	-	74	-18.68	88	399	V

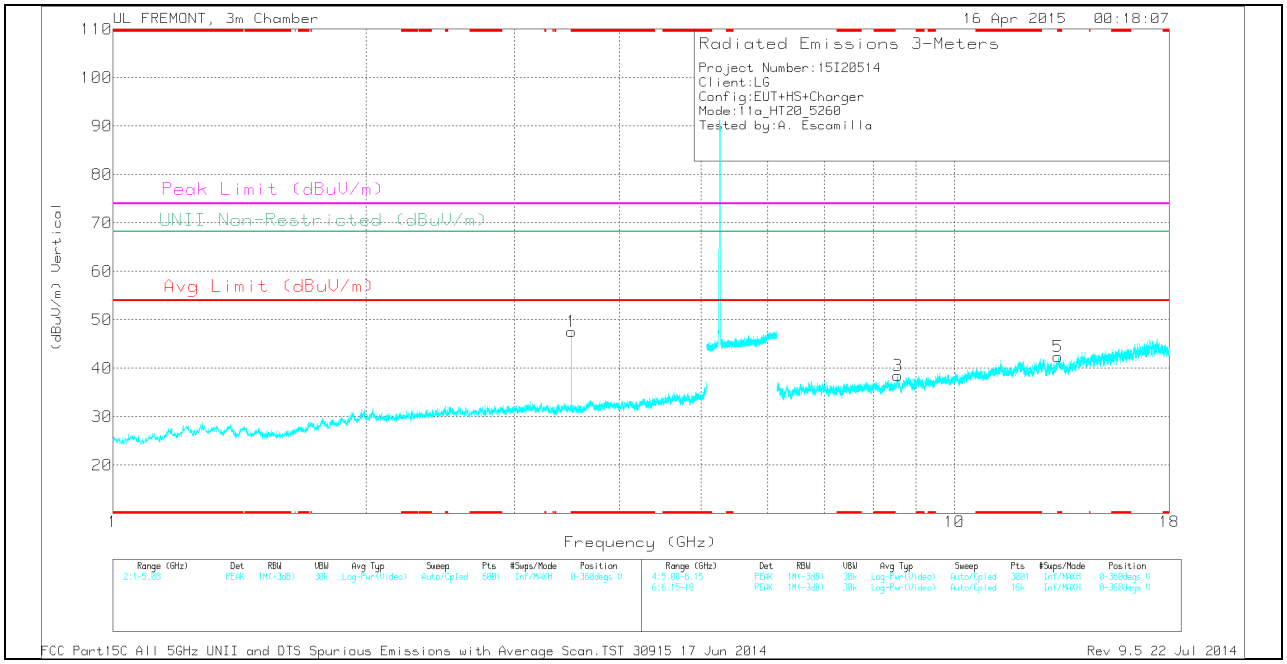
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

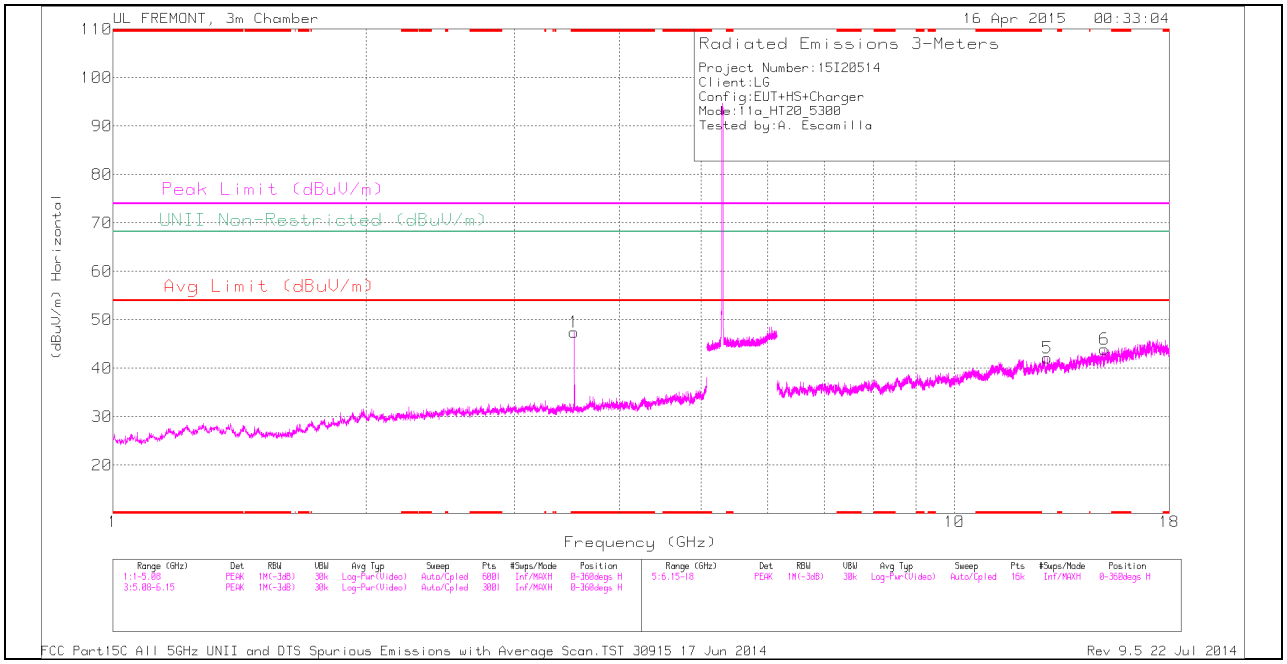
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 13.265	29.54	PK	39	-26.2	0	42.34	-	-	74	-31.66	-	-	0-360	100	V
6	* 15.788	30.8	PK	40.3	-26.3	0	44.8	-	-	74	-29.2	-	-	0-360	200	H
2	* 3.506	45.44	PK	32.8	-31.5	0	46.74	-	-	74	-27.26	-	-	0-360	200	H
1	* 3.506	46.25	PK	32.8	-31.5	0	47.55	-	-	74	-26.45	-	-	0-360	200	V
4	10.591	27.93	PK	37.6	-25	0	40.53	-	-	-	-	68.2	-27.67	0-360	100	H
3	8.564	28.88	PK	35.8	-26.2	0	38.48	-	-	-	-	68.2	-29.72	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

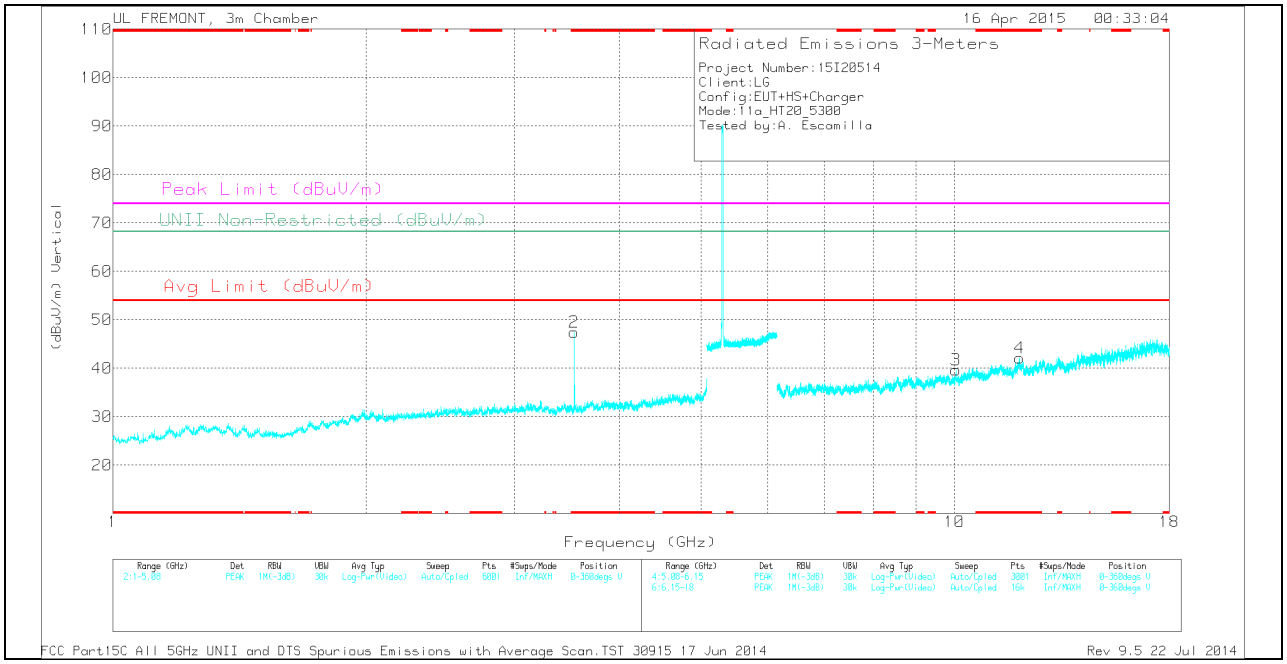
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.507	49.14	PK1	32.8	-31.5	0	50.44	-	-	74	-23.56	-	-	250	116	H
* 3.507	45.95	AD1	32.8	-31.5	.23	47.48	54	-6.52	-	-	-	-	250	116	H
* 3.507	50.14	PK1	32.8	-31.5	0	51.44	-	-	74	-22.56	-	-	305	314	V
* 3.507	47.09	AD1	32.8	-31.5	.23	48.62	54	-5.38	-	-	-	-	305	314	V

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

TRACE MARKERS

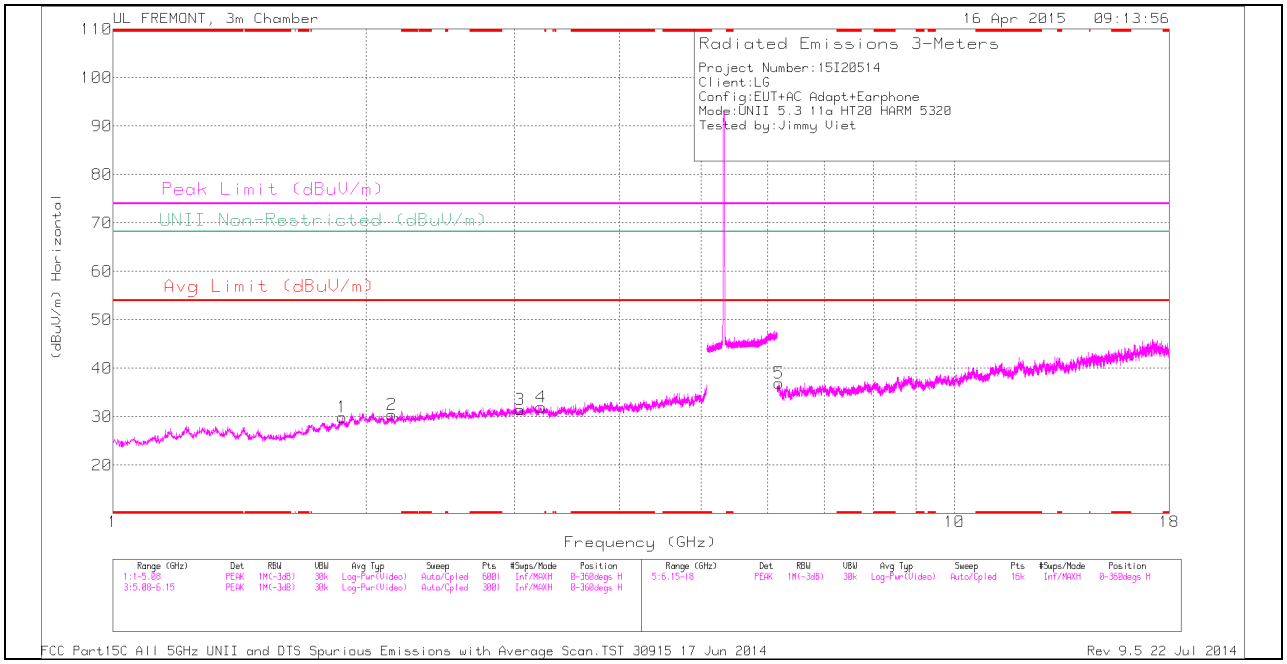
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.534	46.56	PK	32.8	-31.9	0	47.46	-	-	74	-26.54	-	-	0-360	100	H
2	* 3.534	46.5	PK	32.8	-31.9	0	47.4	-	-	74	-26.6	-	-	0-360	200	V
4	* 11.946	29.39	PK	39.1	-26.4	0	42.09	-	-	74	-31.91	-	-	0-360	200	V
3	10.038	27.52	PK	36.9	-24.8	0	39.62	-	-	-	-	68.2	-28.58	0-360	100	V
5	12.9	30.07	PK	39.1	-27.1	0	42.07	-	-	-	-	68.2	-26.13	0-360	100	H
6	15.086	30.7	PK	39.8	-26.6	0	43.9	-	-	-	-	68.2	-24.3	0-360	100	H

PK - Peak detector

RADIATED EMISSIONS

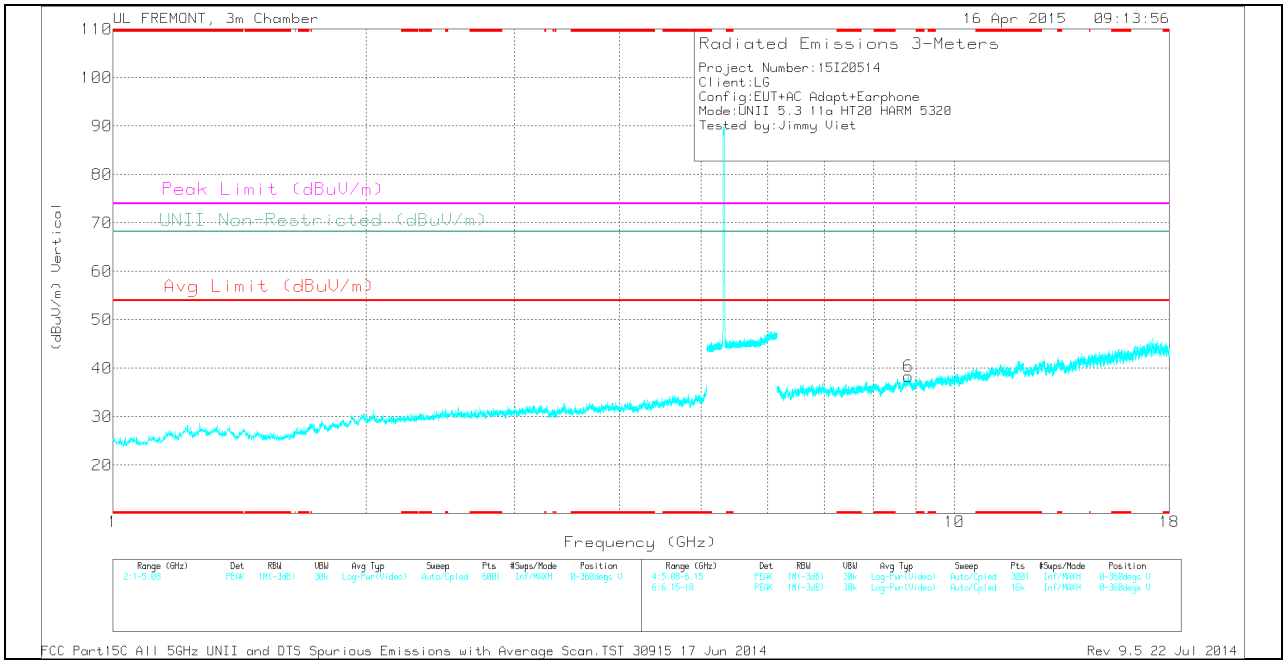
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.533	47.04	PK1	32.8	-31.8	0	48.04	-	-	74	-25.96	-	-	243	111	H
* 3.533	43	AD1	32.8	-31.8	.23	44.23	54	-9.77	-	-	-	-	243	111	H
* 3.533	47.65	PK1	32.8	-31.8	0	48.65	-	-	74	-25.35	-	-	283	143	V
* 3.533	42.56	AD1	32.8	-31.8	.23	43.79	54	-10.21	-	-	-	-	283	143	V

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

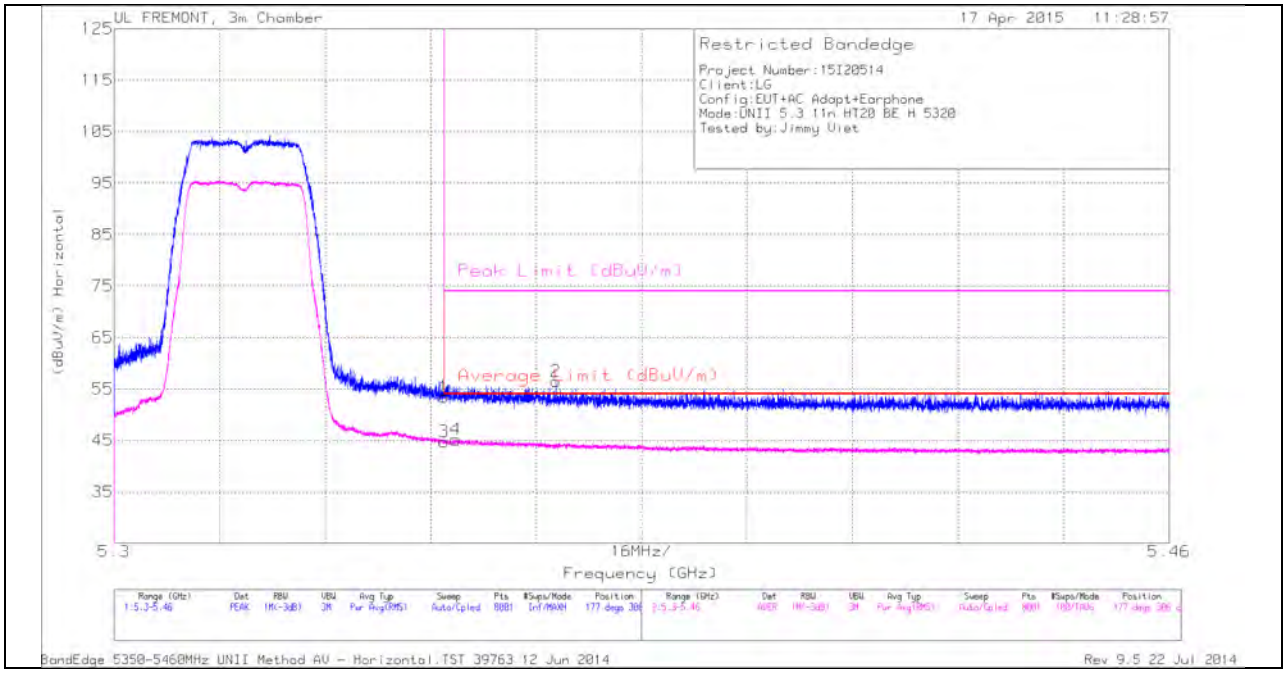
HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr /Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.874	32.17	PK	30.9	-33.1	29.97	-	-	-	-	68.2	-38.23	0-360	100	H
2	2.146	31.86	PK	31.5	-32.9	30.46	-	-	-	-	68.2	-37.74	0-360	200	H
3	3.049	30.73	PK	32.7	-31.9	31.53	-	-	-	-	68.2	-36.67	0-360	200	H
4	3.227	30.8	PK	32.6	-31.4	32	-	-	-	-	68.2	-36.2	0-360	200	H
5	6.189	31.07	PK	35.3	-29.4	36.97	-	-	-	-	68.2	-31.23	0-360	200	H
6	8.822	28.19	PK	35.9	-25.7	38.39	-	-	-	-	68.2	-29.81	0-360	100	V

10.2.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

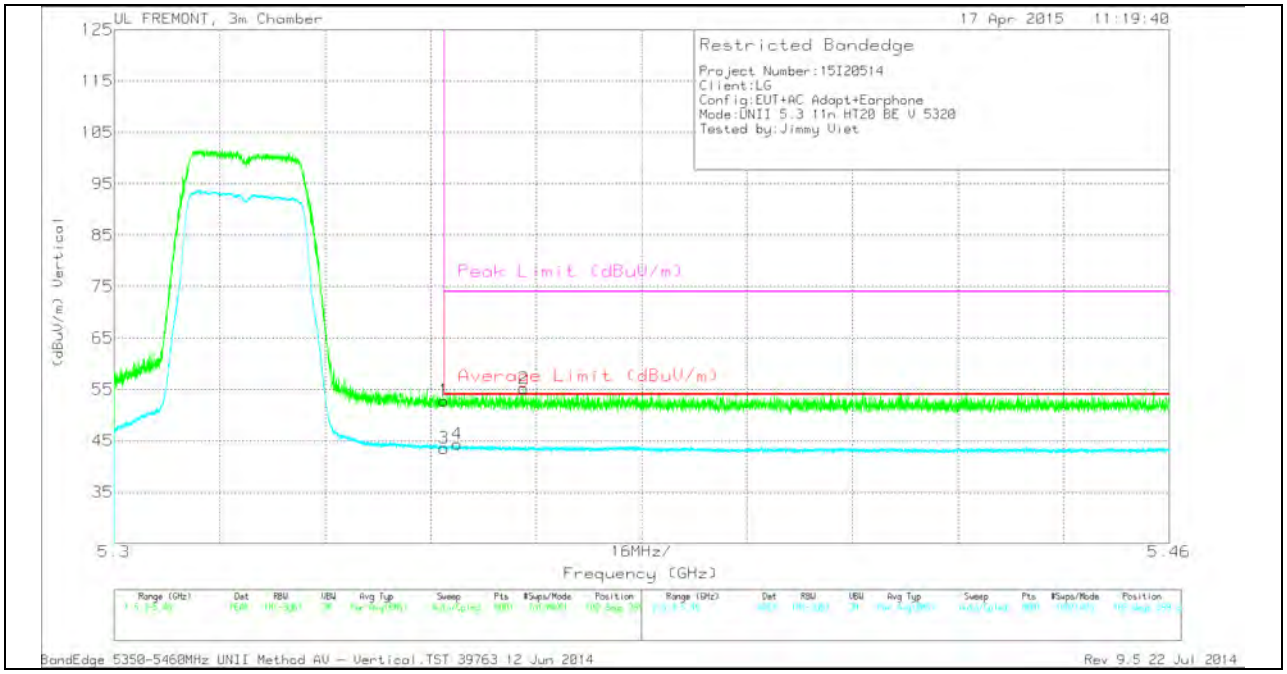
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	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	5.35	40.35	PK	34.5	-21.4	0	53.45	-	-	74	-20.55	177	306	H
3	5.35	31.45	RMS	34.5	-21.4	.2	44.75	54	-9.25	-	-	177	306	H
4	5.352	31.86	RMS	34.5	-21.4	.2	45.16	54	-8.84	-	-	177	306	H
2	5.367	43.45	PK	34.5	-21.5	0	56.45	-	-	74	-17.55	177	306	H

VERTICAL PEAK AND AVERAGE PLOT

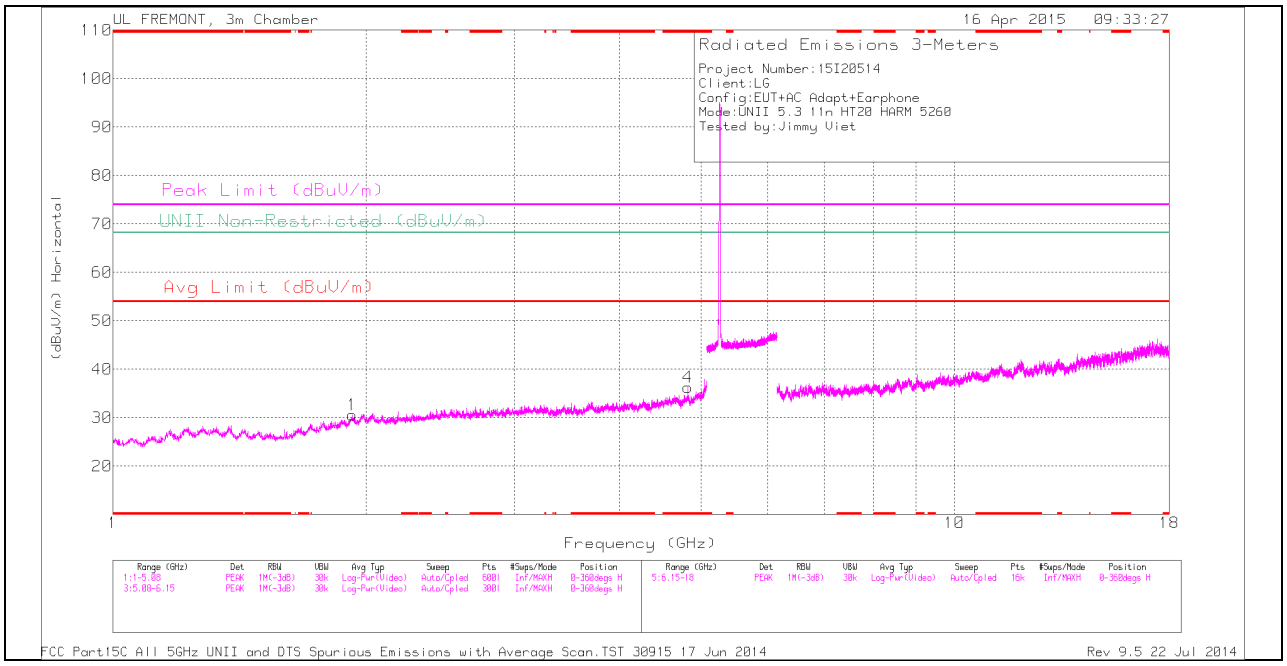


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	5.35	39.71	PK	34.5	-21.4	0	52.81	-	-	74	-21.19	102	399	V
3	5.35	30.26	RMS	34.5	-21.4	.2	43.56	54	-10.44	-	-	102	399	V
4	5.352	31.07	RMS	34.5	-21.4	.2	44.37	54	-9.63	-	-	102	399	V
2	5.362	42.1	PK	34.5	-21.4	0	55.2	-	-	74	-18.8	102	399	V

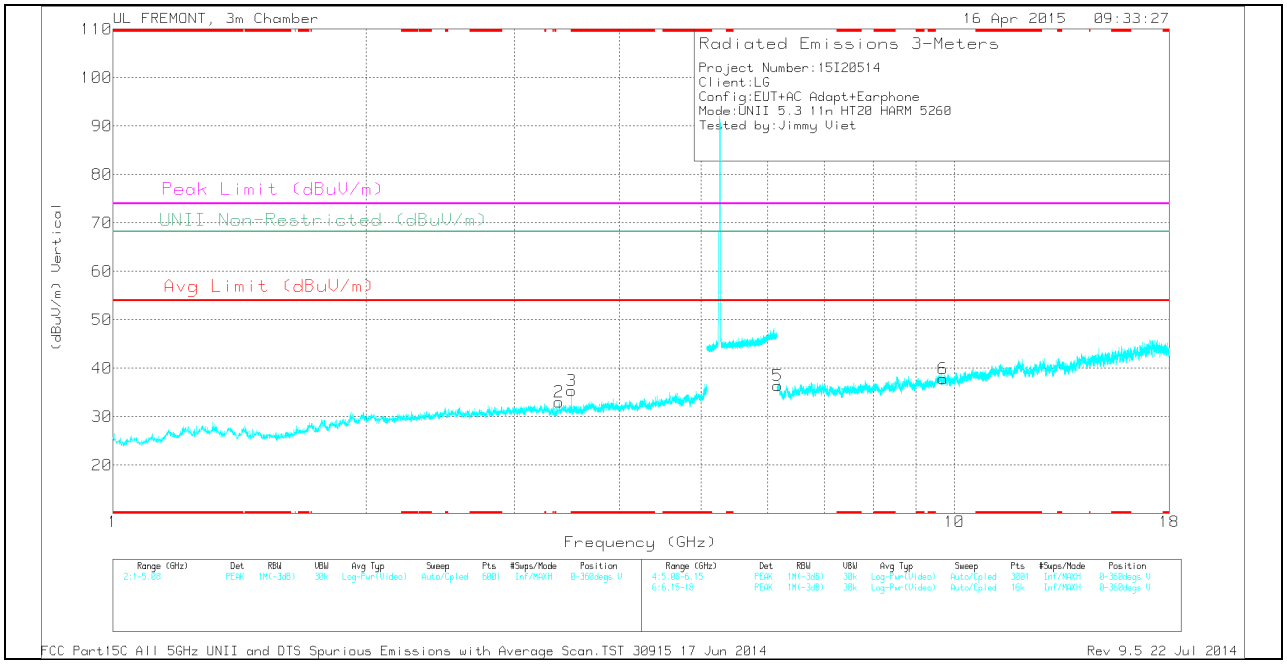
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

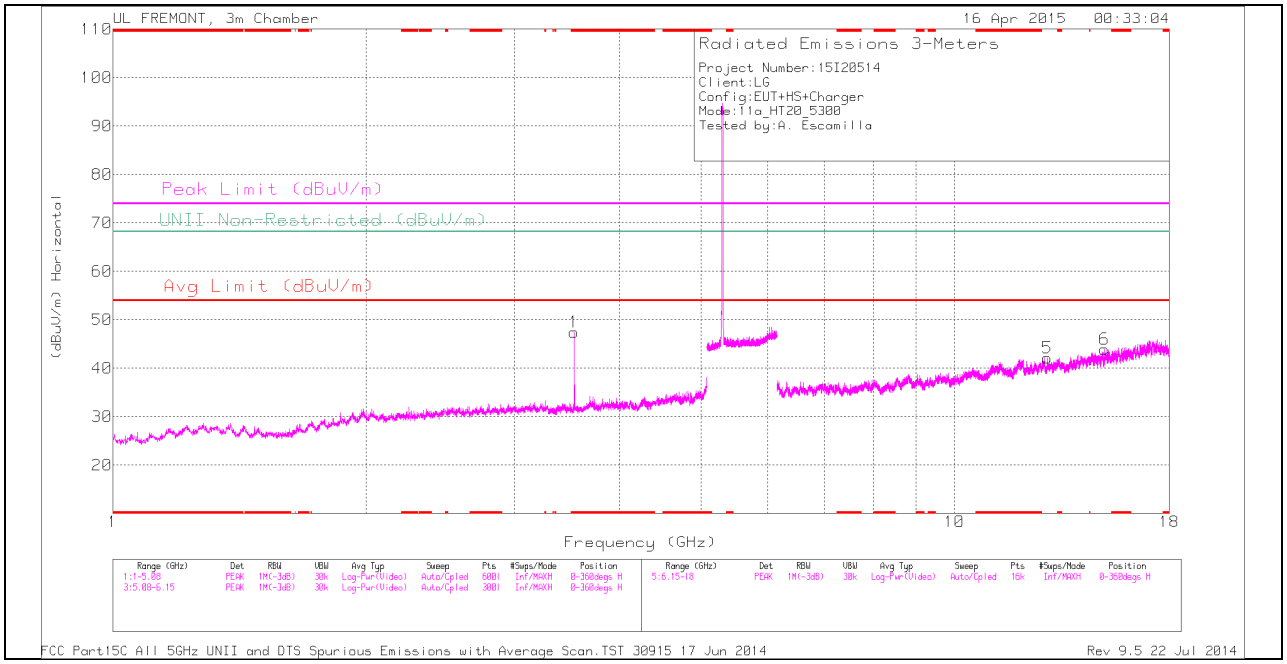
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 13.265	29.54	PK	39	-26.2	0	42.34	-	-	74	-31.66	-	-	0-360	100	V
6	* 15.788	30.8	PK	40.3	-26.3	0	44.8	-	-	74	-29.2	-	-	0-360	200	H
2	* 3.506	45.44	PK	32.8	-31.5	0	46.74	-	-	74	-27.26	-	-	0-360	200	H
1	* 3.506	46.25	PK	32.8	-31.5	0	47.55	-	-	74	-26.45	-	-	0-360	200	V
4	10.591	27.93	PK	37.6	-25	0	40.53	-	-	-	-	68.2	-27.67	0-360	100	H
3	8.564	28.88	PK	35.8	-26.2	0	38.48	-	-	-	-	68.2	-29.72	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

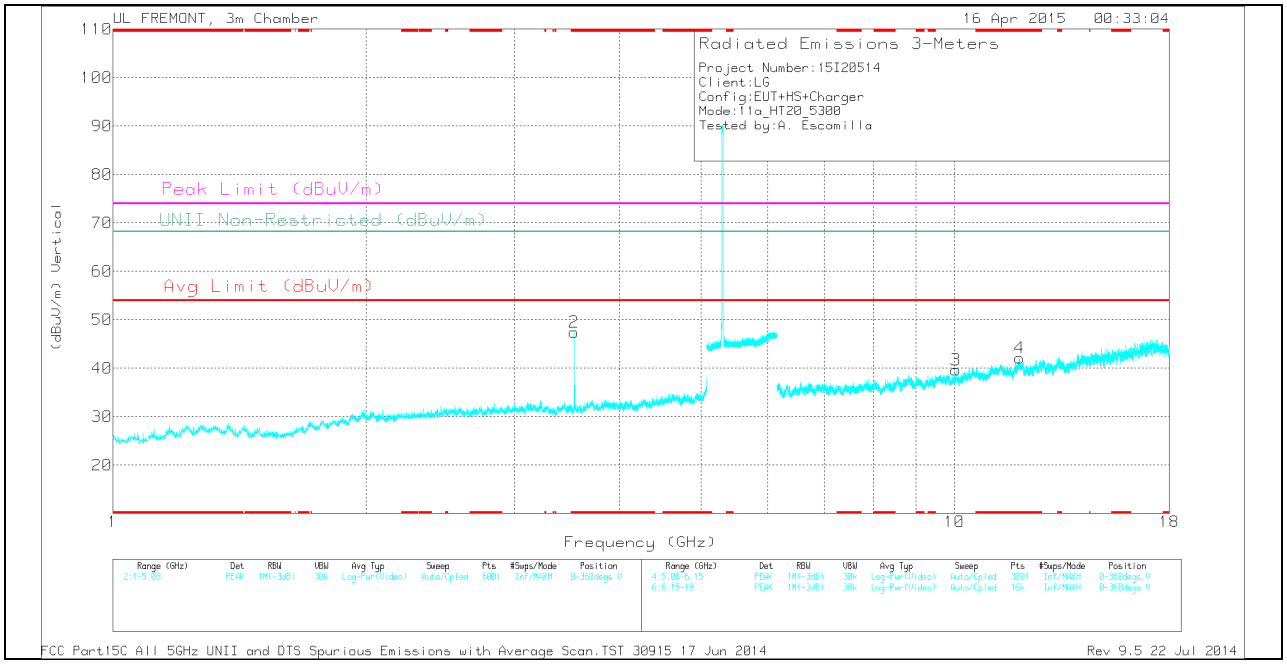
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.507	49.14	PK1	32.8	-31.5	0	50.44	-	-	74	-23.56	-	-	250	116	H
* 3.507	45.95	AD1	32.8	-31.5	.23	47.48	54	-6.52	-	-	-	-	250	116	H
* 3.507	50.14	PK1	32.8	-31.5	0	51.44	-	-	74	-22.56	-	-	305	314	V
* 3.507	47.09	AD1	32.8	-31.5	.23	48.62	54	-5.38	-	-	-	-	305	314	V

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

TRACE MARKERS

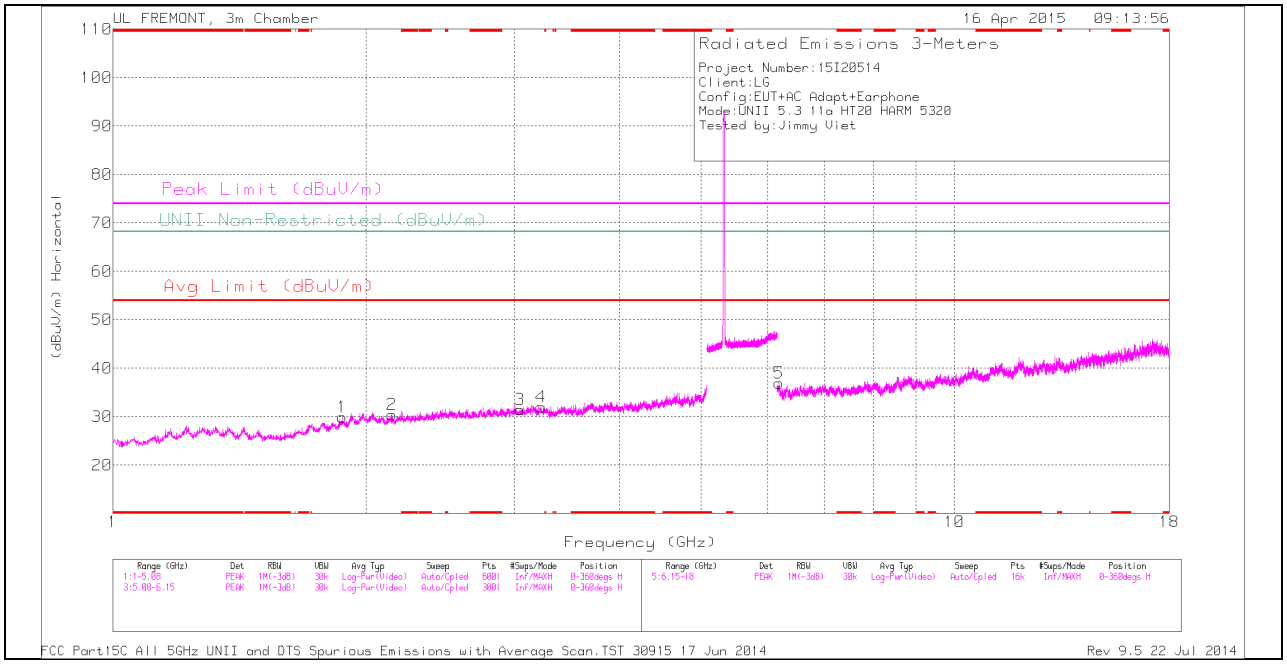
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.534	46.56	PK	32.8	-31.9	0	47.46	-	-	74	-26.54	-	-	0-360	100	H
2	* 3.534	46.5	PK	32.8	-31.9	0	47.4	-	-	74	-26.6	-	-	0-360	200	V
4	* 11.946	29.39	PK	39.1	-26.4	0	42.09	-	-	74	-31.91	-	-	0-360	200	V
3	10.038	27.52	PK	36.9	-24.8	0	39.62	-	-	-	-	68.2	-28.58	0-360	100	V
5	12.9	30.07	PK	39.1	-27.1	0	42.07	-	-	-	-	68.2	-26.13	0-360	100	H
6	15.086	30.7	PK	39.8	-26.6	0	43.9	-	-	-	-	68.2	-24.3	0-360	100	H

PK - Peak detector

RADIATED EMISSIONS

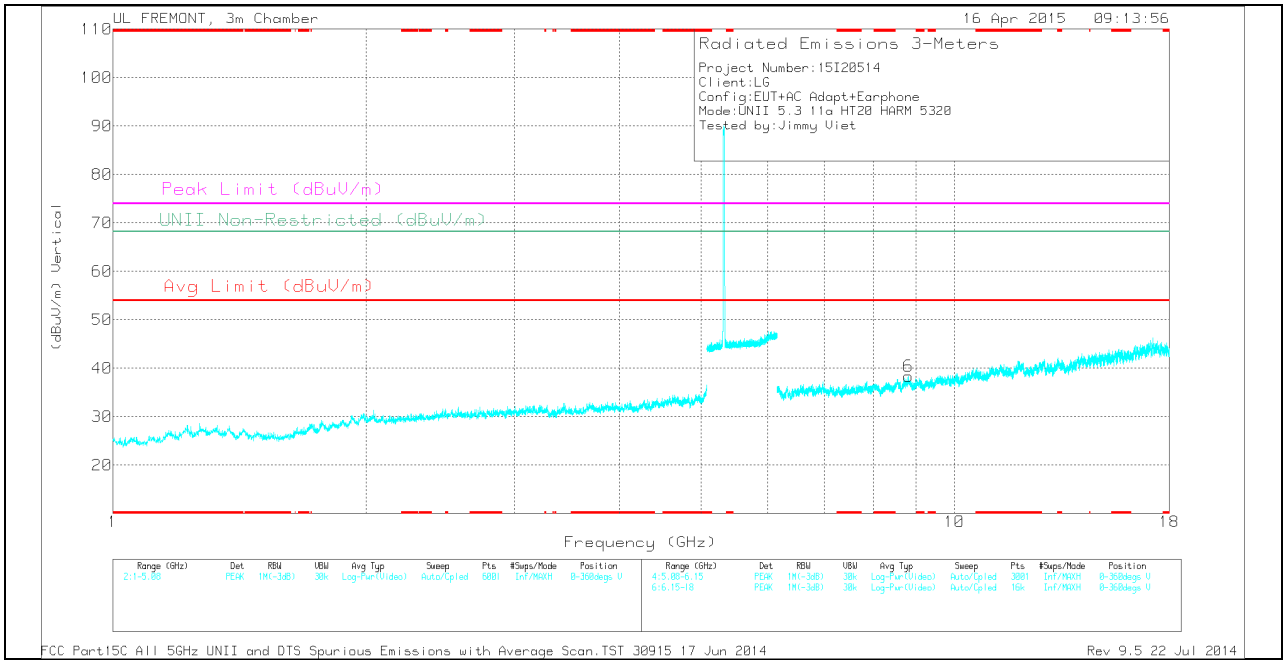
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.533	47.04	PK1	32.8	-31.8	0	48.04	-	-	74	-25.96	-	-	243	111	H
* 3.533	43	AD1	32.8	-31.8	.23	44.23	54	-9.77	-	-	-	-	243	111	H
* 3.533	47.65	PK1	32.8	-31.8	0	48.65	-	-	74	-25.35	-	-	283	143	V
* 3.533	42.56	AD1	32.8	-31.8	.23	43.79	54	-10.21	-	-	-	-	283	143	V

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

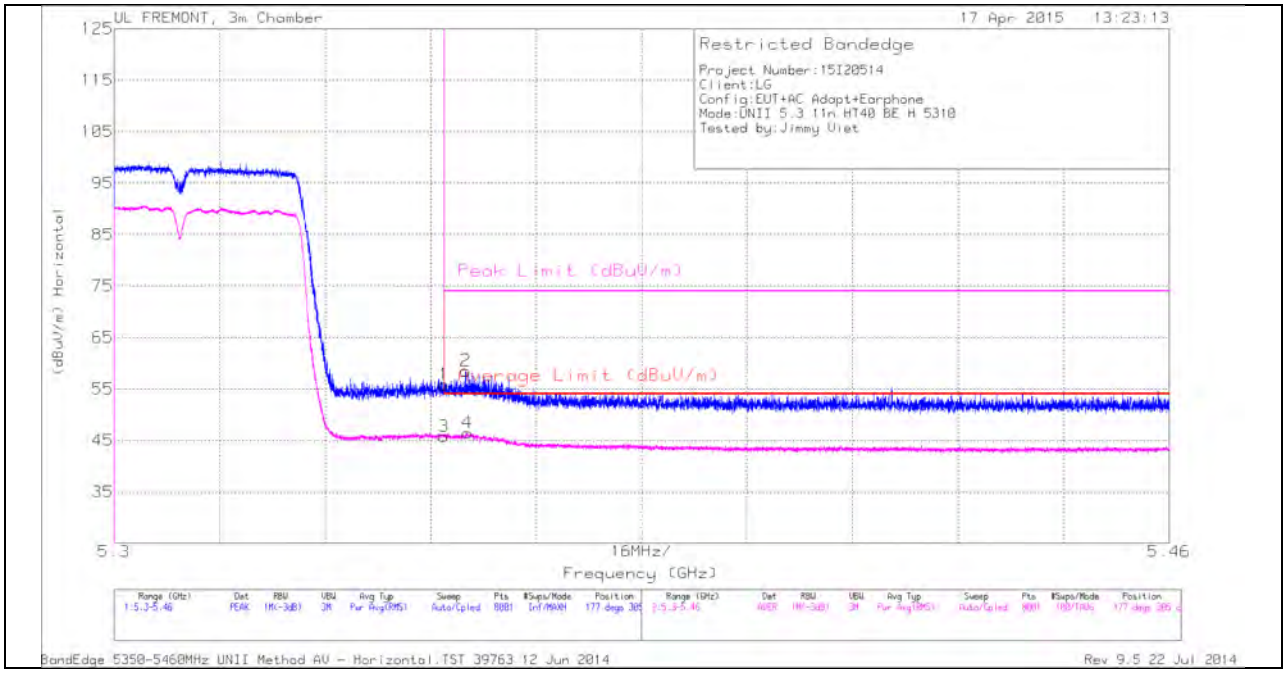
TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr /Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.874	32.17	PK	30.9	-33.1	29.97	-	-	-	-	68.2	-38.23	0-360	100	H
2	2.146	31.86	PK	31.5	-32.9	30.46	-	-	-	-	68.2	-37.74	0-360	200	H
3	3.049	30.73	PK	32.7	-31.9	31.53	-	-	-	-	68.2	-36.67	0-360	200	H
4	3.227	30.8	PK	32.6	-31.4	32	-	-	-	-	68.2	-36.2	0-360	200	H
5	6.189	31.07	PK	35.3	-29.4	36.97	-	-	-	-	68.2	-31.23	0-360	200	H
6	8.822	28.19	PK	35.9	-25.7	38.39	-	-	-	-	68.2	-29.81	0-360	100	V

