



**FCC CFR47 PART 15 SUBPART C
INDUSTRY CANADA RSS-210 ISSUE 8**

C2PC CERTIFICATION TEST REPORT

FOR

**GSM/CDMA/WCDMA/LTE Phone + Bluetooth &
WLAN (2.4GHz & 5GHz) and NFC**

MODEL NUMBER: LG-D820, LGD820 and D820

FCC ID: ZNFD820

IC: 2703C-D820

REPORT NUMBER: 13U15778-4, Revision C

ISSUE DATE: SEPTEMBER 23, 2013

Prepared for

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

Prepared by

**UL VERIFICATION SERVICES INC.
47173 BENICIA STREET
FREMONT, CA 94538, U.S.A.
TEL: (510) 771-1000
FAX: (510) 661-0888**



NVLAP LAB CODE 200065-0

Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
--	8/21/13	Initial Issue	P. Kim
A	9/12/13	Updated Section 5.4 Software and Firmware	AAumentado
B	9/17/13	Updated Section 8.2 investigate frequency range and 5.2 target power.	P. Kim
C	9/23/13	Updated the power summary table	P. Kim

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1. ATTESTATION OF TEST RESULTS

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

EUT DESCRIPTION: GSM/CDMA/WCDMA/LTE Phone + Bluetooth &
WLAN (2.4GHz & 5GHz) and NFC

MODEL: LG-D820, LGD820 and D820

SERIAL NUMBER: (0021EDF624E7C39B) CONDUCTED
(0021E9AAE056EE83) RADIATED

DATE TESTED: AUGUST 2 – AUGUST 9, 2013

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

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released
For UL Verification Services Inc. By:

Tested By:



PHILIP KIM
WiSE PROGRAM MANAGER
UL Verification Services Inc.

STEVEN TRAN
WiSE LAB TECHNICIAN
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, ANSI C63.10-2009, RSS-GEN Issue 3, and RSS-210 Issue 8.

3. FACILITIES AND ACCREDITATION

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

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 1000 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 LTE Phone Bluetooth, WLAN(2.4GHz & 5GHz) and NFC.

5.2. OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2412 - 2462	802.11b	19.22	83.56
2412 - 2462	802.11g	19.21	83.37
2412 - 2462	802.11n HT20	18.56	71.78
2412 - 2462	802.11ac HT20	18.56	71.78

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of -1.96 dBi.

5.4. SOFTWARE AND FIRMWARE

Android OS Version: 3.40-gbab8bca-00002-gd1a7716.
Kernel Version: M8974A-0.0.19.0.05.

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

Worst-case data rates as provided by the client were:
Based on the baseline scan, the worst-case data rates were:

802.11b mode: 1 Mbps
802.11g mode: 6 Mbps
802.11a mode: 6 Mbps
802.11n HT20mode: MCS0

Radiated emissions for EUT with antenna was performed and passed; therefore, antenna port spurious was not performed.

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	LG	MCS.01WR	EAY62768913	N/A
Earphone	QuadBeat	LE 410	EAB62729001	N/A

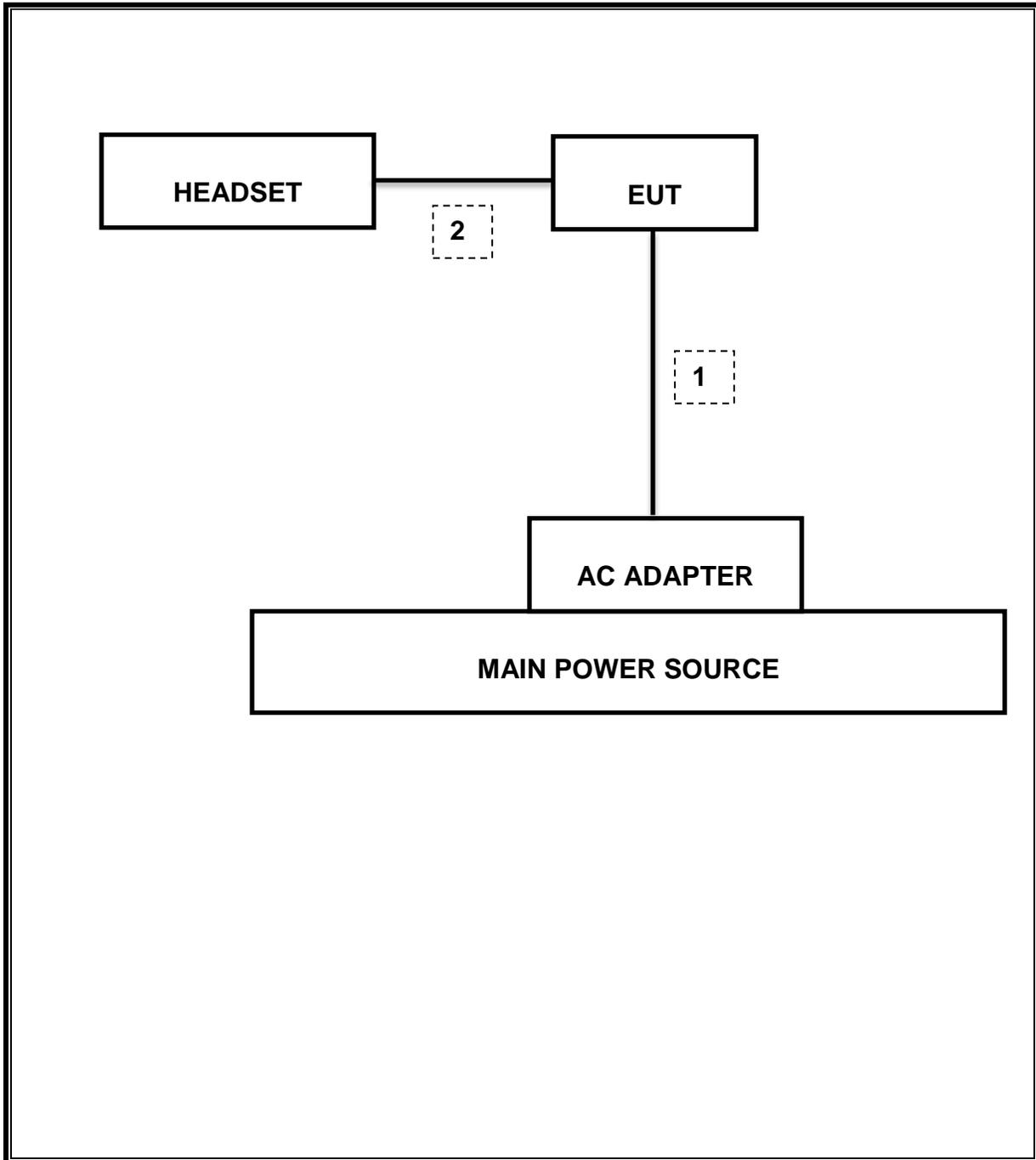
I/O CABLES

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 a stand-alone unit during the tests. Test software exercised the radio card.

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 Date	Cal Due
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB1	C01016	08/14/13	08/14/14
Antenna, Horn, 18 GHz	ETS	3117	C01006	12/11/12	12/11/13
Antenna, Horn, 25.5 GHz	ARA	MWH-1826/B	C00980	11/14/12	11/14/13
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00885	01/16/13	01/16/14
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01063	10/22/12	10/22/13
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01012	10/21/12	10/21/13
PXA SIGNAL ANALYZER	Agilent / HP	N9030A	N/A		05/09/14
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	08/08/12	08/15/14
LISN, 30 MHz	FCC	50/250-25-2	C00626	01/14/13	01/14/14
Reject Filter, 2.4GHz	Micro-Tronics	BRM50702	N02684	CNR	CNR

7. MEASUREMENT METHODS

KDB 558074 Measurement Procedure PK2 is used for power and PKPSD is used for power spectral density.

Unwanted emissions within Restricted Bands are measured using traditional radiated procedures.

8. RADIATED TEST RESULTS

8.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-210 Clause 2.6 (Transmitter)

IC RSS-GEN Clause 6 (Receiver)

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

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters.

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

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to $\geq 3 \times \text{RBW}$ MHz ~ 3MHz for peak measurements and as applicable for average measurements.

The spectrum from 30 MHz 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.

To compute the Duty Cycle Correction Factor this equation was used: $10 * \log (1/\text{Duty Cycle})$. The DCCF was added to the Reference Offset.