PK - Peak detector

10.2.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

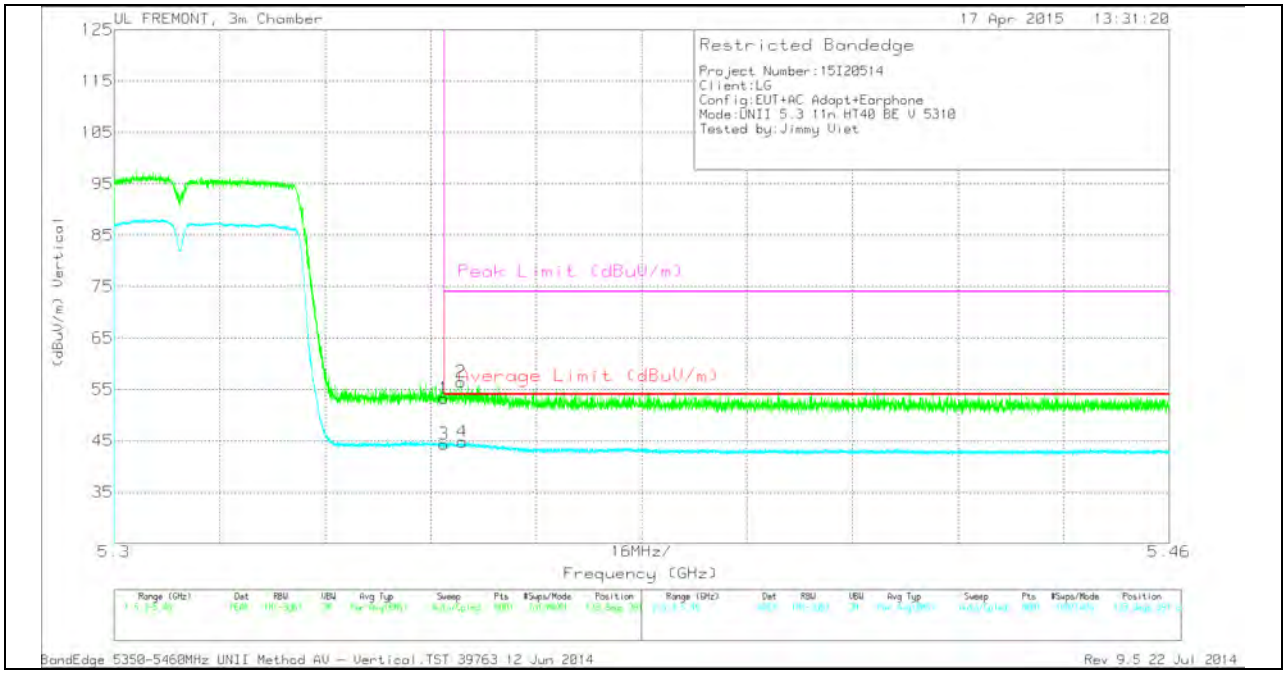
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	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	5.35	42.75	PK	34.5	-21.4	0	55.85	-	-	74	-18.15	177	305	H
3	5.35	32.21	RMS	34.5	-21.4	.5	45.81	54	-8.19	-	-	177	305	H
2	5.353	45.45	PK	34.5	-21.4	0	58.55	-	-	74	-15.45	177	305	H
4	5.354	32.87	RMS	34.5	-21.4	.5	46.47	54	-7.53	-	-	177	305	H

VERTICAL PEAK AND AVERAGE PLOT

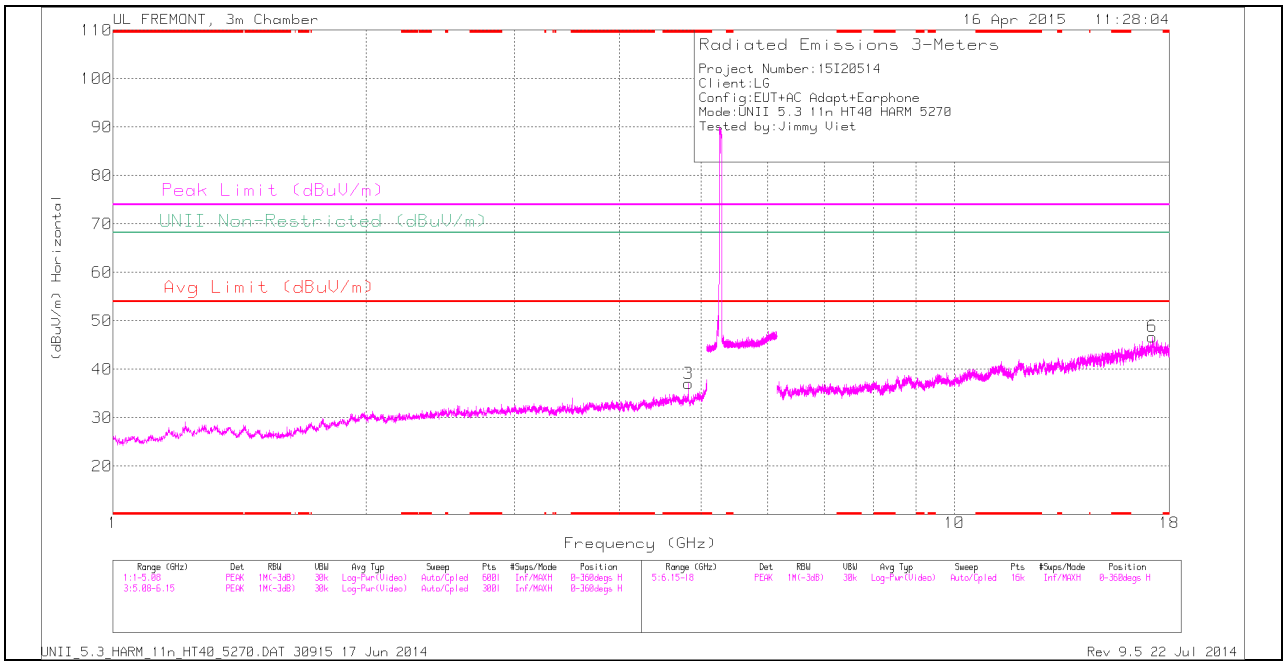


VERTICAL DATA

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	5.35	40.21	PK	34.5	-21.4	53.31	-	-	74	-20.69	133	391	V
3	5.35	31.27	RMS	34.5	-21.4	44.37	54	-9.63	-	-	133	391	V
2	5.353	43.35	PK	34.5	-21.4	56.45	-	-	74	-17.55	133	391	V
4	5.353	31.68	RMS	34.5	-21.4	44.78	54	-9.22	-	-	133	391	V

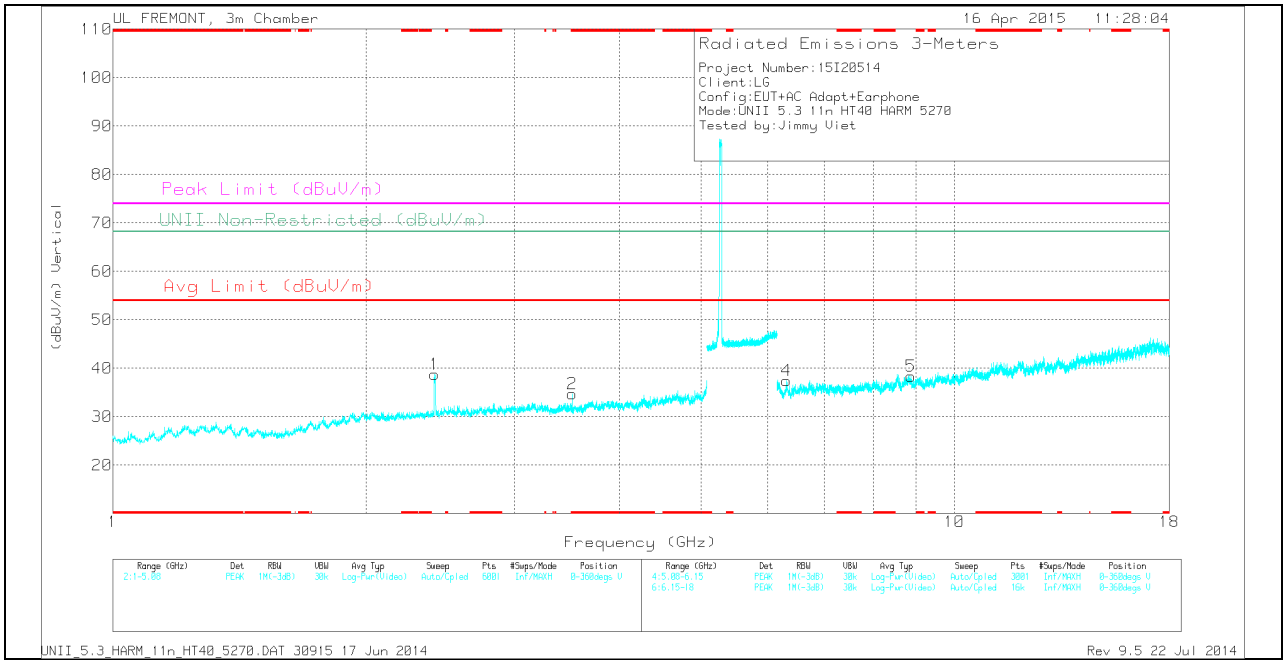
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

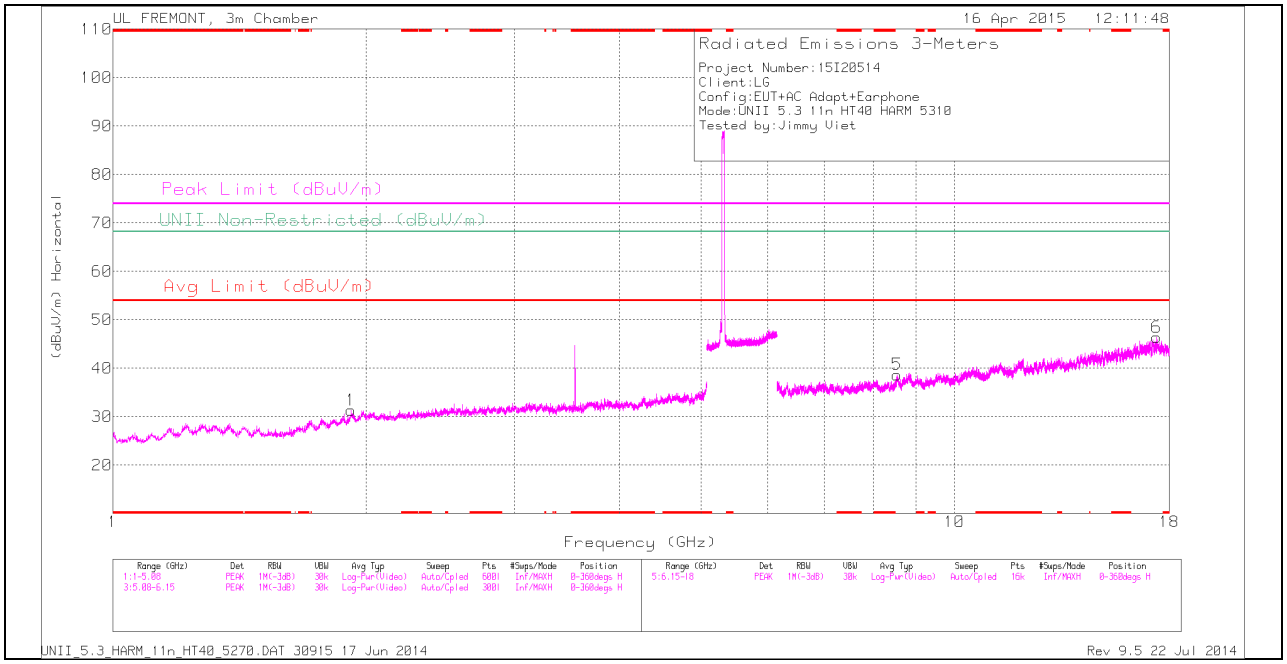
LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.513	33.7	PK	32.8	-31.8	0	34.7	-	-	74	-39.3	-	-	0-360	200	V
3	* 4.83	33.12	PK	34	-30.1	0	37.02	-	-	74	-36.98	-	-	0-360	200	H
6	17.191	28.74	PK	41.3	-23.3	0	46.74	-	-	-	-	68.2	-21.46	0-360	200	H
1	2.41	39.31	PK	32.1	-32.7	0	38.71	-	-	-	-	68.2	-29.49	0-360	100	V
4	6.317	31.53	PK	35.4	-29.5	0	37.43	-	-	-	-	68.2	-30.77	0-360	100	V
5	8.877	28.93	PK	35.9	-26.5	0	38.33	-	-	-	-	68.2	-29.87	0-360	100	V

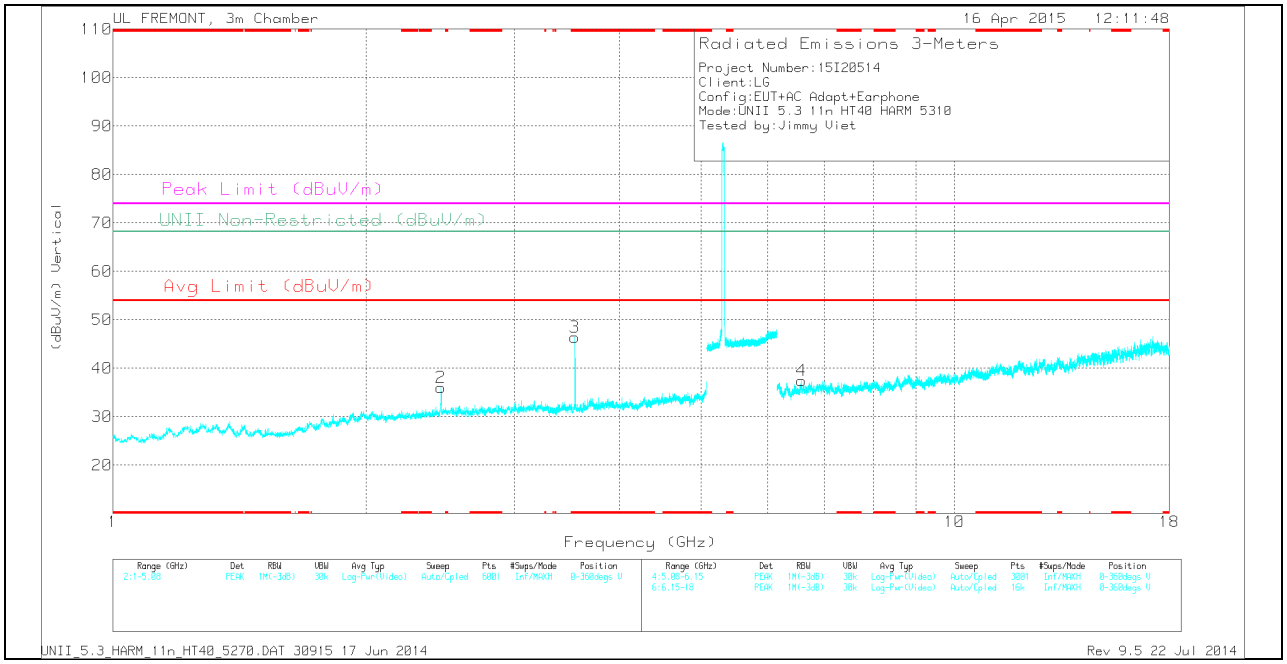
PK - Peak detector

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

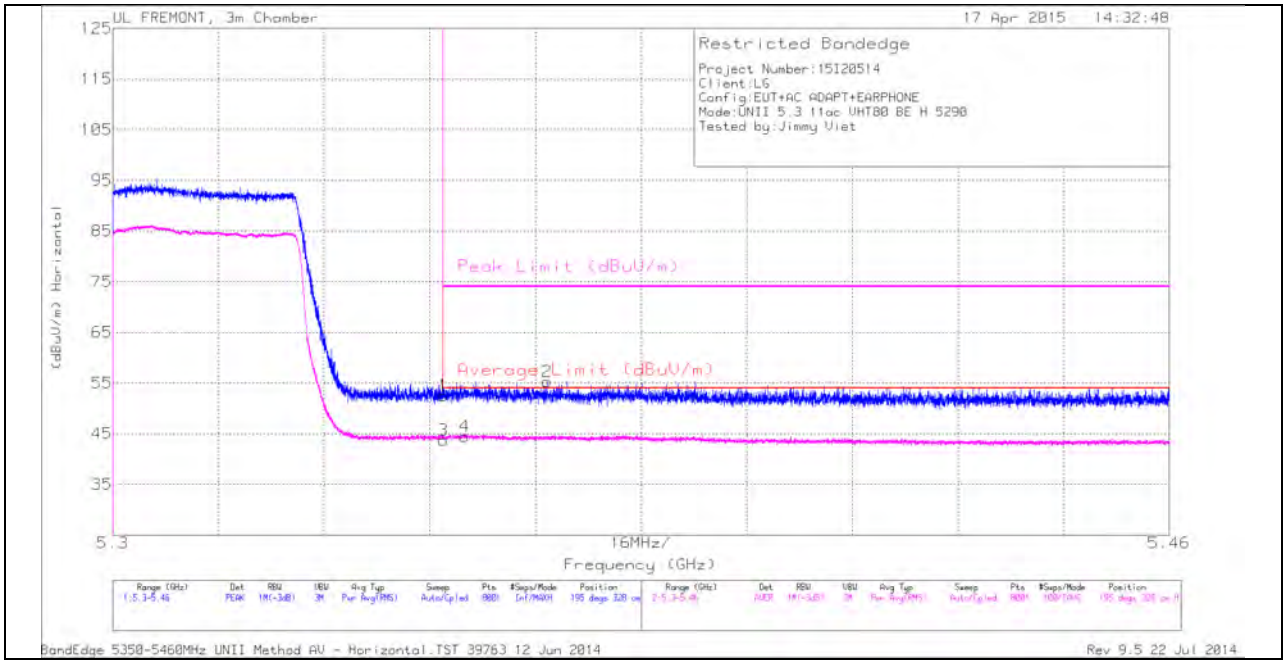
TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 3.54	45.43	PK	32.8	-31.8	0	46.43	-	-	74	-27.57	-	-	0-360	100	V
1	1.919	32.77	PK	31.2	-32.6	0	31.37	-	-	-	-	68.2	-36.83	0-360	200	H
2	2.455	36.36	PK	32.2	-32.5	0	36.06	-	-	-	-	68.2	-32.14	0-360	200	V
4	6.577	31.46	PK	35.6	-29.6	0	37.46	-	-	-	-	68.2	-30.74	0-360	100	V
5	8.552	28.99	PK	35.8	-26.1	0	38.69	-	-	-	-	68.2	-29.51	0-360	100	H
6	17.392	28.2	PK	41.4	-23.2	0	46.4	-	-	-	-	68.2	-21.8	0-360	100	H

PK - Peak detector

10.2.4. TX ABOVE 1 GHz 802.11ac HT80 MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

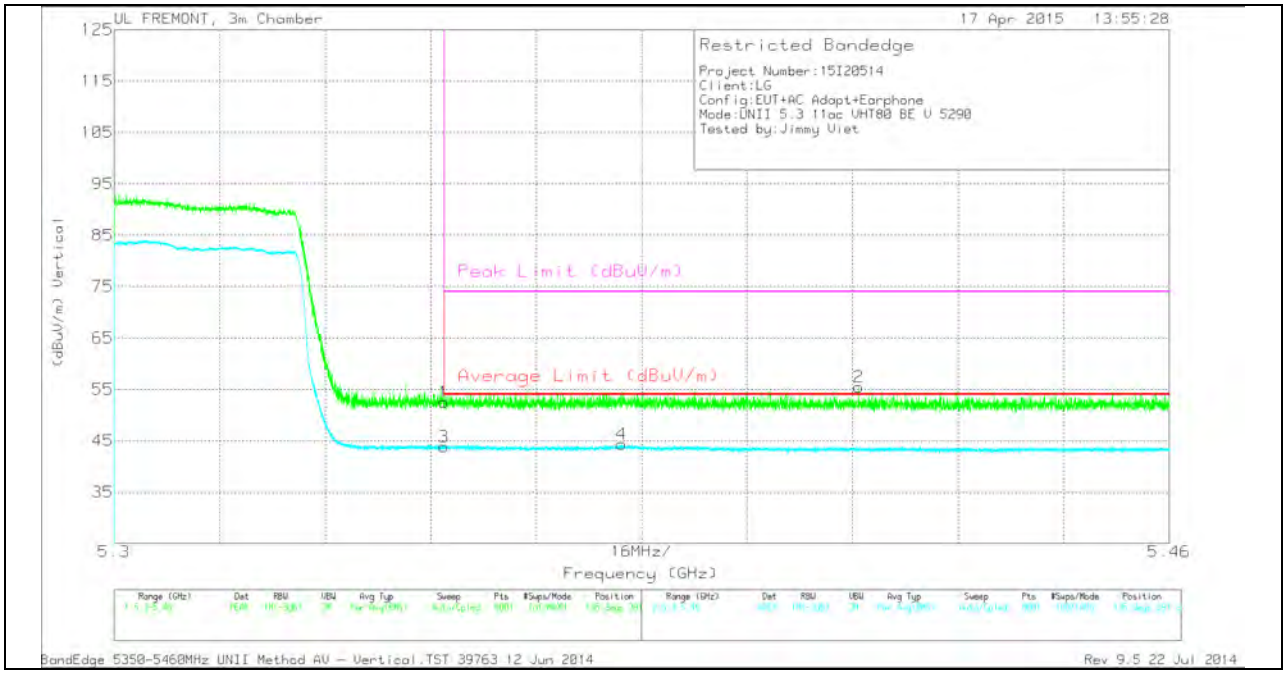
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	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	5.35	39.48	PK	34.5	-21.4	0	52.58	-	-	74	-21.42	195	328	H
3	5.35	30.6	RMS	34.5	-21.4	.44	44.14	54	-9.86	-	-	195	328	H
4	5.353	31.4	RMS	34.5	-21.4	.44	44.94	54	-9.06	-	-	195	328	H
2	5.366	42.29	PK	34.5	-21.5	0	55.29	-	-	74	-18.71	195	328	H

VERTICAL PEAK AND AVERAGE PLOT

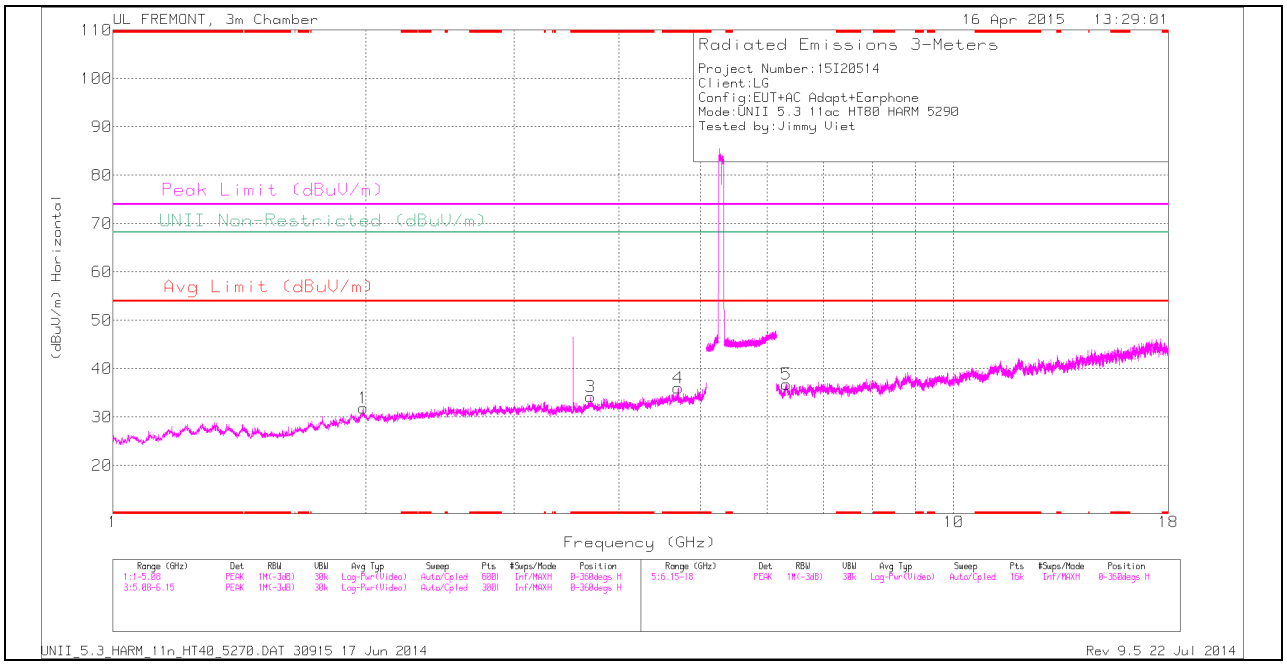


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/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	5.35	39.4	PK	34.5	-21.4	0	52.5	-	-	74	-21.5	135	391	V
3	5.35	30.28	RMS	34.5	-21.4	.44	43.82	54	-10.18	-	-	135	391	V
4	5.377	30.59	RMS	34.6	-21.3	.44	44.33	54	-9.67	-	-	135	391	V
2	5.413	42.23	PK	34.6	-21.4	0	55.43	-	-	74	-18.57	135	391	V

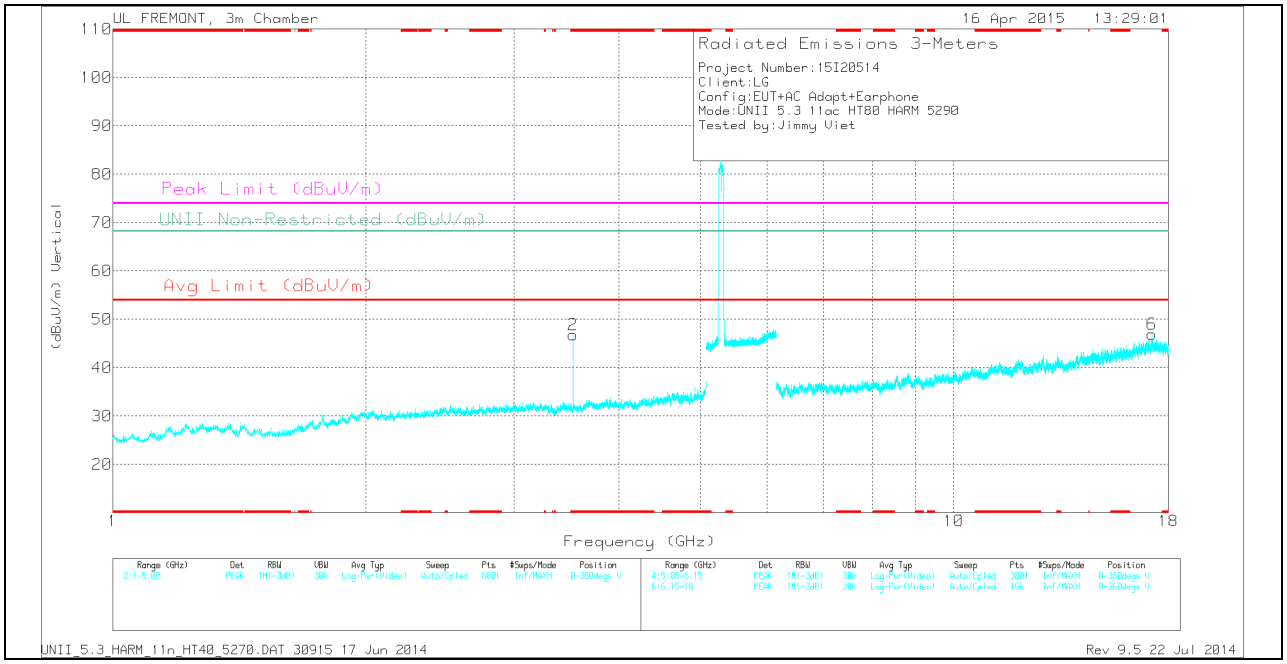
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

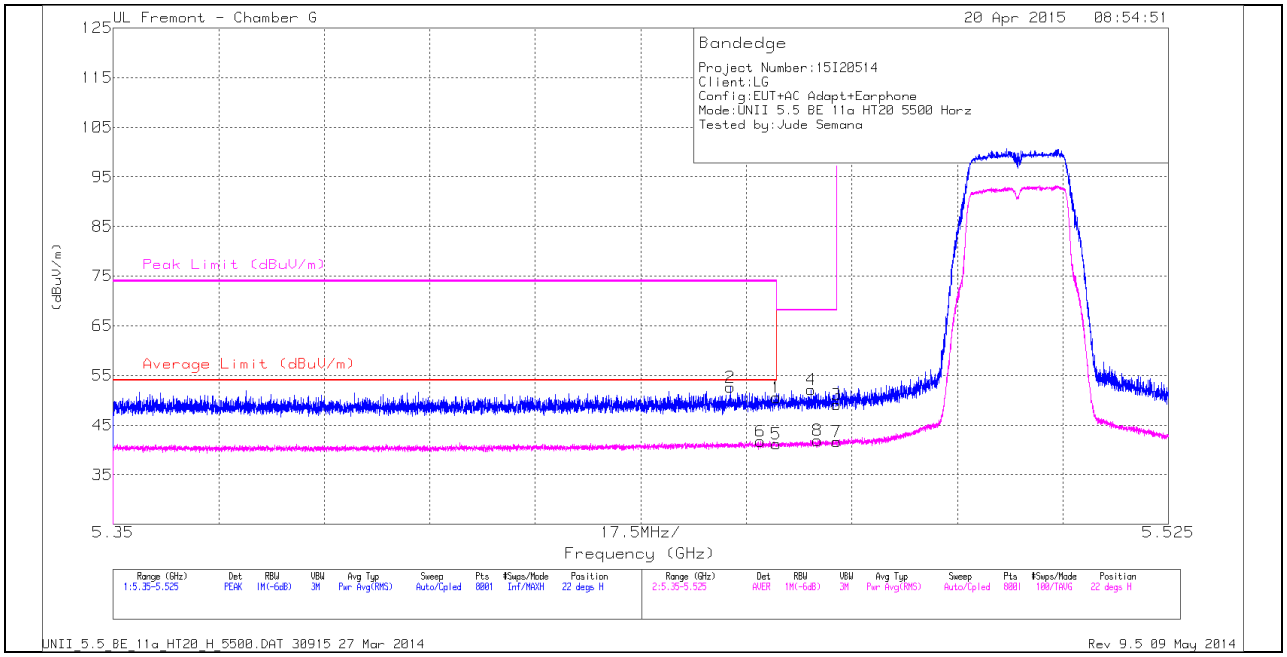
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 3.698	31.85	PK	33	-30.7	0	34.15	-	-	74	-39.85	-	-	0-360	100	H
4	* 4.703	32.57	PK	34.1	-30.7	0	35.97	-	-	74	-38.03	-	-	0-360	100	H
2	* 3.527	45.69	PK	32.8	-31.7	0	46.79	-	-	74	-27.21	-	-	0-360	200	V
1	1.985	32.42	PK	31.4	-32	0	31.82	-	-	-	-	68.2	-36.38	0-360	100	H
5	6.328	30.53	PK	35.4	-29.1	0	36.83	-	-	-	-	68.2	-31.37	0-360	100	H
6	17.2	28.59	PK	41.3	-23	0	46.89	-	-	-	-	68.2	-21.31	0-360	100	V

PK - Peak detector

10.3. 5.5-5.6 GHz

10.3.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.5 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

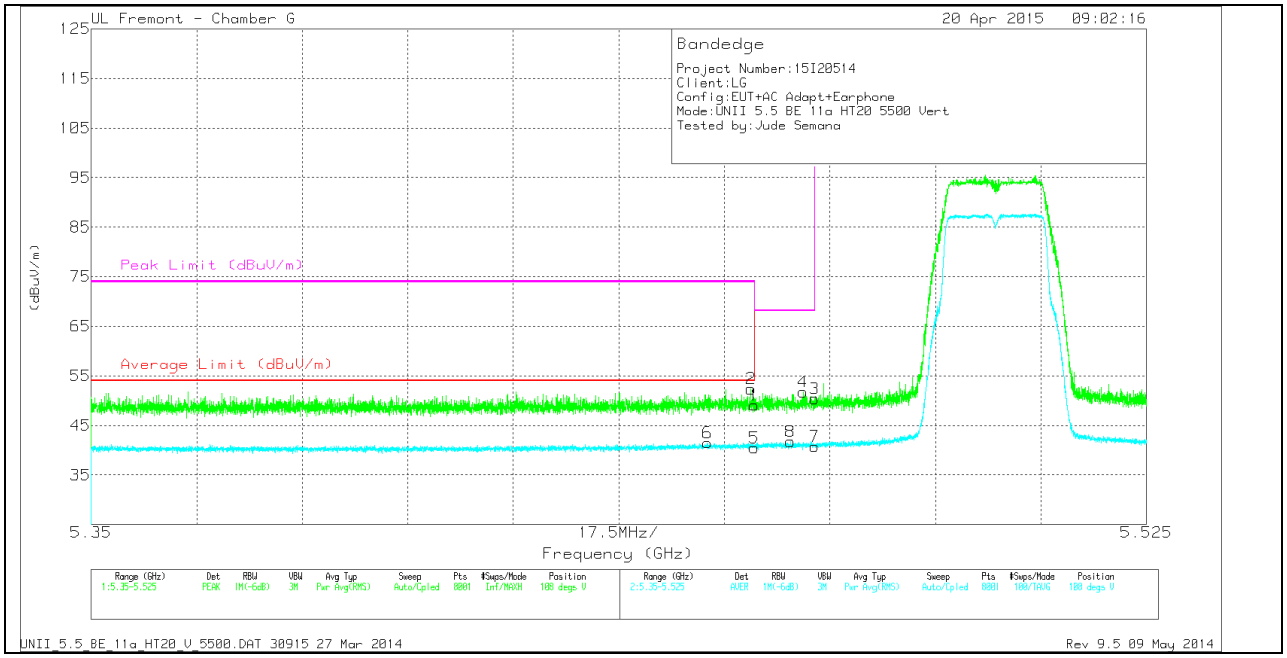
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	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	* 5.46	39.67	PK	34.5	-23.6	0	50.57	-	-	74	-23.43	22	311	H
2	* 5.452	41.72	PK	34.5	-23.6	0	52.62	-	-	74	-21.38	22	311	H
5	* 5.46	30.07	RMS	34.5	-23.6	.2	41.17	54	-12.83	-	-	22	311	H
6	* 5.457	30.63	RMS	34.5	-23.6	.2	41.73	54	-12.27	-	-	22	311	H
4	5.466	41.24	PK	34.5	-23.6	0	52.14	-	-	68.2	-16.06	22	311	H
8	5.467	30.79	RMS	34.5	-23.6	.2	41.89	-	-	-	-	22	311	H
3	5.47	38.21	PK	34.5	-23.6	0	49.11	-	-	68.2	-19.09	22	311	H
7	5.47	30.52	RMS	34.5	-23.6	.2	41.62	-	-	-	-	22	311	H

VERTICAL PEAK AND AVERAGE PLOT

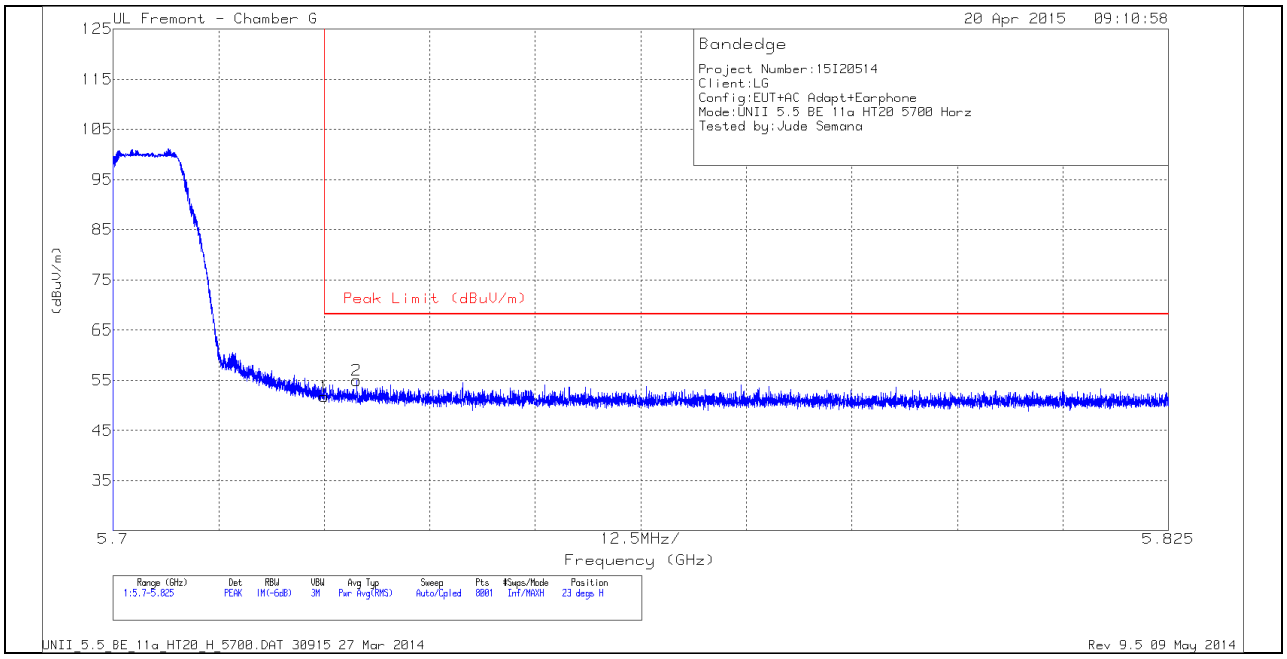


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (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	* 5.46	38.17	PK	34.5	-23.6	0	49.07	-	-	74	-24.93	108	312	V
2	* 5.459	41.48	PK	34.5	-23.6	0	52.38	-	-	74	-21.62	108	312	V
5	* 5.46	29.38	RMS	34.5	-23.6	.2	40.48	54	-13.52	-	-	108	312	V
6	* 5.452	30.37	RMS	34.5	-23.6	.2	41.47	54	-12.53	-	-	108	312	V
8	5.466	30.63	RMS	34.5	-23.6	.2	41.73	-	-	-	-	108	312	V
4	5.468	40.85	PK	34.5	-23.6	0	51.75	-	-	68.2	-16.45	108	312	V
3	5.47	39.49	PK	34.5	-23.6	0	50.39	-	-	68.2	-17.81	108	312	V
7	5.47	29.7	RMS	34.5	-23.6	.2	40.8	-	-	-	-	108	312	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

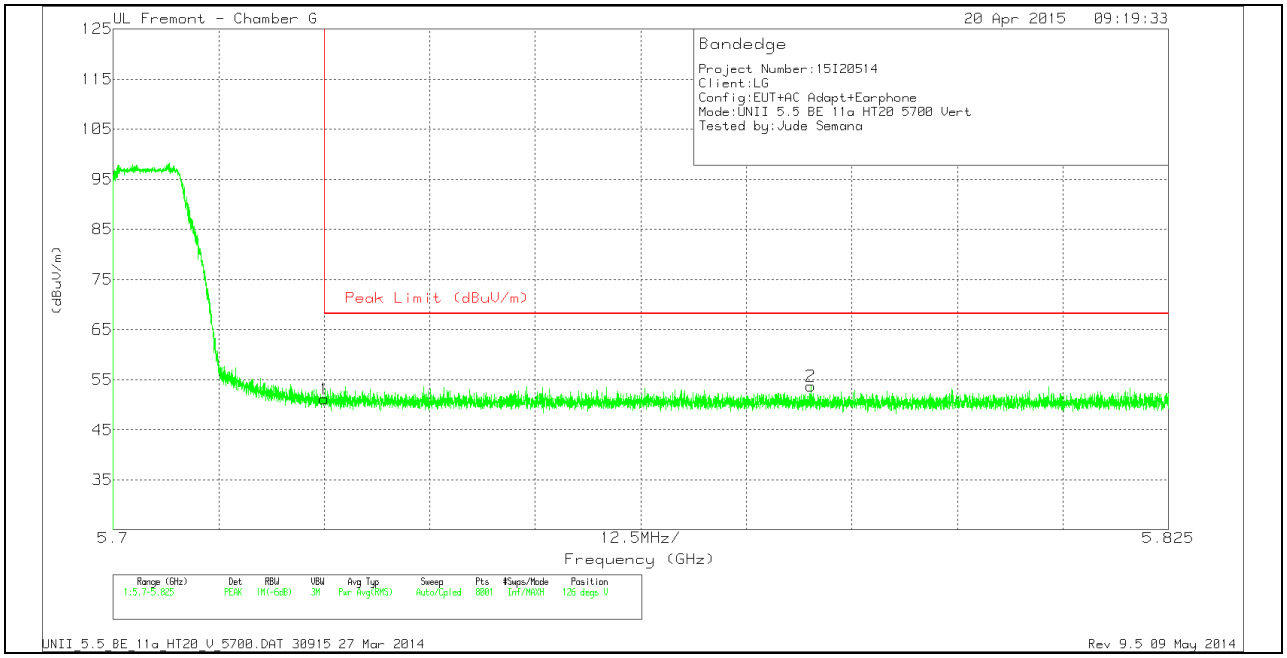
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	40.06	PK	35.2	-23.5	0	51.76	68.2	-16.44	23	263	H
2	5.729	43.36	PK	35.2	-23.6	0	54.96	68.2	-13.24	23	263	H

VERTICAL PEAK AND AVERAGE PLOT

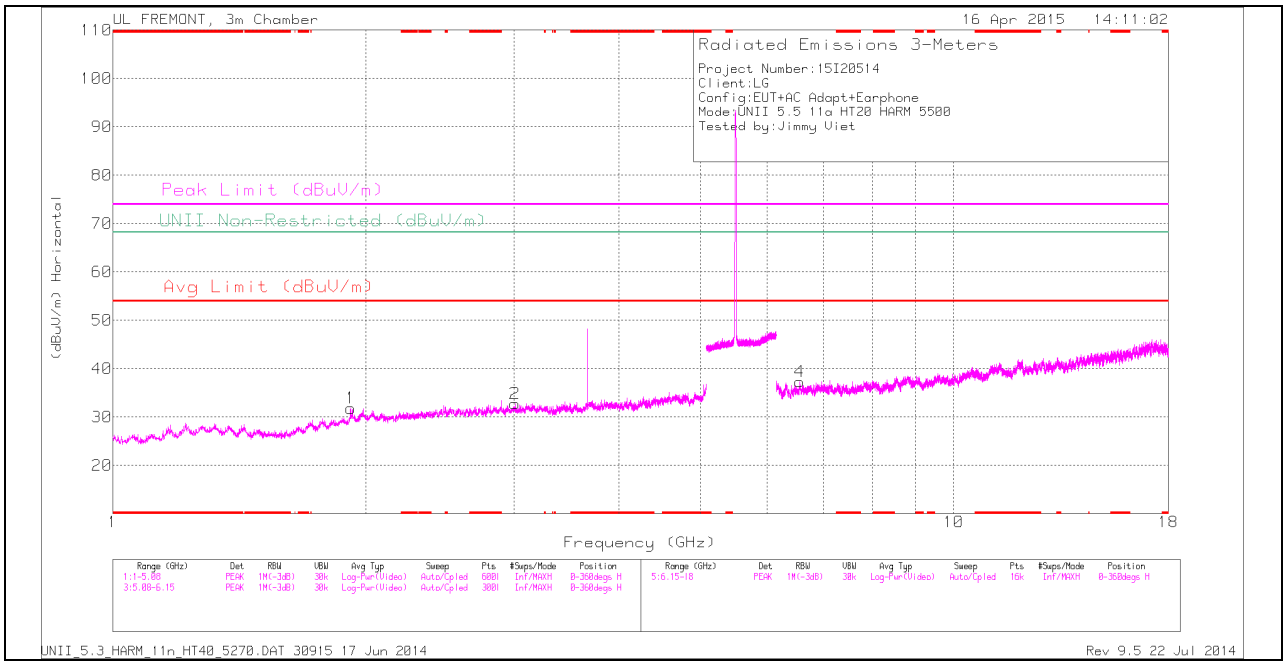


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	39.47	PK	35.2	-23.5	0	51.17	68.2	-17.03	126	266	V
2	5.783	41.92	PK	35.3	-23.5	0	53.72	68.2	-14.48	126	266	V

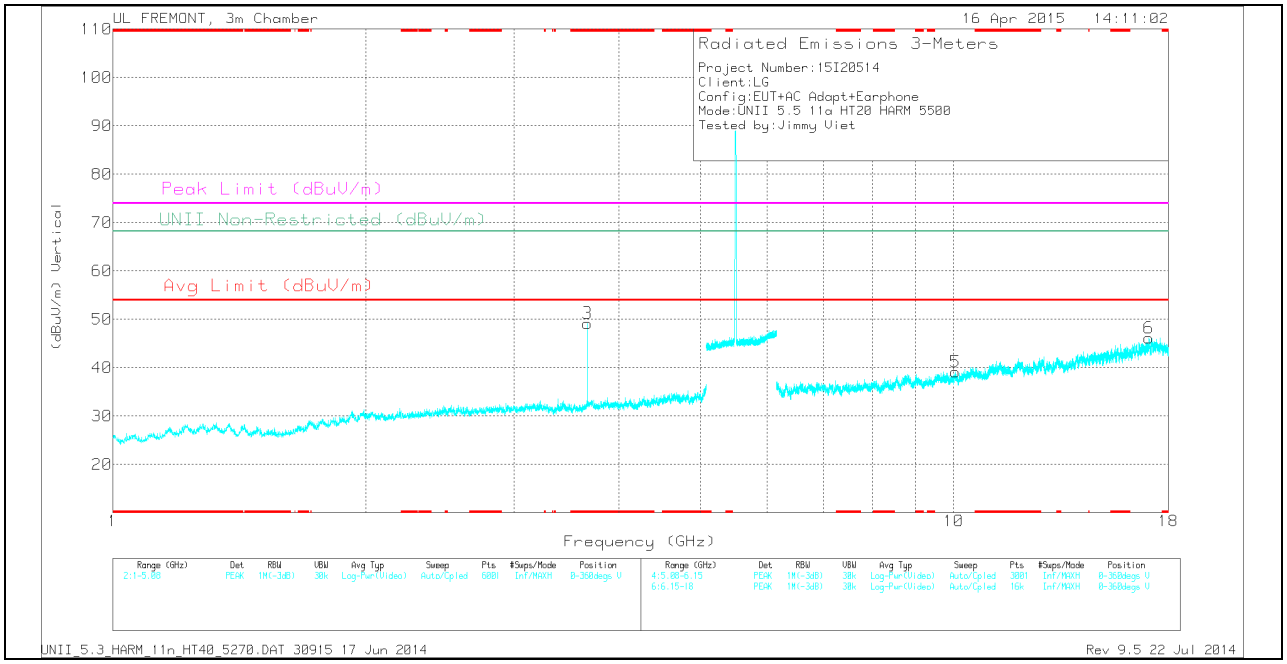
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

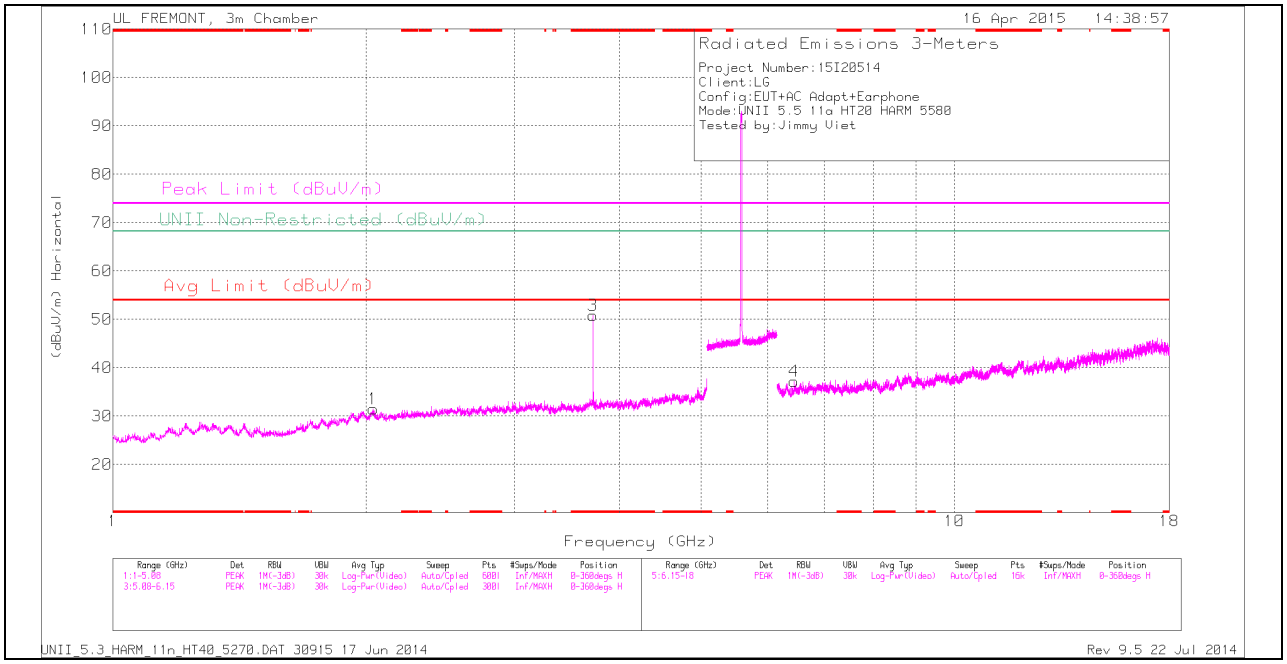
LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 3.667	47	PK	32.9	-30.7	0	49.2	-	-	74	-24.8	-	-	0-360	200	V
1	1.917	33.31	PK	31.2	-32.7	0	31.81	-	-	-	-	68.2	-36.39	0-360	200	H
2	3.007	31.95	PK	32.7	-31.9	0	32.75	-	-	-	-	68.2	-35.45	0-360	200	H
4	6.557	31.06	PK	35.6	-29.3	0	37.36	-	-	-	-	68.2	-30.84	0-360	100	H
5	10.053	27.36	PK	36.9	-25.1	0	39.16	-	-	-	-	68.2	-29.04	0-360	200	V
6	17.073	28.71	PK	41.4	-24	0	46.11	-	-	-	-	68.2	-22.09	0-360	100	V

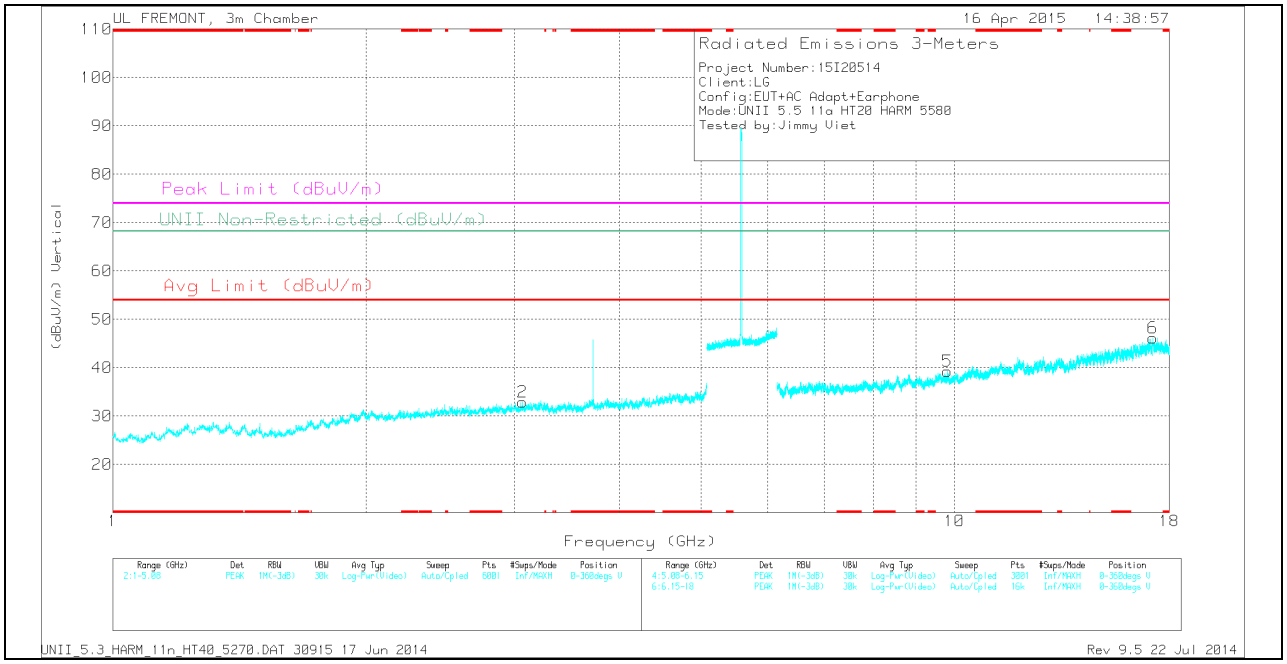
PK - Peak detector

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

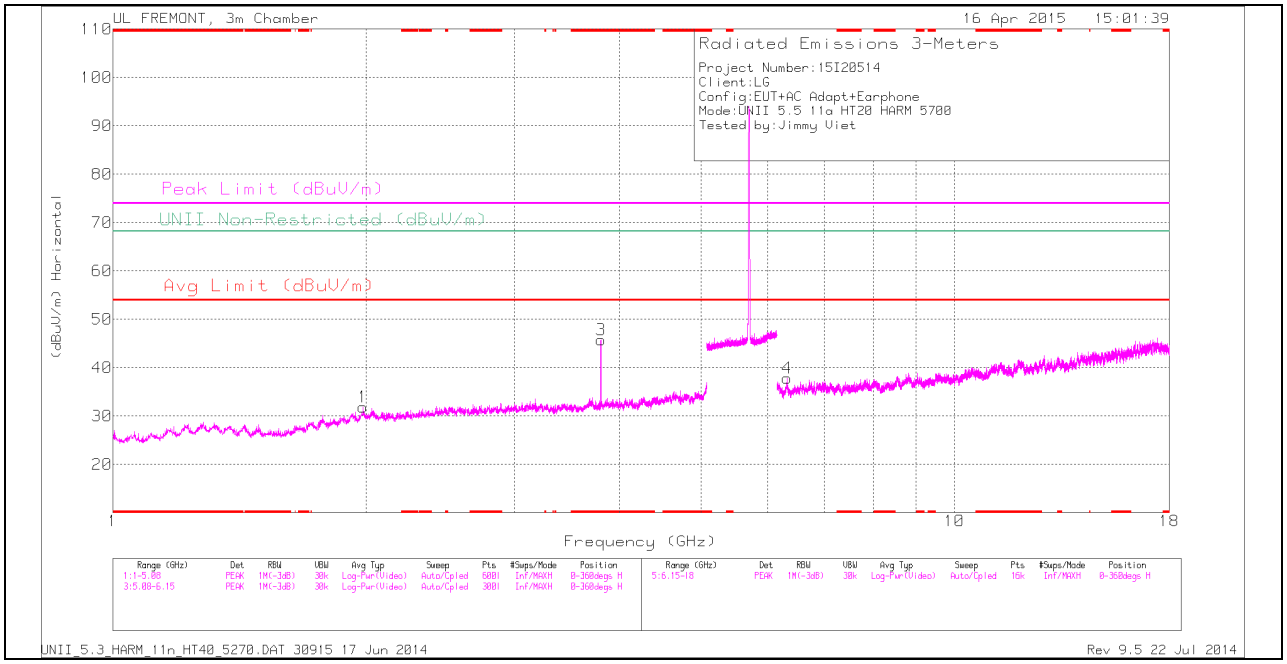
MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 3.72	48.88	PK	33	-31.1	0	50.78	-	-	74	-23.22	-	-	0-360	100	H
1	2.039	32.32	PK	31.5	-32.3	0	31.52	-	-	-	-	68.2	-36.68	0-360	100	H
2	3.065	32.33	PK	32.7	-32.1	0	32.93	-	-	-	-	68.2	-35.27	0-360	200	V
4	6.451	31.38	PK	35.5	-29.7	0	37.18	-	-	-	-	68.2	-31.02	0-360	100	H
5	9.812	27.71	PK	36.9	-25.3	0	39.31	-	-	-	-	68.2	-28.89	0-360	200	V
6	17.205	27.72	PK	41.3	-22.9	0	46.12	-	-	-	-	68.2	-22.08	0-360	200	V

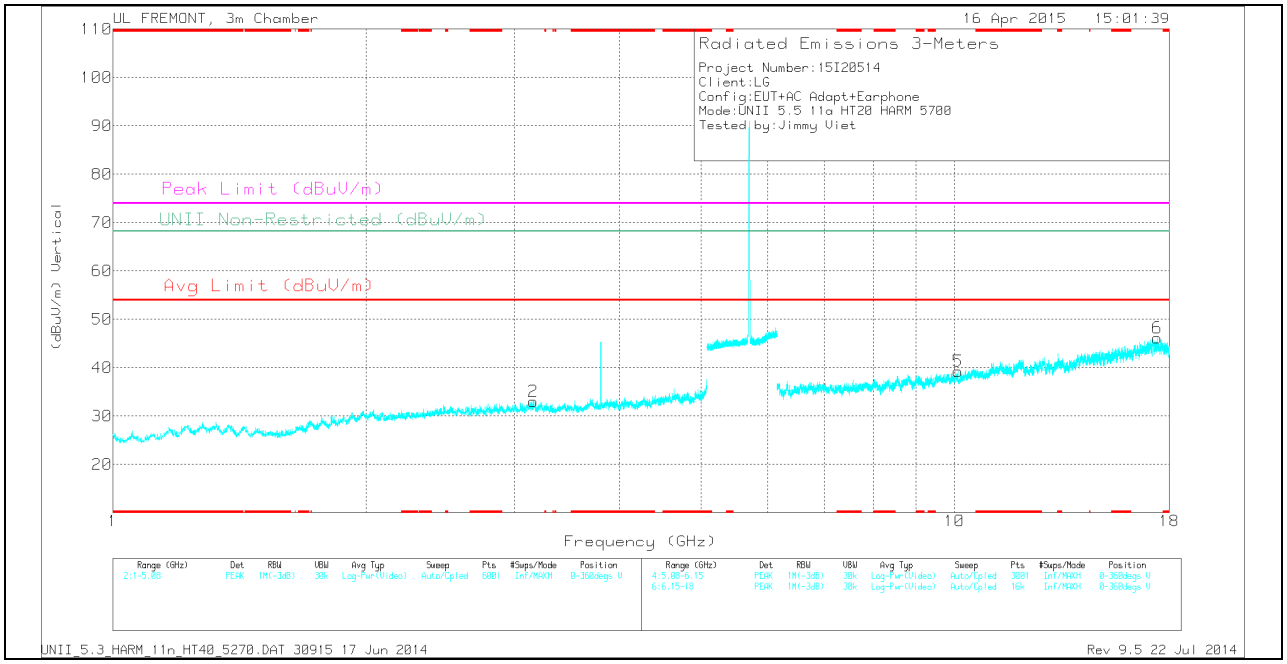
PK - Peak detector

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

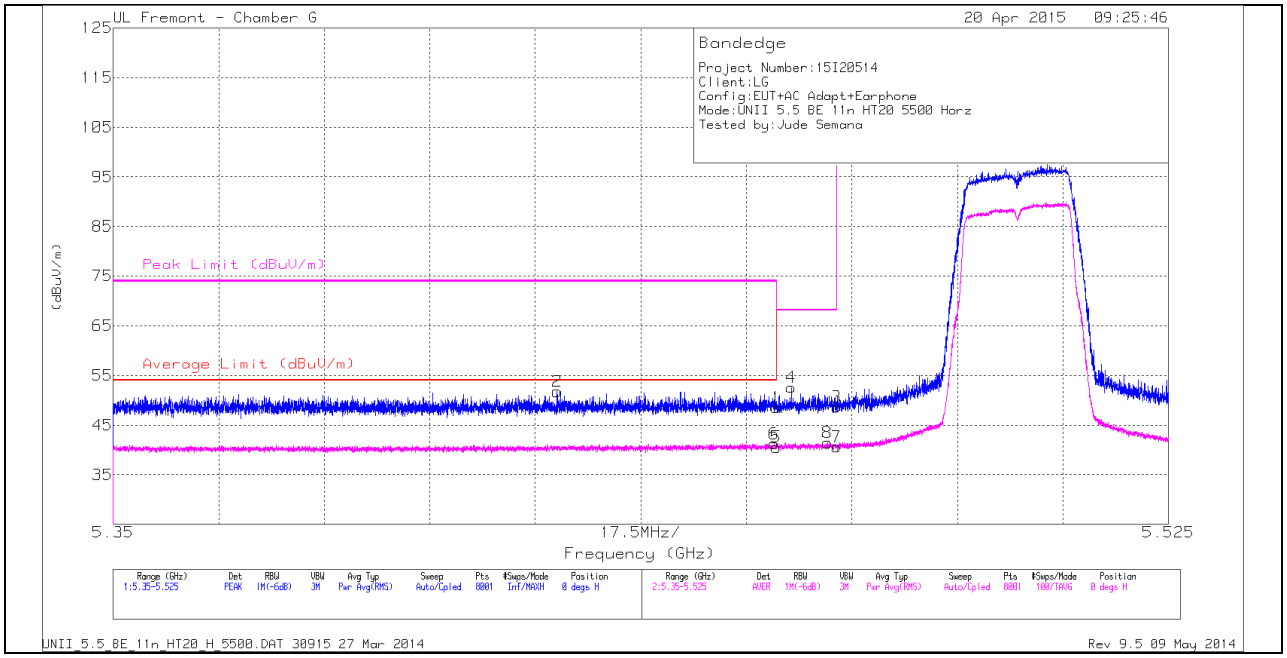
TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 3.8	44.31	PK	33.1	-31.6	0	45.81	-	-	74	-28.19	-	-	0-360	100	H
1	1.981	32.61	PK	31.4	-32.1	0	31.91	-	-	-	-	68.2	-36.29	0-360	200	H
2	3.16	31.83	PK	32.7	-31.5	0	33.03	-	-	-	-	68.2	-35.17	0-360	200	V
4	6.321	31.9	PK	35.4	-29.4	0	37.9	-	-	-	-	68.2	-30.3	0-360	200	H
5	10.094	27.37	PK	37	-25.1	0	39.27	-	-	-	-	68.2	-28.93	0-360	200	V
6	17.424	27.12	PK	41.4	-22.4	0	46.12	-	-	-	-	68.2	-22.08	0-360	100	V

PK - Peak detector

10.3.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.5 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

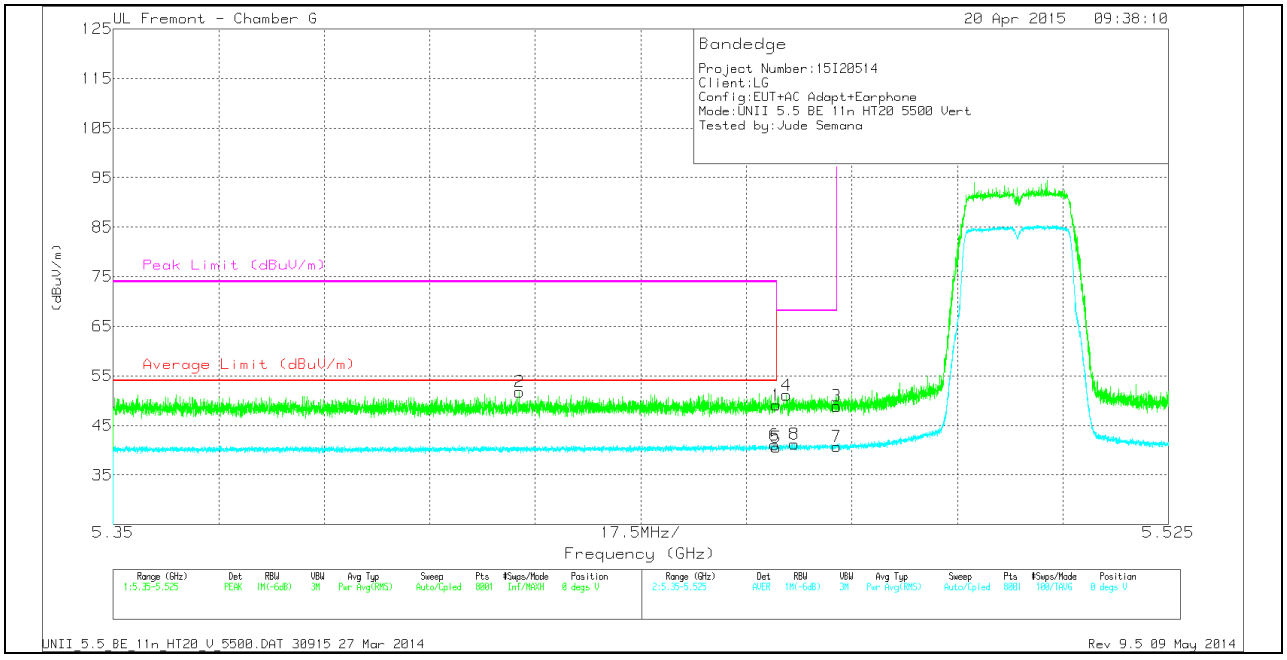
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	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	* 5.46	37.62	PK	34.5	-23.6	0	48.52	-	-	74	-25.48	0	308	H
2	* 5.424	40.96	PK	34.4	-23.6	0	51.76	-	-	74	-22.24	0	308	H
5	* 5.46	29.44	RMS	34.5	-23.6	.2	40.54	54	-13.46	-	-	0	308	H
6	* 5.46	30.16	RMS	34.5	-23.6	.2	41.26	54	-12.74	-	-	0	308	H
4	5.462	41.57	PK	34.5	-23.5	0	52.57	-	-	68.2	-15.63	0	308	H
8	5.468	30.34	RMS	34.5	-23.6	.2	41.44	-	-	-	-	0	308	H
3	5.47	37.76	PK	34.5	-23.6	0	48.66	-	-	68.2	-19.54	0	308	H
7	5.47	29.48	RMS	34.5	-23.6	.2	40.58	-	-	-	-	0	308	H

VERTICAL PEAK AND AVERAGE PLOT

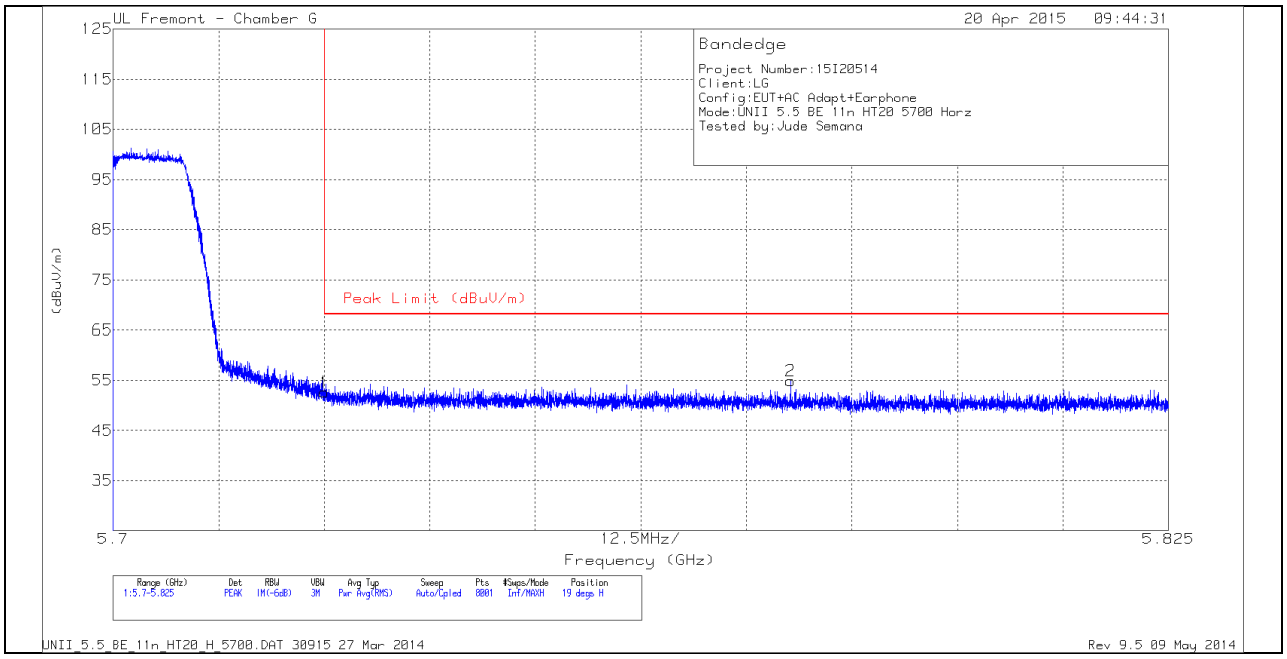


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Flt r/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	* 5.46	38.24	PK	34.5	-23.6	0	49.14	-	-	74	-24.86	0	348	V
2	* 5.417	40.98	PK	34.4	-23.6	0	51.78	-	-	74	-22.22	0	348	V
5	* 5.46	29.46	RMS	34.5	-23.6	.2	40.56	54	-13.44	-	-	0	348	V
6	* 5.46	30	RMS	34.5	-23.6	.2	41.1	54	-12.9	-	-	0	348	V
4	5.462	40.24	PK	34.5	-23.6	0	51.14	-	-	68.2	-17.06	0	348	V
8	5.463	30.05	RMS	34.5	-23.5	.2	41.25	-	-	-	-	0	348	V
3	5.47	37.99	PK	34.5	-23.6	0	48.89	-	-	68.2	-19.31	0	348	V
7	5.47	29.61	RMS	34.5	-23.6	.2	40.71	-	-	-	-	0	348	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

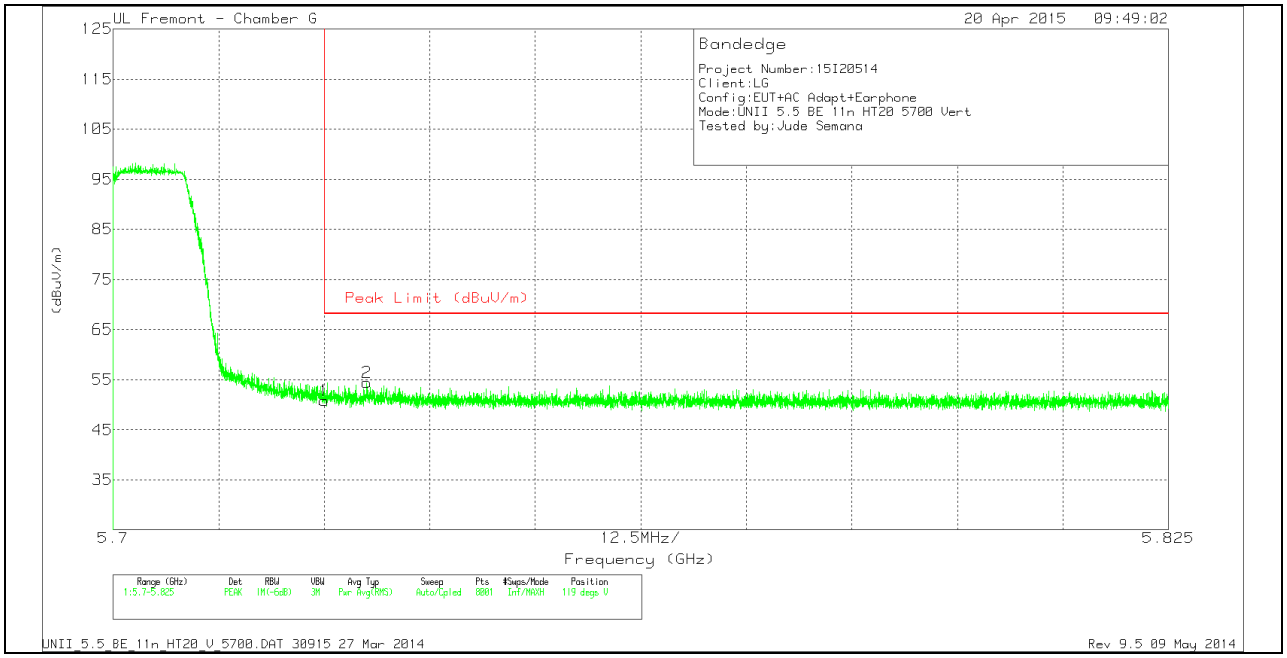
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	40.9	PK	35.2	-23.5	0	52.6	68.2	-15.6	19	287	H
2	5.78	43.08	PK	35.3	-23.5	0	54.88	68.2	-13.32	19	287	H

VERTICAL PEAK AND AVERAGE PLOT

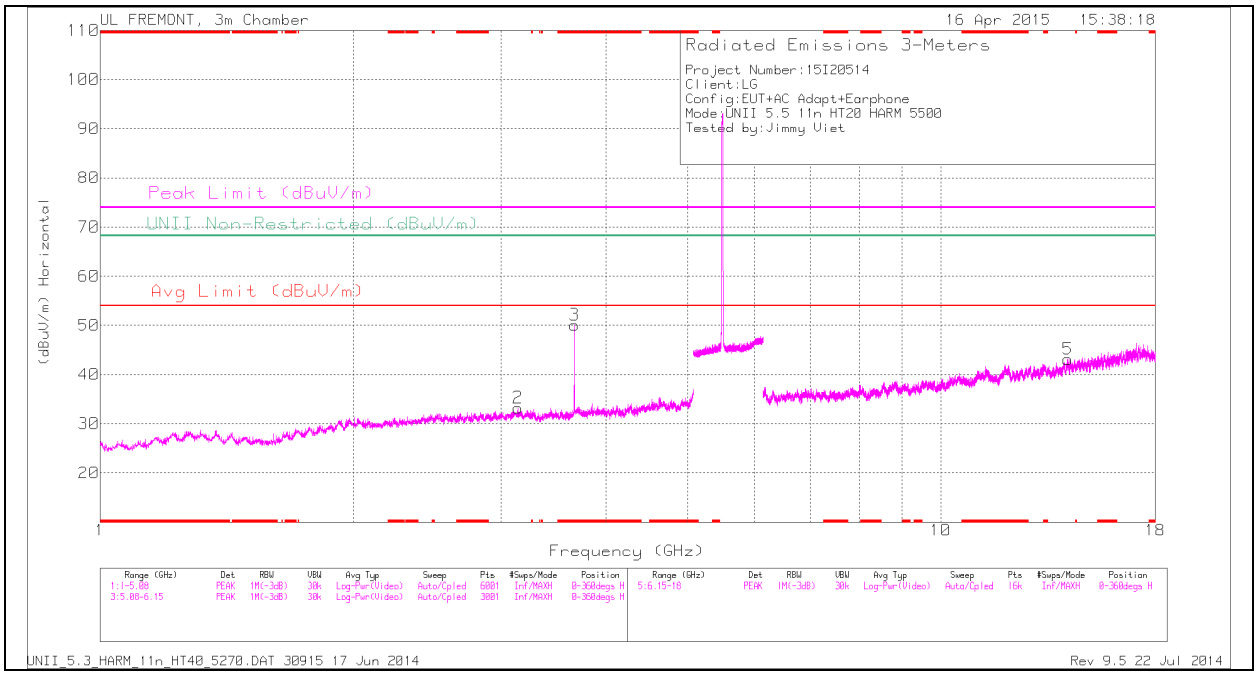


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	39.11	PK	35.2	-23.5	0	50.81	68.2	-17.39	119	290	V
2	5.73	42.73	PK	35.2	-23.5	0	54.43	68.2	-13.77	119	290	V

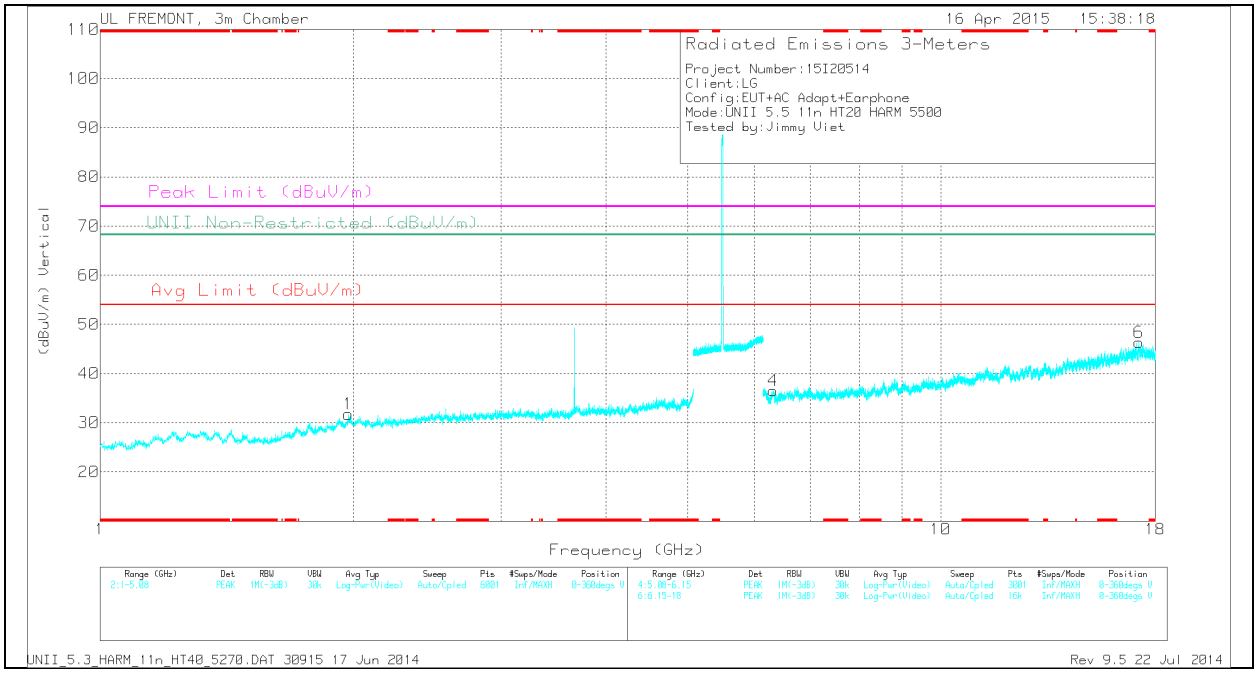
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

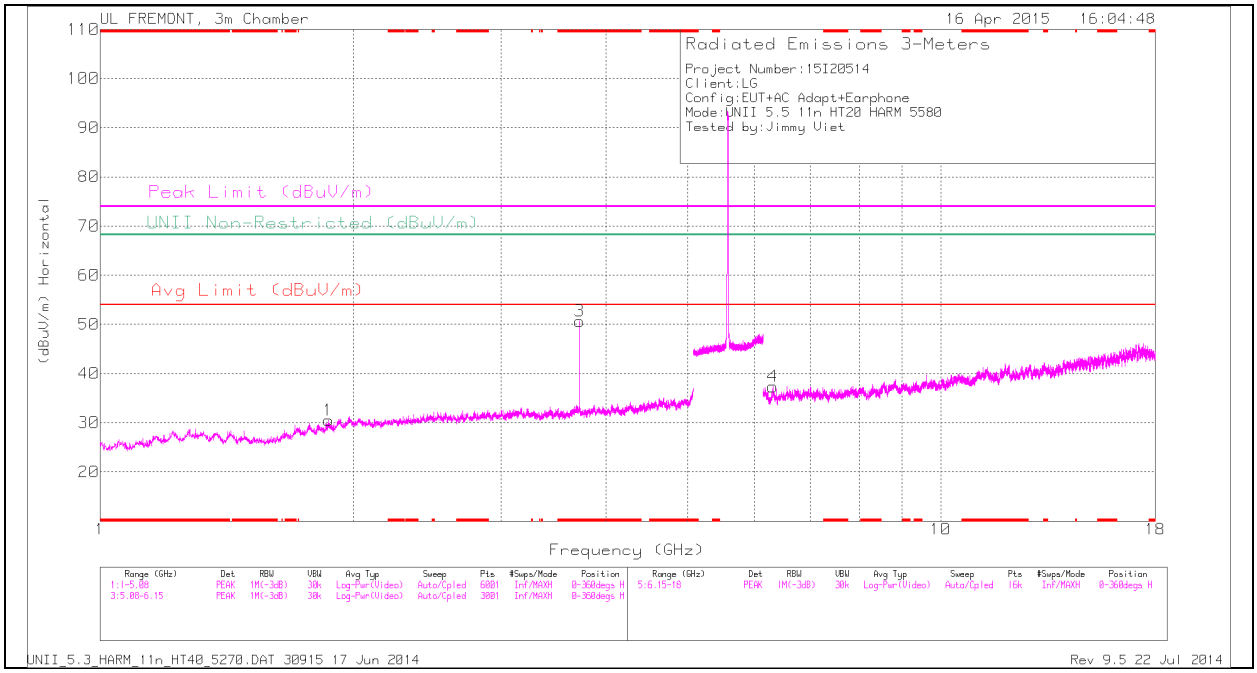
LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 3.666	47.89	PK	32.9	-30.7	0	50.09	-	-	74	-23.91	-	-	0-360	100	H
1	1.975	32.54	PK	31.4	-32.2	0	31.74	-	-	-	-	68.2	-36.46	0-360	100	V
2	3.142	32.33	PK	32.7	-31.8	0	33.23	-	-	-	-	68.2	-34.97	0-360	200	H
4	6.32	30.5	PK	35.4	-29.4	0	36.5	-	-	-	-	68.2	-31.7	0-360	200	V
5	14.176	31.01	PK	39.1	-27	0	43.11	-	-	-	-	68.2	-25.09	0-360	100	H
6	17.199	28.03	PK	41.3	-23	0	46.33	-	-	-	-	68.2	-21.87	0-360	200	V

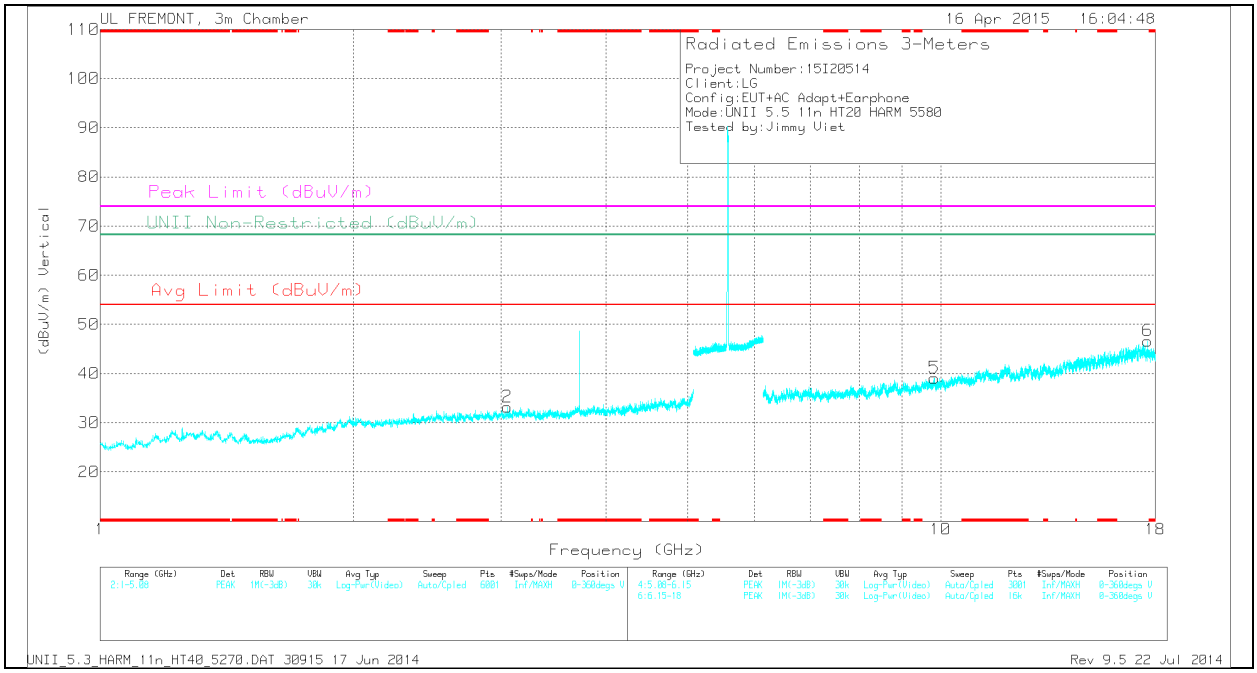
PK - Peak detector

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

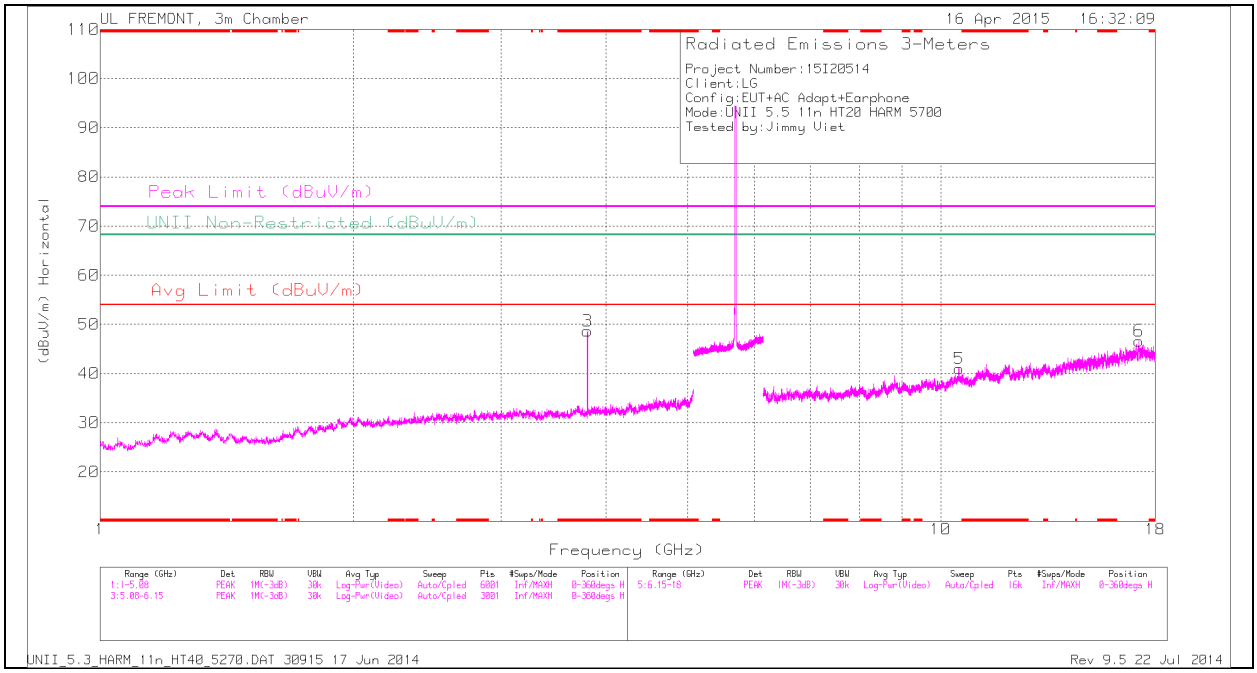
MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 3.72	48.75	PK	33	-31.1	0	50.65	-	-	74	-23.35	-	-	0-360	100	H
1	1.87	32.91	PK	30.8	-33.2	0	30.51	-	-	-	-	68.2	-37.69	0-360	200	H
2	3.052	32.53	PK	32.7	-32	0	33.23	-	-	-	-	68.2	-34.97	0-360	200	V
4	6.314	31.46	PK	35.4	-29.5	0	37.36	-	-	-	-	68.2	-30.84	0-360	100	H
5	9.828	27.32	PK	36.9	-25.1	0	39.12	-	-	-	-	68.2	-29.08	0-360	200	V
6	17.624	28.77	PK	41.4	-23.5	0	46.67	-	-	-	-	68.2	-21.53	0-360	100	V