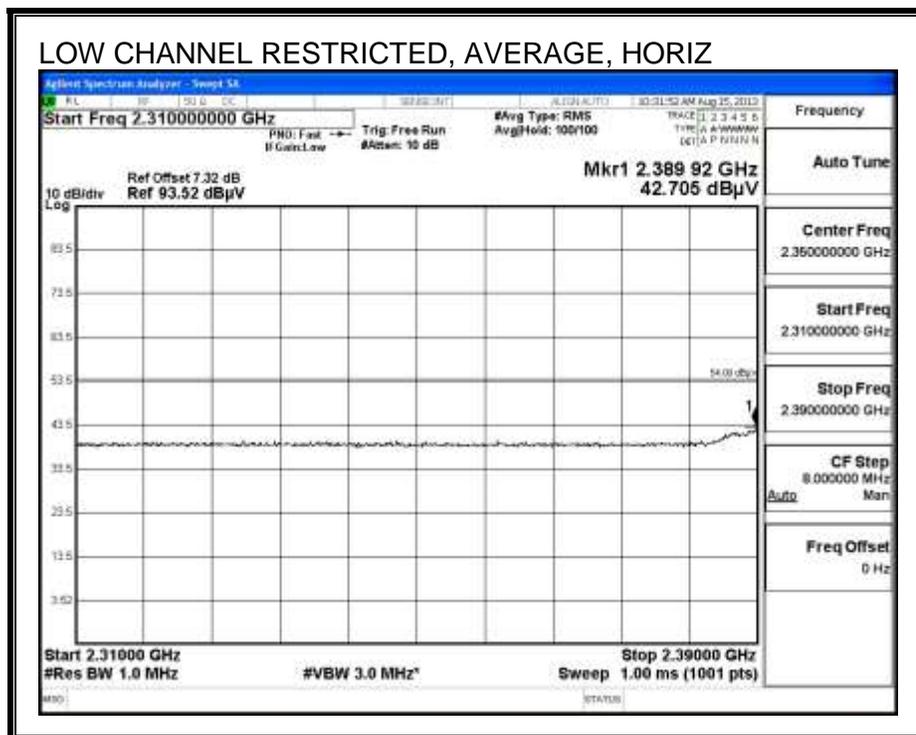
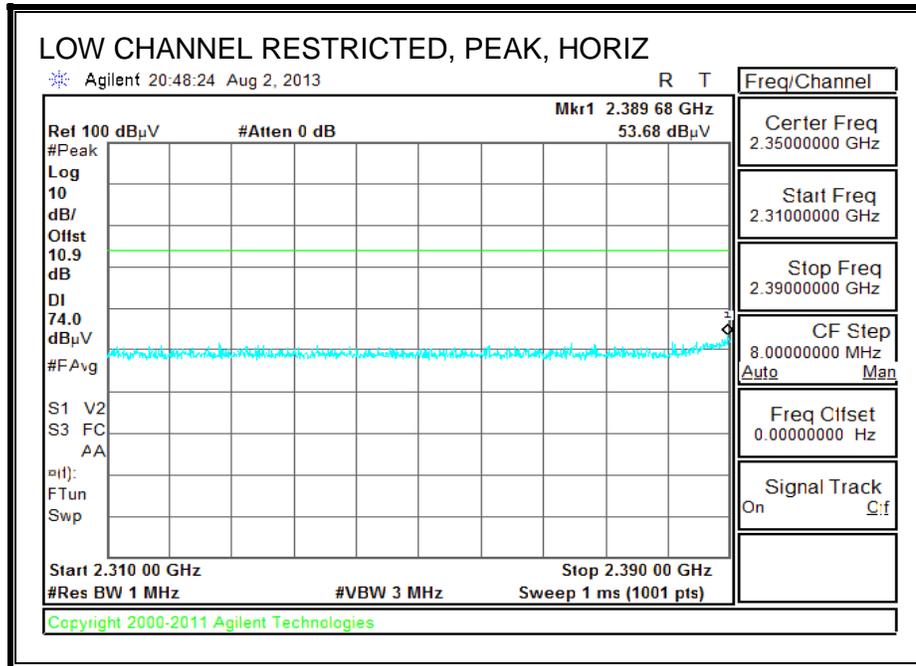
2.4G	DC	DC %	DCCF
11b	0.9936	99.36	0.028
11g	0.947005	94.70046083	0.236
11n	0.938272	93.82716049	0.277
11ac	0.731383	73.13829787	1.359

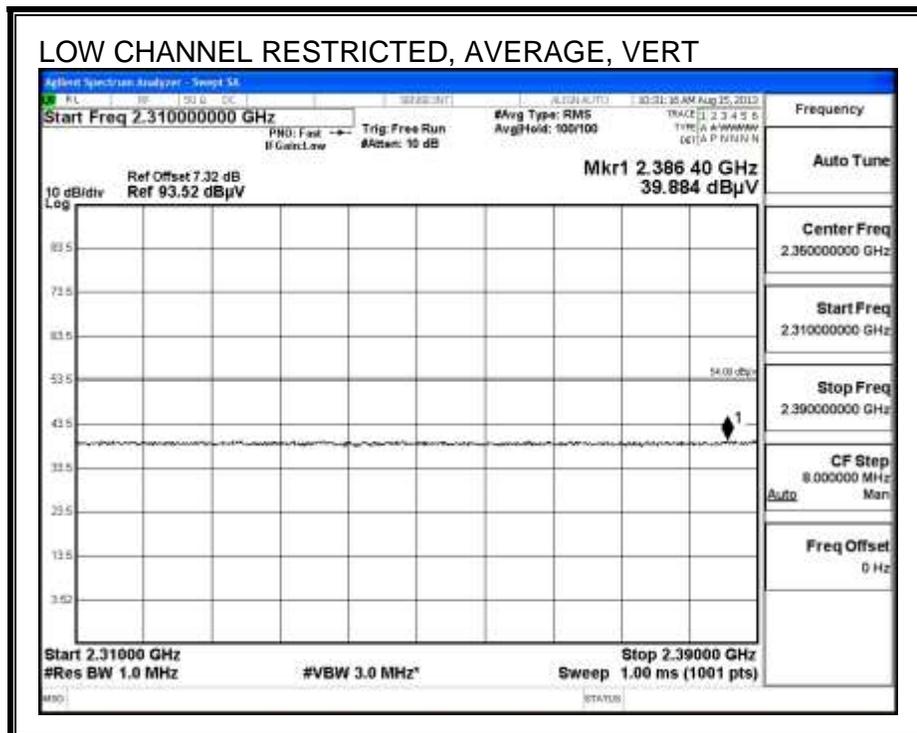
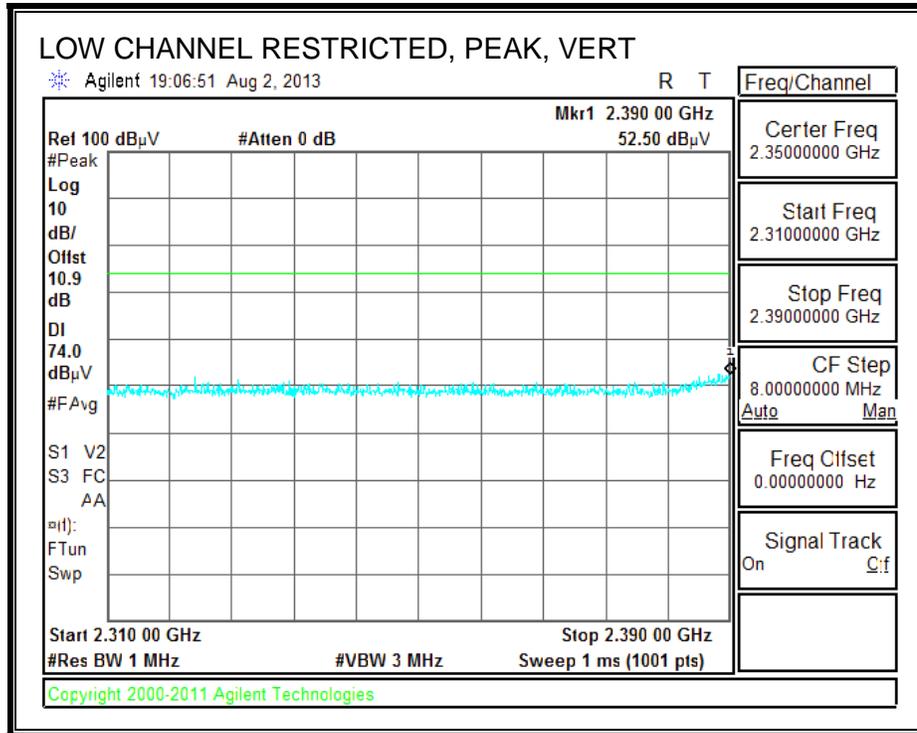
Please note that Peak and Average plots were taken in 2 different chambers. Due to that the reference offset values are not the same.

8.2. TRANSMITTER ABOVE 1 GHz

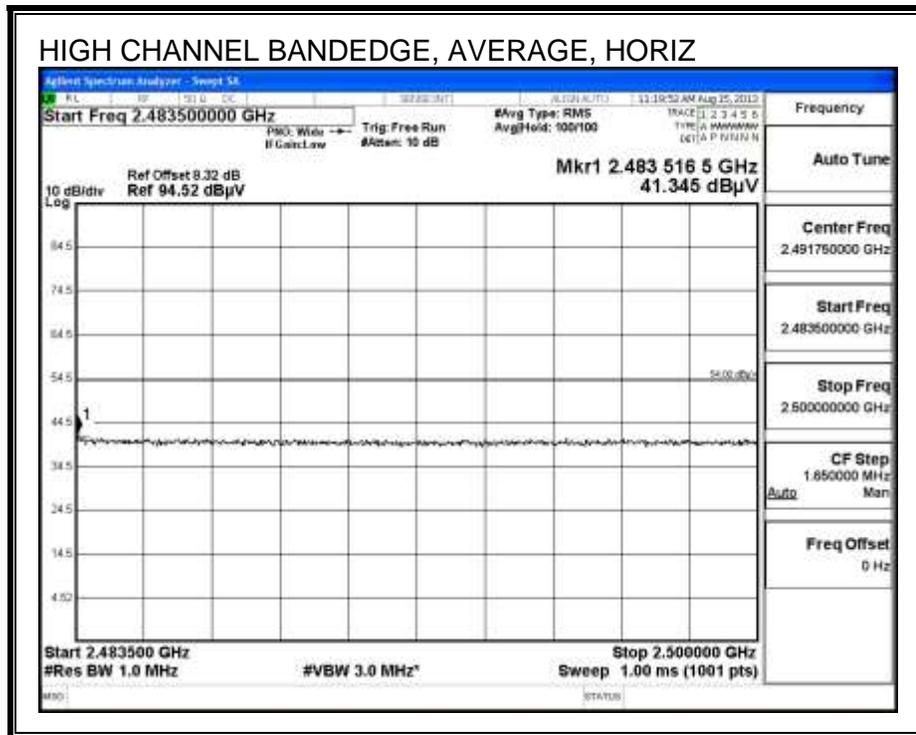
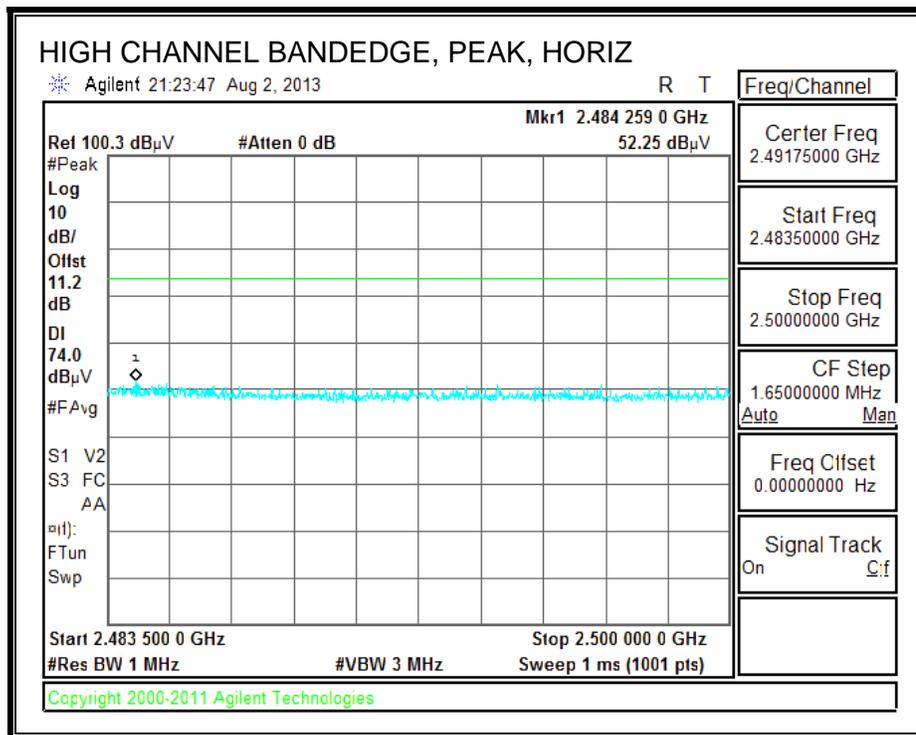
8.3. TX ABOVE 1 GHz 802.11b MODE IN THE 2.4 GHz BAND