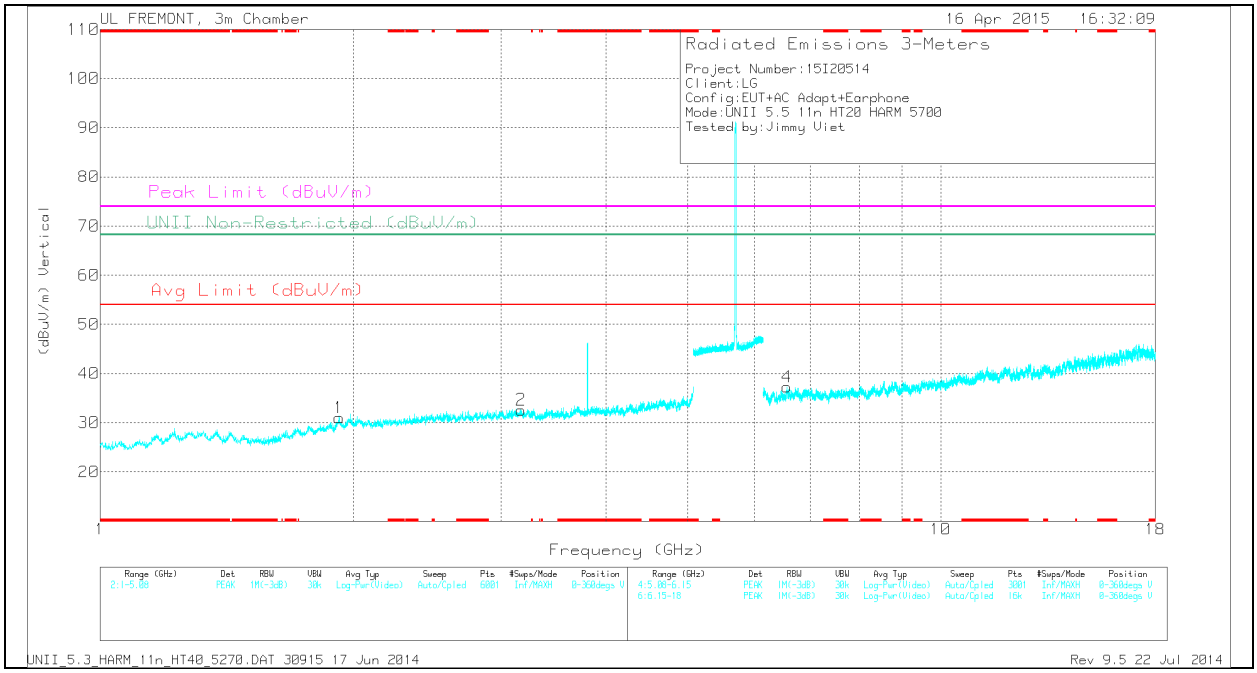
PK - Peak detector

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

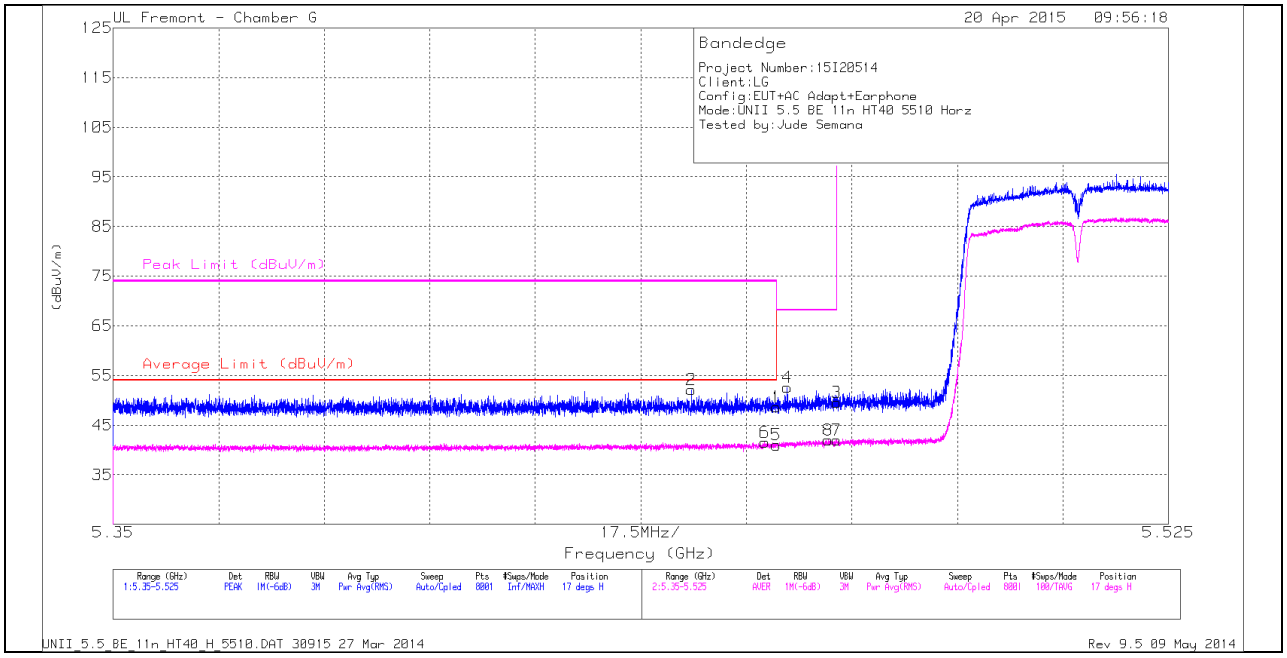
TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 3.8	47.15	PK	33.1	-31.6	0	48.65	-	-	74	-25.35	-	-	0-360	100	H
1	1.925	32.33	PK	31.2	-32.5	0	31.03	-	-	-	-	68.2	-37.17	0-360	100	V
5	10.525	28.45	PK	37.5	-25	0	40.95	-	-	-	-	68.2	-27.25	0-360	100	H
6	17.202	28.23	PK	41.3	-22.9	0	46.63	-	-	-	-	68.2	-21.57	0-360	200	H
2	3.171	31.39	PK	32.7	-31.5	0	32.59	-	-	-	-	68.2	-35.61	0-360	100	V
4	6.56	31.05	PK	35.6	-29.4	0	37.25	-	-	-	-	68.2	-30.95	0-360	100	V

PK - Peak detector

10.3.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.5 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

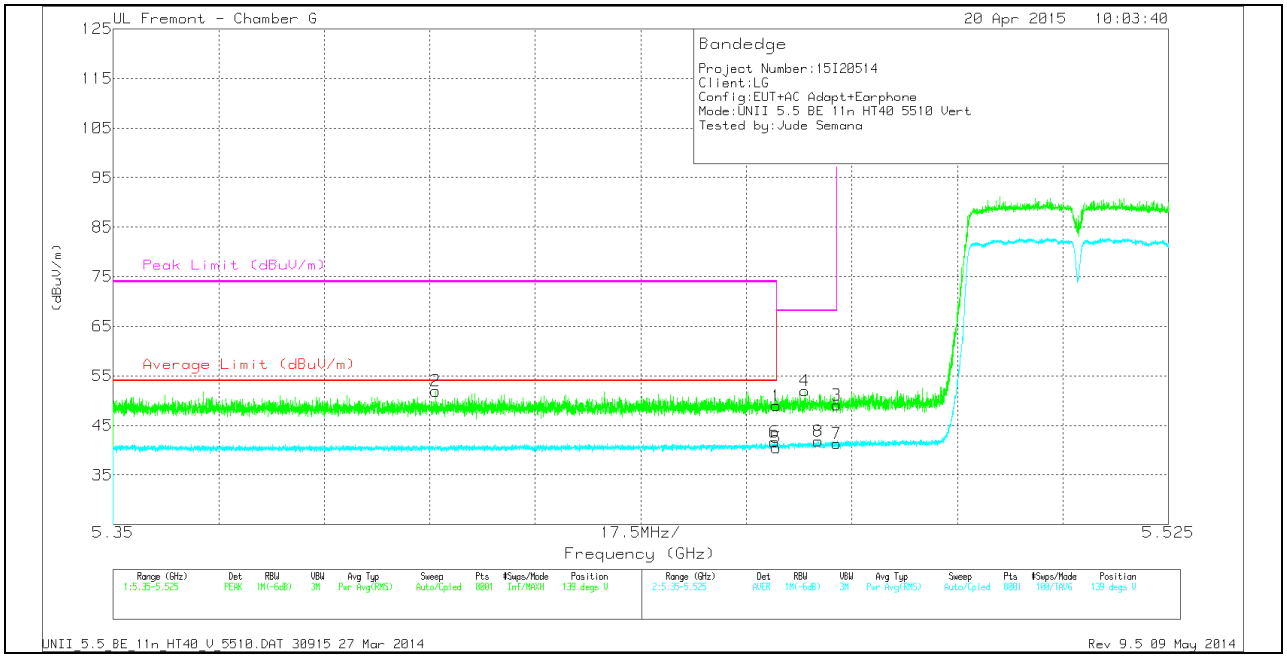
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	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	* 5.46	37.7	PK	34.5	-23.6	0	48.6	-	-	74	-25.4	17	310	H
2	* 5.446	41.2	PK	34.5	-23.6	0	52.1	-	-	74	-21.9	17	310	H
5	* 5.46	29.63	RMS	34.5	-23.6	.5	41.03	54	-12.97	-	-	17	310	H
6	* 5.458	30.19	RMS	34.5	-23.6	.5	41.59	54	-12.41	-	-	17	310	H
4	5.462	41.58	PK	34.5	-23.5	0	52.58	-	-	68.2	-15.62	17	310	H
8	5.469	30.61	RMS	34.5	-23.6	.5	42.01	-	-	-	-	17	310	H
3	5.47	38.67	PK	34.5	-23.6	0	49.57	-	-	68.2	-18.63	17	310	H
7	5.47	30.62	RMS	34.5	-23.6	.5	42.02	-	-	-	-	17	310	H

VERTICAL PEAK AND AVERAGE PLOT

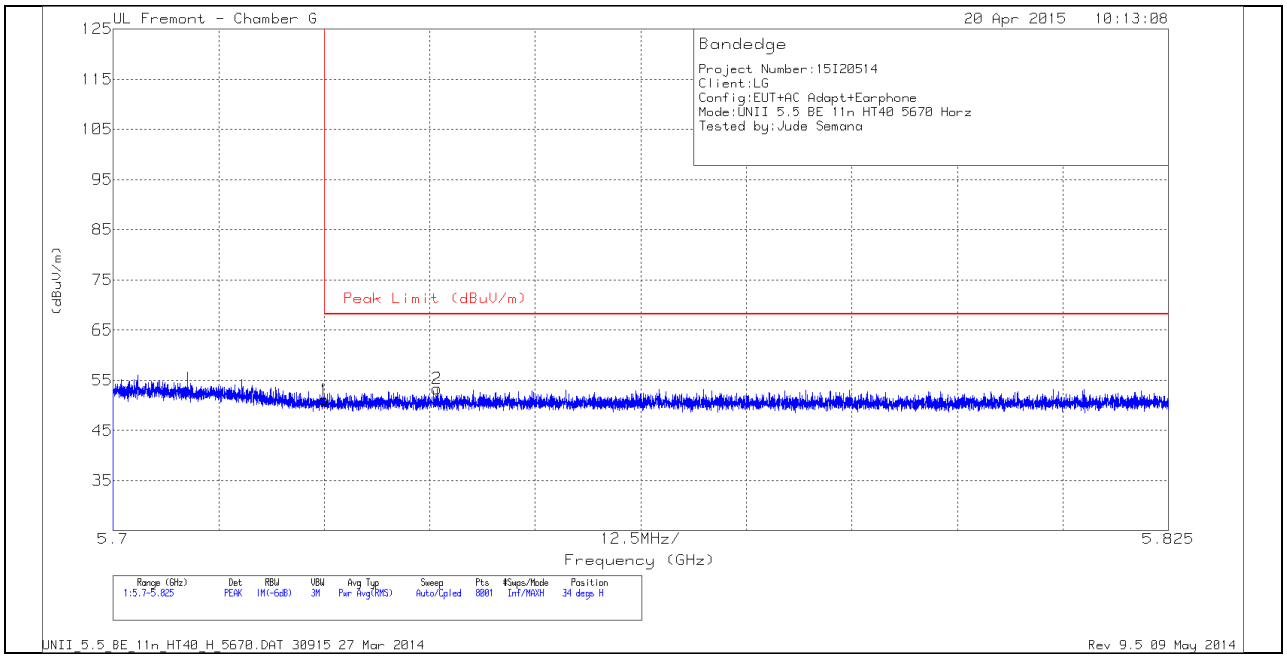


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Flt r/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	* 5.46	38.07	PK	34.5	-23.6	0	48.97	-	-	74	-25.03	139	347	V
2	* 5.403	41.24	PK	34.3	-23.6	0	51.94	-	-	74	-22.06	139	347	V
5	* 5.46	29.15	RMS	34.5	-23.6	.5	40.55	54	-13.45	-	-	139	347	V
6	* 5.46	30.32	RMS	34.5	-23.6	.5	41.72	54	-12.28	-	-	139	347	V
4	5.465	41.07	PK	34.5	-23.6	0	51.97	-	-	68.2	-16.23	139	347	V
8	5.467	30.46	RMS	34.5	-23.6	.5	41.86	-	-	-	-	139	347	V
3	5.47	38.22	PK	34.5	-23.6	0	49.12	-	-	68.2	-19.08	139	347	V
7	5.47	30.04	RMS	34.5	-23.6	.5	41.44	-	-	-	-	139	347	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

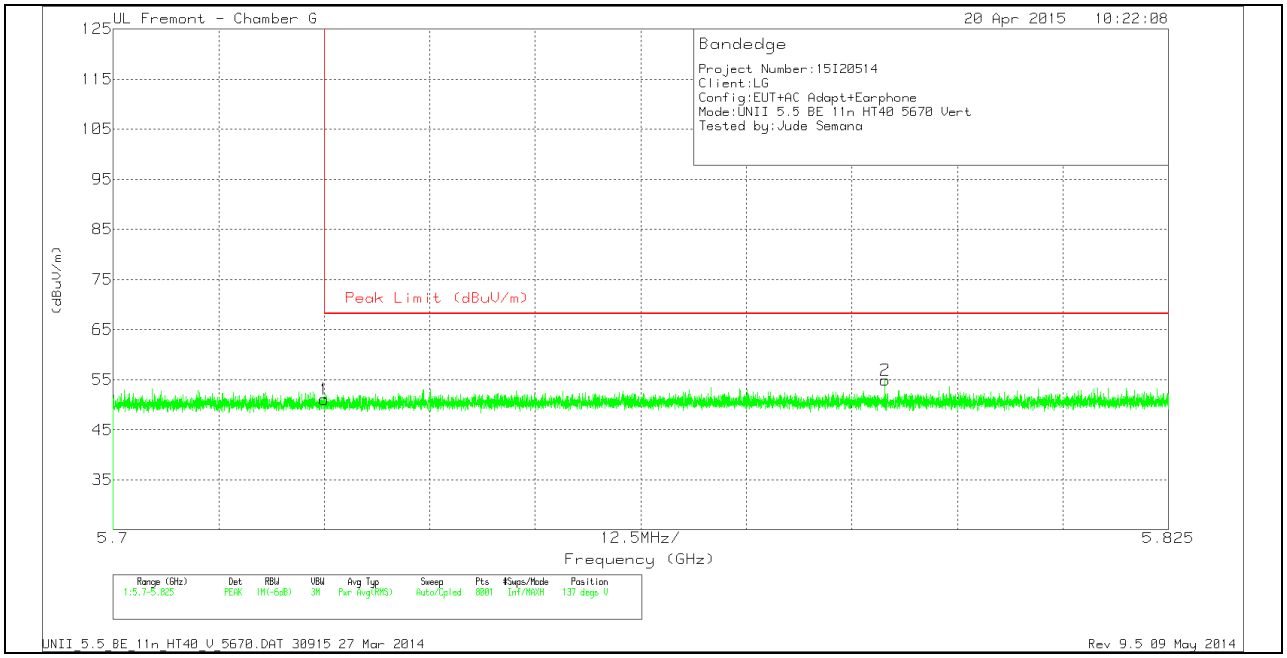
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	39.4	PK	35.2	-23.5	0	51.1	68.2	-17.1	34	321	H
2	5.738	41.63	PK	35.2	-23.5	0	53.33	68.2	-14.87	34	321	H

VERTICAL PEAK AND AVERAGE PLOT

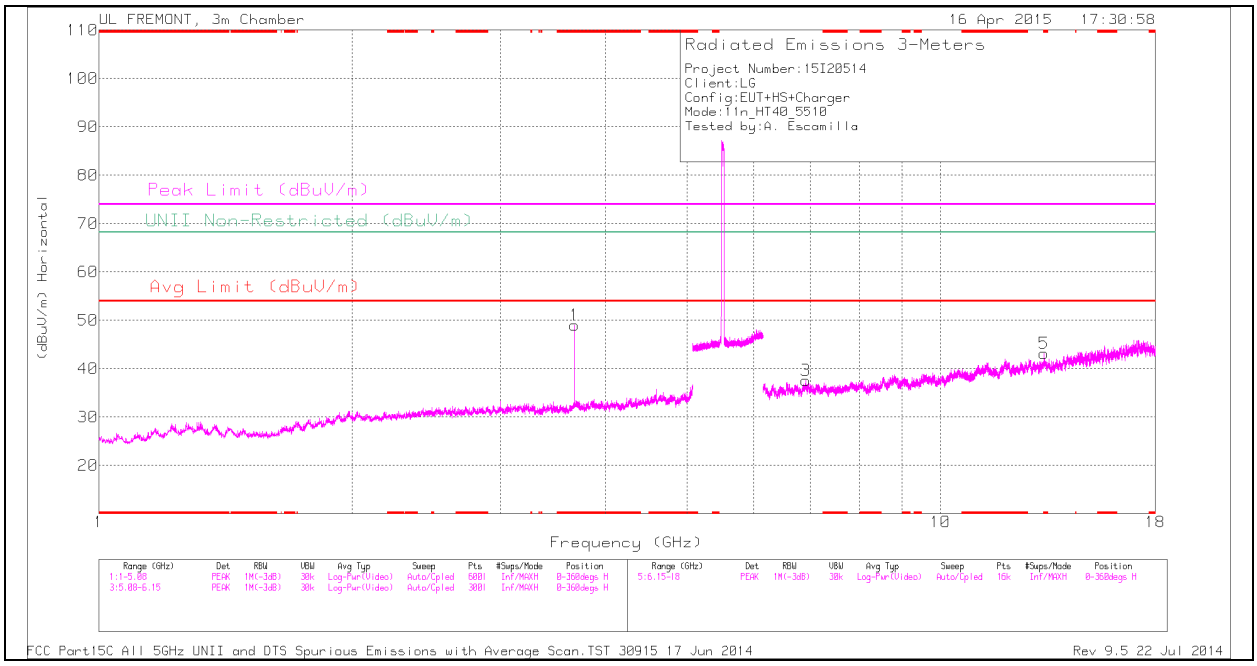


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	39.38	PK	35.2	-23.5	0	51.08	68.2	-17.12	137	131	V
2	5.791	43.24	PK	35.3	-23.6	0	54.94	68.2	-13.26	137	131	V

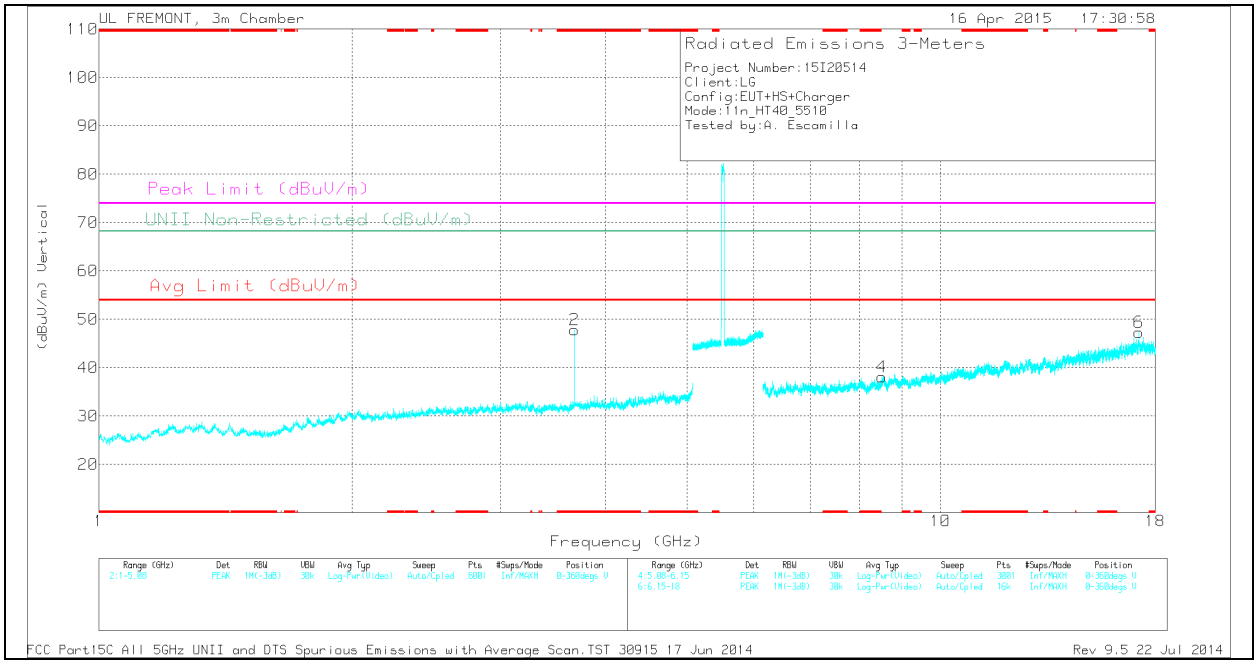
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

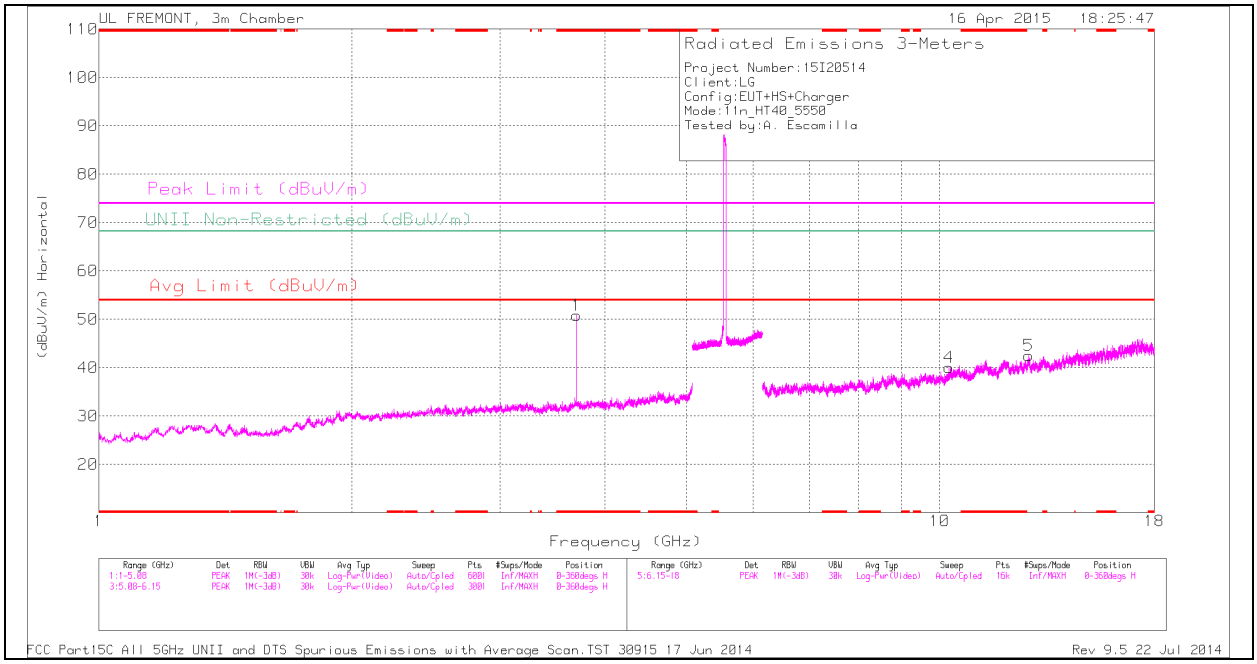
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.673	46.63	PK	33	-30.6	0	49.03	-	-	74	-24.97	-	-	0-360	200	H
2	* 3.673	45.39	PK	33	-30.6	0	47.79	-	-	74	-26.21	-	-	0-360	200	V
5	* 13.276	30.28	PK	39	-26.1	0	43.18	-	-	74	-30.82	-	-	0-360	200	H
3	6.921	30.71	PK	35.6	-28.7	0	37.61	-	-	-	-	68.2	-30.59	0-360	100	H
4	8.512	29.57	PK	35.8	-27.3	0	38.07	-	-	-	-	68.2	-30.13	0-360	200	V
6	17.2	29	PK	41.3	-23	0	47.3	-	-	-	-	68.2	-20.9	0-360	100	V

PK - Peak detector

RADIATED EMISSIONS

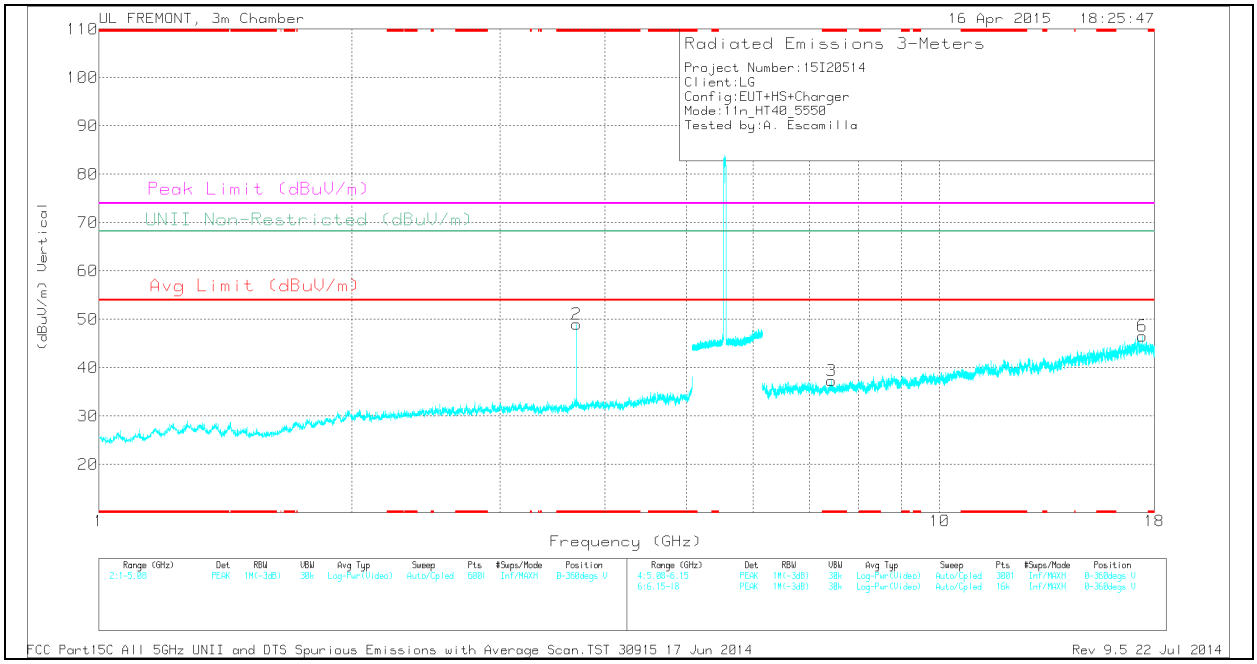
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.673	50.6	PK1	33	-30.6	0	53	-	-	74	-21	-	-	173	231	H
* 3.673	48.24	AD1	33	-30.6	.46	51.1	54	-2.9	-	-	-	-	173	231	H
* 3.673	49.88	PK1	33	-30.6	0	52.28	-	-	74	-21.72	-	-	329	364	V
* 3.673	47.32	AD1	33	-30.6	.46	50.18	54	-3.82	-	-	-	-	329	364	V

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

TRACE MARKERS

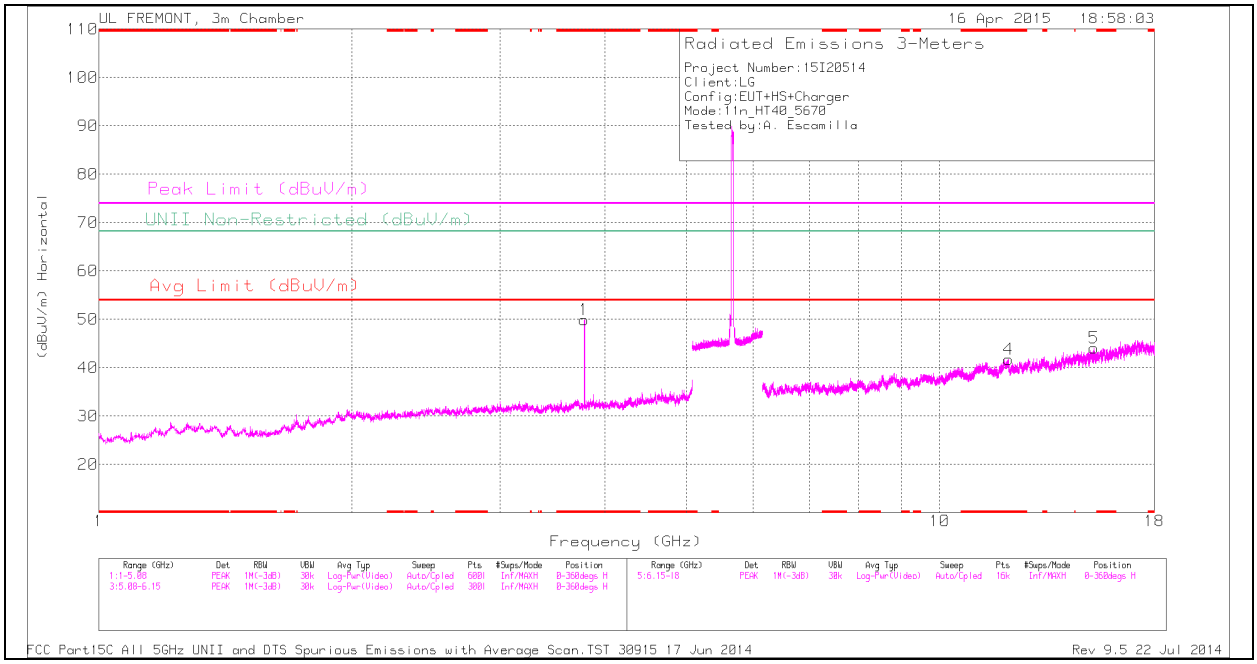
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.7	48.57	PK	33	-30.7	0	50.87	-	-	74	-23.13	-	-	0-360	100	H
2	* 3.7	46.76	PK	33	-30.7	0	49.06	-	-	74	-24.94	-	-	0-360	200	V
3	* 7.436	30.27	PK	35.7	-28.6	0	37.37	-	-	74	-36.63	-	-	0-360	200	V
4	10.259	28.43	PK	37.1	-25.5	0	40.03	-	-	-	-	68.2	-28.17	0-360	200	H
5	12.764	29.49	PK	39.1	-26.1	0	42.49	-	-	-	-	68.2	-25.71	0-360	100	H
6	17.422	27.36	PK	41.4	-22.2	0	46.56	-	-	-	-	68.2	-21.64	0-360	100	V

PK - Peak detector

RADIATED EMISSIONS

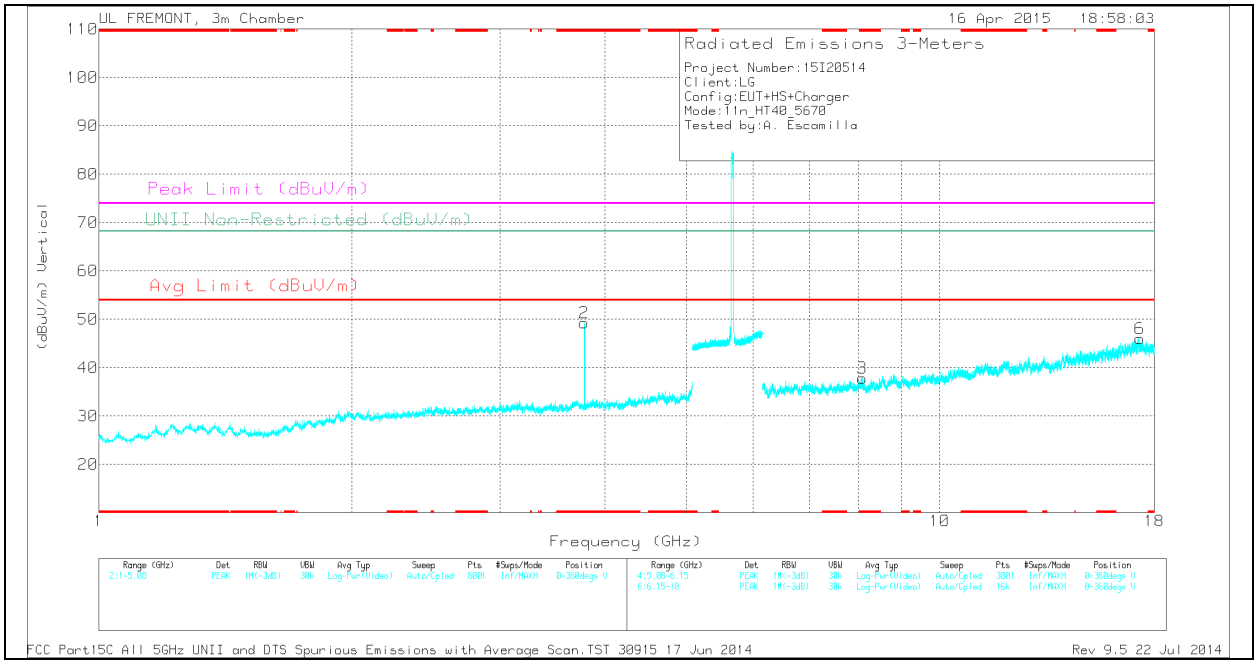
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.7	50.94	PK1	33	-30.7	0	53.24	-	-	74	-20.76	-	-	240	103	H
* 3.7	48.35	AD1	33	-30.7	.46	51.11	54	-2.89	-	-	-	-	240	103	H
* 3.7	50.83	PK1	33	-30.7	0	53.13	-	-	74	-20.87	-	-	280	358	V
* 3.7	48.52	AD1	33	-30.7	.46	51.28	54	-2.72	-	-	-	-	280	358	V

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.78	48.56	PK	33.1	-31.8	0	49.86	-	-	74	-24.14	-	-	0-360	100	H
2	* 3.78	47.92	PK	33.1	-31.8	0	49.22	-	-	74	-24.78	-	-	0-360	200	V
4	* 12.073	29.11	PK	39	-26.4	0	41.71	-	-	74	-32.29	-	-	0-360	100	H
3	* 8.093	29.6	PK	35.7	-27.4	0	37.9	-	-	74	-36.1	-	-	0-360	200	V
5	15.245	30.82	PK	39.9	-26.6	0	44.12	-	-	-	-	68.2	-24.08	0-360	100	H
6	17.297	28.44	PK	41.4	-23.8	0	46.04	-	-	-	-	68.2	-22.16	0-360	100	V

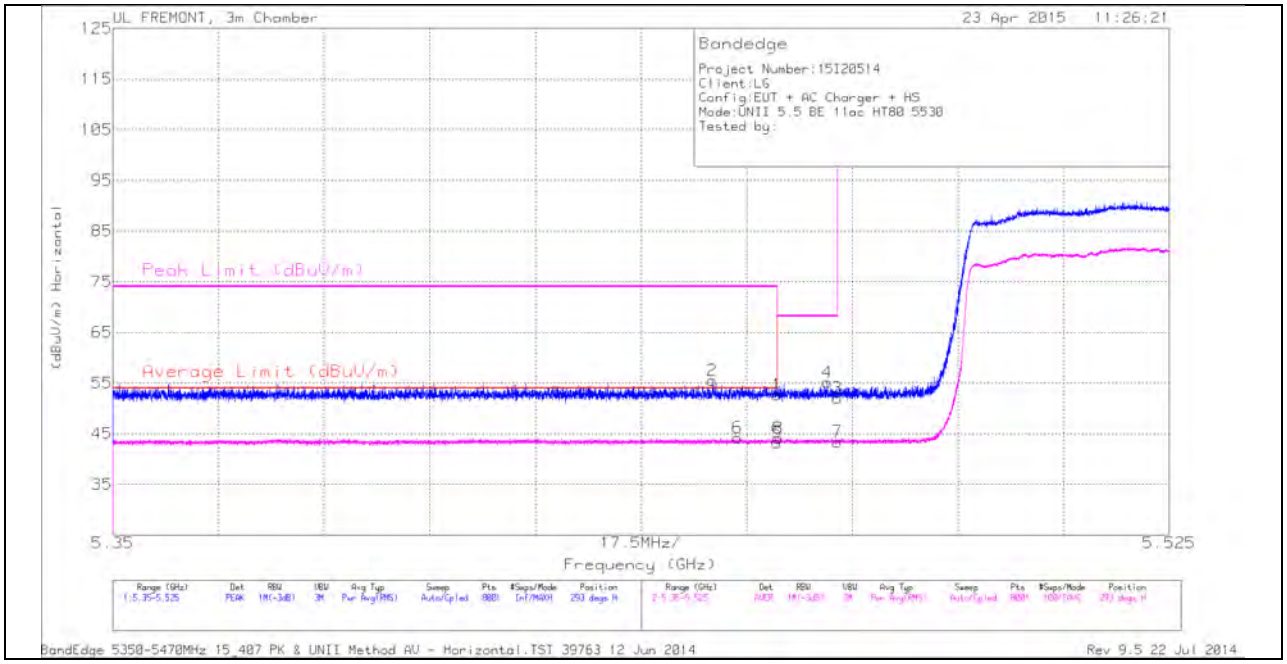
PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.78	50.83	PK1	33.1	-31.8	0	52.13	-	-	74	-21.87	-	-	169	104	H
* 3.78	48.14	AD1	33.1	-31.8	.46	49.9	54	-4.1	-	-	-	-	169	104	H
* 3.78	50.77	PK1	33.1	-31.8	0	52.07	-	-	74	-21.93	-	-	291	307	V
* 3.78	48.27	AD1	33.1	-31.8	.46	50.03	54	-3.97	-	-	-	-	291	307	V

10.3.4. TX ABOVE 1 GHz 802.11ac HT80 MODE IN THE 5.5 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

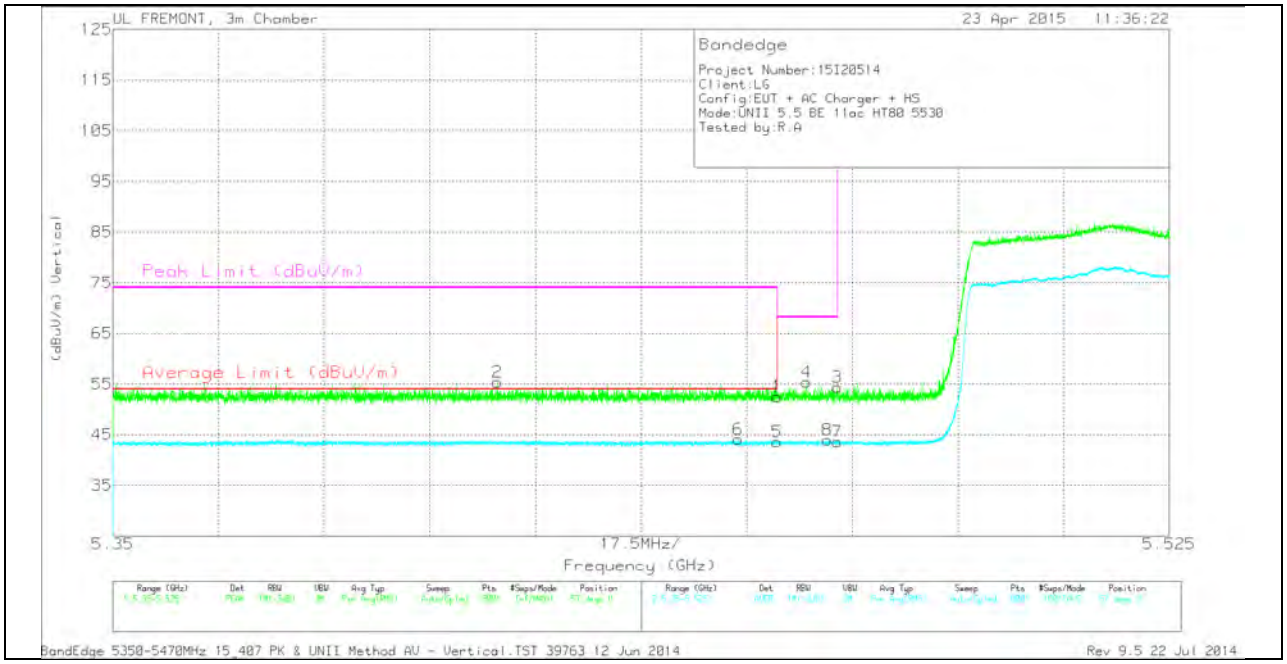
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	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	** 5.46	39.44	PK	34.6	-21.4	0	52.64	-	-	74	-21.36	293	160	H
2	** 5.449	42.35	PK	34.6	-21.4	0	55.55	-	-	74	-18.45	293	160	H
5	** 5.46	29.71	RMS	34.6	-21.4	.37	43.28	54	-10.72	-	-	293	160	H
6	** 5.453	30.69	RMS	34.6	-21.4	.37	44.26	54	-9.74	-	-	293	160	H
8	5.46	30.51	RMS	34.6	-21.4	.37	44.08	-	-	-	-	293	160	H
4	5.468	41.83	PK	34.6	-21.3	0	55.13	-	-	68.2	-13.07	293	160	H
3	5.47	38.73	PK	34.6	-21.3	0	52.03	-	-	68.2	-16.17	293	160	H
7	5.47	29.73	RMS	34.6	-21.3	.37	43.4	-	-	-	-	293	160	H

VERTICAL PEAK AND AVERAGE PLOT

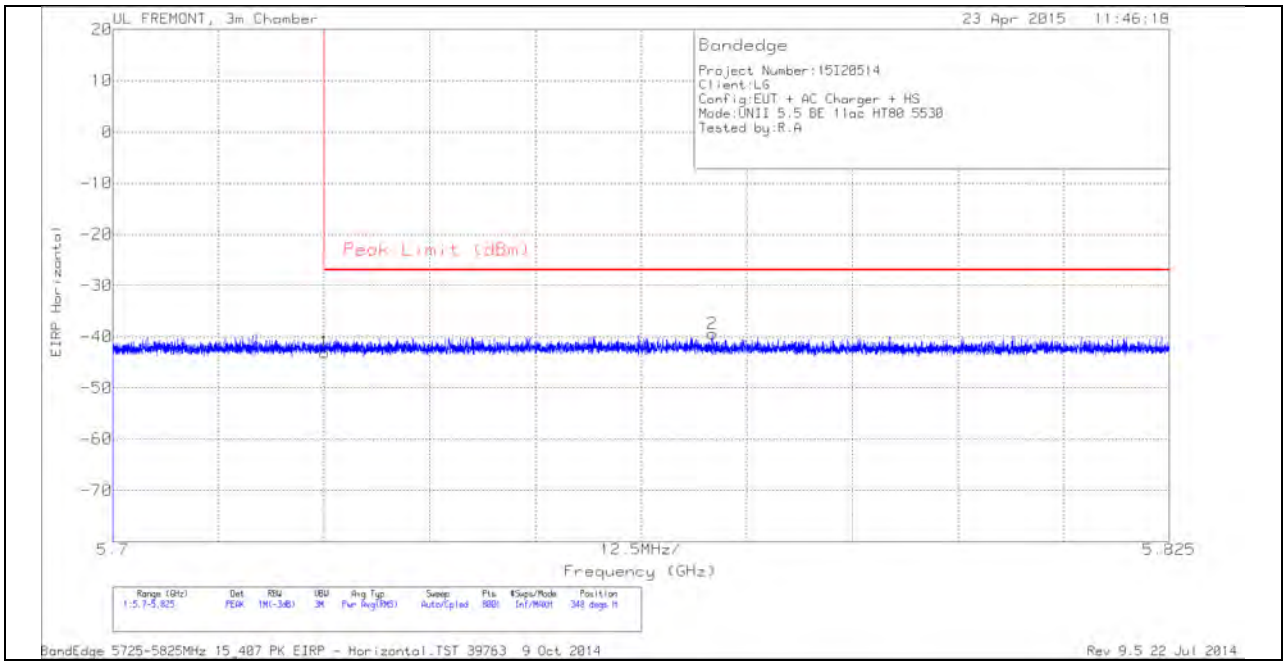


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Flt r/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	** 5.46	39.35	PK	34.6	-21.4	0	52.55	-	-	74	-21.45	57	108	V
2	** 5.414	42.13	PK	34.6	-21.4	0	55.33	-	-	74	-18.67	57	108	V
5	** 5.46	29.98	RMS	34.6	-21.4	.37	43.55	54	-10.45	-	-	57	108	V
6	** 5.454	30.47	RMS	34.6	-21.4	.37	44.04	54	-9.96	-	-	57	108	V
4	5.465	42.16	PK	34.6	-21.4	0	55.36	-	-	68.2	-12.84	57	108	V
8	5.468	30.24	RMS	34.6	-21.3	.37	43.91	-	-	-	-	57	108	V
3	5.47	41.12	PK	34.6	-21.3	0	54.42	-	-	68.2	-13.78	57	108	V
7	5.47	29.92	RMS	34.6	-21.3	.37	43.59	-	-	-	-	57	108	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

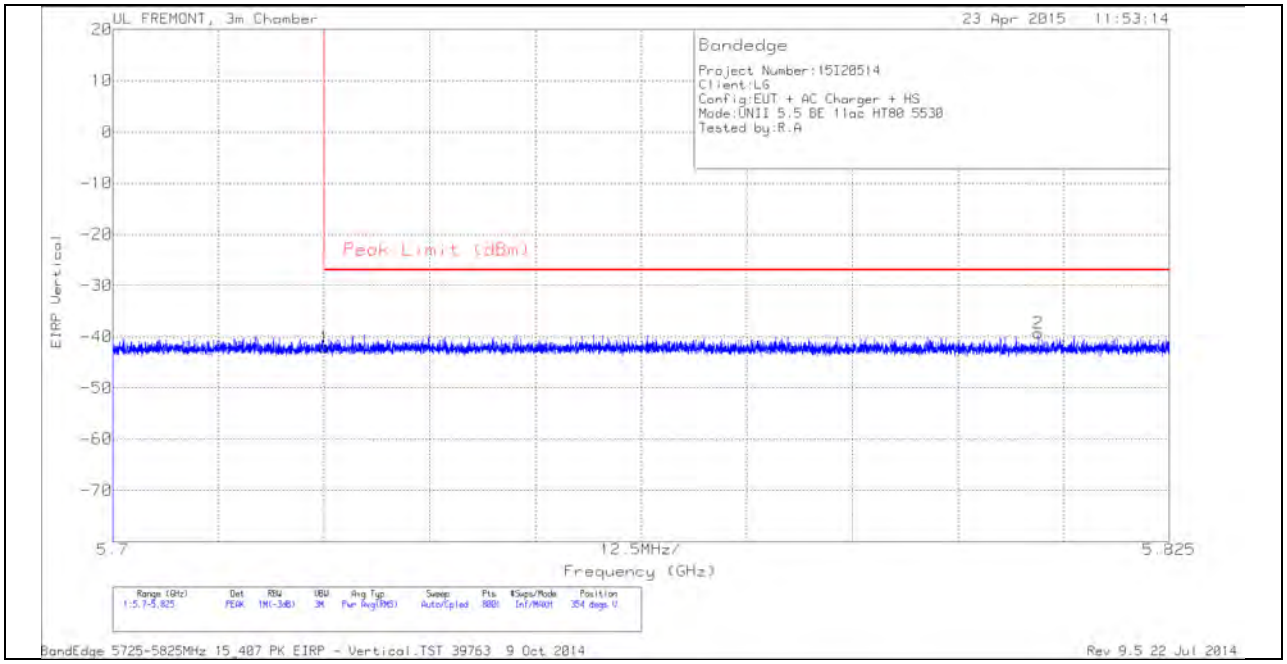
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	-68.53	PK	34.8	-21.1	11.8	0	-43.03	-27	-16.03	348	375	H
2	5.771	-64.7	PK	34.8	-21.3	11.8	0	-39.4	-27	-12.4	348	375	H

VERTICAL PEAK AND AVERAGE PLOT

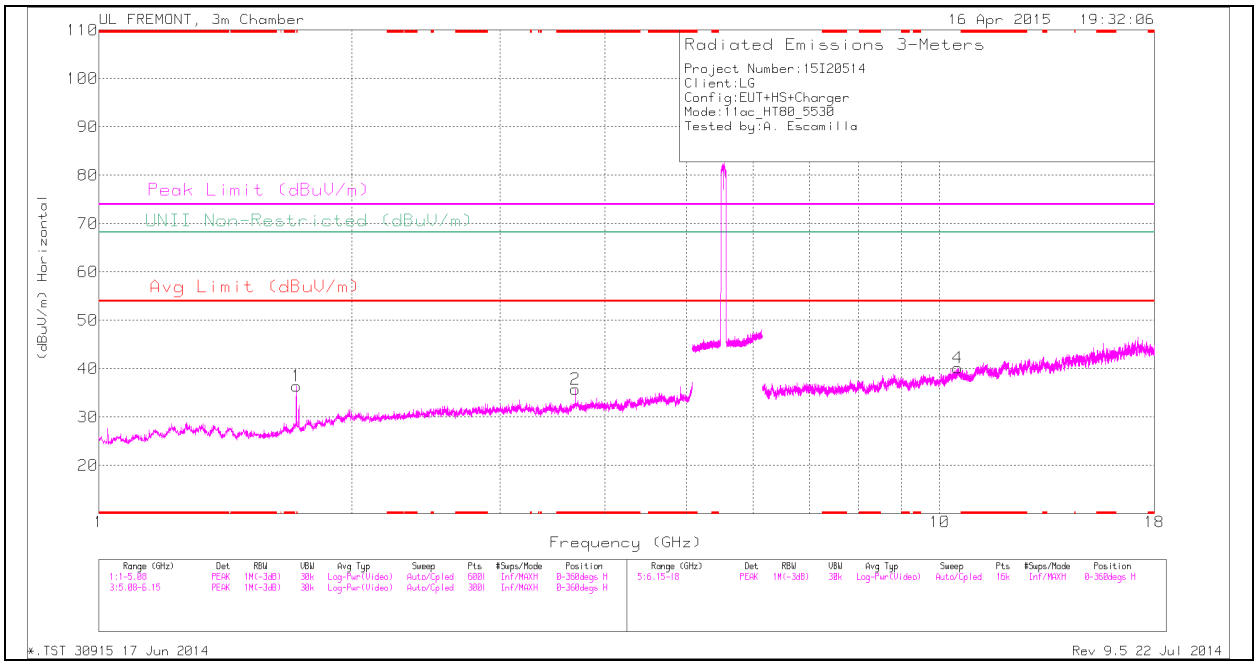


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	-67.64	PK	34.8	-21.1	11.8	0	-42.14	-27	-15.14	354	272	V
2	5.81	-64.68	PK	34.9	-21.3	11.8	0	-39.28	-27	-12.28	354	272	V

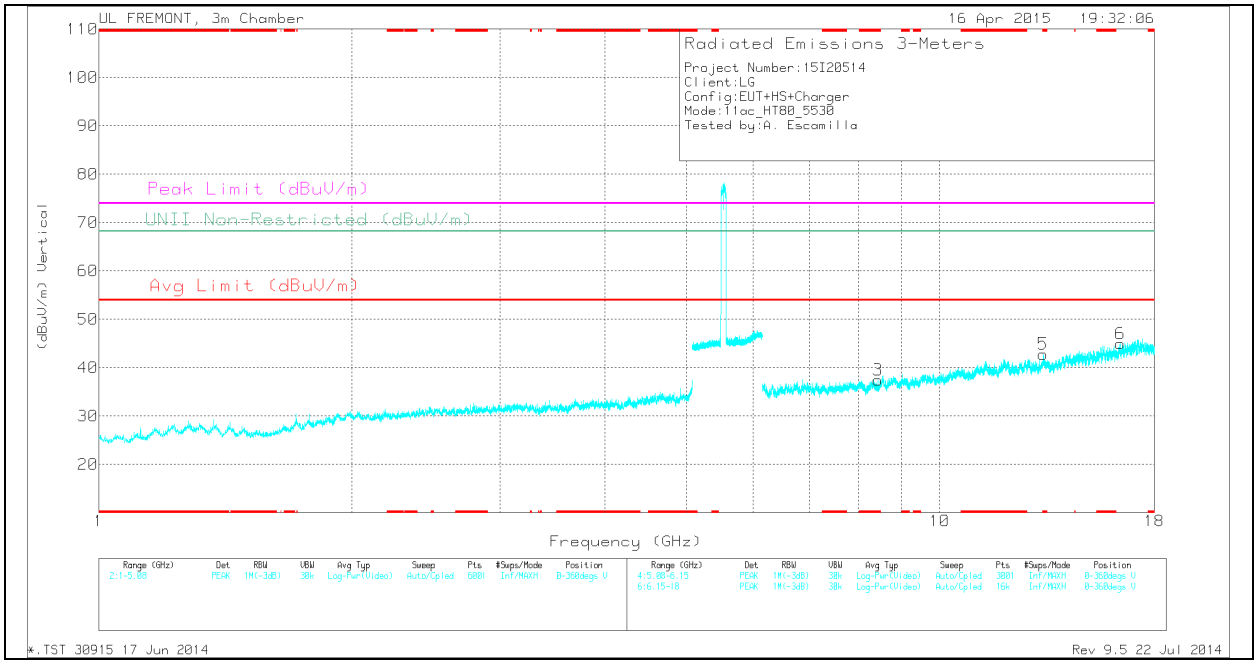
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.687	33.37	PK	33	-30.6	0	35.77	-	-	74	-38.23	-	-	0-360	100	H
3	* 8.444	29.85	PK	35.8	-28.2	0	37.45	-	-	74	-36.55	-	-	0-360	200	V
5	* 13.278	29.94	PK	39	-26.1	0	42.84	-	-	74	-31.16	-	-	0-360	100	V
1	1.718	39.25	PK	29.2	-32	0	36.45	-	-	-	-	68.2	-31.75	0-360	100	H
4	10.514	27.8	PK	37.5	-25.1	0	40.2	-	-	-	-	68.2	-28	0-360	100	H
6	16.391	28.47	PK	40.7	-24.2	0	44.97	-	-	-	-	68.2	-23.23	0-360	200	V

PK - Peak detector

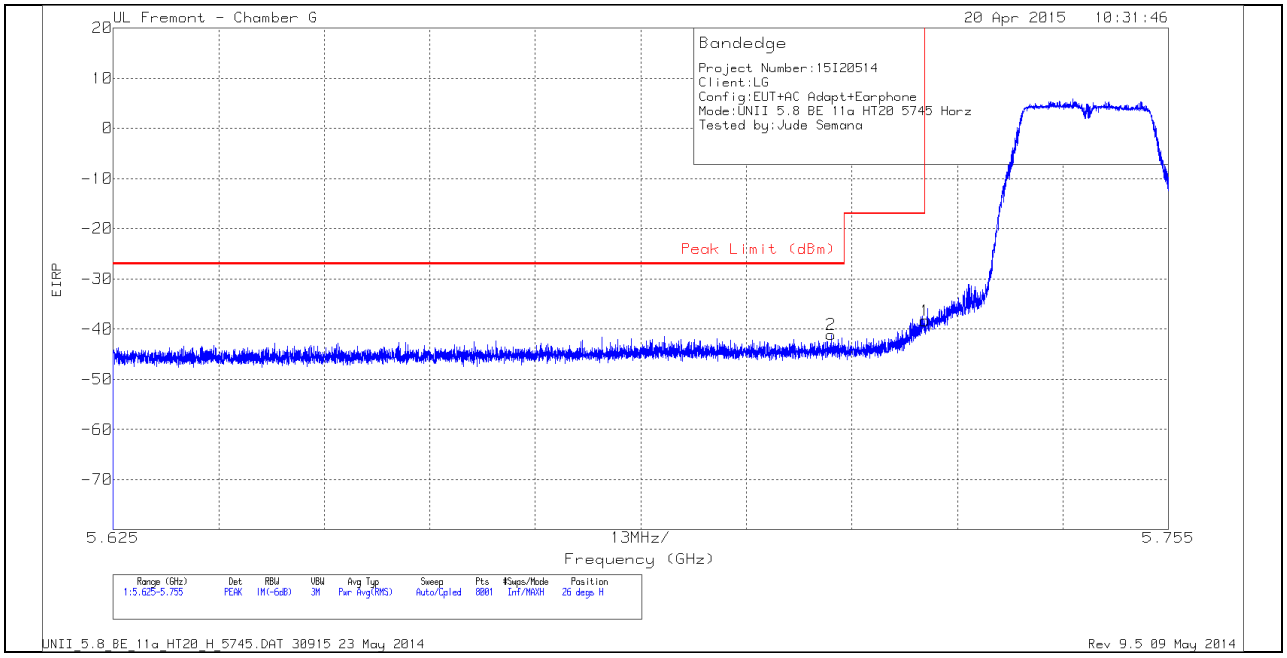
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.687	51.18	PK1	33	-30.6	0	53.58	-	-	74	-20.42	-	-	240	106	H
* 3.687	48.83	AD1	33	-30.6	.44	51.67	54	-2.33	-	-	-	-	240	106	H
1.714	41.49	PK1	29.2	-32.1	0	38.59	-	-	-	-	68.2	-29.61	21	118	H
1.715	29.47	AD1	29.2	-32.1	.44	27.01	-	-	-	-	-	-	21	118	H

10.4. 5.8 GHz

10.4.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.8 GHz BAND HARMONICS AND SPURIOUS EMISSIONS

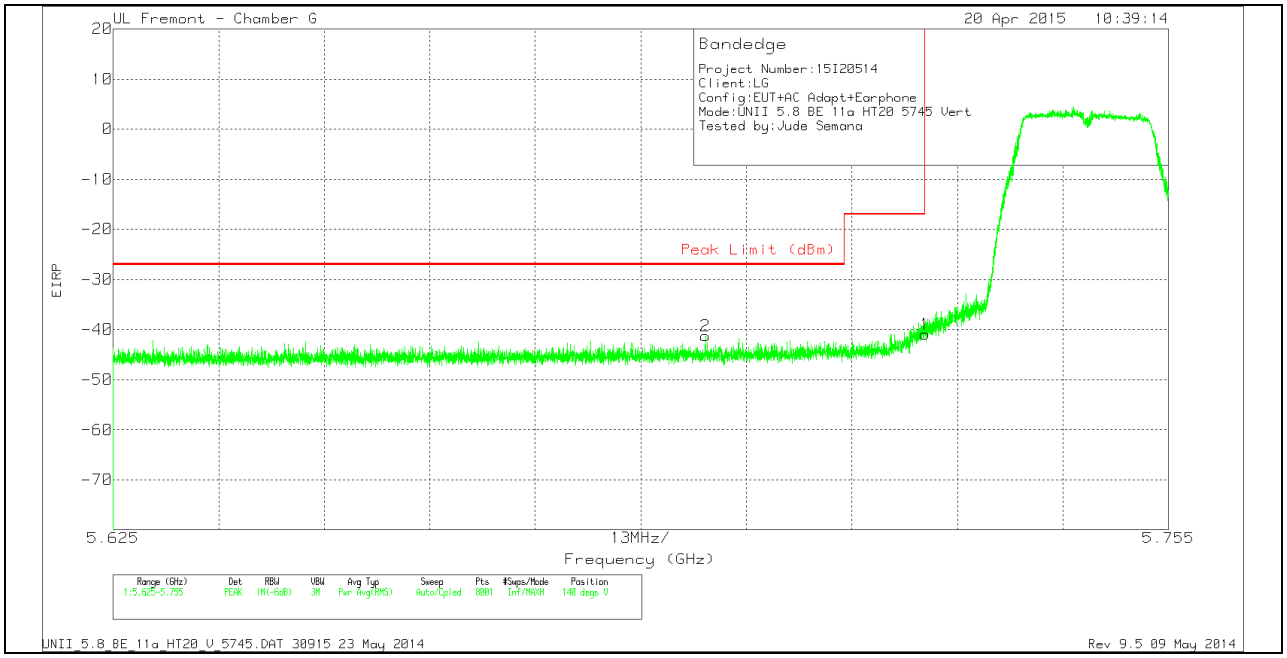
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.713	-64.61	PK	35.2	-23.5	11.8	0	-41.11	-27	-14.11	26	315	H
1	5.725	-61.82	PK	35.2	-23.5	11.8	0	-38.32	-17	-21.32	26	315	H

VERTICAL PEAK AND AVERAGE PLOT

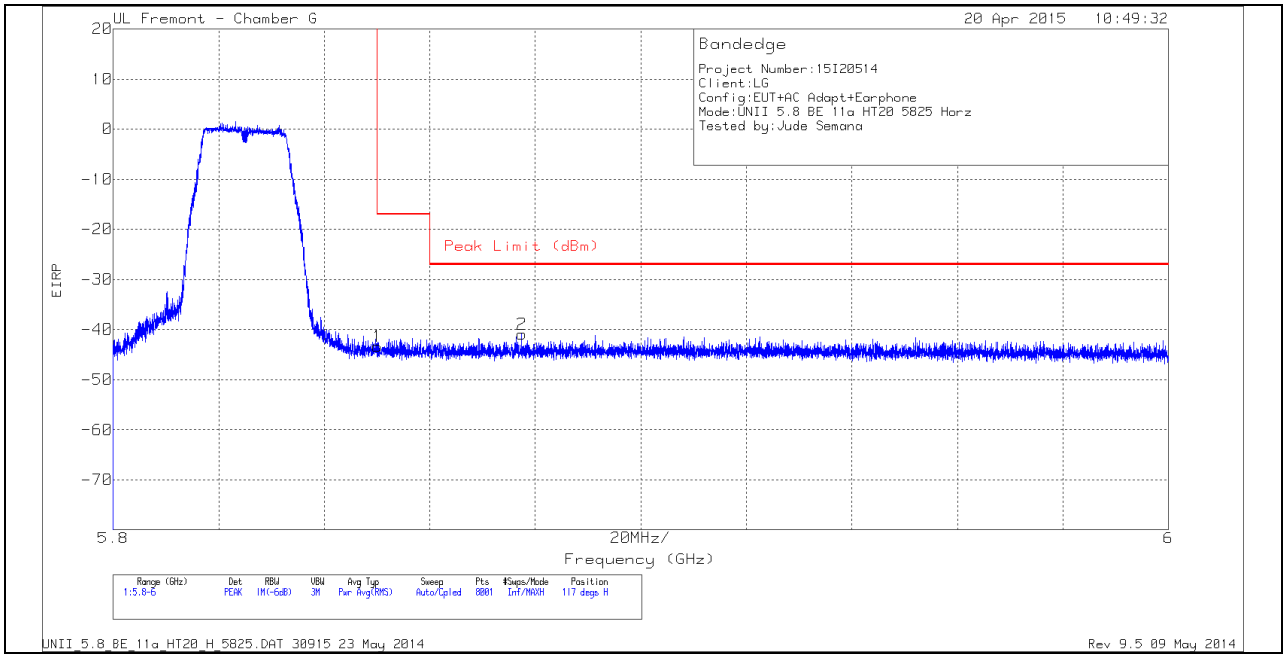


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.698	-64.78	PK	35.2	-23.5	11.8	0	-41.28	-27	-14.28	140	264	V
1	5.725	-64.39	PK	35.2	-23.5	11.8	0	-40.89	-17	-23.89	140	264	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

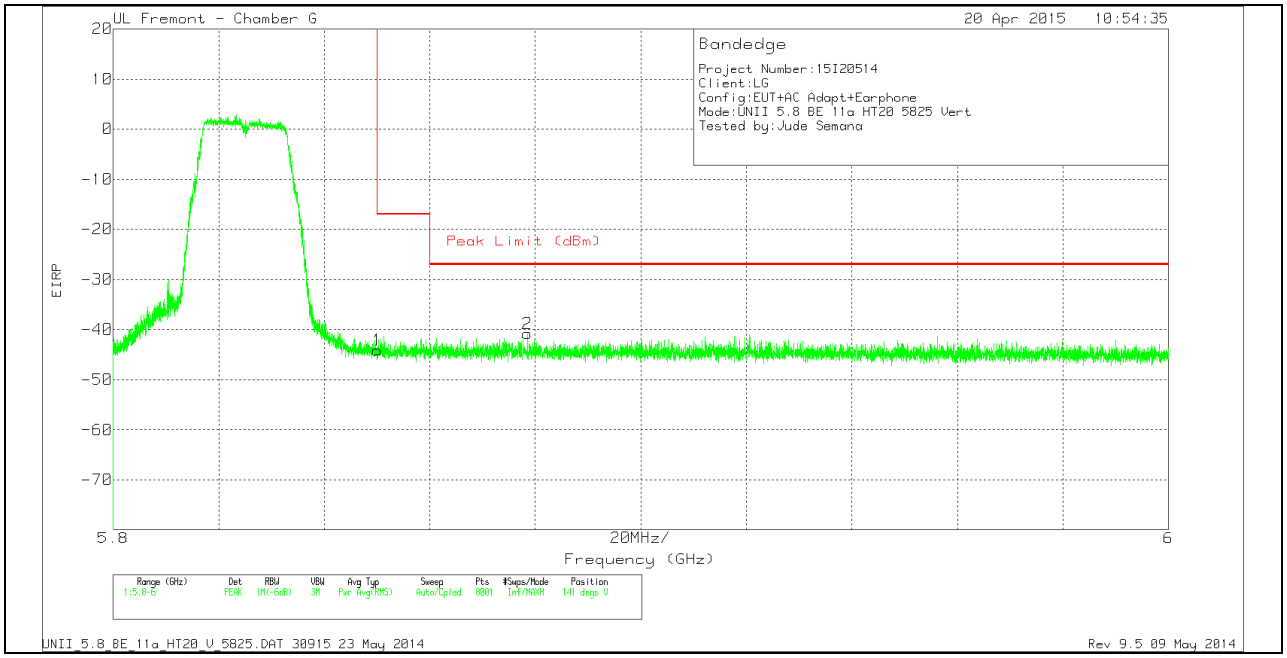
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversio n Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-66.97	PK	35.4	-23.6	11.8	0	-43.37	-17	-26.37	117	219	H
2	5.877	-64.49	PK	35.4	-23.6	11.8	0	-40.89	-27	-13.89	117	219	H

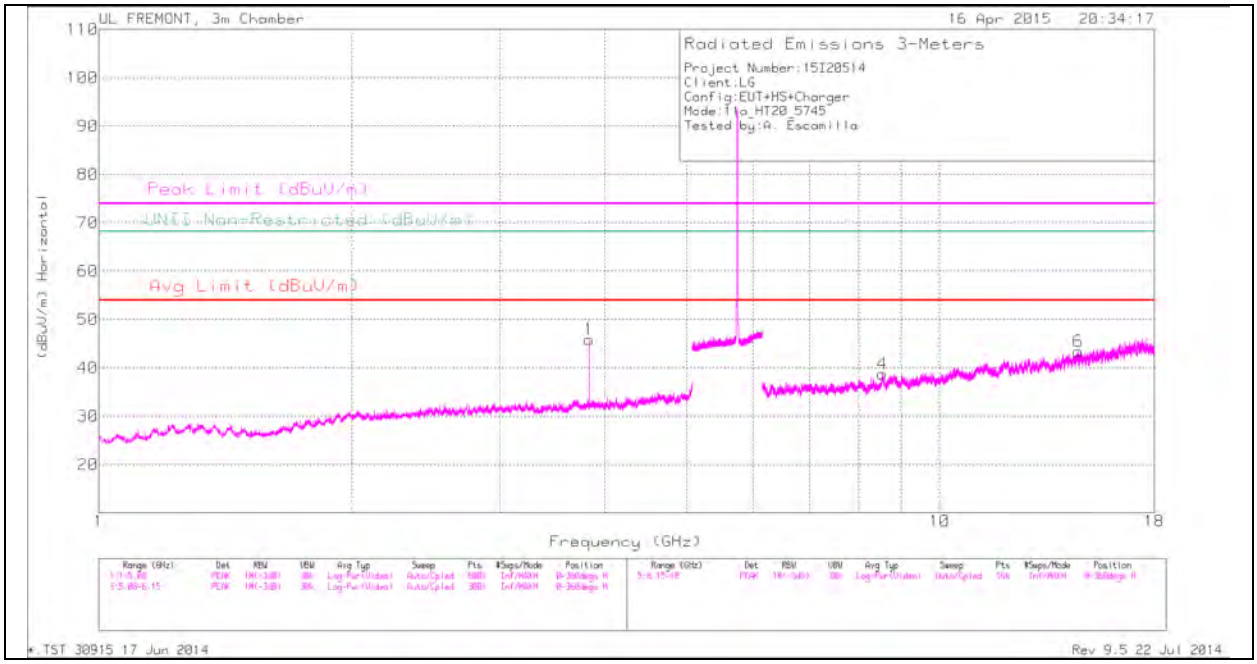
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

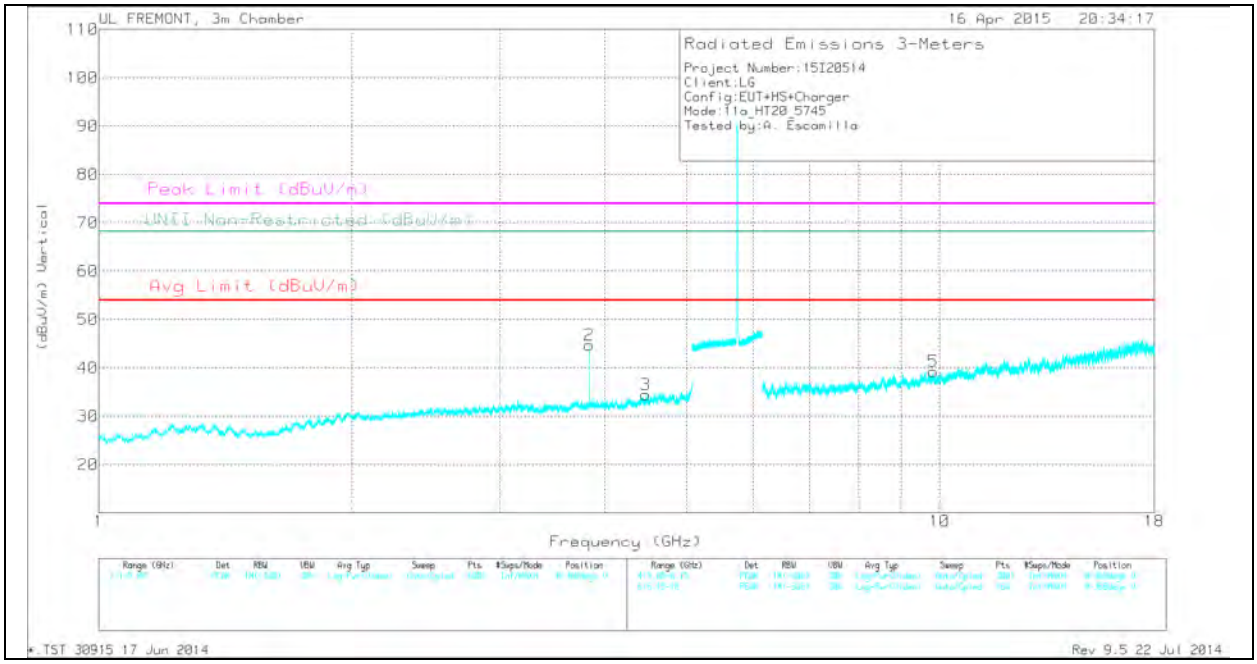
Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T711 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-67.74	PK	35.4	-23.6	11.8	-44.14	-17	-27.14	141	310	V
2	5.879	-64.43	PK	35.4	-23.6	11.8	-40.83	-27	-13.83	141	310	V

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

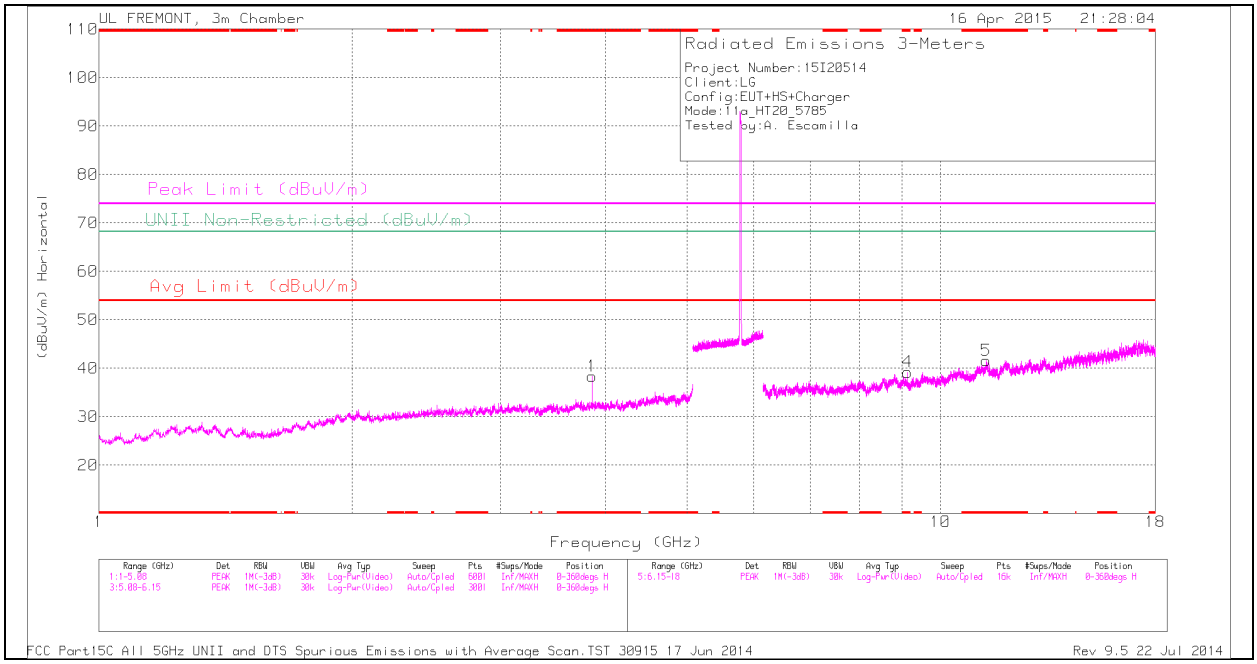
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	3.83	43.96	PK	33.1	-31.2	0	45.86	-	-	74	-28.14	-	-	0-360	200	H
2	3.83	42.85	PK	33.1	-31.2	0	44.75	-	-	74	-29.25	-	-	0-360	200	V
3	4.471	31.54	PK	33.7	-30.8	0	34.44	-	-	-	-	68.2	-33.76	0-360	100	V
4	8.551	28.9	PK	35.8	-26	0	38.7	-	-	-	-	68.2	-29.5	0-360	100	H
5	9.828	27.52	PK	36.9	-25.1	0	39.32	-	-	-	-	68.2	-28.88	0-360	100	V
6	14.612	31.05	PK	39.8	-27.4	0	43.45	-	-	-	-	68.2	-24.75	0-360	100	H

PK - Peak detector

RADIATED EMISSIONS

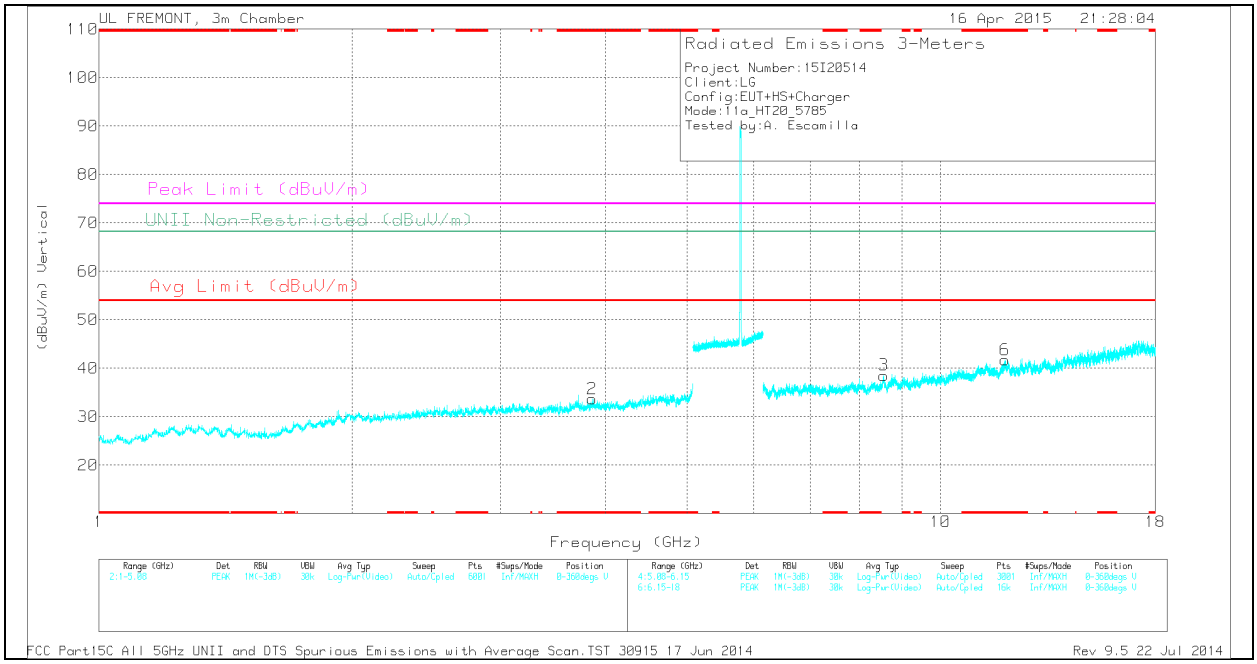
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3.83	47.36	PK1	33.1	-31.2	0	49.26	-	-	74	-24.74	-	-	344	197	H
3.83	43.52	AD1	33.1	-31.2	.22	45.64	54	-8.36	-	-	-	-	344	197	H
3.83	47.68	PK1	33.1	-31.2	0	49.58	-	-	74	-24.42	-	-	313	371	V
3.83	44.2	AD1	33.1	-31.2	.22	46.32	54	-7.68	-	-	-	-	313	371	V

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

TRACE MARKERS

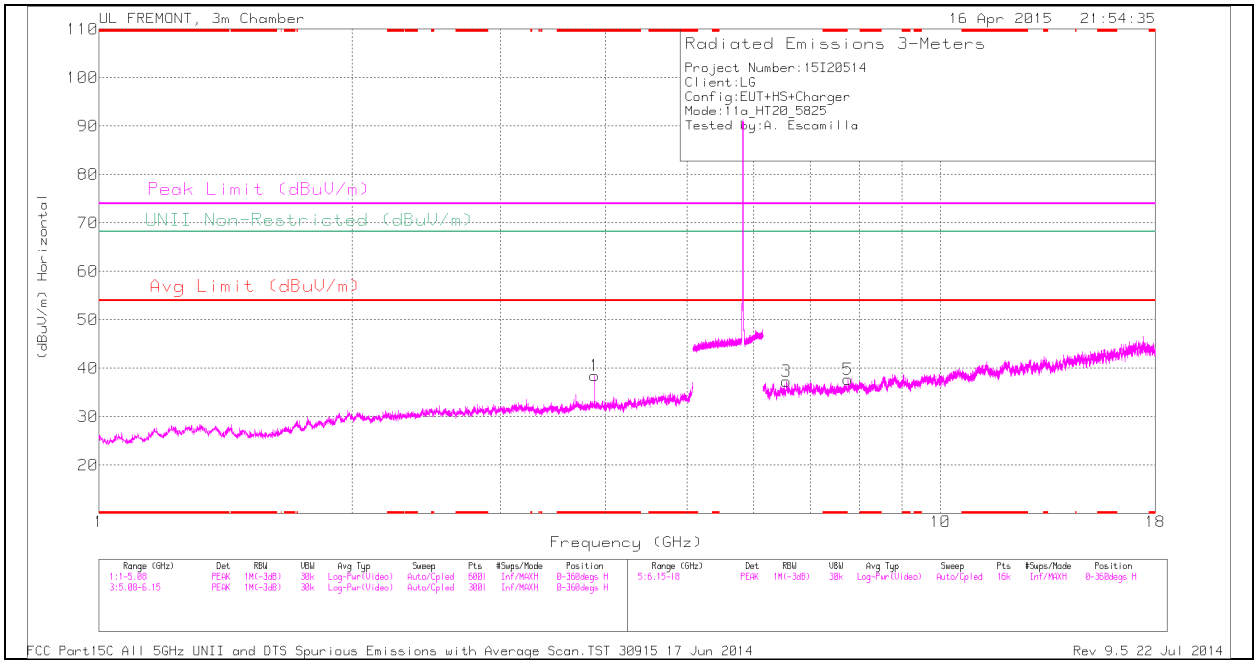
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.857	36.11	PK	33.1	-30.8	0	38.41	-	-	74	-35.59	-	-	0-360	100	H
2	* 3.857	31.44	PK	33.1	-30.8	0	33.74	-	-	74	-40.26	-	-	0-360	100	V
4	* 9.142	29.41	PK	36.2	-26.4	0	39.21	-	-	74	-34.79	-	-	0-360	100	H
5	* 11.33	28.98	PK	38.1	-25.5	0	41.58	-	-	74	-32.42	-	-	0-360	100	H
6	* 11.929	28.84	PK	39.1	-26.2	0	41.74	-	-	74	-32.26	-	-	0-360	100	V
3	8.564	28.96	PK	35.8	-26.2	0	38.56	-	-	-	-	68.2	-29.64	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

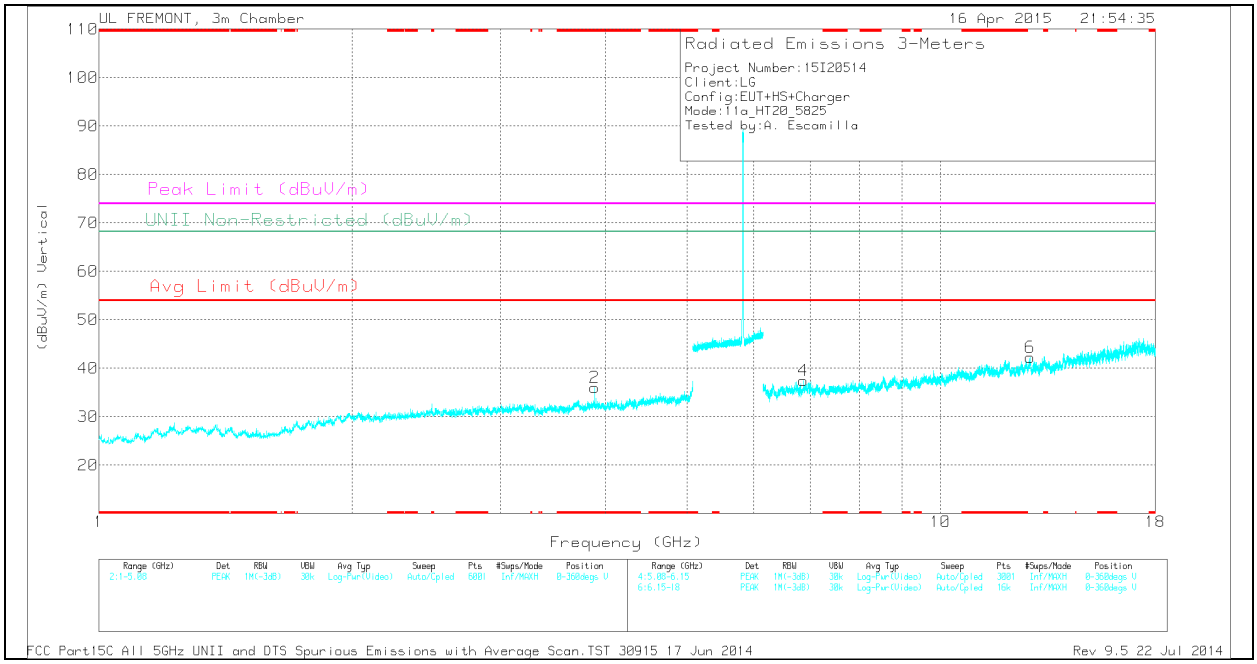
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.857	47.43	PK1	33.1	-30.8	0	49.73	-	-	74	-24.27	-	-	176	211	H
* 3.857	43.68	AD1	33.1	-30.8	.22	46.2	54	-7.8	-	-	-	-	176	211	H
* 3.857	46.59	PK1	33.1	-30.8	0	48.89	-	-	74	-25.11	-	-	299	301	V
* 3.857	42.58	AD1	33.1	-30.8	.22	45.1	54	-8.9	-	-	-	-	299	301	V