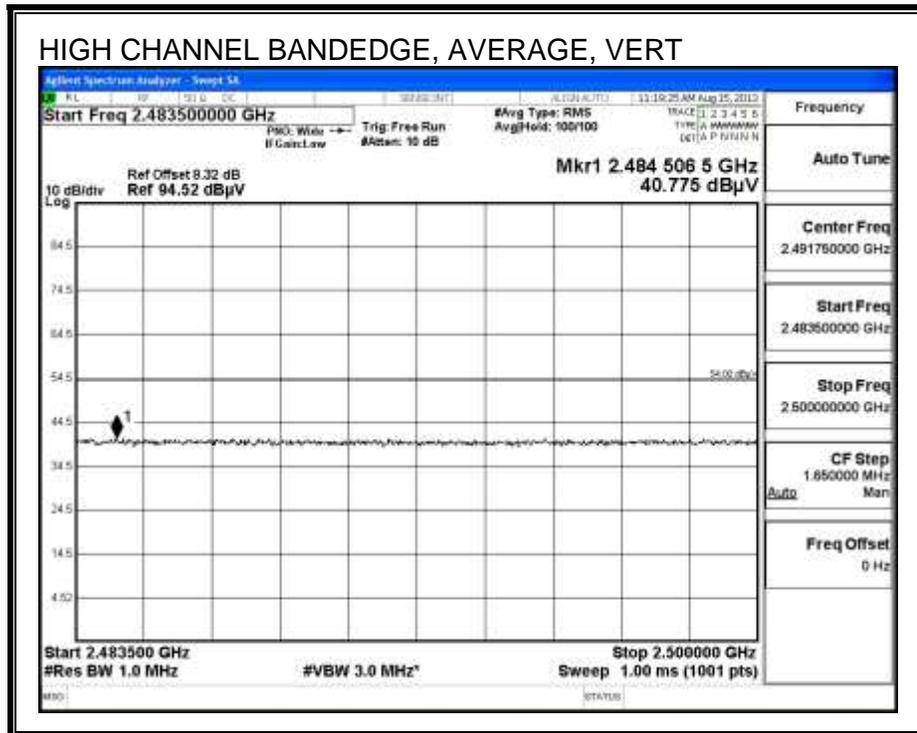
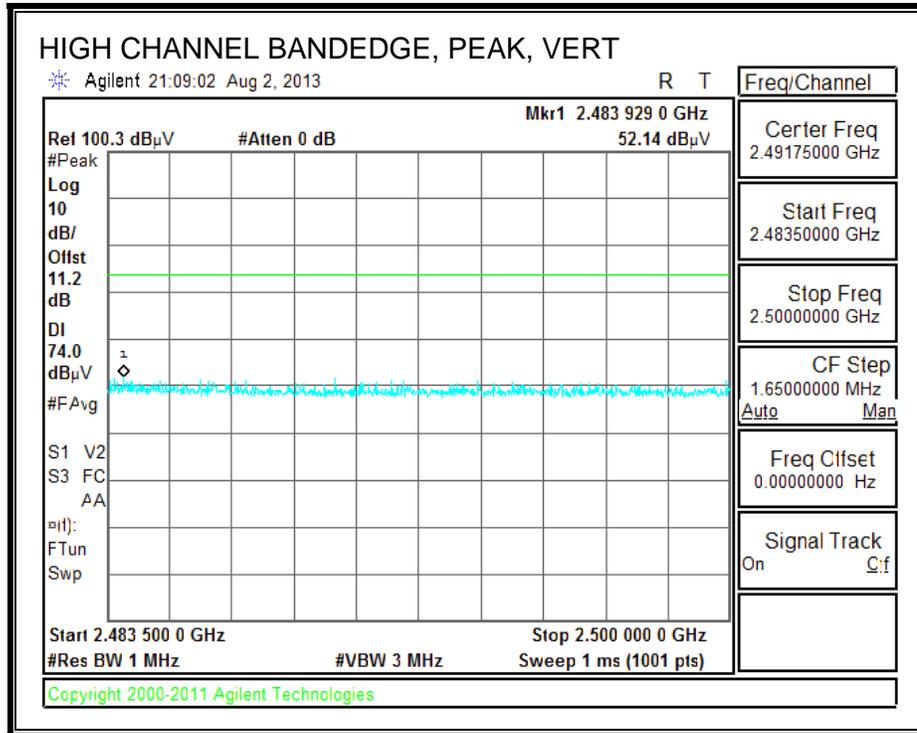
RESTRICTED BANDEDGE (LOW CHANNEL)





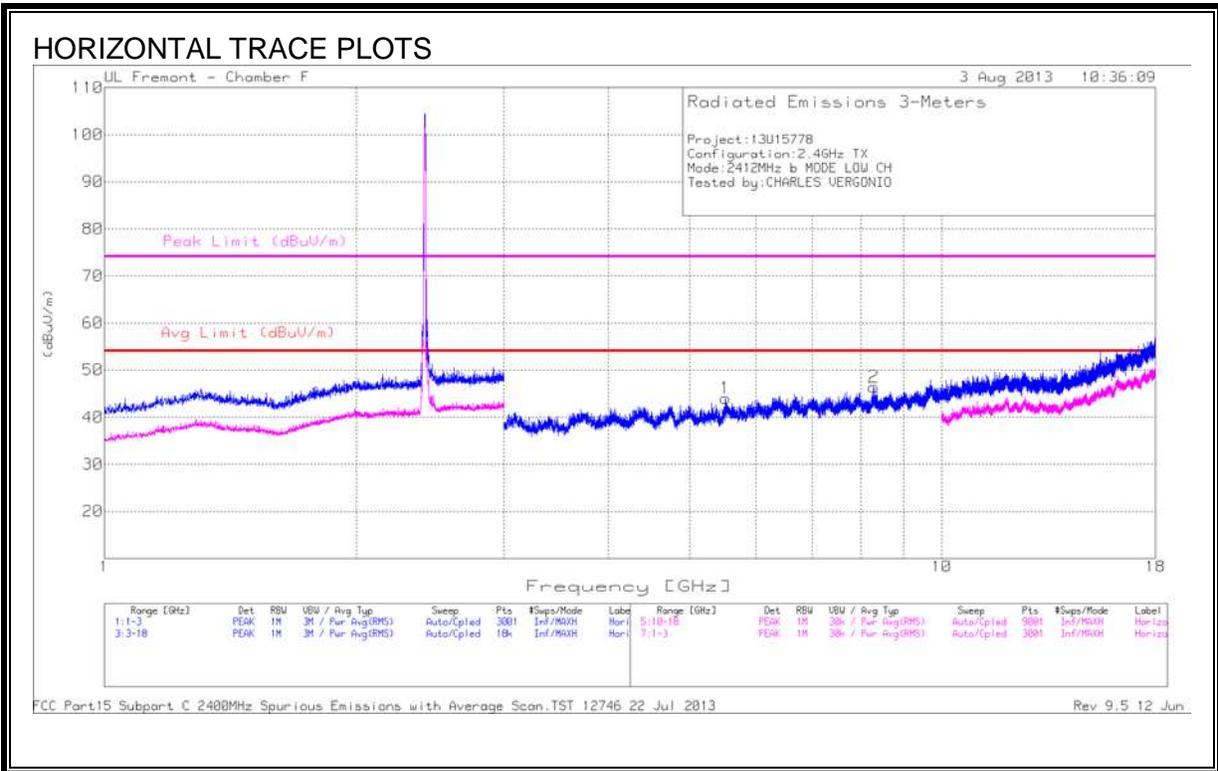
AUTHORIZED BANDEDGE (HIGH CHANNEL)