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.883	36.07	PK	33.2	-30.8	0	38.47	-	-	74	-35.53	-	-	0-360	100	H
2	* 3.883	33.6	PK	33.2	-30.8	0	36	-	-	74	-38	-	-	0-360	100	V
3	6.564	31.27	PK	35.6	-29.5	0	37.37	-	-	-	-	68.2	-30.83	0-360	200	H
4	6.866	31.37	PK	35.6	-29.5	0	37.47	-	-	-	-	68.2	-30.73	0-360	200	V
5	7.767	30.97	PK	35.8	-29	0	37.77	-	-	-	-	68.2	-30.43	0-360	100	H
6	12.782	29	PK	39.1	-25.9	0	42.2	-	-	-	-	68.2	-26	0-360	100	V

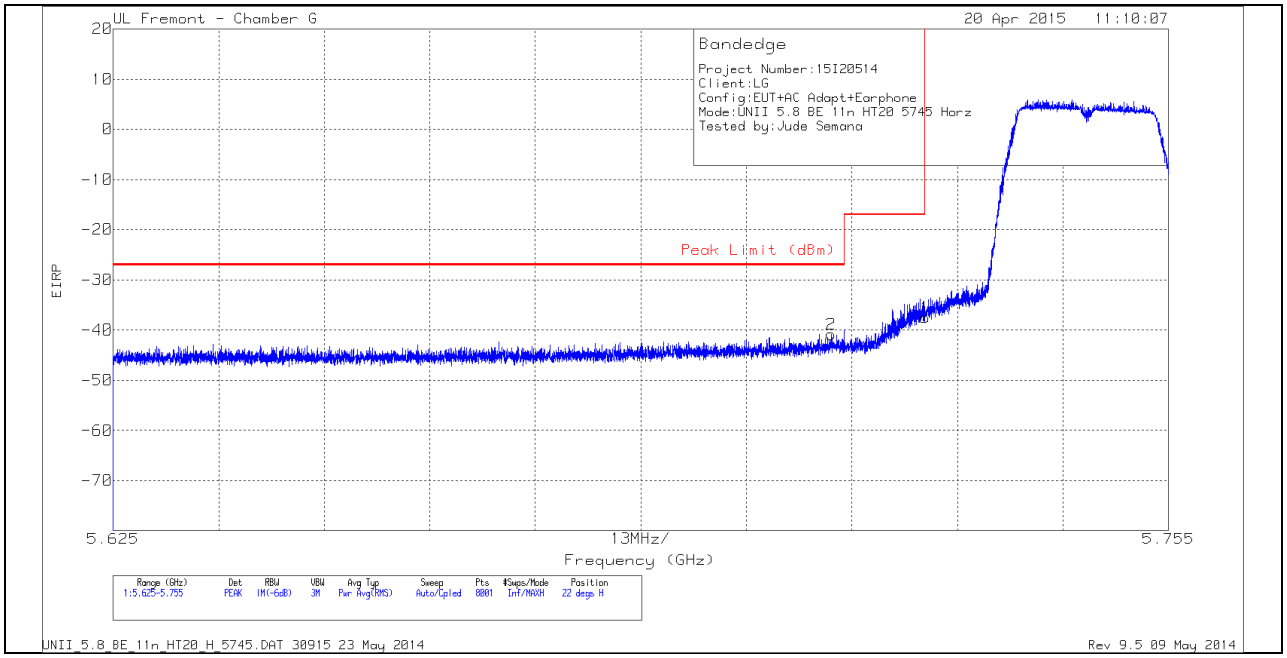
PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.883	46.86	PK1	33.2	-30.8	0	49.26	-	-	74	-24.74	-	-	179	185	H
* 3.883	42.92	AD1	33.2	-30.8	.22	45.54	54	-8.46	-	-	-	-	179	185	H
* 3.883	45.79	PK1	33.2	-30.8	0	48.19	-	-	74	-25.81	-	-	298	264	V
* 3.883	41.61	AD1	33.2	-30.8	.22	44.23	54	-9.77	-	-	-	-	298	264	V

10.4.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.8 GHz BAND HARMONICS AND SPURIOUS EMISSIONS

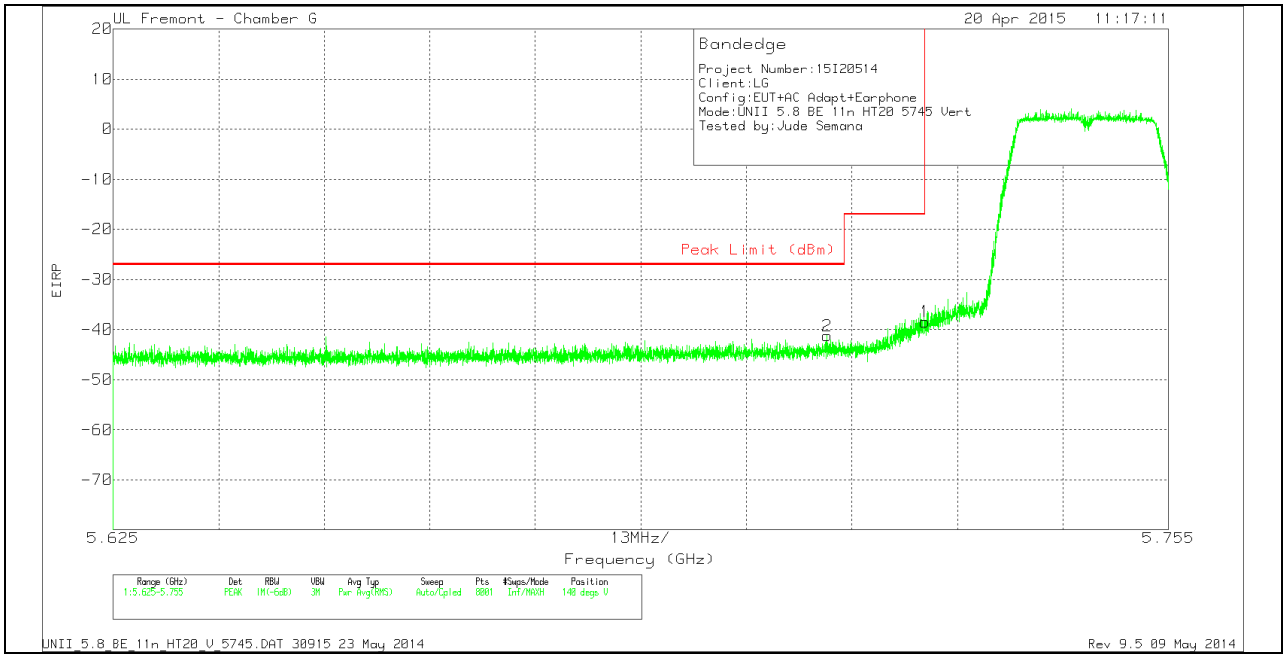
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.713	-64.37	PK	35.2	-23.5	11.8	0	-40.87	-27	-13.87	22	346	H
1	5.725	-61.01	PK	35.2	-23.5	11.8	0	-37.51	-17	-20.51	22	346	H

VERTICAL PEAK AND AVERAGE PLOT

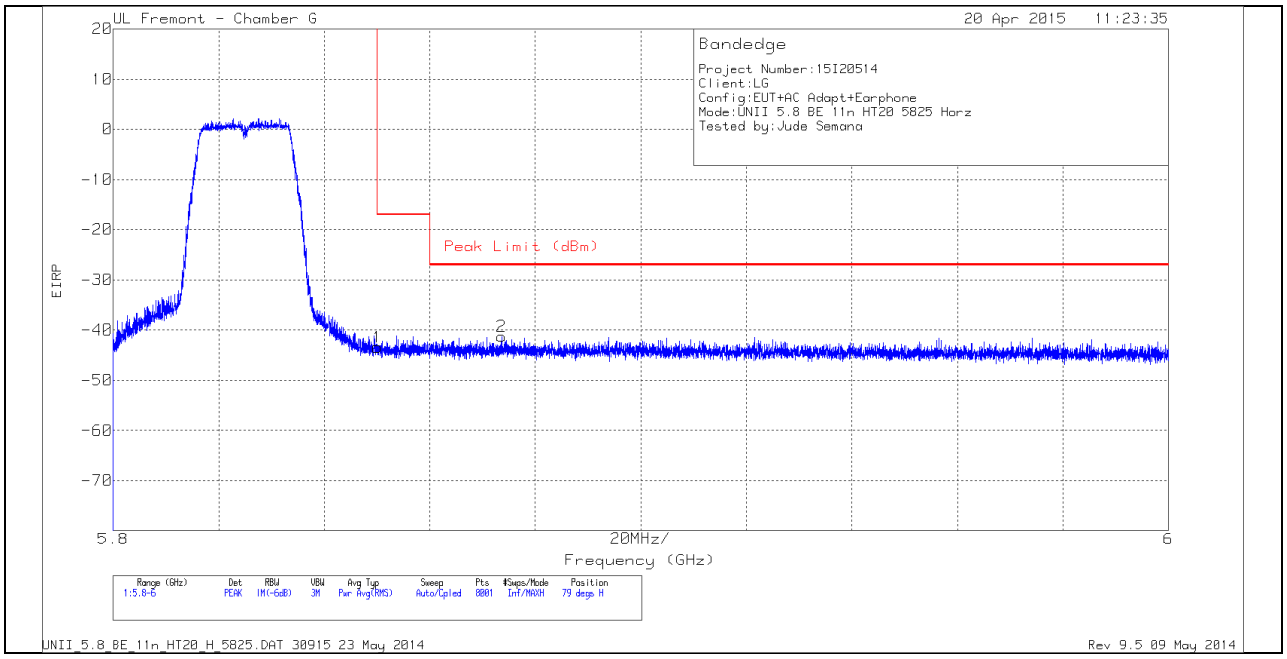


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.713	-64.73	PK	35.2	-23.5	11.8	0	-41.23	-27	-14.23	140	290	V
1	5.725	-61.95	PK	35.2	-23.5	11.8	0	-38.45	-17	-21.45	140	290	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

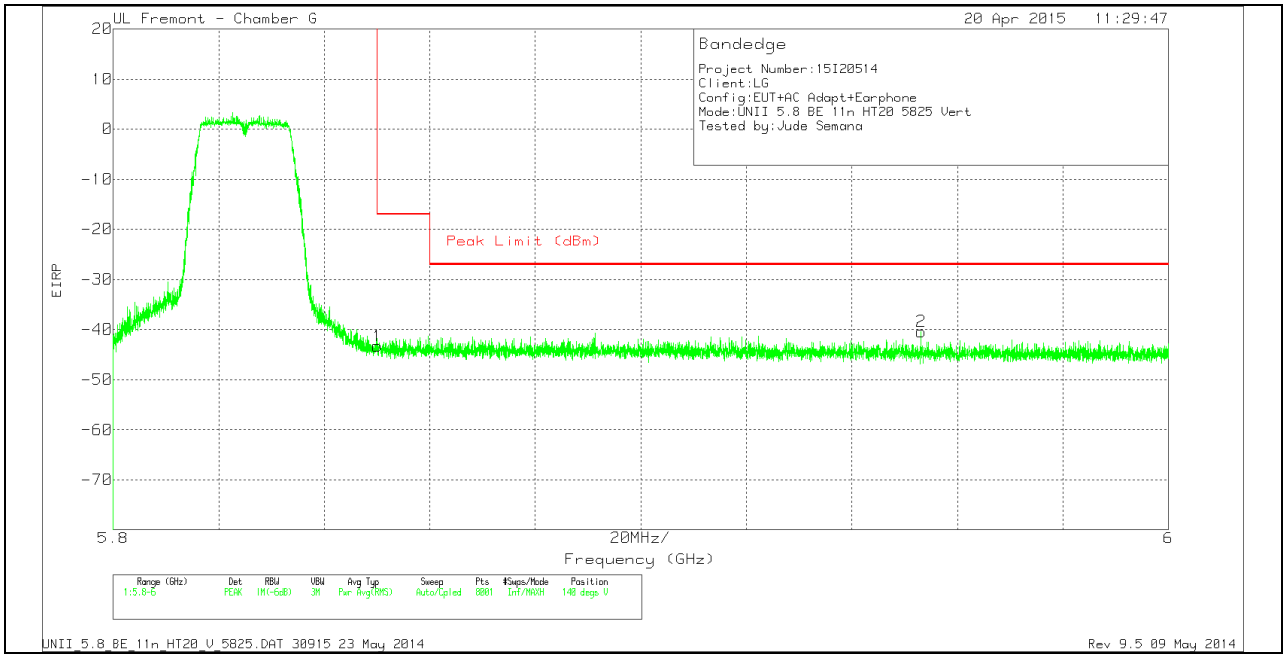
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-67.02	PK	35.4	-23.6	11.8	0	-43.42	-17	-26.42	79	309	H
2	5.874	-64.87	PK	35.4	-23.6	11.8	0	-41.27	-27	-14.27	79	309	H

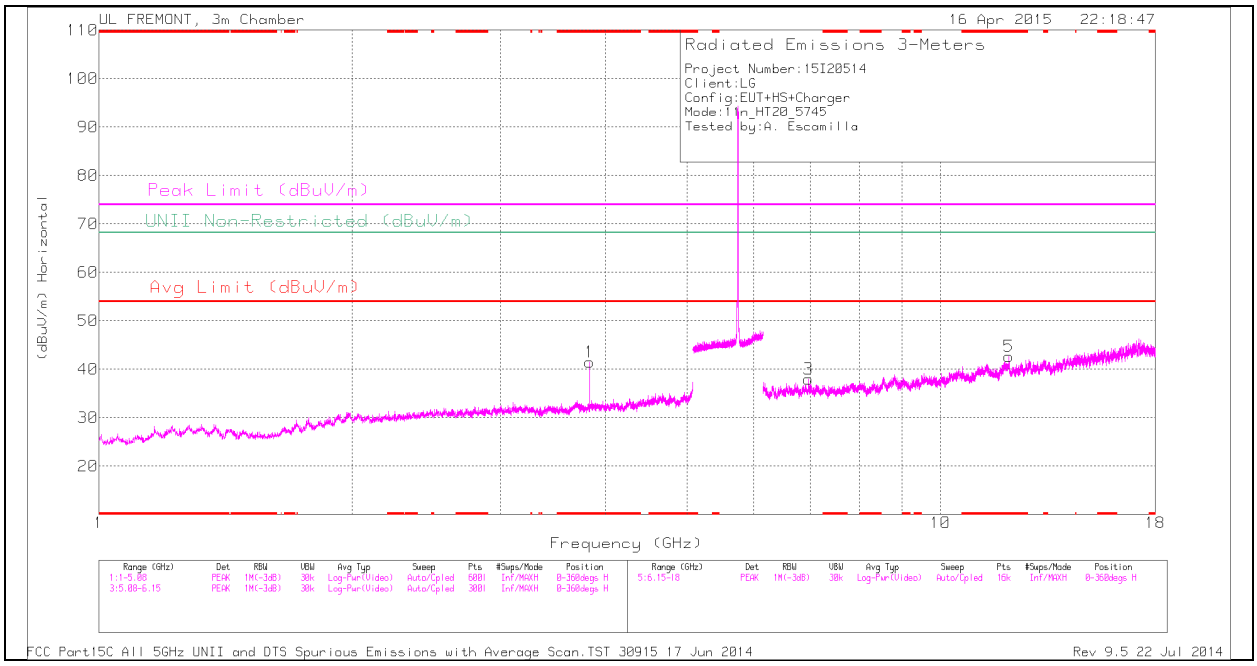
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

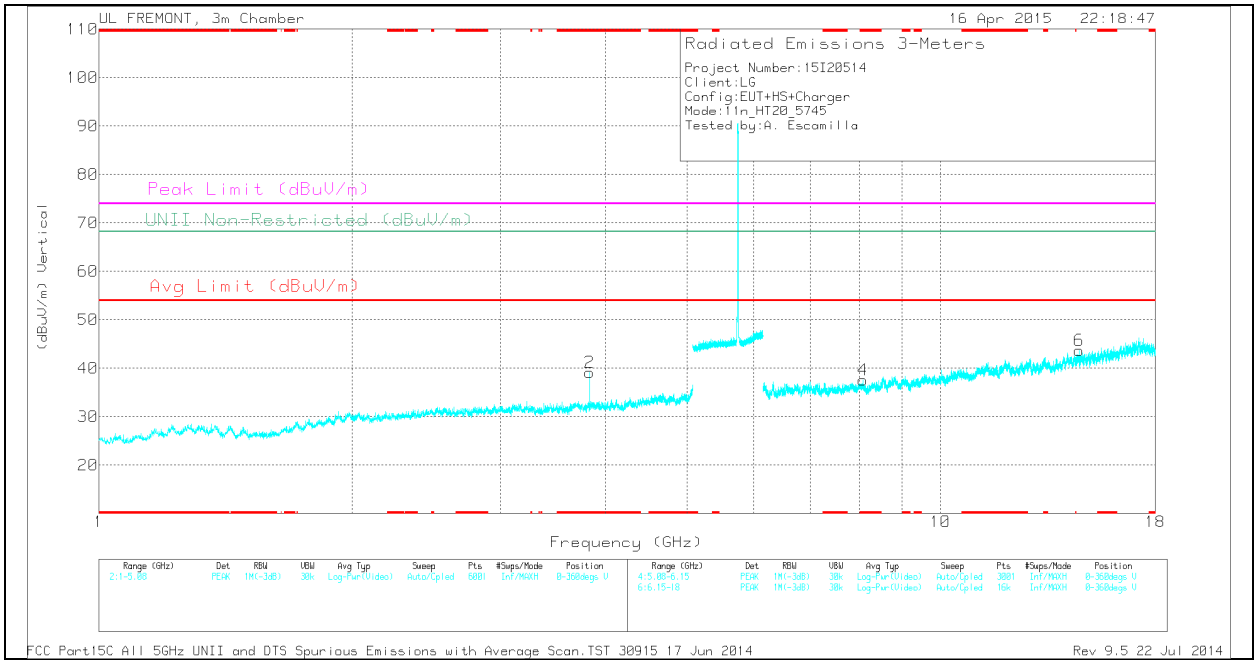
Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-66.87	PK	35.4	-23.6	11.8	0	-43.27	-17	-26.27	140	260	V
2	5.953	-63.99	PK	35.4	-23.6	11.8	0	-40.39	-27	-13.39	140	260	V

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

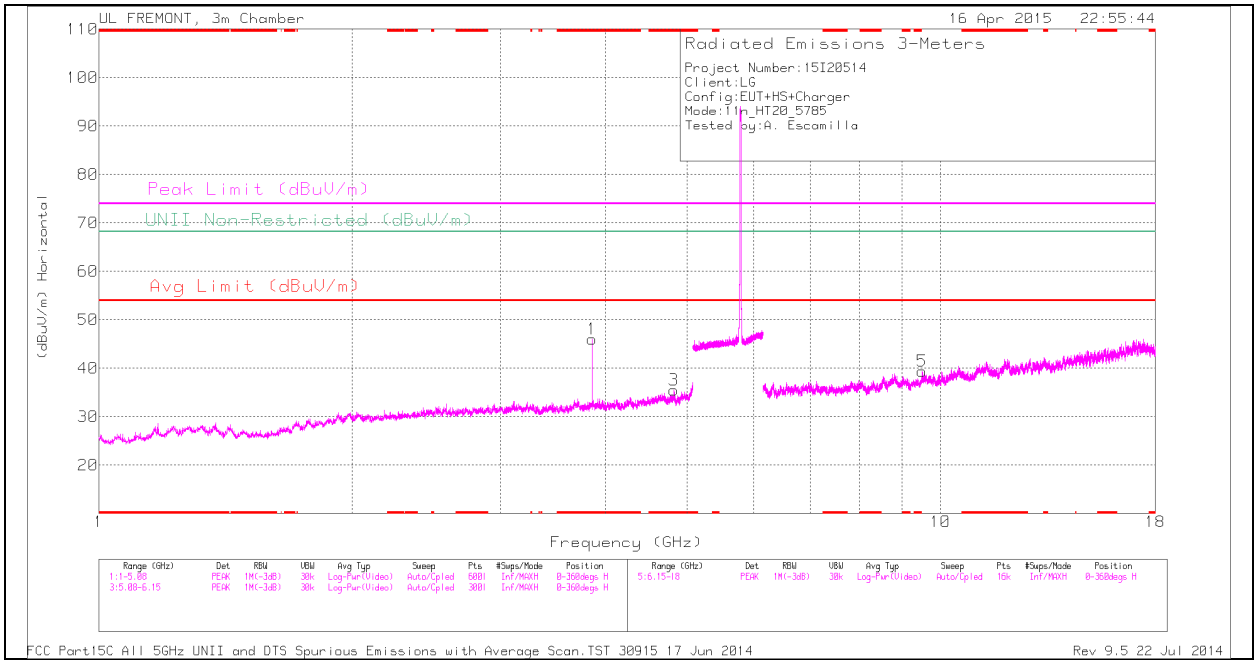
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.83	39.53	PK	33.1	-31.2	0	41.43	-	-	74	-32.57	-	-	0-360	200	H
2	* 3.83	37.25	PK	33.1	-31.2	0	39.15	-	-	74	-34.85	-	-	0-360	200	V
5	* 12.058	29.89	PK	39	-26.3	0	42.59	-	-	74	-31.41	-	-	0-360	200	H
4	* 8.089	29.18	PK	35.7	-27.3	0	37.58	-	-	74	-36.42	-	-	0-360	200	V
3	6.964	30.97	PK	35.6	-28.6	0	37.97	-	-	-	-	68.2	-30.23	0-360	200	H
6	14.615	31.2	PK	39.8	-27.3	0	43.7	-	-	-	-	68.2	-24.5	0-360	100	V

PK - Peak detector

RADIATED EMISSIONS

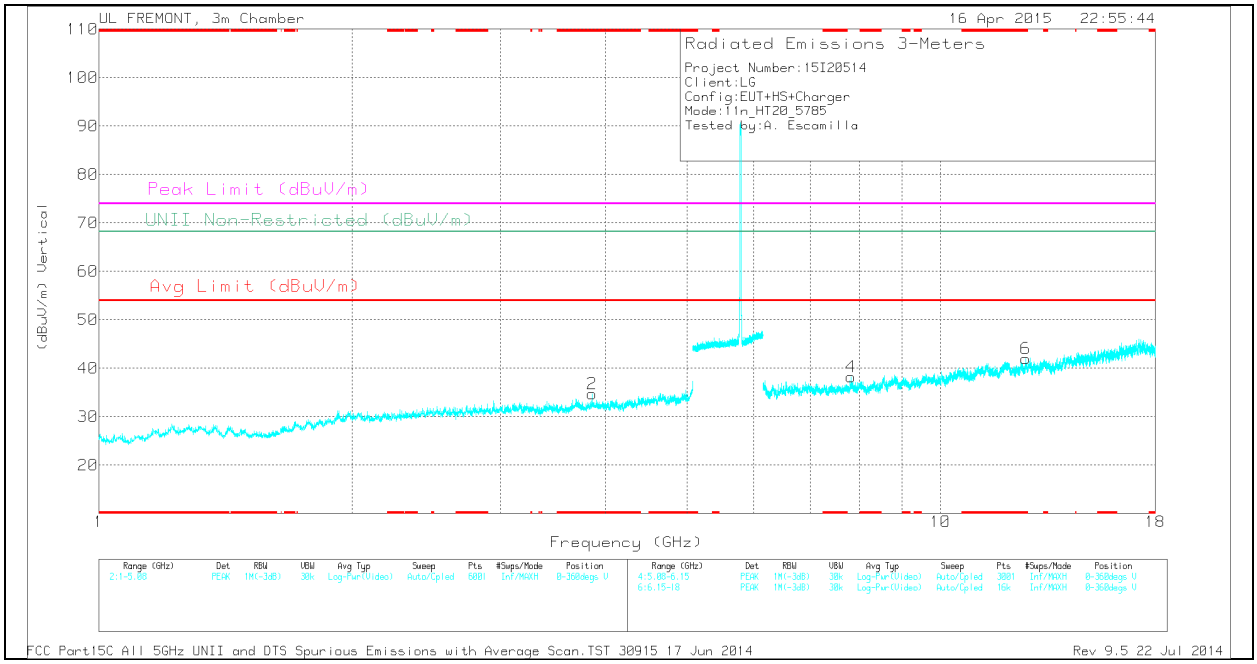
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.83	46.78	PK1	33.1	-31.2	0	48.68	-	-	74	-25.32	-	-	345	198	H
* 3.83	42.79	AD1	33.1	-31.2	.23	44.92	54	-9.08	-	-	-	-	345	198	H
* 3.83	42.22	PK1	33.1	-31.2	0	44.12	-	-	74	-29.88	-	-	312	374	V
* 3.83	33.41	AD1	33.1	-31.2	.23	35.54	54	-18.46	-	-	-	-	312	374	V

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

TRACE MARKERS

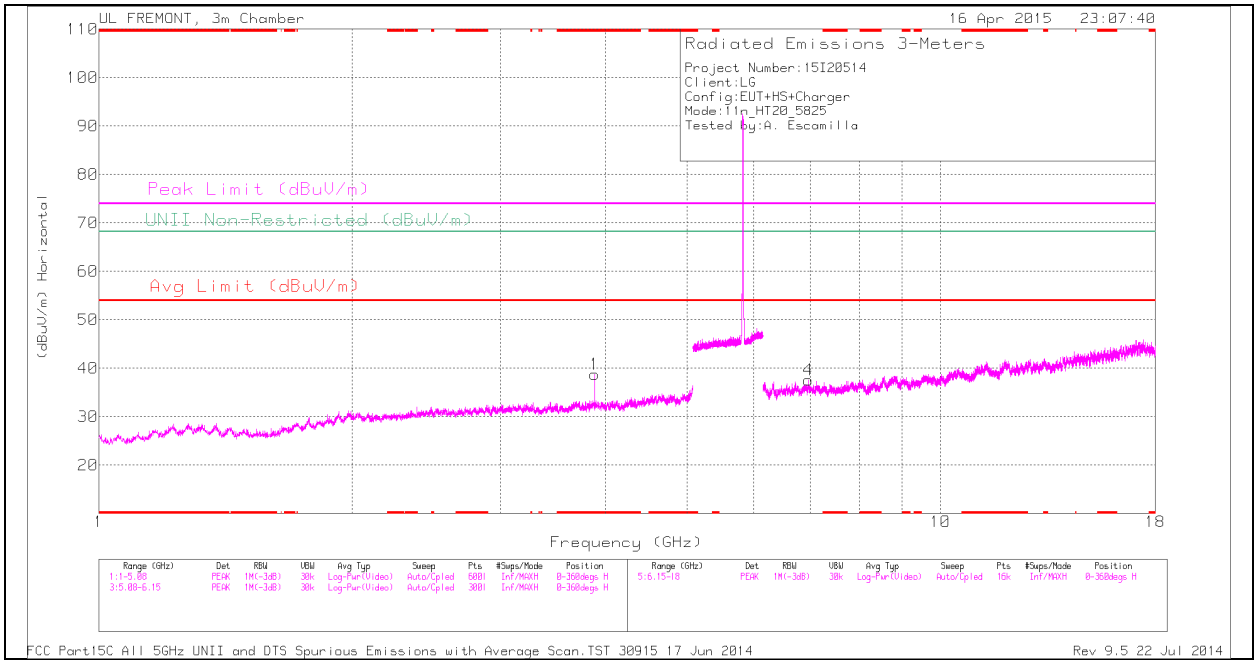
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.857	43.68	PK	33.1	-30.8	0	45.98	-	-	74	-28.02	-	-	0-360	100	H
3	* 4.821	31.66	PK	34	-30.2	0	35.46	-	-	74	-38.54	-	-	0-360	200	H
2	* 3.857	32.38	PK	33.1	-30.8	0	34.68	-	-	74	-39.32	-	-	0-360	100	V
6	* 12.633	29.79	PK	39.1	-26.9	0	41.99	-	-	74	-32.01	-	-	0-360	100	V
4	7.828	30.47	PK	35.8	-28	0	38.27	-	-	-	-	68.2	-29.93	0-360	200	V
5	9.513	28.63	PK	36.6	-25.8	0	39.43	-	-	-	-	68.2	-28.77	0-360	200	H

PK - Peak detector

RADIATED EMISSIONS

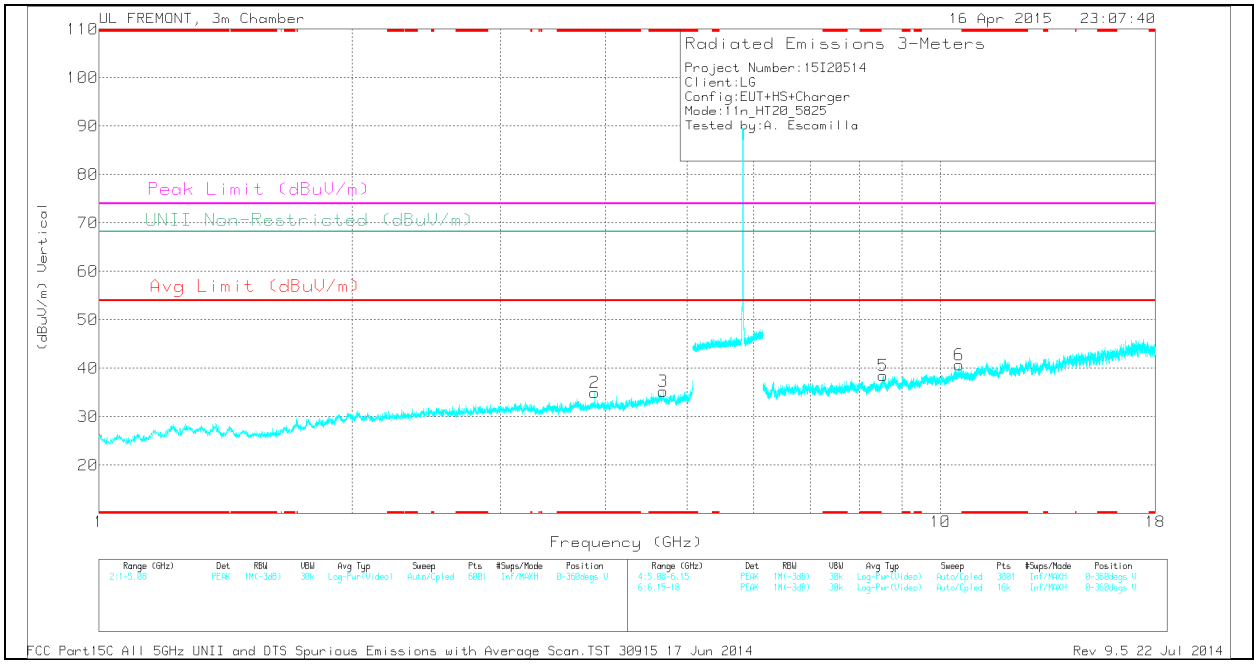
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.857	47.09	PK1	33.1	-30.8	0	49.39	-	-	74	-24.61	-	-	180	100	H
* 3.857	43.24	AD1	33.1	-30.8	.23	45.77	54	-8.23	-	-	-	-	180	100	H
* 3.857	46.78	PK1	33.1	-30.8	0	49.08	-	-	74	-24.92	-	-	302	298	V
* 3.857	42.33	AD1	33.1	-30.8	.23	44.86	54	-9.14	-	-	-	-	302	298	V

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.883	36.39	PK	33.2	-30.8	0	38.79	-	-	74	-35.21	-	-	0-360	100	H
2	* 3.883	32.62	PK	33.2	-30.8	0	35.02	-	-	74	-38.98	-	-	0-360	100	V
3	* 4.685	31.52	PK	34	-30.3	0	35.22	-	-	74	-38.78	-	-	0-360	200	V
4	6.963	30.54	PK	35.6	-28.6	0	37.54	-	-	-	-	68.2	-30.66	0-360	100	H
5	8.552	28.64	PK	35.8	-26	0	38.44	-	-	-	-	68.2	-29.76	0-360	100	V
6	10.524	28.25	PK	37.5	-25	0	40.75	-	-	-	-	68.2	-27.45	0-360	200	V

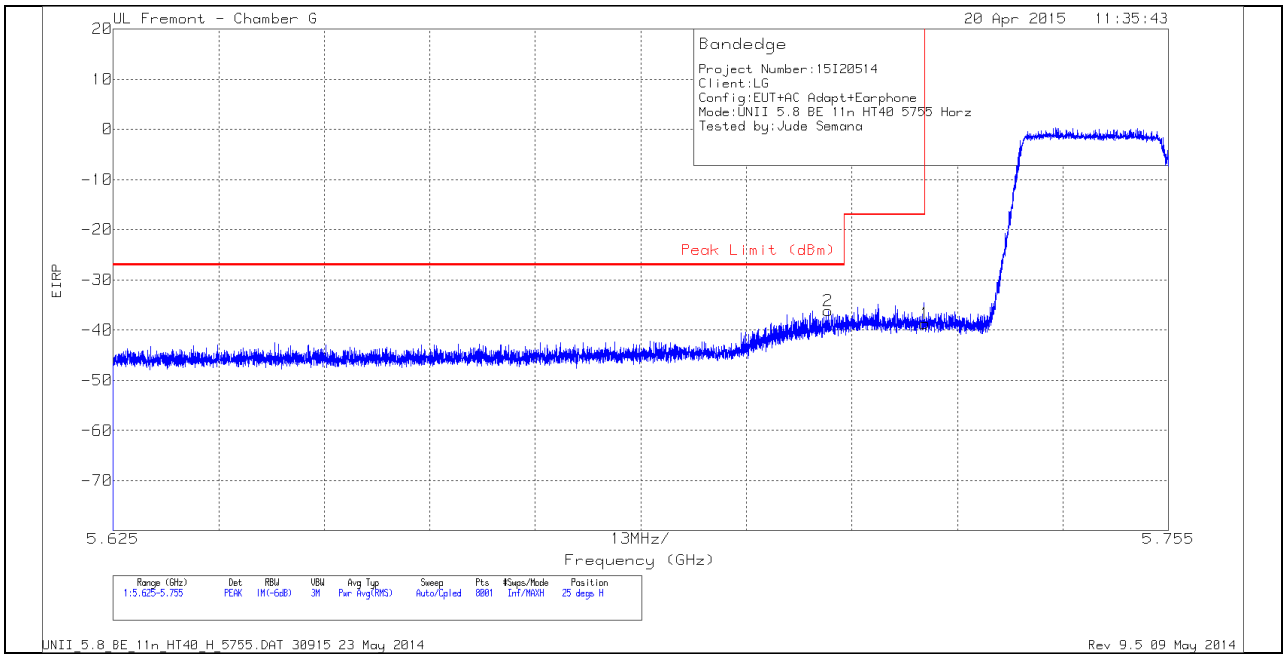
PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.883	46.56	PK1	33.2	-30.8	0	48.96	-	-	74	-25.04	-	-	180	185	H
* 3.883	42.45	AD1	33.2	-30.8	.23	45.08	54	-8.92	-	-	-	-	180	185	H
* 3.883	45.46	PK1	33.2	-30.8	0	47.86	-	-	74	-26.14	-	-	300	291	V
* 3.883	40.77	AD1	33.2	-30.8	.23	43.4	54	-10.6	-	-	-	-	300	291	V

10.4.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.8 GHz BAND HARMONICS AND SPURIOUS EMISSIONS

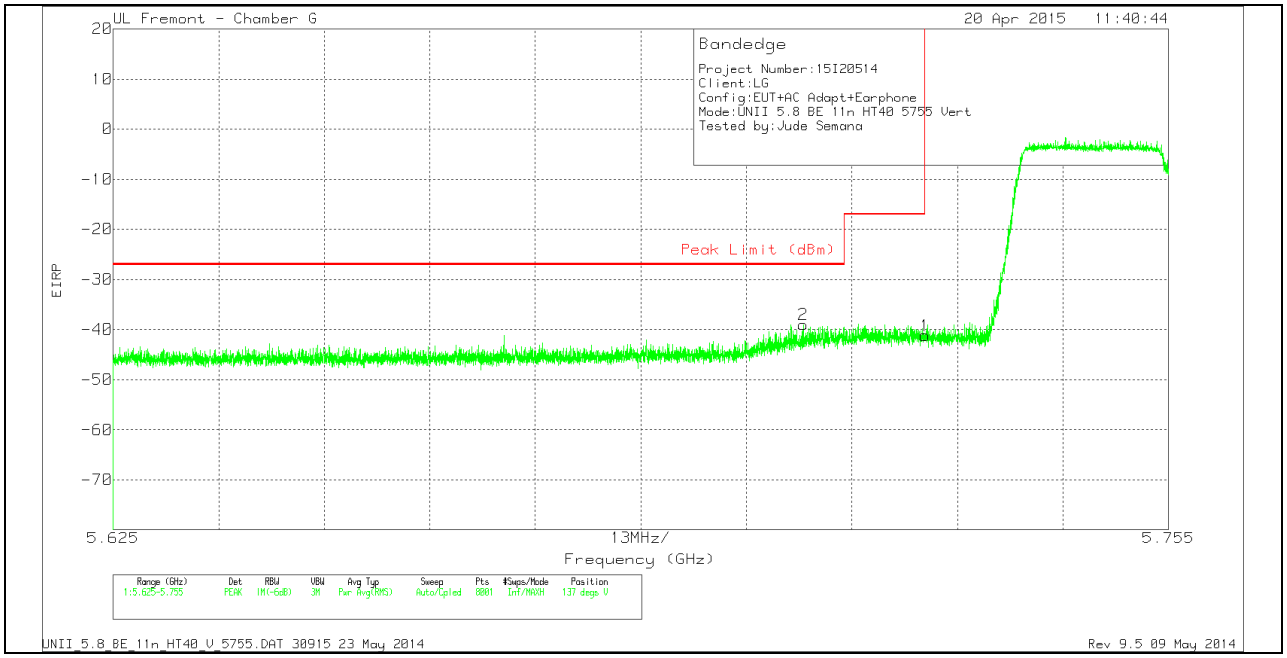
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.713	-59.68	PK	35.2	-23.5	11.8	0	-36.18	-27	-9.18	25	264	H
1	5.725	-62.14	PK	35.2	-23.5	11.8	0	-38.64	-17	-21.64	25	264	H

VERTICAL PEAK AND AVERAGE PLOT

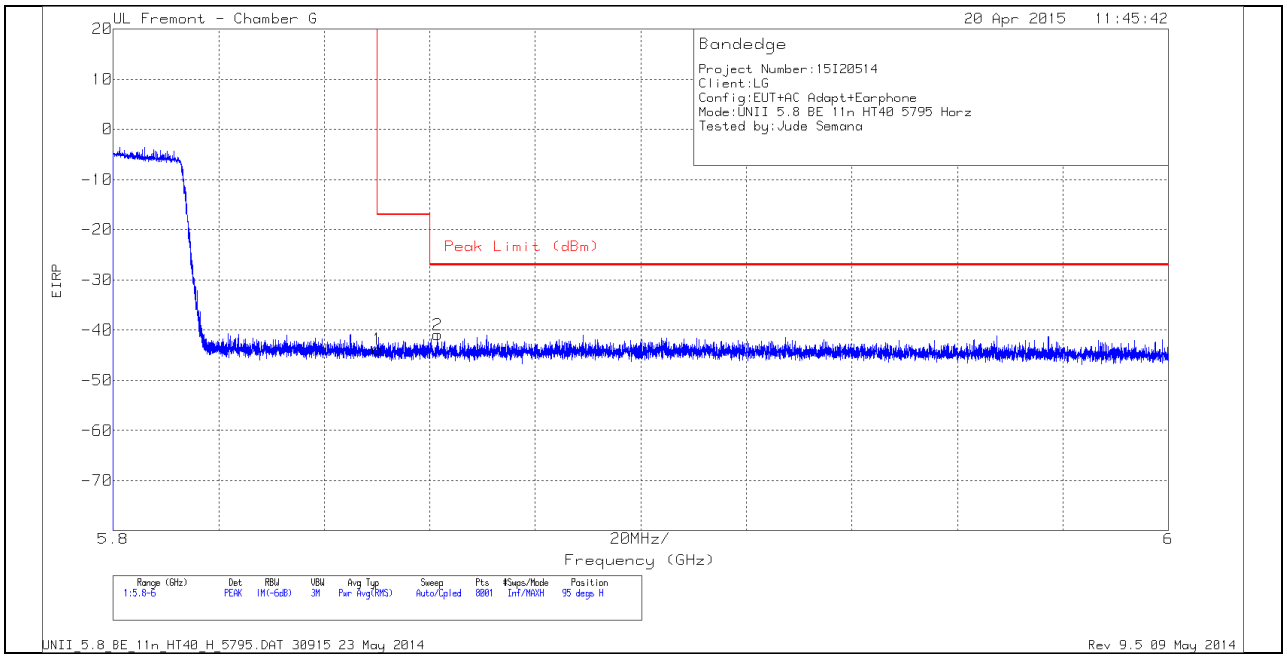


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.71	-62.5	PK	35.2	-23.5	11.8	0	-39	-27	-12	137	353	V
1	5.725	-64.68	PK	35.2	-23.5	11.8	0	-41.18	-17	-24.18	137	353	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