HARMONICS AND SPURIOUS EMISSIONS

Low Channel



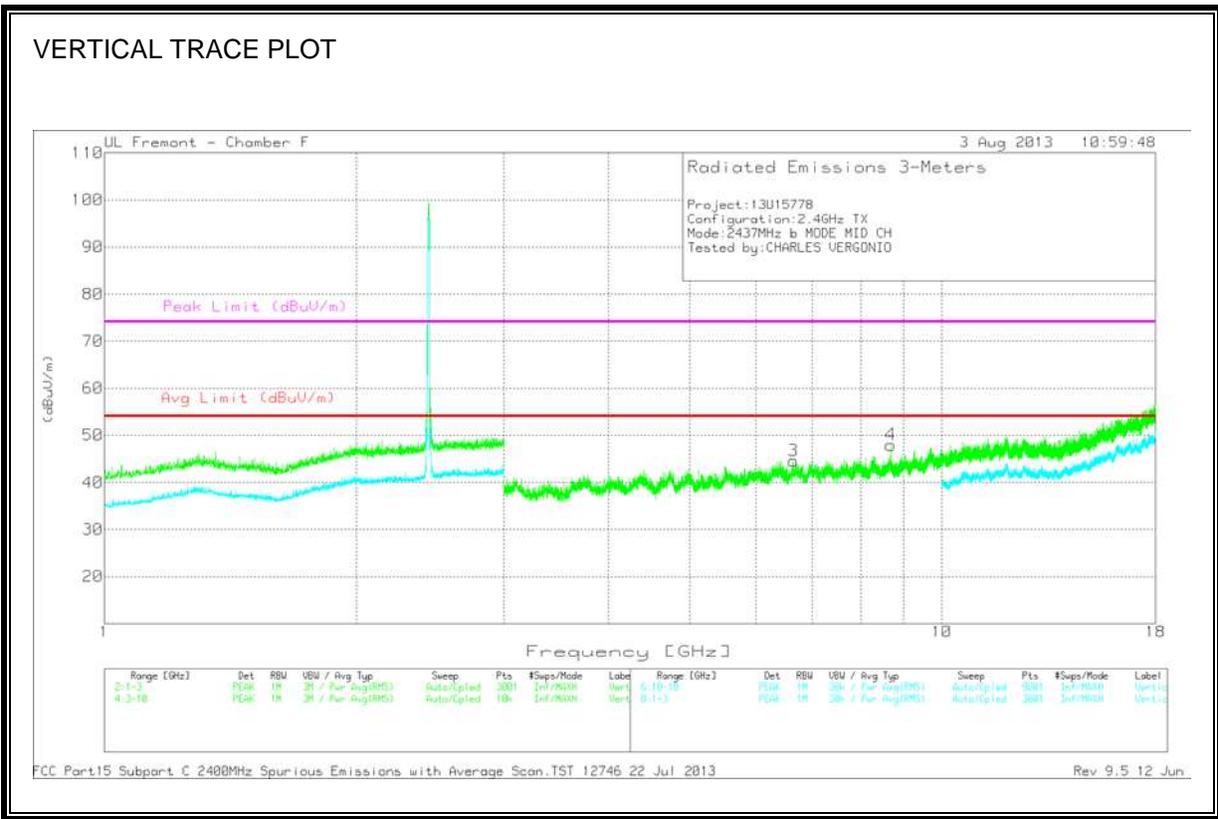
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cb/Filter/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.517	40.29	PK	34.7	-31	43.99	53.97	-9.98	74	-30.01	0-360	100	H
2	8.293	37.29	PK	36	-26.9	46.39	53.97	-7.58	74	-27.61	0-360	100	H

PK - Peak detector

Mid Channel



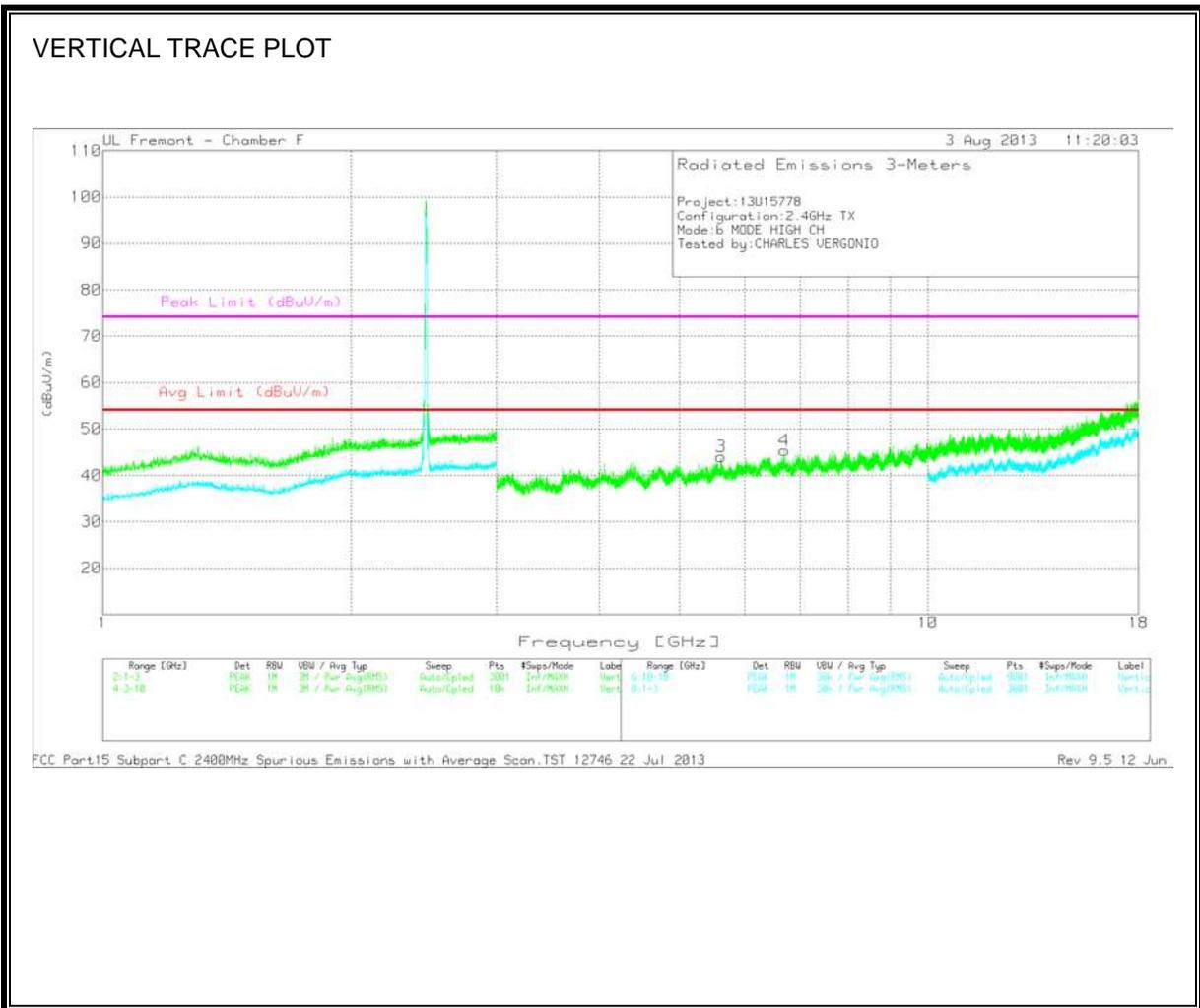
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Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cb/F/r/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	6.651	37.89	PK	35.8	-29.1	44.59	53.97	-9.38	74	-29.41	0-360	100	V
4	8.691	37.84	PK	36.1	-26	47.94	53.97	-6.03	74	-26.06	0-360	100	V

PK - Peak detector

High Channel



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

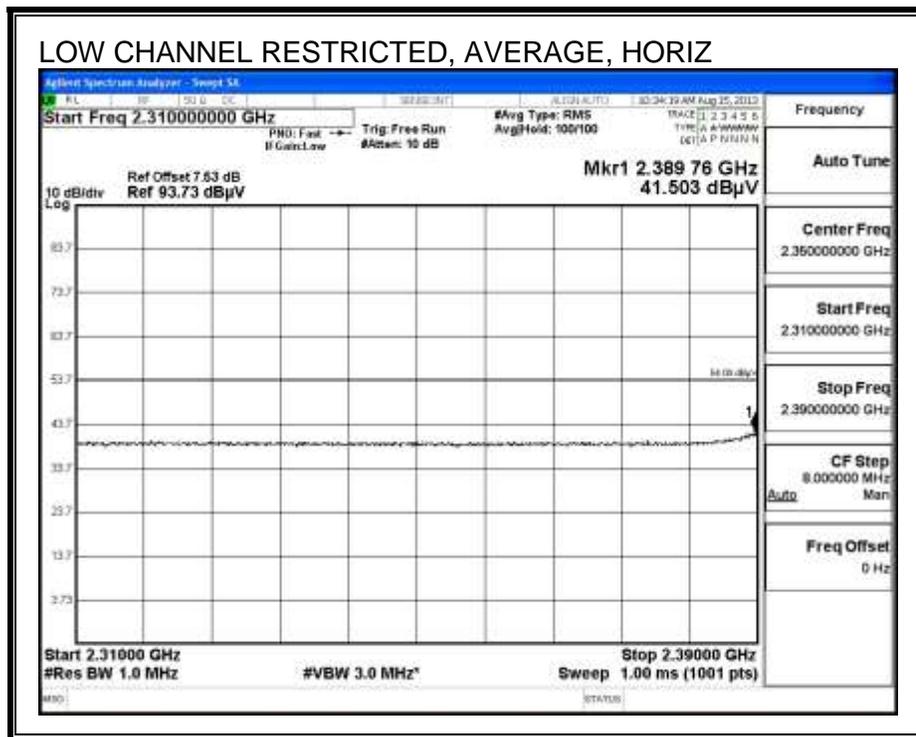
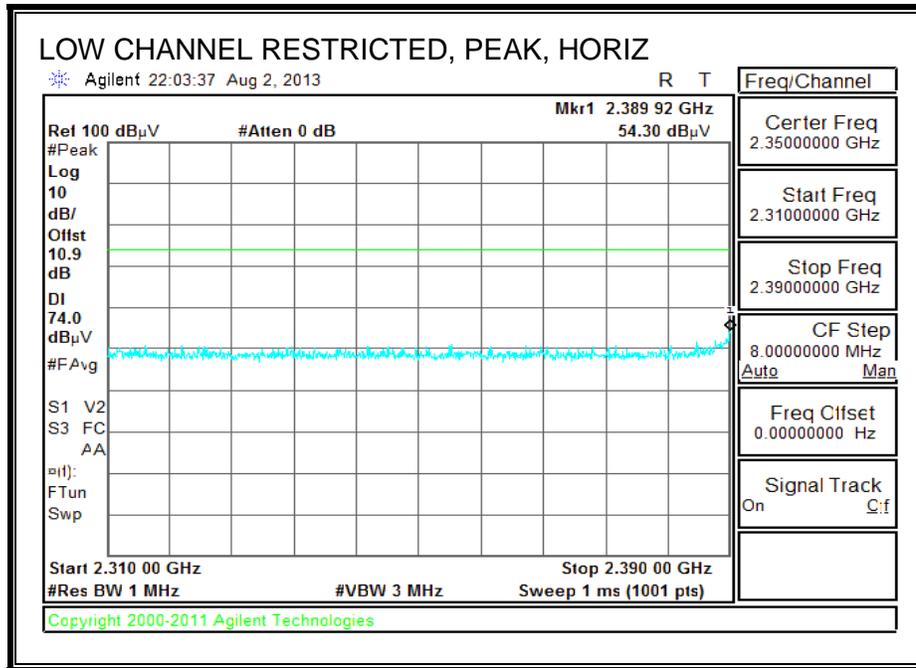
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cb/Flt r/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	5.617	40	PK	34.8	-30.8	44	53.97	-9.97	74	-30	0-360	201	V
4	6.701	38.52	PK	35.8	-29	45.32	53.97	-8.65	74	-28.68	0-360	201	V