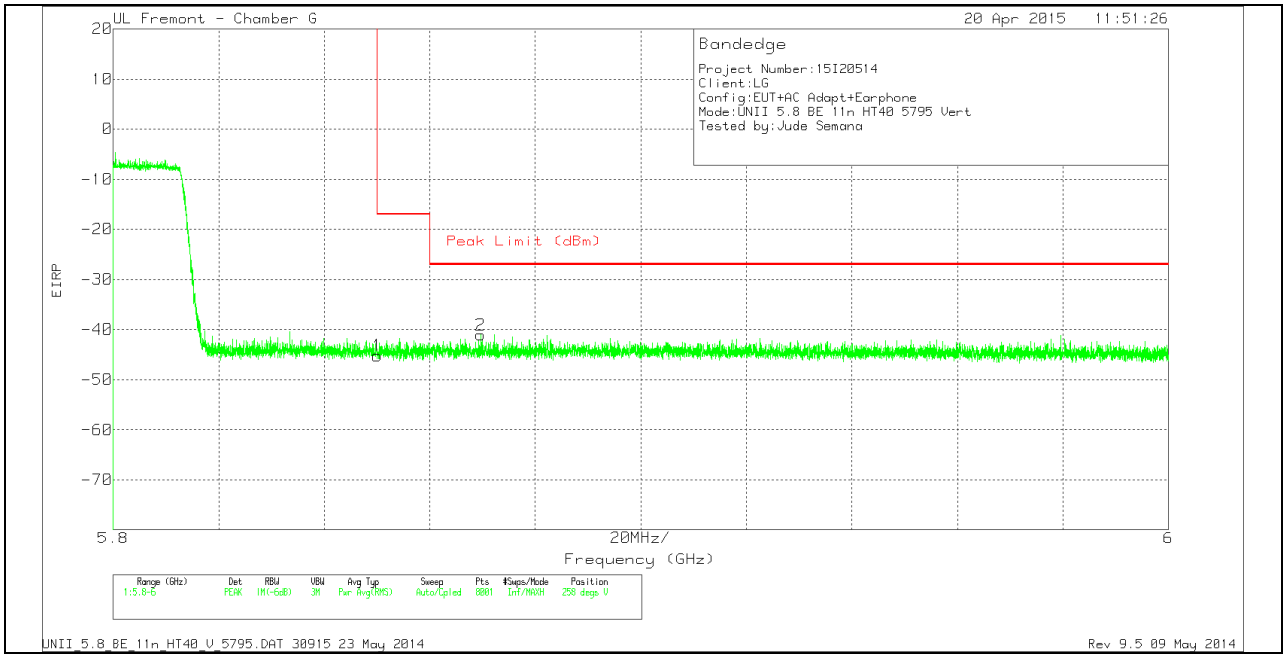
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-67.38	PK	35.4	-23.6	11.8	0	-43.78	-17	-26.78	95	183	H
2	5.861	-64.53	PK	35.4	-23.6	11.8	0	-40.93	-27	-13.93	95	183	H

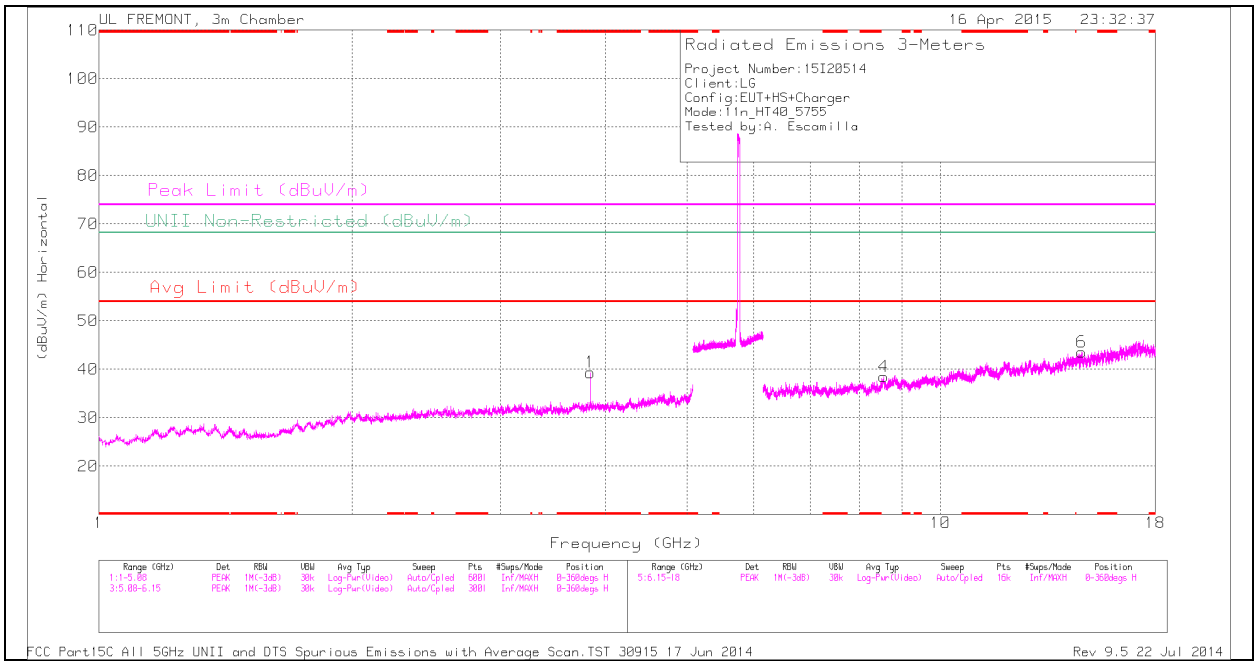
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

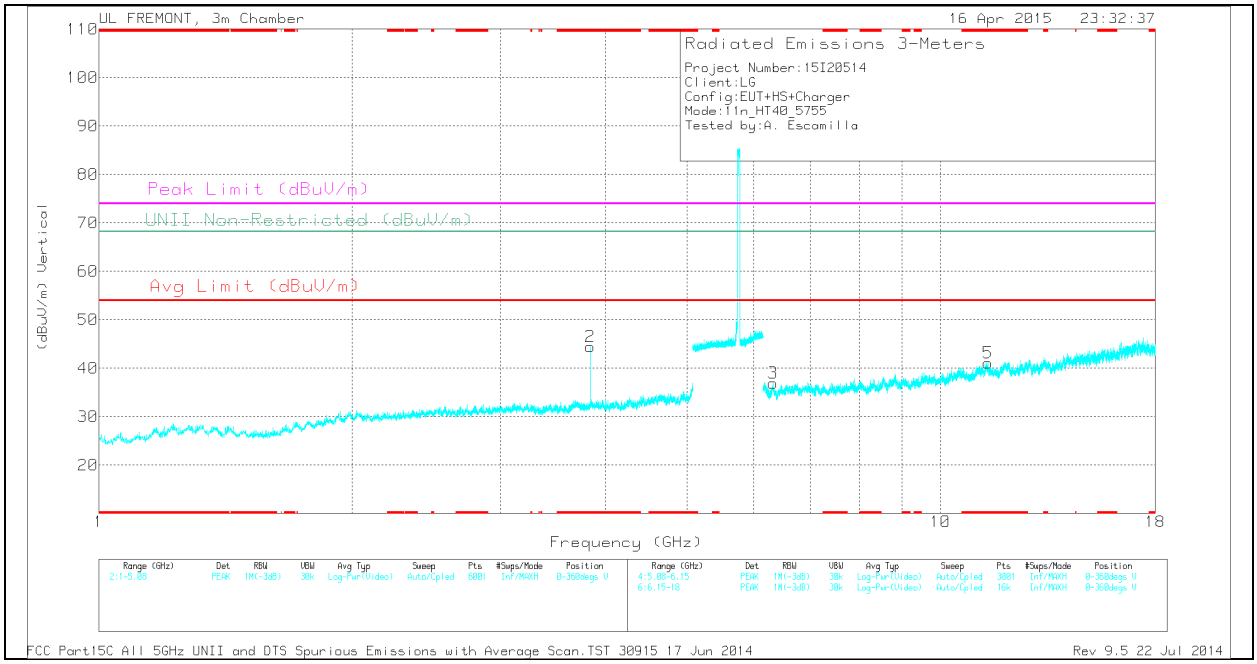
Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T711 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-68.82	PK	35.4	-23.6	11.8	0	-45.22	-17	-28.22	258	263	V
2	5.87	-64.64	PK	35.4	-23.6	11.8	0	-41.04	-27	-14.04	258	263	V

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

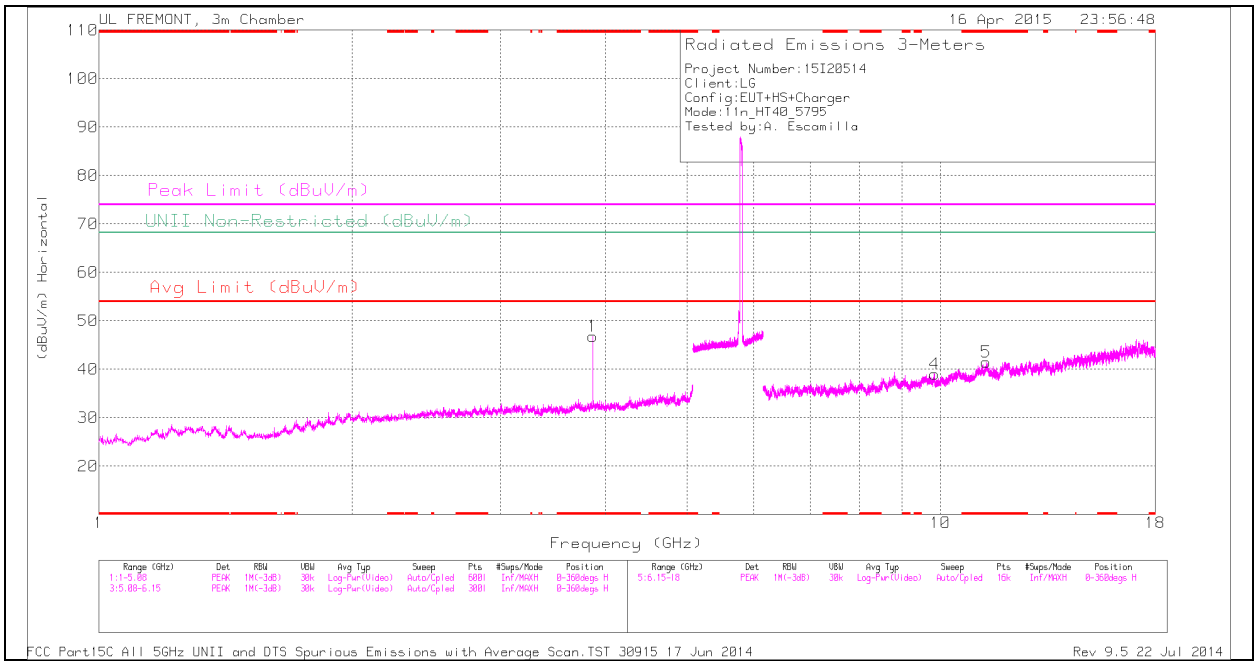
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.837	37.14	PK	33.1	-30.9	0	39.34	-	-	74	-34.66	-	-	0-360	100	H
2	* 3.837	42.31	PK	33.1	-30.9	0	44.51	-	-	74	-29.49	-	-	0-360	100	V
5	* 11.396	28.79	PK	38.2	-25.9	0	41.09	-	-	74	-32.91	-	-	0-360	200	V
3	6.321	30.98	PK	35.4	-29.4	0	36.98	-	-	-	-	68.2	-31.22	0-360	100	V
4	8.567	28.91	PK	35.8	-26.2	0	38.51	-	-	-	-	68.2	-29.69	0-360	200	H
6	14.726	31.17	PK	39.8	-27.4	0	43.57	-	-	-	-	68.2	-24.63	0-360	100	H

PK - Peak detector

RADIATED EMISSIONS

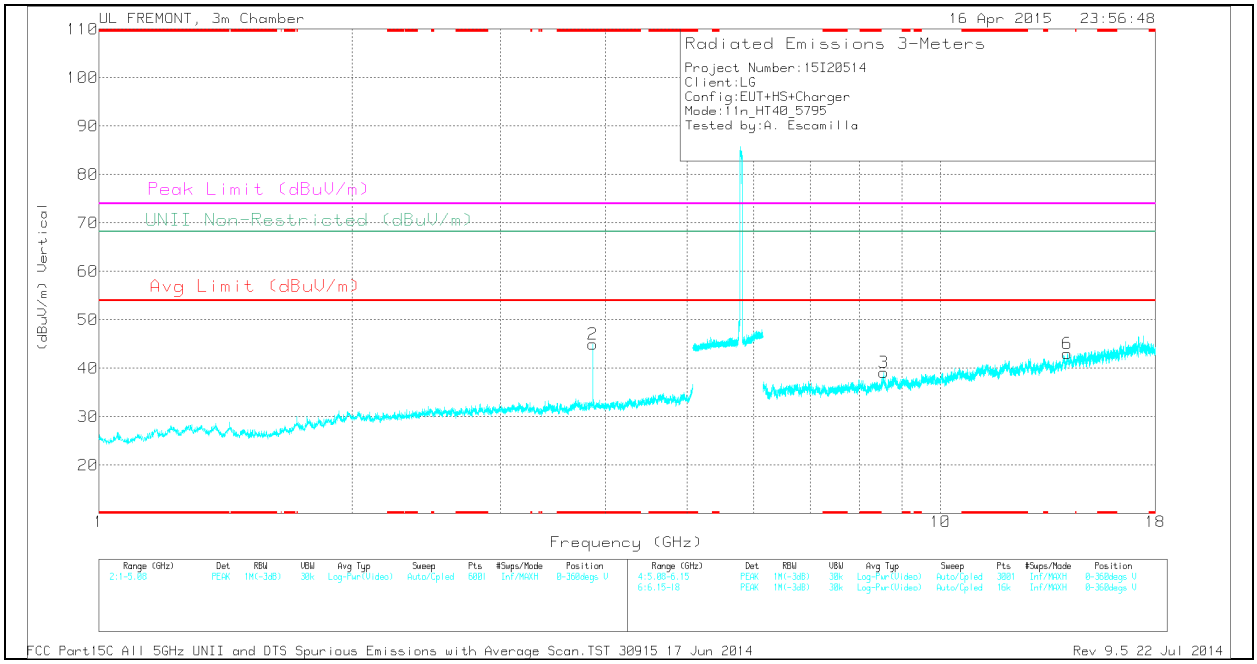
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.837	48.77	PK1	33.1	-30.9	0	50.97	-	-	74	-23.03	-	-	180	100	H
* 3.837	45.36	AD1	33.1	-30.9	.54	48.1	54	-5.9	-	-	-	-	180	100	H
* 3.837	48.03	PK1	33.1	-30.9	0	50.23	-	-	74	-23.77	-	-	294	302	V
* 3.837	44.94	AD1	33.1	-30.9	.54	47.68	54	-6.32	-	-	-	-	294	302	V

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.863	44.64	PK	33.1	-30.9	0	46.84	-	-	74	-27.16	-	-	0-360	100	H
2	* 3.863	42.81	PK	33.1	-30.9	0	45.01	-	-	74	-28.99	-	-	0-360	100	V
5	* 11.326	28.74	PK	38.1	-25.4	0	41.44	-	-	74	-32.56	-	-	0-360	200	H
3	8.567	29.52	PK	35.8	-26.2	0	39.12	-	-	-	-	68.2	-29.08	0-360	200	V
4	9.838	27.39	PK	36.9	-25.3	0	38.99	-	-	-	-	68.2	-29.21	0-360	100	H
6	14.148	31.6	PK	39	-27.6	0	43	-	-	-	-	68.2	-25.2	0-360	100	V

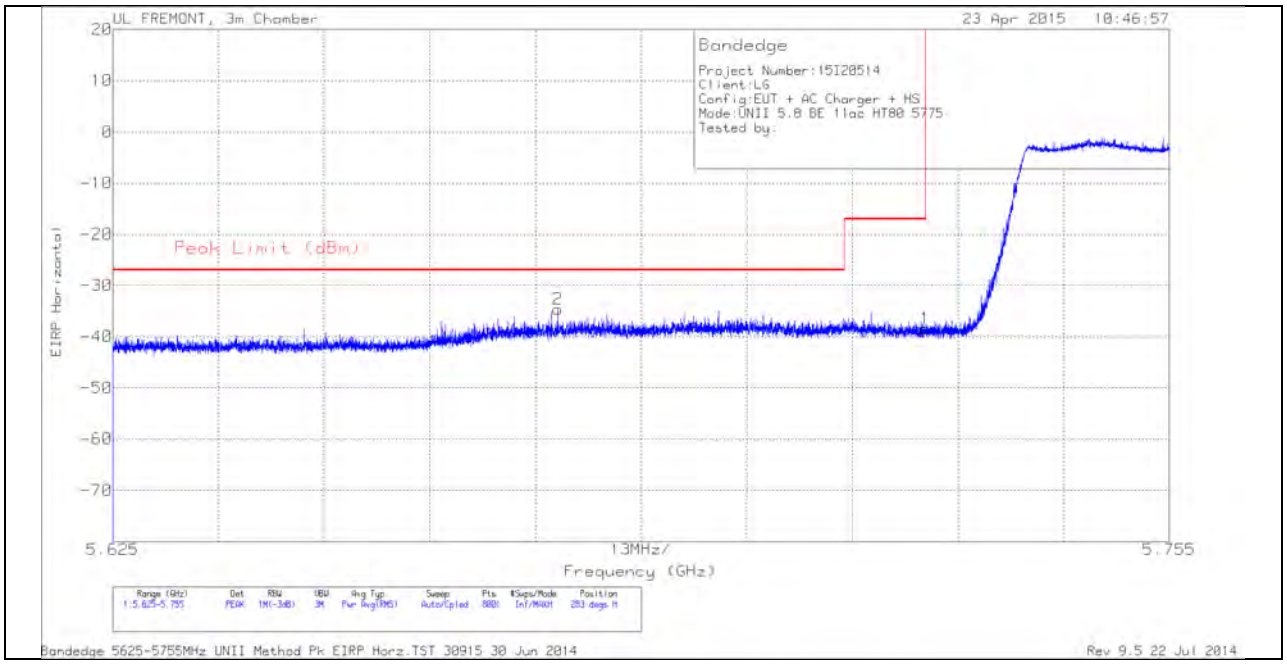
PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.863	48.01	PK1	33.1	-30.9	0	50.21	-	-	74	-23.79	-	-	341	101	H
* 3.863	44.06	AD1	33.1	-30.9	.54	46.8	54	-7.2	-	-	-	-	341	101	H
* 3.863	47.19	PK1	33.1	-30.9	0	49.39	-	-	74	-24.61	-	-	302	367	V
* 3.863	43.73	AD1	33.1	-30.9	.54	46.47	54	-7.53	-	-	-	-	302	367	V

10.4.4. TX ABOVE 1 GHz 802.11ac HT80 MODE IN THE 5.8 GHz BAND HARMONICS AND SPURIOUS EMISSIONS

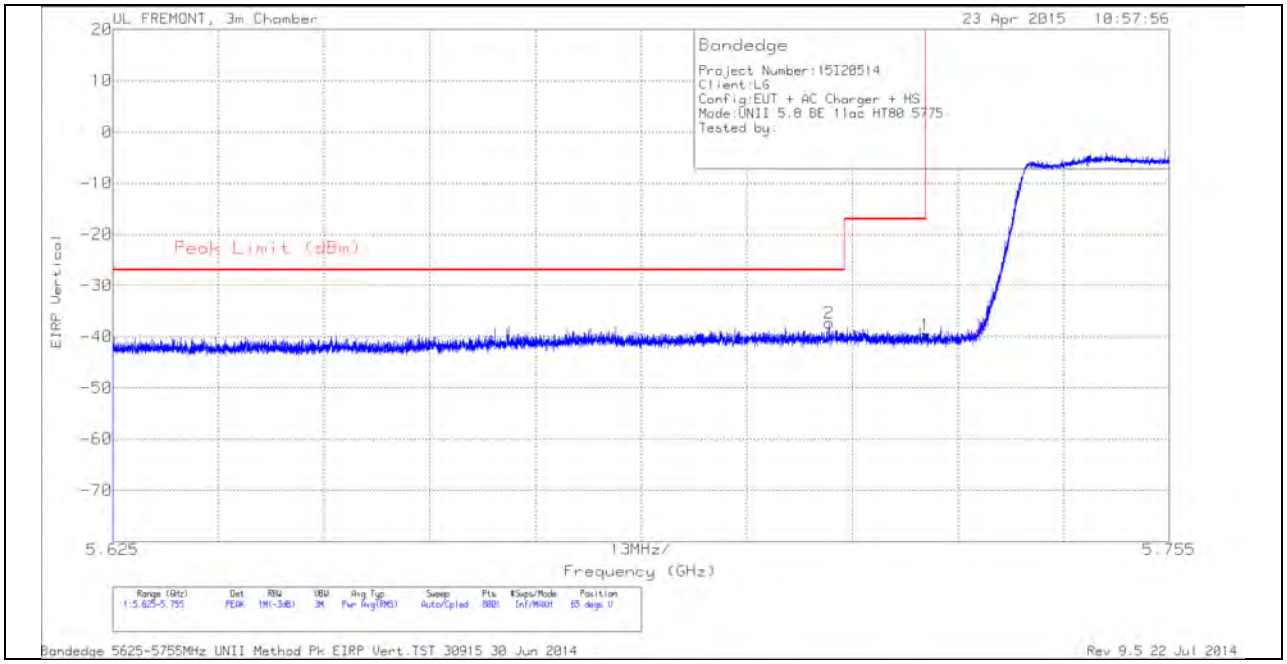
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.68	-60.01	PK	34.7	-21.1	11.8	0	-34.61	-27	-7.61	283	109	H
1	5.725	-63.91	PK	34.8	-21.1	11.8	0	-38.41	-17	-21.41	283	109	H

VERTICAL PEAK AND AVERAGE PLOT

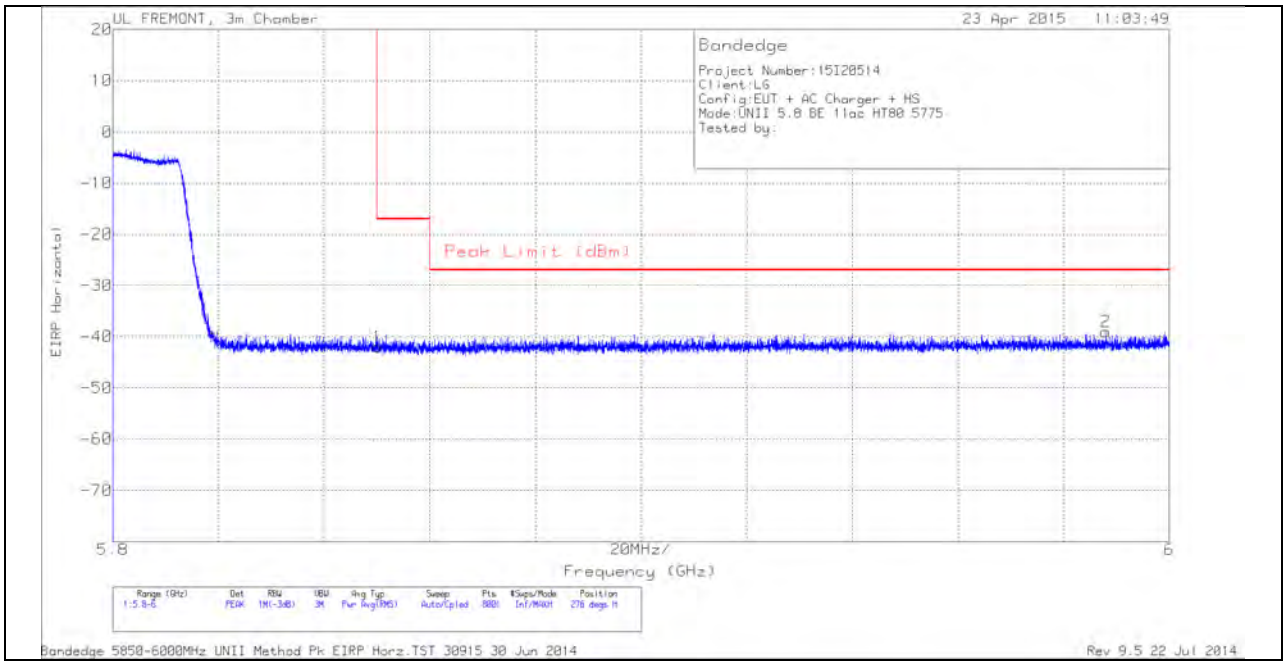


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	5.713	-62.87	PK	34.8	-21	11.8	0	-37.27	-27	-10.27	65	108	V
1	5.725	-65.13	PK	34.8	-21.1	11.8	0	-39.63	-17	-22.63	65	108	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

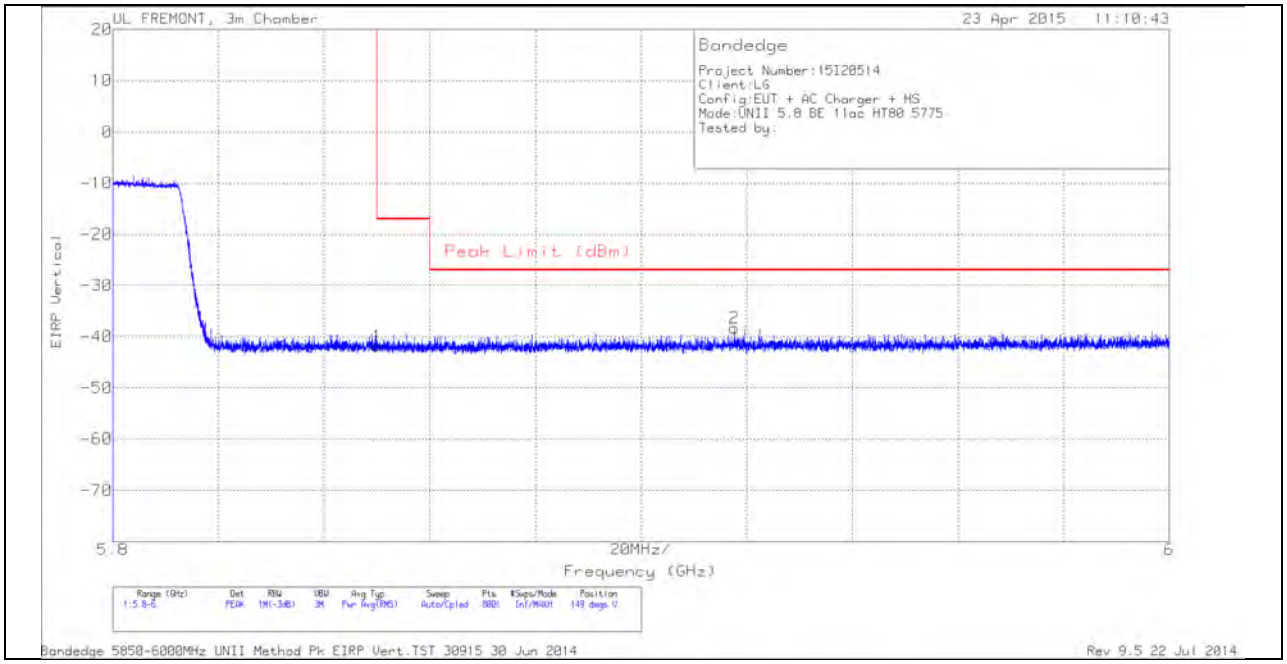
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	Conversion Factor (dB)	DC Corr (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-67.36	PK	34.9	-21.3	11.8	0	-41.96	-17	-24.96	276	301	H
2	5.988	-65.13	PK	35.2	-20.9	11.8	0	-39.03	-27	-12.03	276	301	H

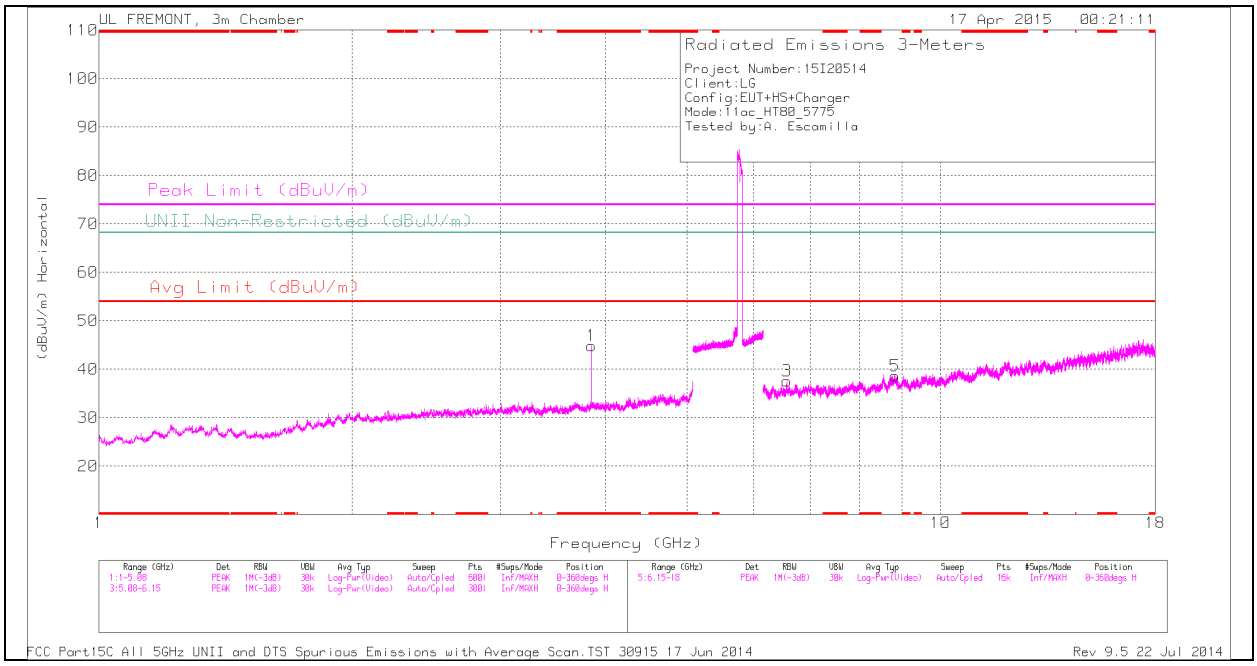
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

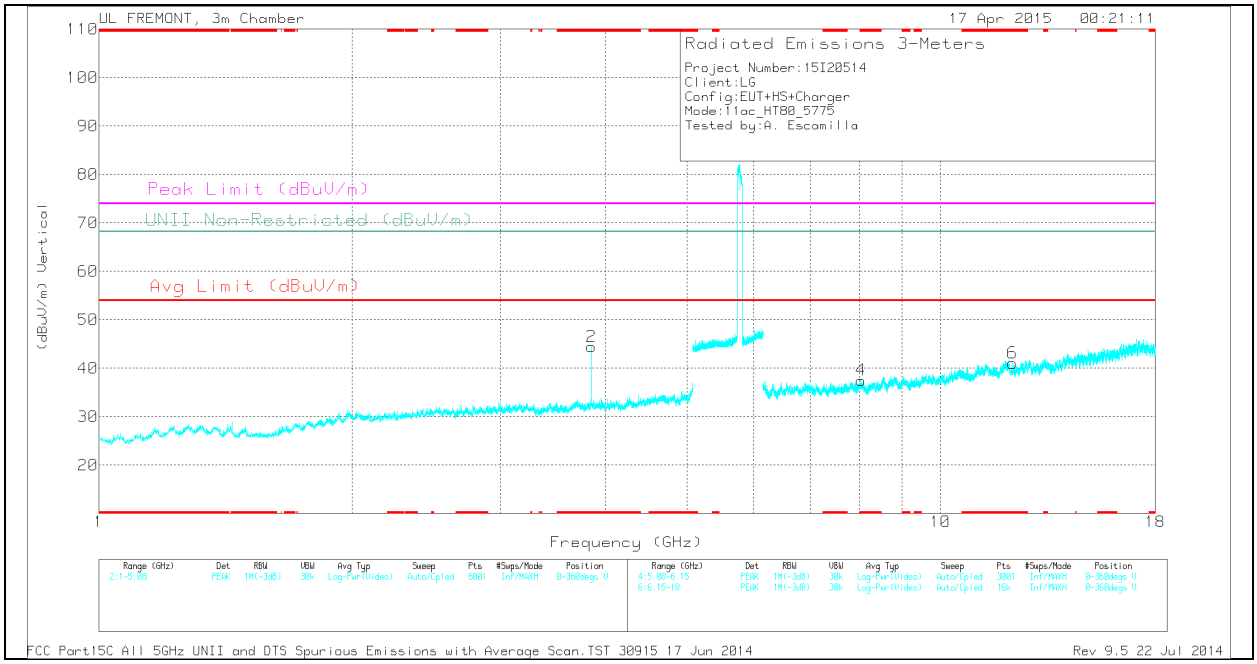
Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Conversion Factor (dB)	Corrected Reading EIRP	Peak Limit (dBm)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.85	-67.32	PK	34.9	-21.3	11.8	-41.92	-17	-24.92	149	373	V
2	5.918	-64.04	PK	35	-21.1	11.8	-38.34	-27	-11.34	149	373	V

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.85	42.6	PK	33.1	-30.8	0	44.9	-	-	74	-29.1	-	-	0-360	200	H
2	* 3.85	42.11	PK	33.1	-30.8	0	44.41	-	-	74	-29.59	-	-	0-360	100	V
4	* 8.05	29.42	PK	35.7	-27.6	0	37.52	-	-	74	-36.48	-	-	0-360	100	V
6	* 12.176	28.43	PK	39	-26.4	0	41.03	-	-	74	-32.97	-	-	0-360	200	V
3	6.571	31.41	PK	35.6	-29.4	0	37.61	-	-	-	-	68.2	-30.59	0-360	200	H
5	8.834	28.75	PK	35.9	-26	0	38.65	-	-	-	-	68.2	-29.55	0-360	100	H

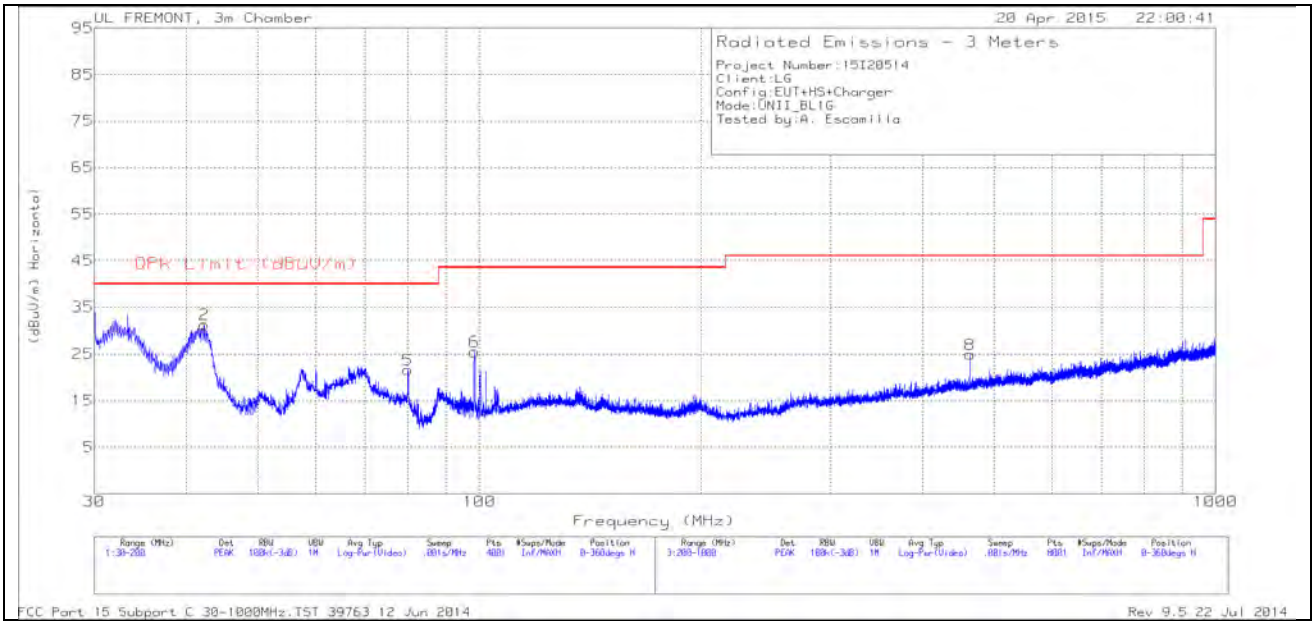
PK - Peak detector

RADIATED EMISSIONS

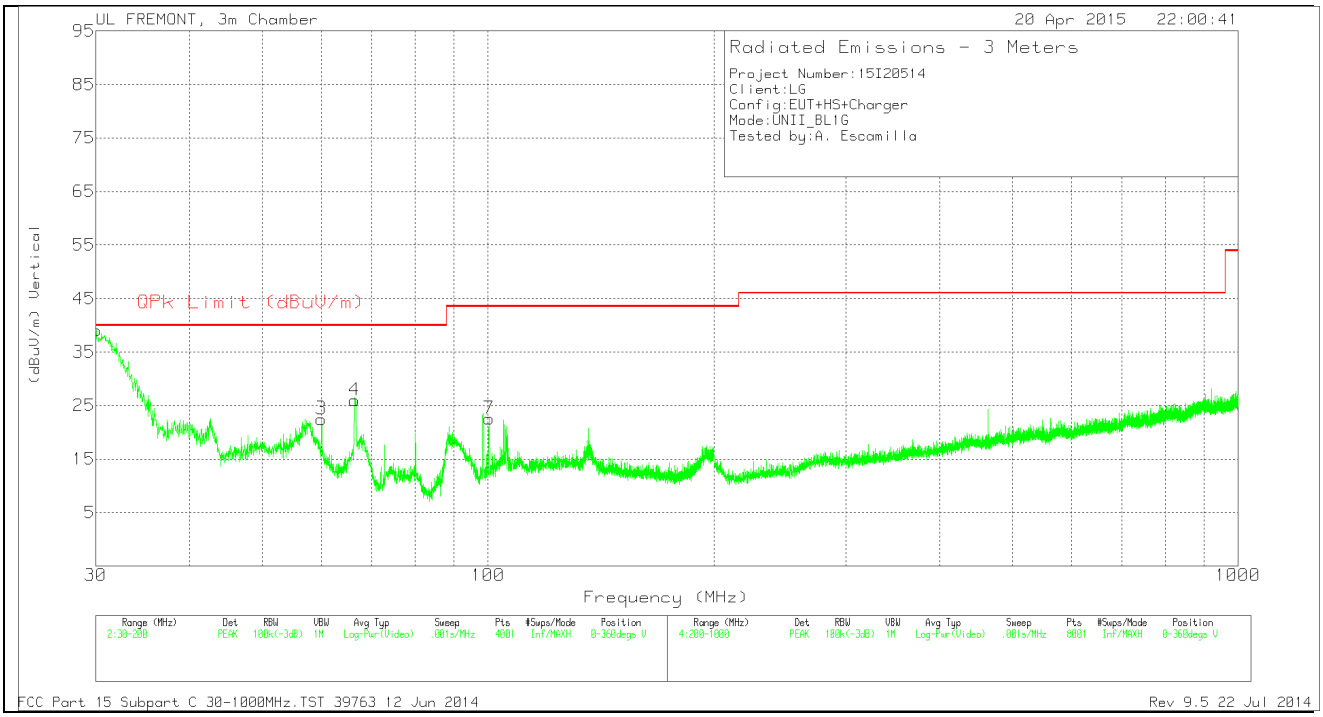
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.85	46.22	PK1	33.1	-30.8	0	48.52	-	-	74	-25.48	-	-	0	147	H
* 3.85	41.67	AD1	33.1	-30.7	.39	44.46	54	-9.54	-	-	-	-	0	147	H
* 3.85	46.67	PK1	33.1	-30.8	0	48.97	-	-	74	-25.03	-	-	299	303	V
* 3.85	42.92	AD1	33.1	-30.7	.39	45.71	54	-8.29	-	-	-	-	299	303	V

11. TRANSMITTER BELOW 1 GHz (5.3 GHz Band)

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



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



Below 1G Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T185 (dB/m)	Amp/Cbl (dB/m)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.0425	44.78	PK	21.8	-27.5	39.08	40	-.92	0-360	100	V
2	42.2825	46.1	PK	12.6	-27.4	31.3	40	-8.7	0-360	300	H
3	60.005	42.29	PK	7.3	-27.1	22.49	40	-17.51	0-360	100	V
4	66.4225	45.01	PK	8.1	-27.1	26.01	40	-13.99	0-360	100	V
5	79.98	40.58	PK	8	-26.9	21.68	40	-18.32	0-360	100	H
6	98.4675	42.94	PK	9.4	-26.8	25.54	43.52	-17.98	0-360	400	H
7	100.295	39.58	PK	9.8	-26.8	22.58	43.52	-20.94	0-360	100	V
8	463.7	34.18	PK	16.6	-25.8	24.98	46.02	-21.04	0-360	100	H

12. DYNAMIC FREQUENCY SELECTION

12.1. OVERVIEW

12.1.1. LIMITS

INDUSTRY CANADA

IC RSS-210 is closely harmonized with FCC Part 15 DFS rules. The deviations are as follows:

RSS-210 Issue 8 A9.3

Note: For the band 5600–5650 MHz, no operation is permitted.

Until further notice, devices subject to this annex shall not be capable of transmitting in the band 5600–5650 MHz. This restriction is for the protection of Environment Canada weather radars operating in this band.

FCC

§15.407 (h), FCC KDB 905462 D02 “COMPLIANCE MEASUREMENT PROCEDURES FOR UNLICENSED-NATIONAL INFORMATION INFRASTRUCTURE DEVICES OPERATING IN THE 5250-5350 MHz AND 5470-5725 MHz BANDS INCORPORATING DYNAMIC FREQUENCY SELECTION” and KDB 905462 D03 “U-NII CLIENT DEVICES WITHOUT RADAR DETECTION CAPABILITY”.

Table 1: Applicability of DFS requirements prior to use of a channel

Requirement	Operational Mode		
	Master	Client (without radar detection)	Client (with radar detection)
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode		
	Master	Client **(without DFS)**	Client **(with DFS)**
DFS Detection Threshold	Yes	Not required	Yes
Channel Closing Transmission Time	Yes	Yes	Yes
Channel Move Time	Yes	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required	Yes

Additional requirements for devices with multiple bandwidth modes	Master Device or Client with Radar DFS	Client (without DFS)
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link

All other tests	Any single BW mode	Not required

Note: Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in all 20 MHz channel blocks and null frequencies between the bonded 20 MHz channel blocks.

Table 3: Interference Threshold values, Master or Client incorporating In-Service Monitoring

Maximum Transmit Power	Value (see notes)
E.I.R.P. ≥ 200 milliwatt	-64 dBm
E.I.R.P. < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
E.I.R.P. < 200 milliwatt that do not meet power spectral density requirement	-64 dBm
Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna **Note 2:** Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response. **Note 3:** E.I.R.P. is based on the highest antenna gain. For MIMO devices refer to KDB publication 662911 D01.	

Table 4: DFS Response requirement values

Parameter	Value
Non-occupancy period	30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds (See Note 1)
Channel Closing Transmission Time	200 milliseconds + approx. 60 milliseconds over remaining 10 second period. (See Notes 1 and 2)
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power

	bandwidth. (See Note 3)

Note 1: *Channel Move Time* and the *Channel Closing Transmission Time* should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.
Note 2: The *Channel Closing Transmission Time* is comprised of 200 milliseconds starting at the beginning of the *Channel Move Time* plus any additional intermittent control signals required to facilitate a *Channel* move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.
Note 3: During the *U-NII Detection Bandwidth* detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

Table 5 – Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (usec)	PRI (usec)	Pulses	Minimum Percentage of Successful Detection	Minimum Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in table 5a	Roundup: $\{(1/360) \times (19 \times 10^6 \text{ PRI}_{usec})\}$	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066 usec. With a minimum increment of 1 usec, excluding PRI values selected in Test A			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

Note 1: Short Pulse Radar Type 0 should be used for the *Detection Bandwidth* test, *Channel Move Time*, and *Channel Closing Time* tests.