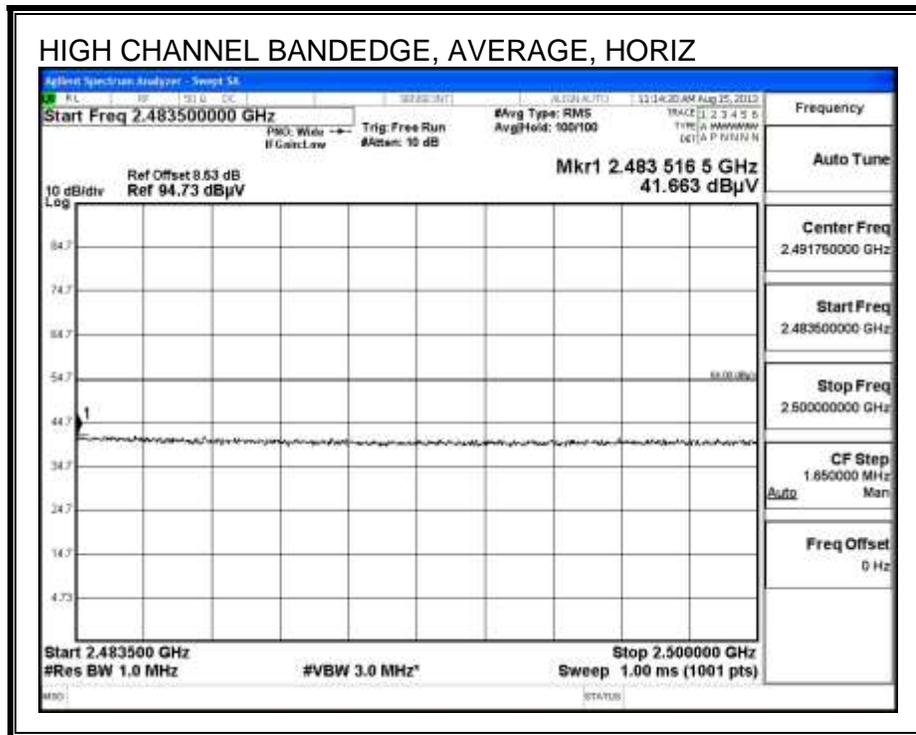
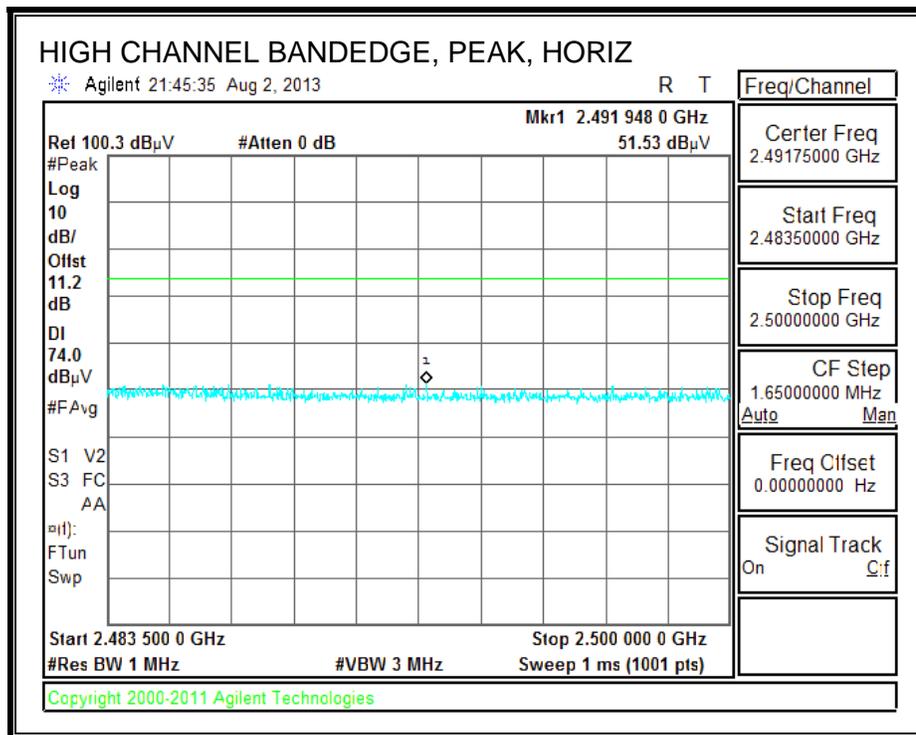
PK - Peak detector

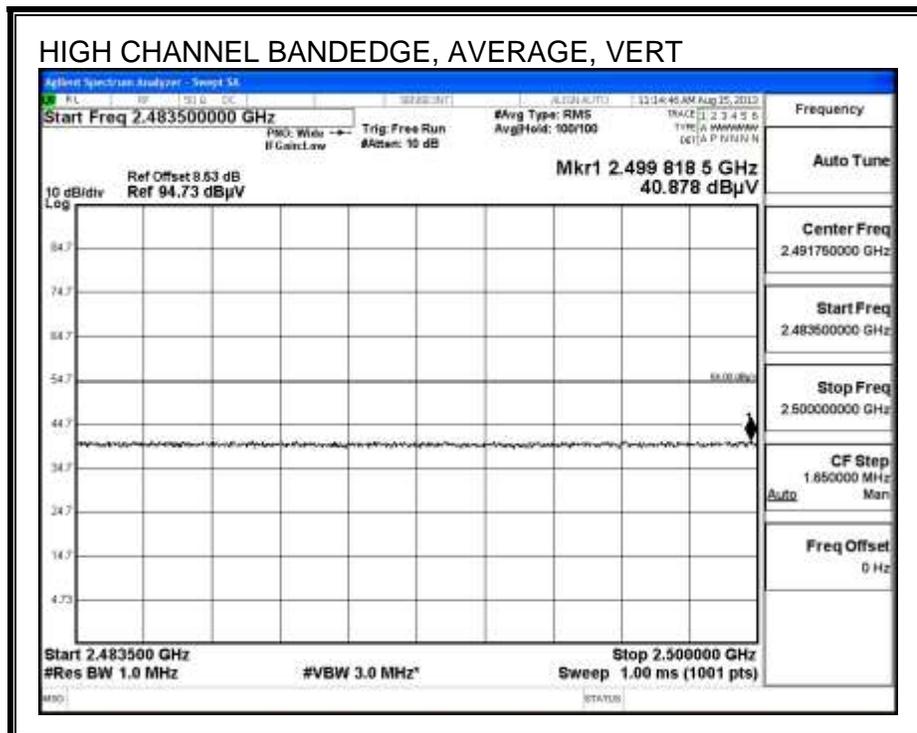
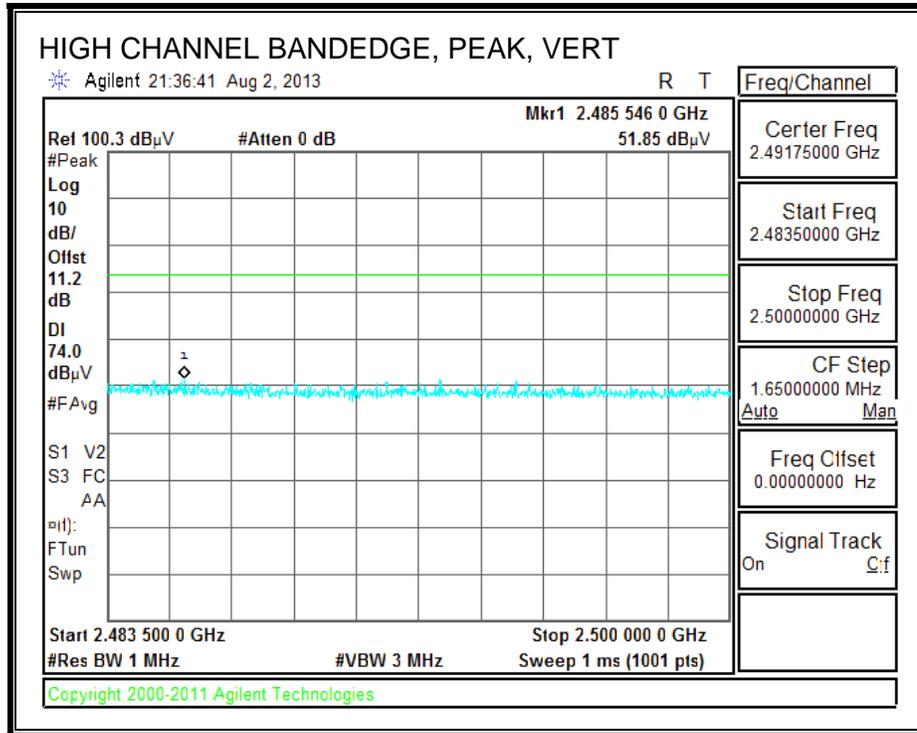
8.4. TX ABOVE 1 GHz 802.11g MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)



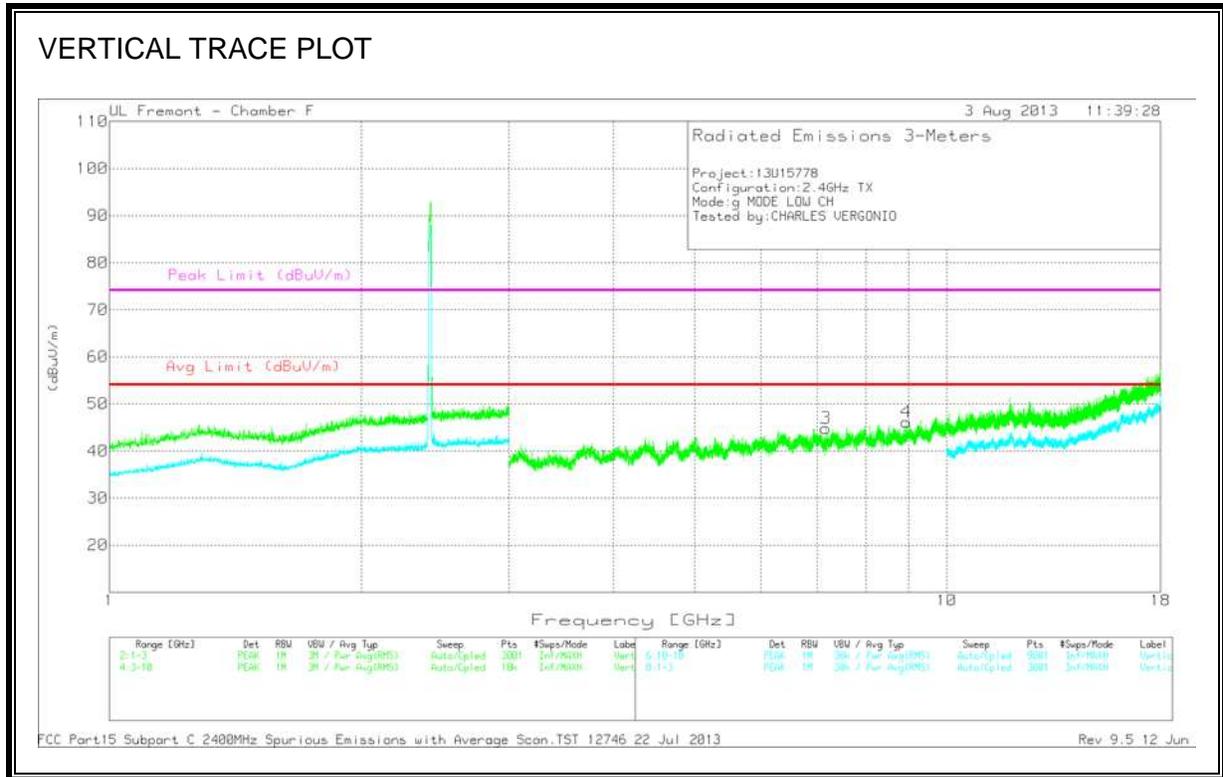
AUTHORIZED BANDEDGE (HIGH CHANNEL)





HARMONICS AND SPURIOUS EMISSIONS

Low Channel



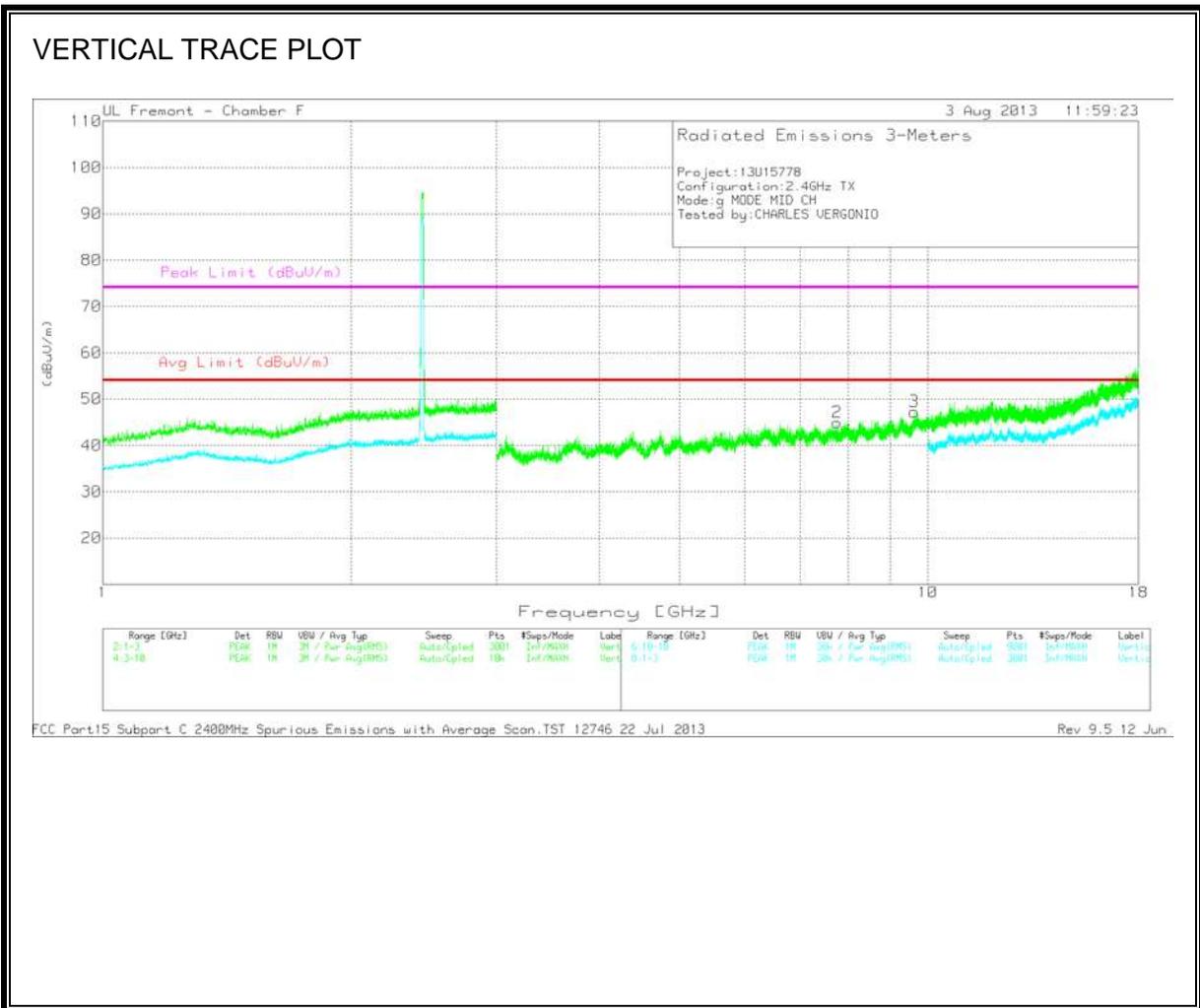
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cb/F/r/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	7.869	38.59	PK	35.7	-29.5	44.79	53.97	-9.18	74	-29.21	0-360	101	V
4	8.946	36.04	PK	36.3	-26.2	46.14	53.97	-7.83	74	-27.86	0-360	200	V