Table 6 – Long Pulse Radar Test Signal

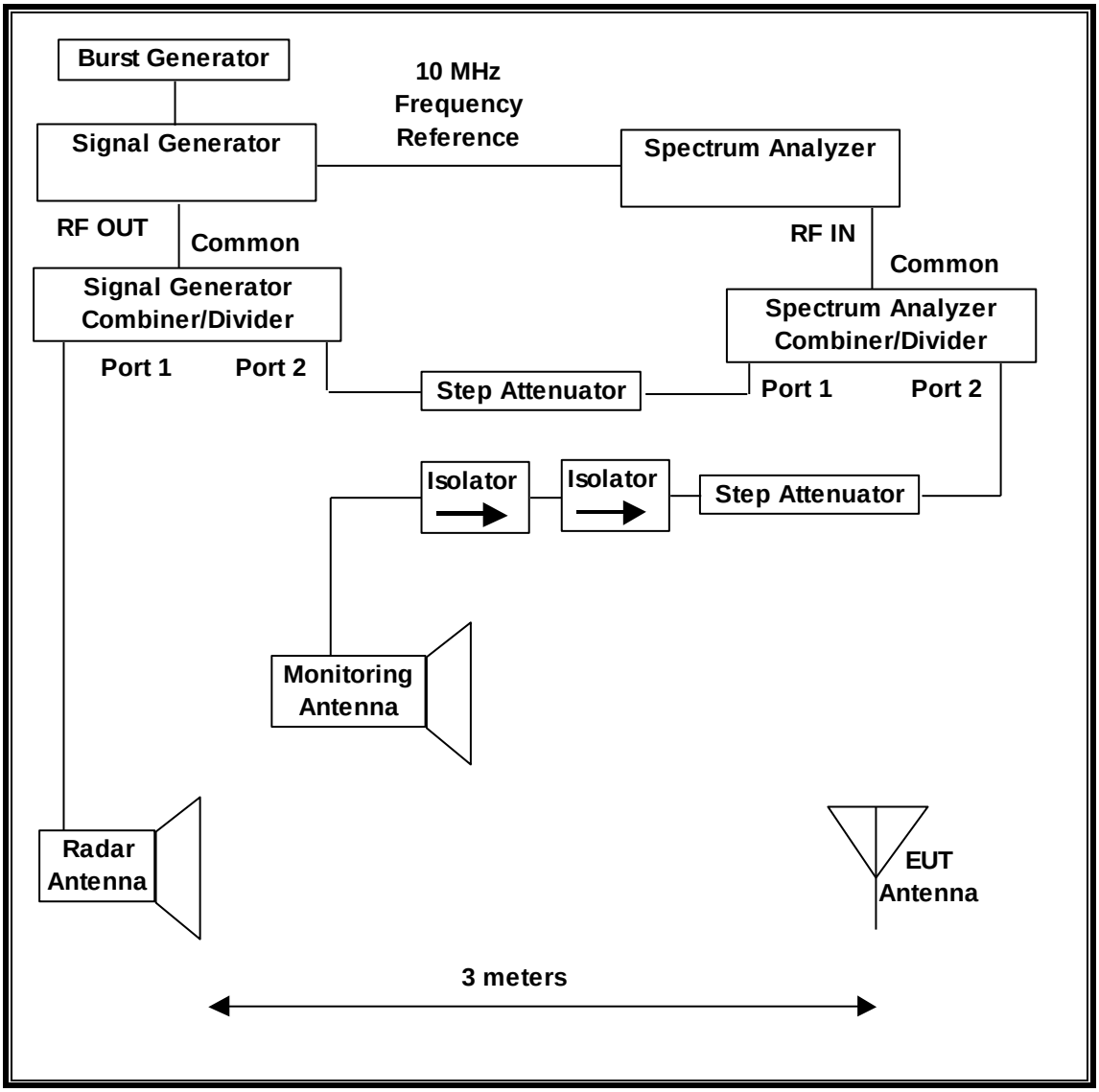
Radar Waveform Type	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Pulses per Burst	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

Table 7 – Frequency Hopping Radar Test Signal

Radar Waveform Type	Pulse Width (µsec)	PRI (µsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Trials
6	1	333	9	0.333	300	70%	30

12.1.2. TEST AND MEASUREMENT SYSTEM

RADIATED METHOD SYSTEM BLOCK DIAGRAM



SYSTEM OVERVIEW

The short pulse and long pulse signal generating system utilizes the NTIA software. The Vector Signal Generator has been validated by the NTIA. The hopping signal generating system utilizes the CCS simulated hopping method and system, which has been validated by the DoD, FCC and NTIA. The software selects waveform parameters from within the bounds of the signal type on a random basis using uniform distribution.

The short pulse types 1, 2, 3 and 4, and the long pulse type 5 parameters are randomized at run-time.

The hopping type 6 pulse parameters are fixed while the hopping sequence is based on the August 2005 NTIA Hopping Frequency List. The initial starting point randomized at run-time and each subsequent starting point is incremented by 475. Each frequency in the 100-length segment is compared to the boundaries of the EUT Detection Bandwidth and the software creates a hopping burst pattern in accordance with Section 7.4.1.3 Method #2 Simulated Frequency Hopping Radar Waveform Generating Subsystem of KDB 905462 D02. The frequency of the signal generator is incremented in 1 MHz steps from F_L to F_H for each successive trial. This incremental sequence is repeated as required to generate a minimum of 30 total trials and to maintain a uniform frequency distribution over the entire Detection Bandwidth.

The signal monitoring equipment consists of a spectrum analyzer. The aggregate ON time is calculated by multiplying the number of bins above a threshold during a particular observation period by the dwell time per bin, with the analyzer set to peak detection and max hold.

SYSTEM CALIBRATION

A 50-ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected to a horn antenna via a coaxial cable, with the reference level offset set to (horn antenna gain – coaxial cable loss). The signal generator is set to CW mode. The amplitude of the signal generator is adjusted to yield a level of –64 dBm as measured on the spectrum analyzer.

Without changing any of the instrument settings, the spectrum analyzer is reconnected to the Common port of the Spectrum Analyzer Combiner/Divider. The Reference Level Offset of the spectrum analyzer is adjusted so that the displayed amplitude of the signal is –64 dBm.

The spectrum analyzer displays the level of the signal generator as received at the antenna ports of the Master Device. The interference detection threshold may be varied from the calibrated value of –64 dBm and the spectrum analyzer will still indicate the level as received by the Master Device.

ADJUSTMENT OF DISPLAYED TRAFFIC LEVEL

A link is established between the Master and Slave and the distance between the units is adjusted as needed to provide a suitable received level at the Master and Slave devices. The video test file is streamed to generate WLAN traffic. The monitoring antenna is adjusted so that the WLAN traffic level, as displayed on the spectrum analyzer, is at lower amplitude than the radar detection threshold.

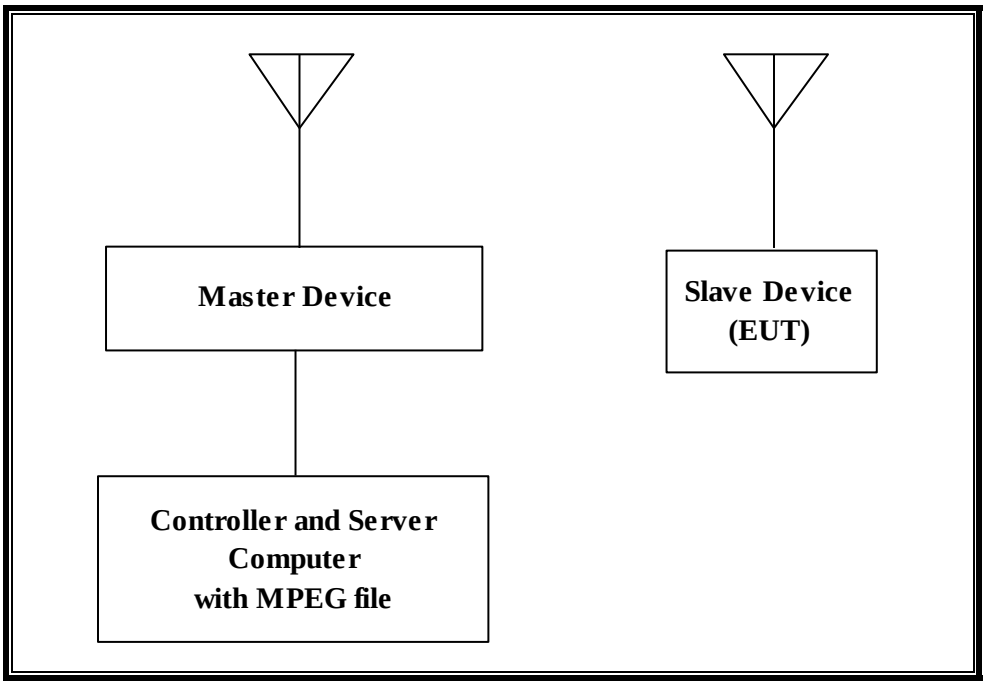
TEST AND MEASUREMENT EQUIPMENT

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

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
802.11ac Access Point (Master Device 1)	Cisco	AIR-CAP3702E-A-K9	FTX181570A6	LDK102087
P.O.E. Injector (Master 1)	Phihong	POE30U-560(G)	PHI170102N2	DoC
Notebook PC (Controller/Server)	Lenovo	Type 20B7-S0A200	PF-02JN9J 14/06	DoC
AC Adapter (Controller/Server PC)	Lenovo	ADLX65NLC2A	11S45N0259Z1ZS97459 4A9	DoC

12.1.3. SETUP OF EUT

RADIATED METHOD EUT TEST SETUP



SUPPORT EQUIPMENT

The following support equipment was utilized for the DFS tests documented in this report:

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
802.11ac Access Point (Master Device 1)	Cisco	AIR-CAP3702E-A-K9	FTX181570A6	LDK102087
P.O.E. Injector (Master 1)	Phihong	POE30U-560(G)	PHI170102N2	DoC
Notebook PC (Controller/Server)	Lenovo	Type 20B7-S0A200	PF-02JN9J 14/06	DoC
AC Adapter (Controller/Server PC)	Lenovo	ADLX65NLC2A	11S45N0259Z1ZS974594A9	DoC

12.1.4. DESCRIPTION OF EUT

For FCC the EUT operates over the 5250-5350 MHz and 5470-5725 MHz ranges.

For IC the EUT operates over the 5250-5350 MHz and 5470-5725 MHz ranges, excluding the 5600-5650 MHz range.

The The EUT is a Slave Device without Radar Detection.

The highest power level within these bands is 14.41dBm EIRP in the 5250-5350 MHz band and 14.15 dBm EIRP in the 5470-5725 MHz band.

The only antenna assembly utilized with the EUT has a gain of -1.09dBi.

The rated output power of the Master unit is > 23dBm (EIRP). Therefore the required interference threshold level is –64 dBm. After correction for procedural adjustments, the required radiated threshold at the antenna port is –64 + 1 = -63 dBm.

The calibrated radiated DFS Detection Threshold level is set to –64 dBm. The tested level is lower than the required level hence it provides a margin to the limit.

The EUT uses one transmitter/receiver chain connected to an antenna to perform radiated tests.

WLAN traffic that meets or exceeds the minimum required loading was generated by transferring a data stream from the controller/server PC to the EUT using iPerf version 2.0.5 software package.

TPC is not required since the maximum EIRP is less than 500 mW (27 dBm).

The EUT utilizes the 802.11ac architecture. Three nominal channel bandwidths are implemented: 20 MHz, 40 MHz and 80 MHz. Therefore, pursuant to FCC KDB Publication 905462 D3, “Client devices with 80 MHz BW mode can be tested with an approved master operating in 40 MHz BW mode”. Therefore, 80MHz BW DFS testing was not performed and has been excluded from this report.

The software installed in the access point is AP3G2-K9W7-M Version 15.2(4)JB4.

The software installed in the EUT is Android revision 5.0.2; kernelversion 3.10.49.

UNIFORM CHANNEL SPREADING

This requirement is not applicable to Slave radio devices.

OVERVIEW OF MASTER DEVICE WITH RESPECT TO §15.407 (h) REQUIREMENTS

The Master Device is a Cisco Access Point, FCC ID: LDK102087. The minimum antenna gain for the Master Device is 6 dBi.

The rated output power of the Master unit is > 23dBm (EIRP). Therefore the required interference threshold level is –64 dBm. After correction for procedural adjustments, the required radiated threshold at the antenna port is –64 + 1 = -63 dBm.

The calibrated radiated DFS Detection Threshold level is set to –64 dBm. The tested level is lower than the required level hence it provides a margin to the limit.

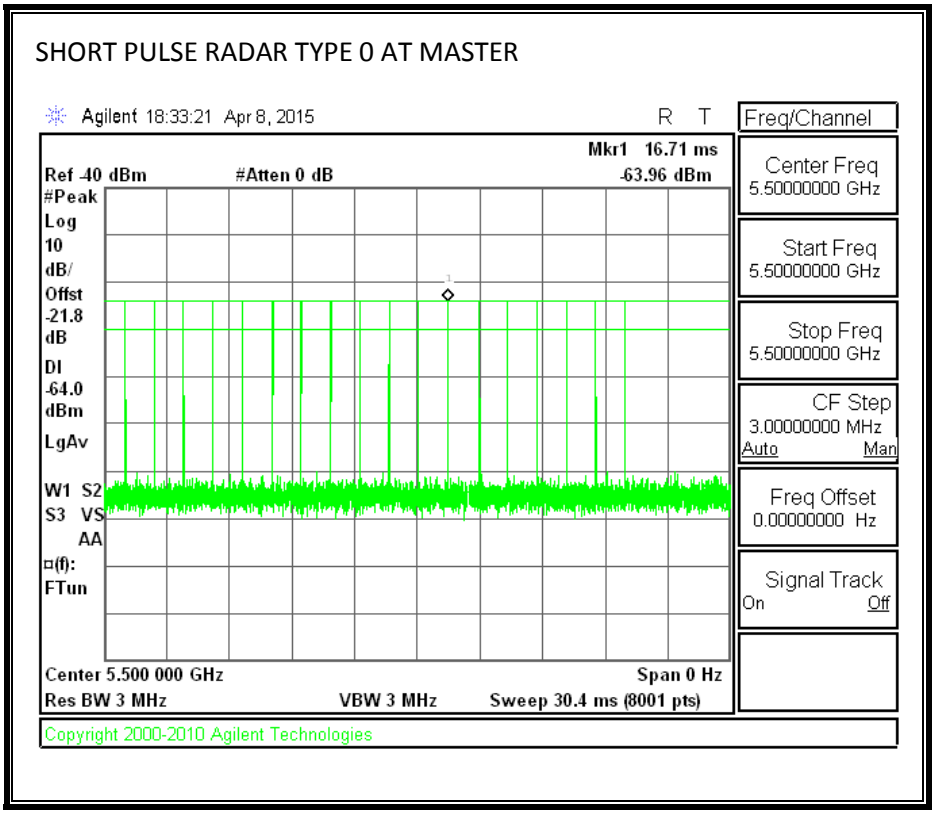
12.2. RESULTS FOR 20 MHz BANDWIDTH

12.2.1. TEST CHANNEL

All tests were performed at a channel center frequency of 5500MHz.

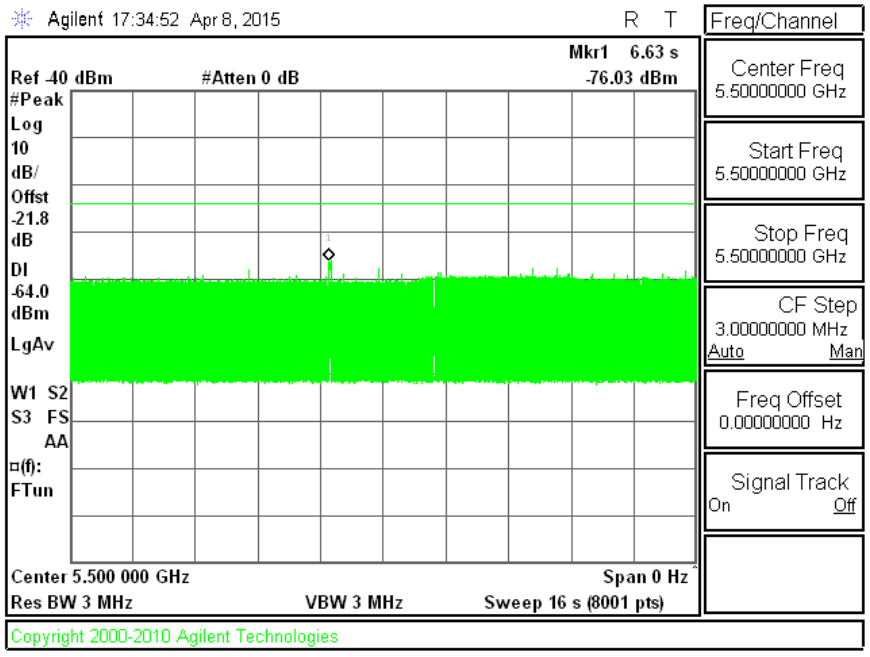
12.2.2. RADAR WAVEFORM AND TRAFFIC

RADAR WAVEFORM



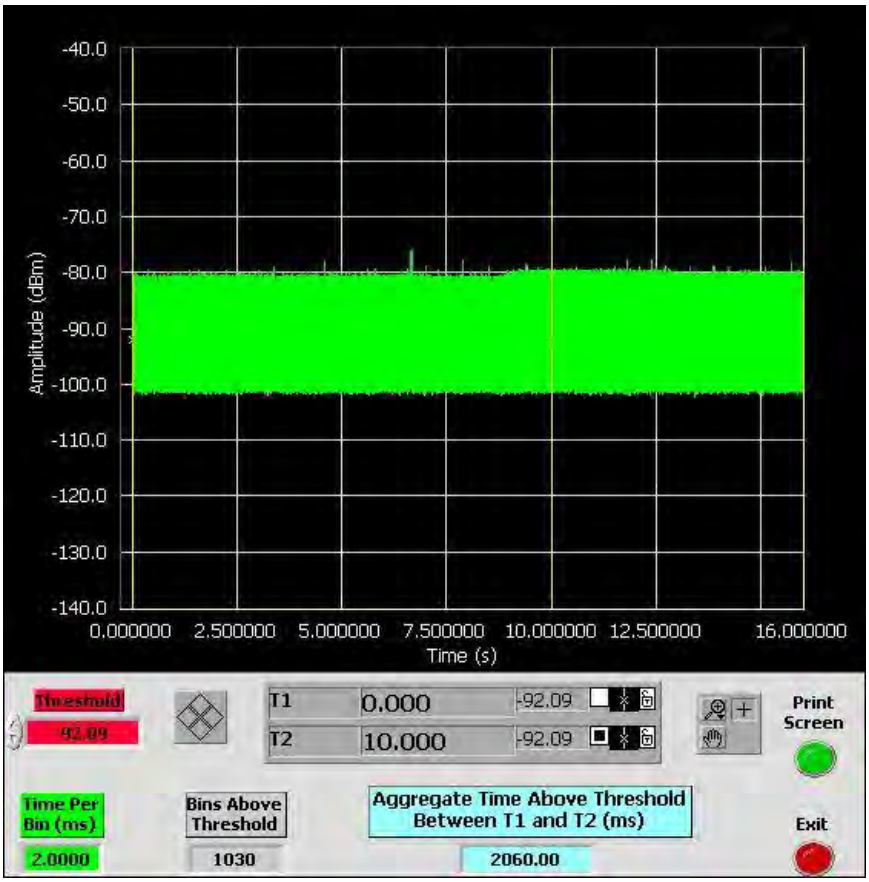
TRAFFIC

SLAVE TRAFFIC



CHANNEL LOADING

CHANNEL LOADING



The level of traffic loading on the channel by the EUT is 20.6%

12.2.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

12.2.4. MOVE AND CLOSING TIME

REPORTING NOTES

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

Aggregate Transmission Time =
(Number of analyzer bins showing transmission) * (dwell time per bin)

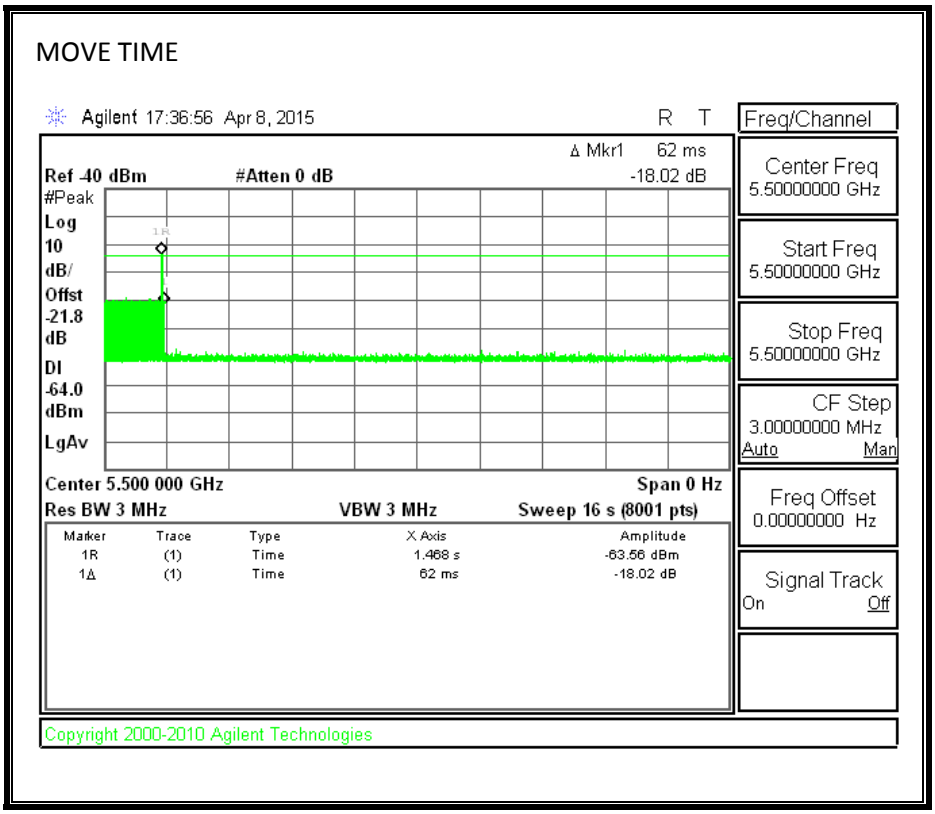
The observation period over which the aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

RESULTS

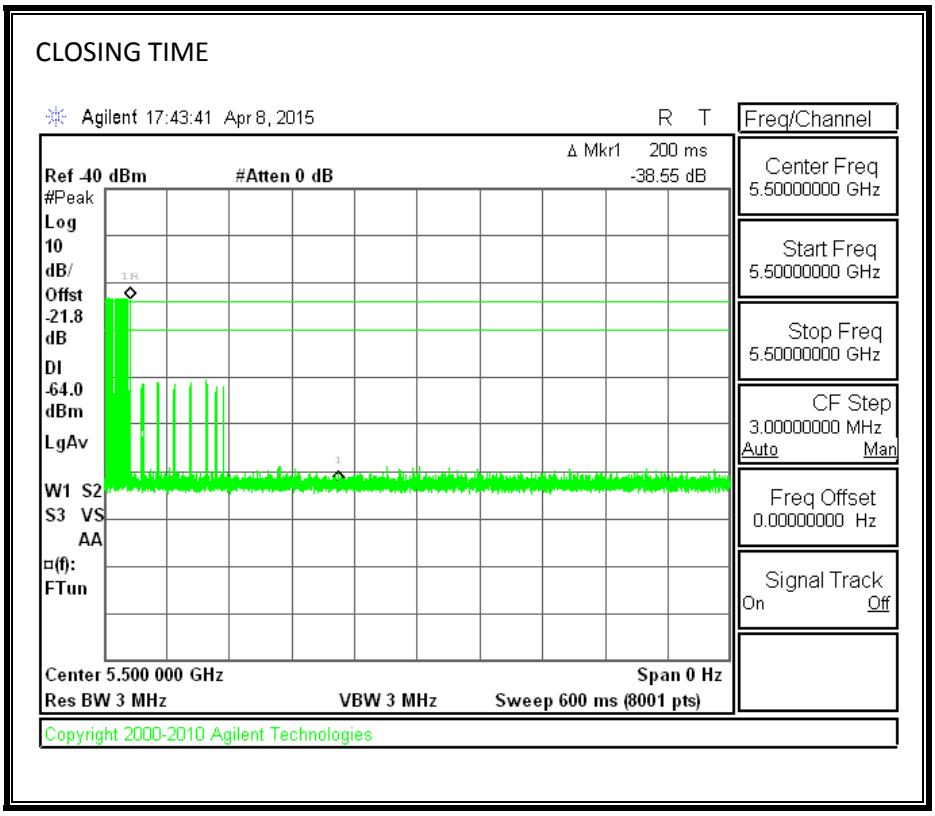
Channel Move Time (sec)	Limit (sec)
0.062	10

Aggregate Channel Closing Transmission Time (msec)	Limit (msec)
0.0	60

MOVE TIME



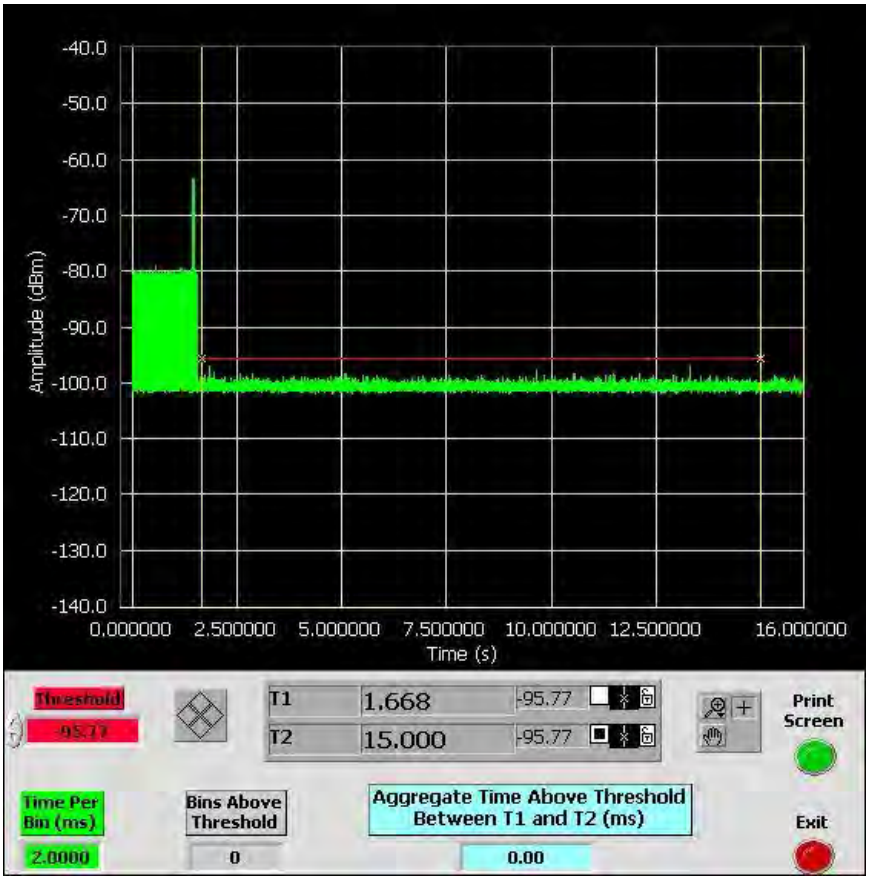
CHANNEL CLOSING TIME



AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

No transmissions are observed during the aggregate monitoring period.

AGGREGATE CLOSING TIME



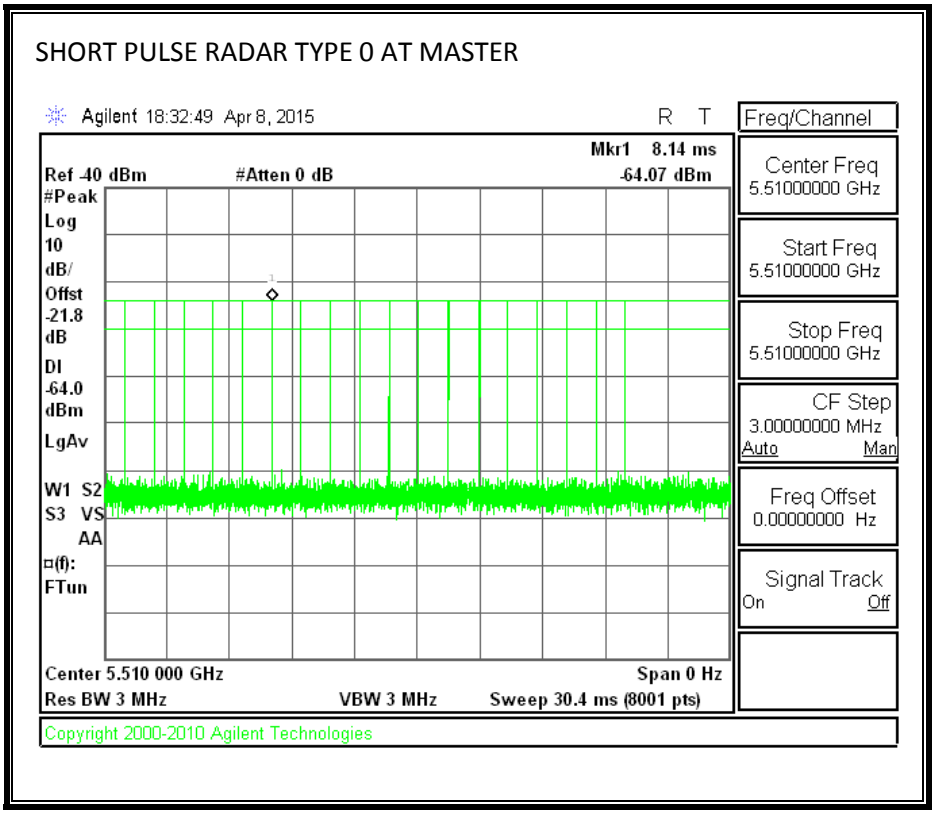
12.3. RESULTS FOR 40 MHz BANDWIDTH

12.3.1. TEST CHANNEL

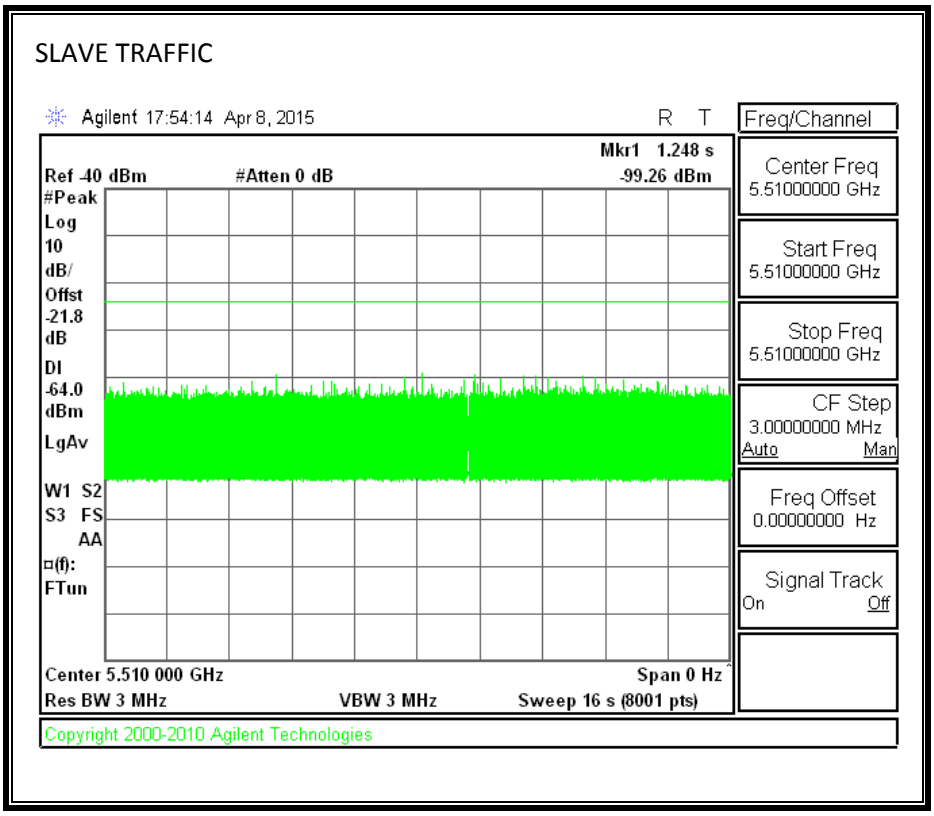
All tests were performed at a channel center frequency of 5510MHz.

12.3.2. RADAR WAVEFORM AND TRAFFIC

RADAR WAVEFORM

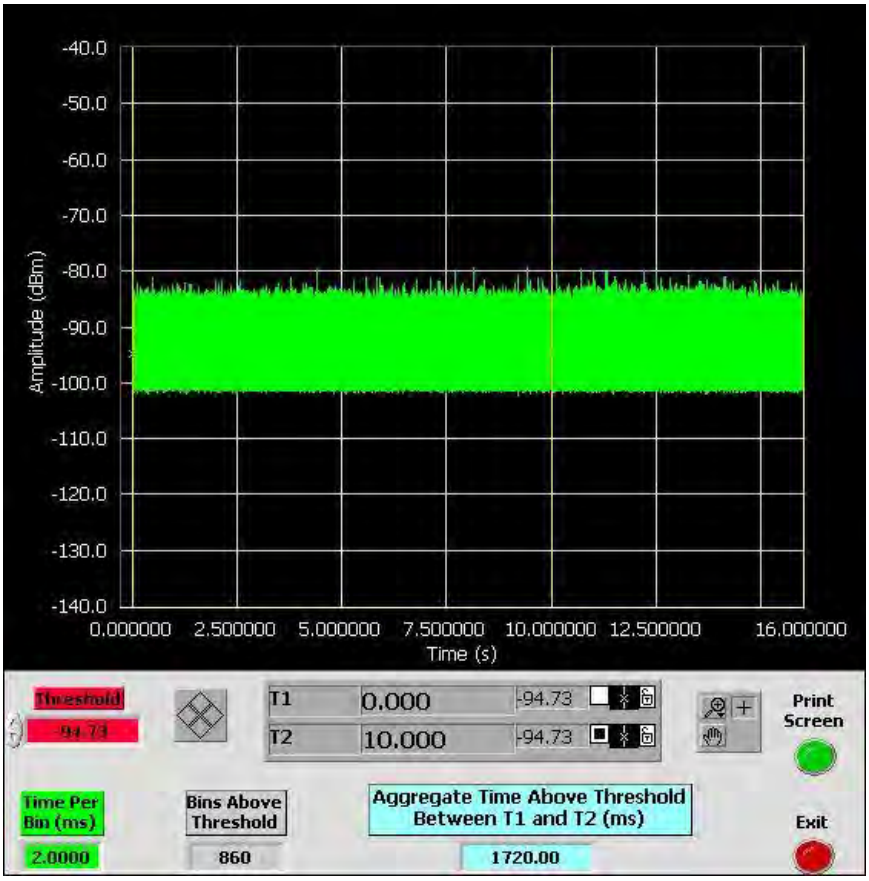


TRAFFIC



CHANNEL LOADING

CHANNEL LOADING



The level of traffic loading on the channel by the EUT is 17.2%

12.3.3. OVERLAPPING CHANNEL TESTS

RESULTS

These tests are not applicable.

12.3.4. MOVE AND CLOSING TIME

REPORTING NOTES

The reference marker is set at the end of last radar pulse.

The delta marker is set at the end of the last WLAN transmission following the radar pulse. This delta is the channel move time.

The aggregate channel closing transmission time is calculated as follows:

Aggregate Transmission Time =
(Number of analyzer bins showing transmission) * (dwell time per bin)

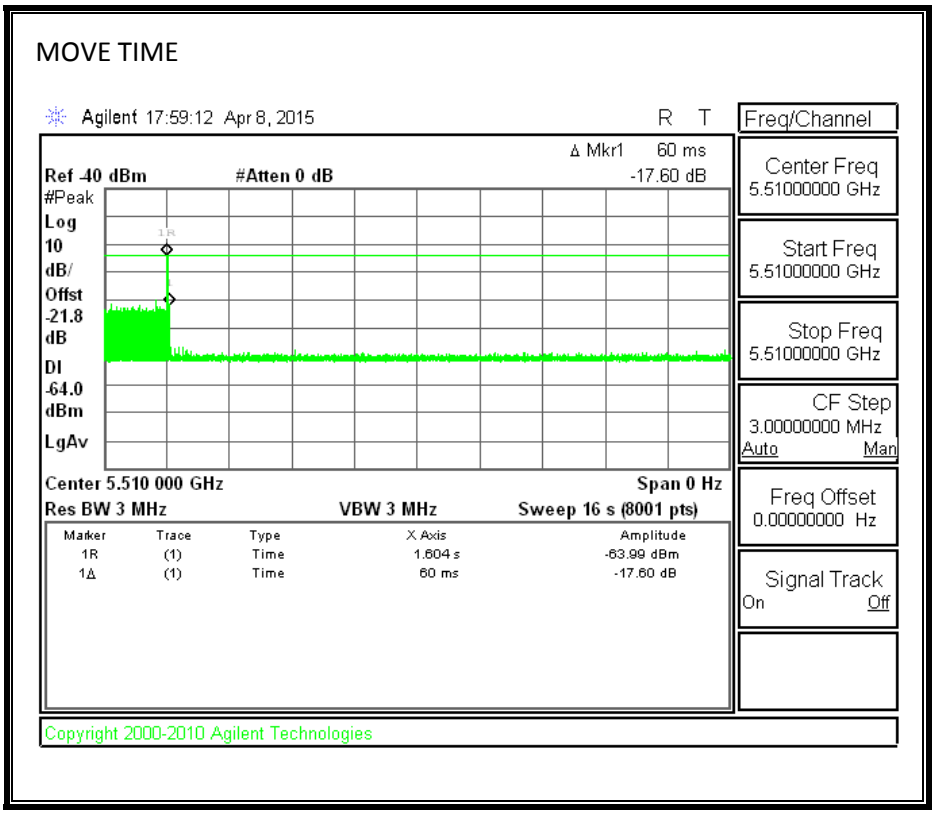
The observation period over which the aggregate time is calculated begins at (Reference Marker + 200 msec) and ends no earlier than (Reference Marker + 10 sec).

RESULTS

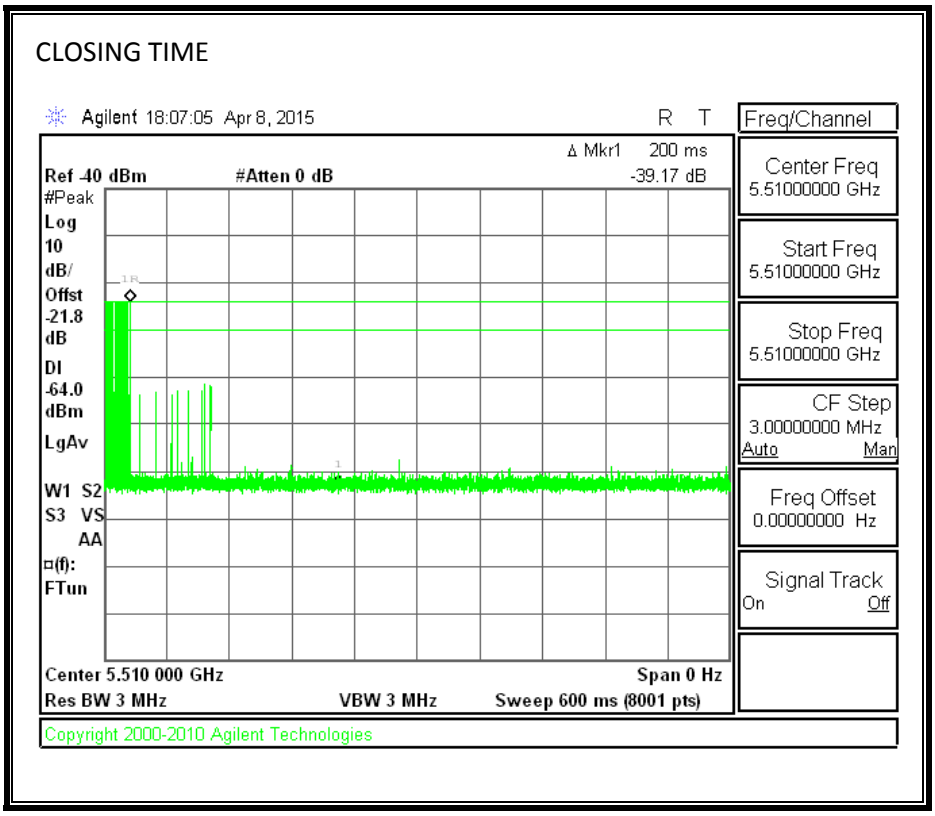
Channel Move Time (sec)	Limit (sec)
0.060	10

Aggregate Channel Closing Transmission Time (msec)	Limit (msec)
0.0	60

MOVE TIME



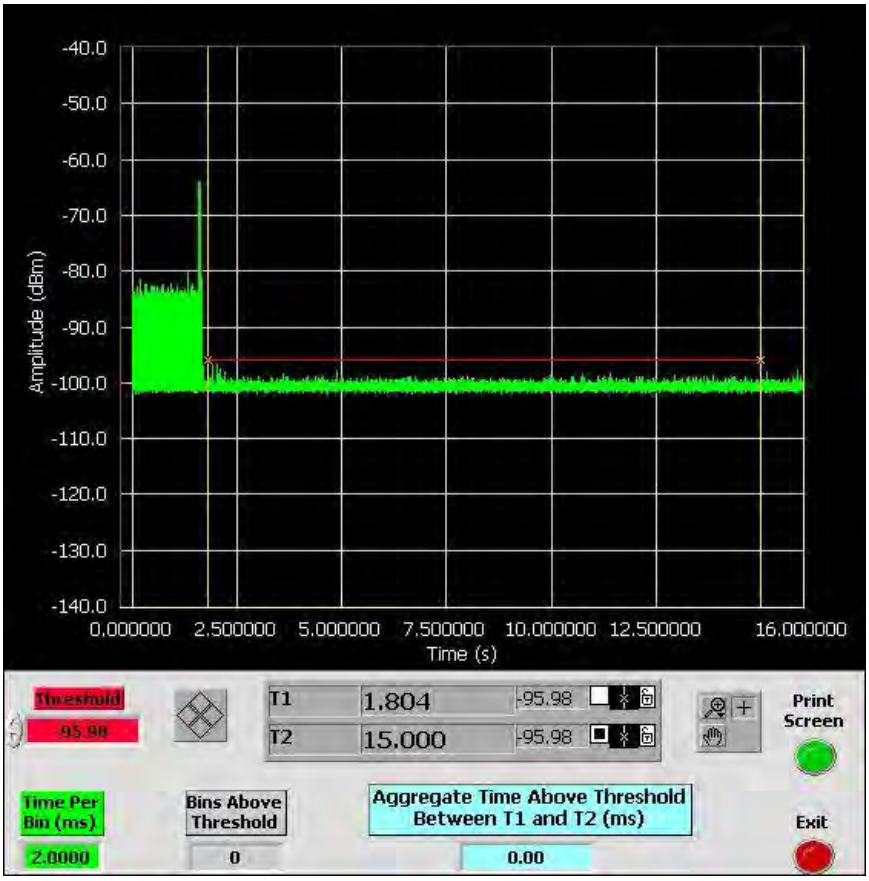
CHANNEL CLOSING TIME



AGGREGATE CHANNEL CLOSING TRANSMISSION TIME

No transmissions are observed during the aggregate monitoring period.

AGGREGATE CLOSING TIME



12.3.5. 10-MINUTE BEACON MONITORING PERIOD

RESULTS

No EUT transmissions were observed on the test channel during the 10-minute observation time.