PK - Peak detector

Mid Channel



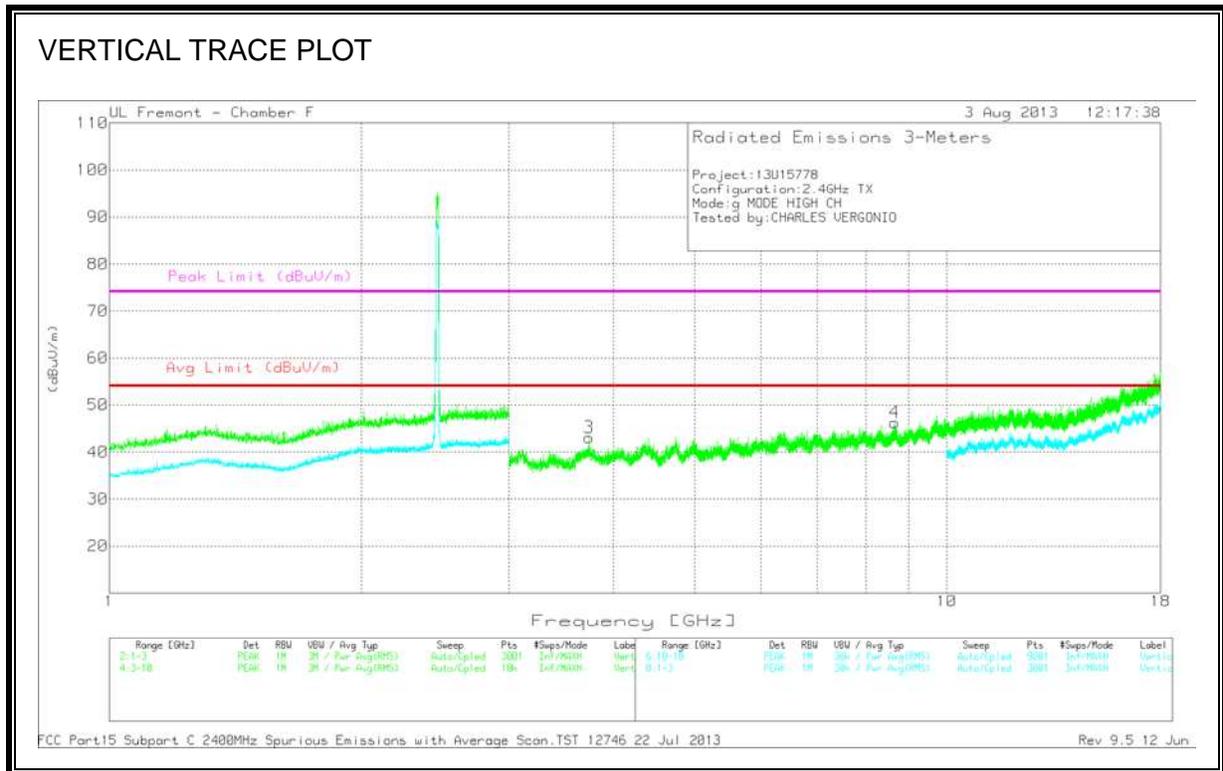
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Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cb/Fft r/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	7.761	37.57	PK	35.9	-28.5	44.97	53.97	-9	74	-29.03	0-360	100	V
3	9.625	35.08	PK	37.3	-25.1	47.28	53.97	-6.69	74	-26.72	0-360	100	V

PK - Peak detector

High Channel



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

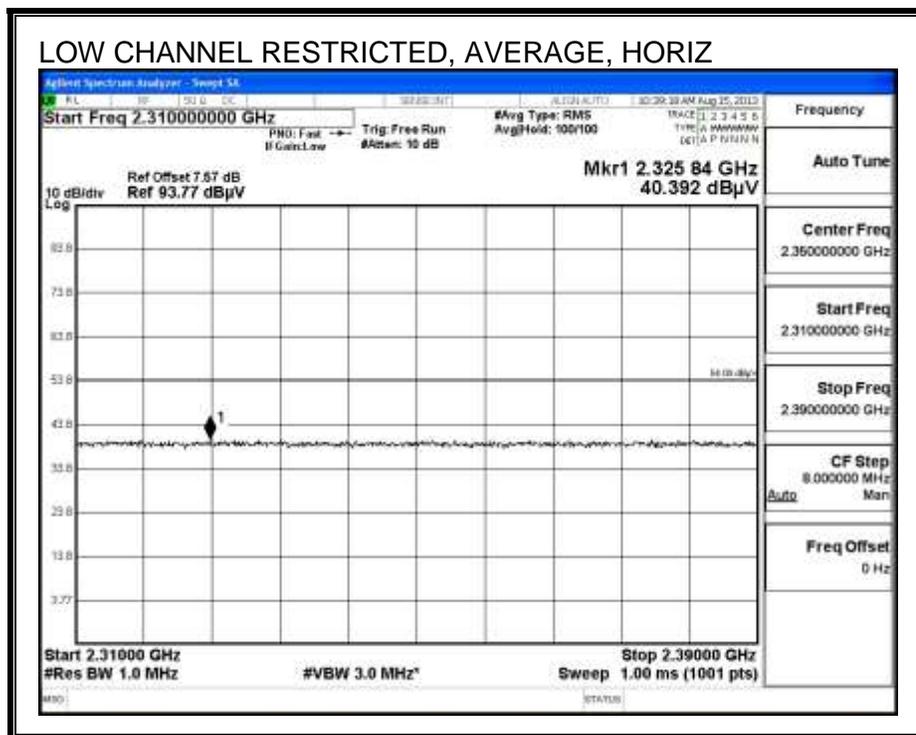
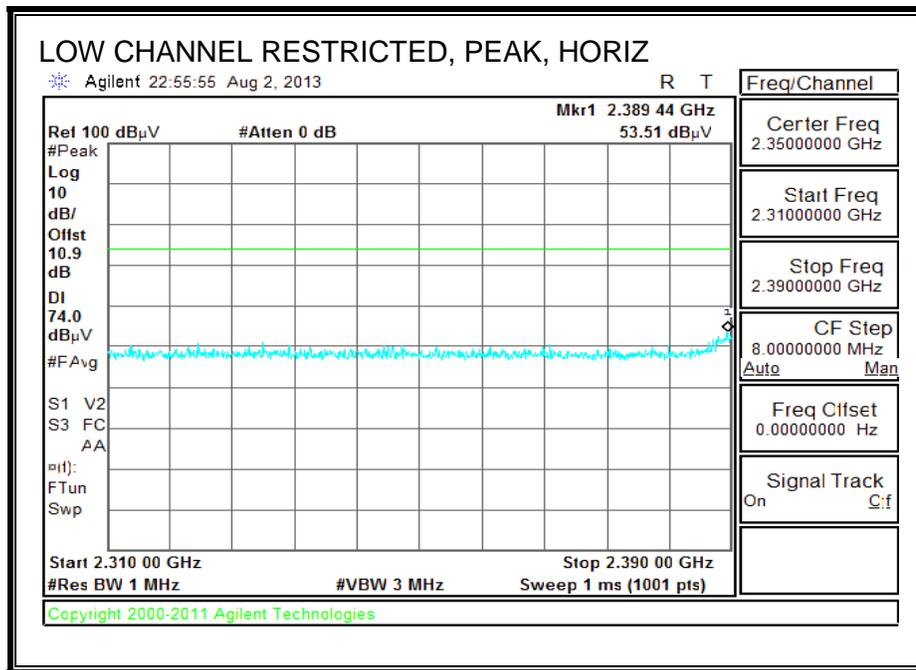
Trace Markers

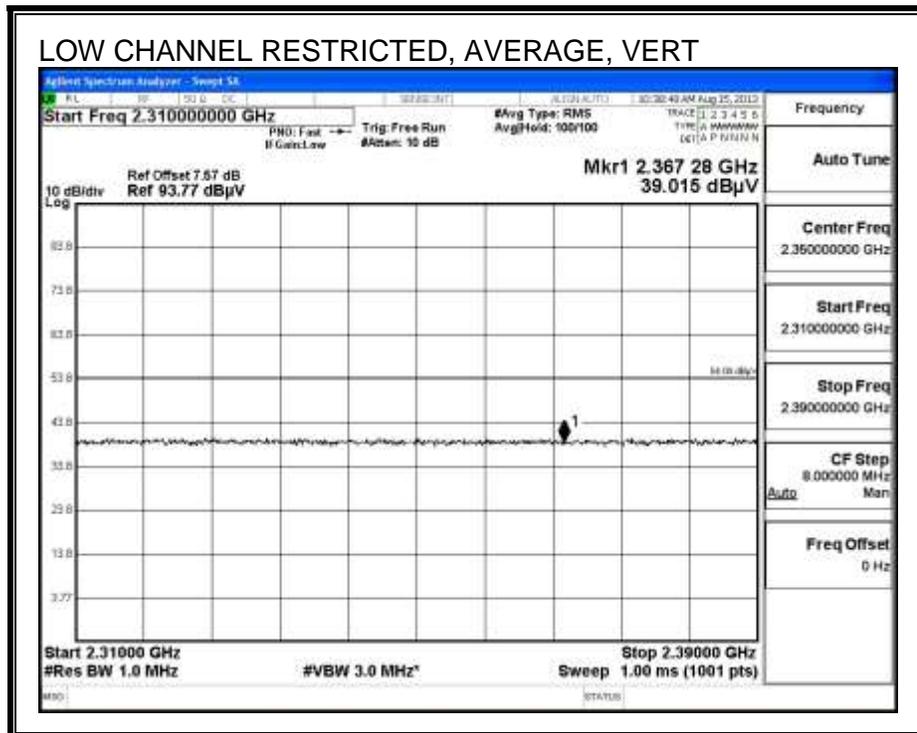
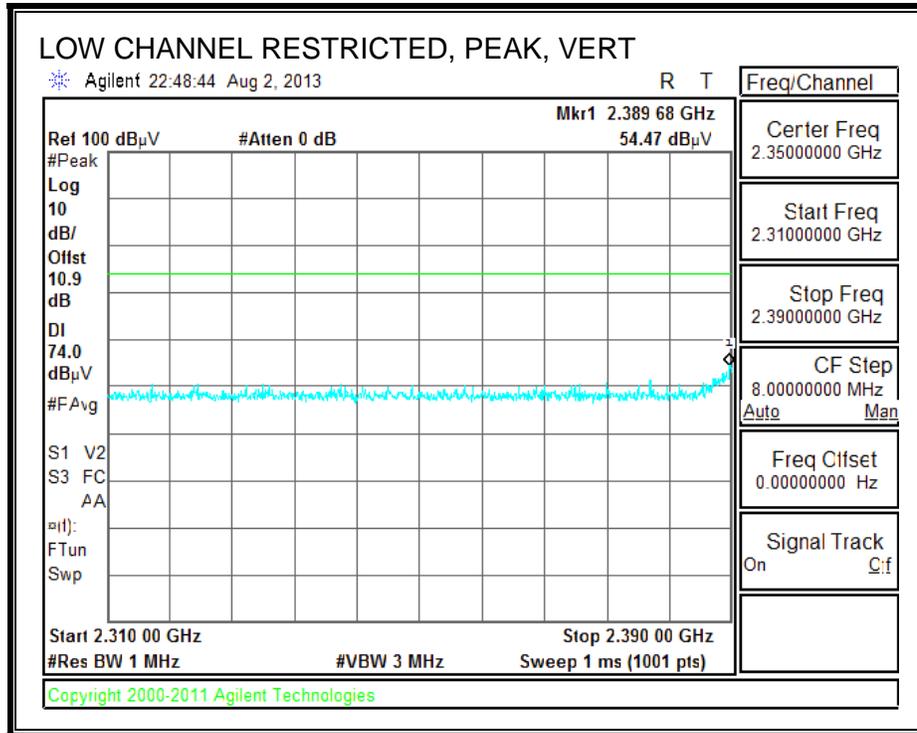
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	3.738	41.05	PK	33.5	-31.5	43.05	53.97	-10.92	74	-30.95	0-360	101	V
4	8.671	36.27	PK	36.1	-26.1	46.27	53.97	-7.7	74	-27.73	0-360	201	V

PK - Peak detector

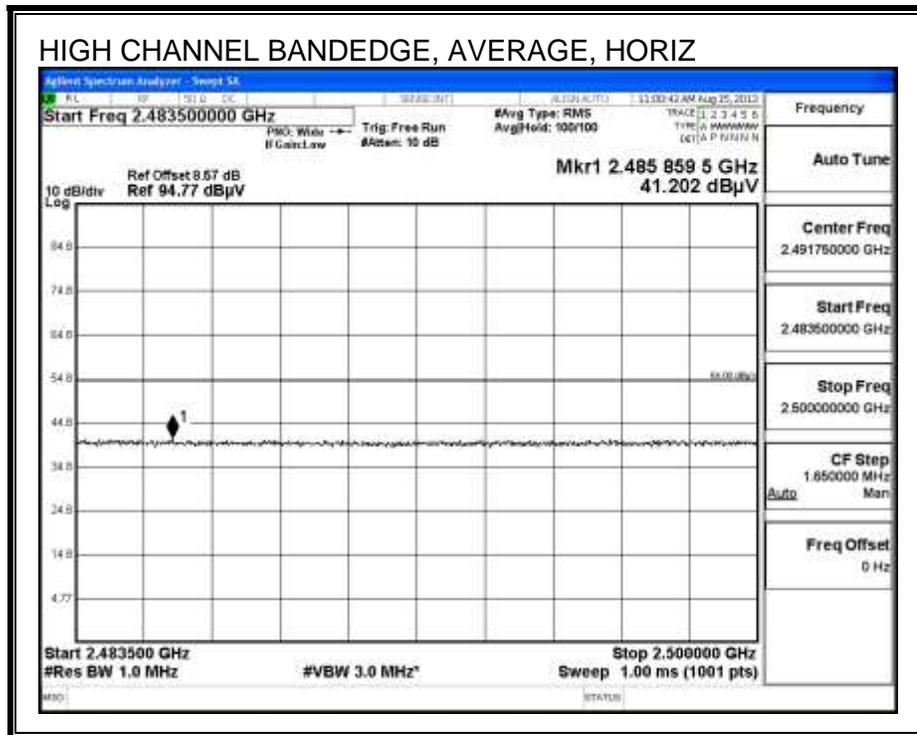
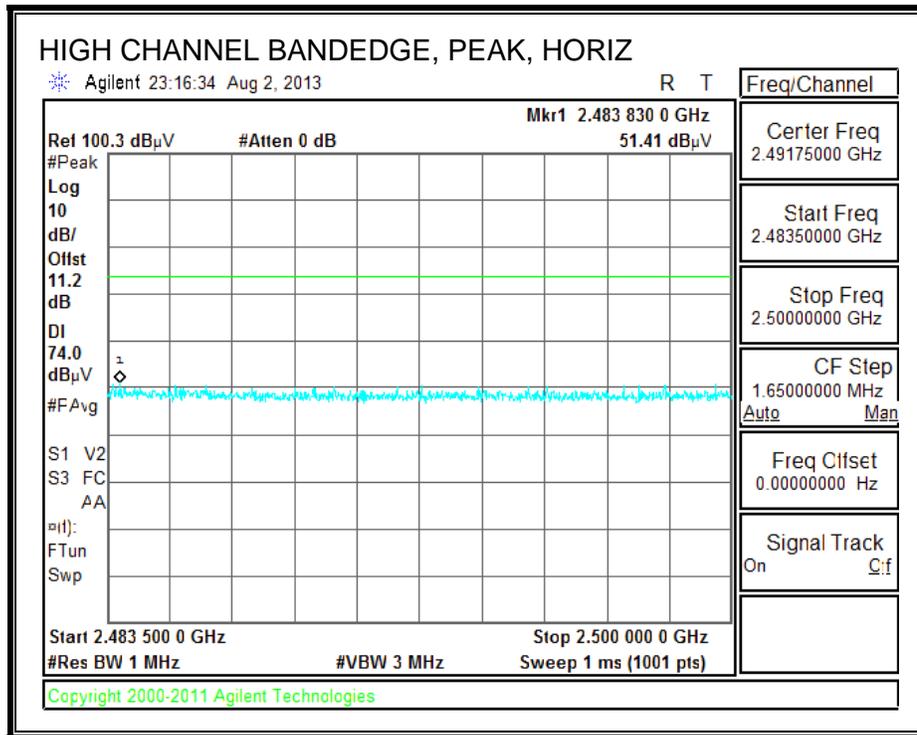
8.5. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 2.4 GHz BAND

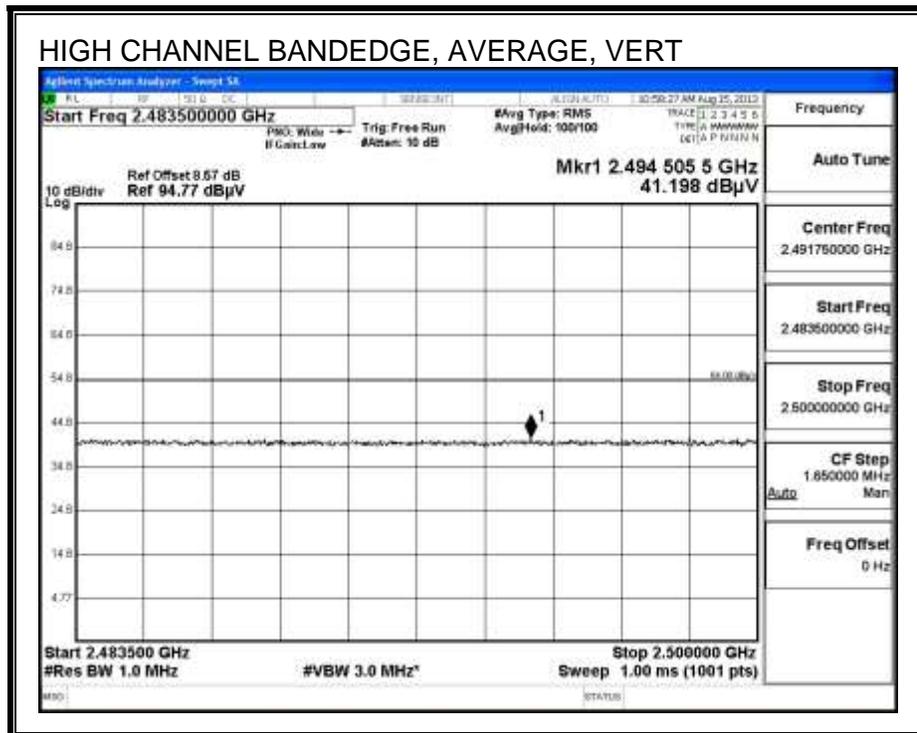
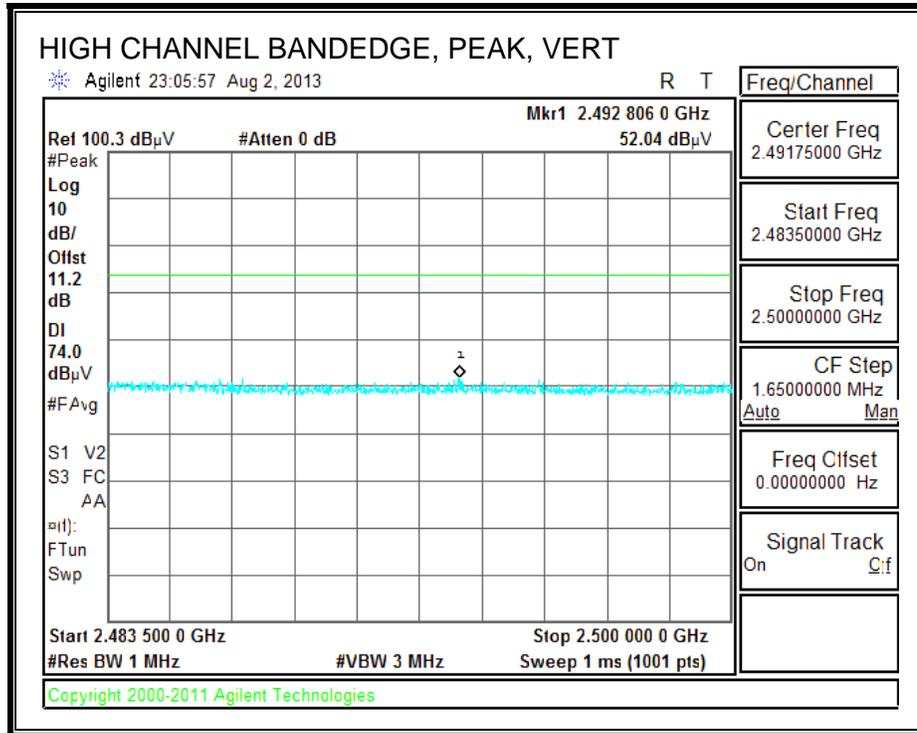
RESTRICTED BANDEDGE (LOW CHANNEL)





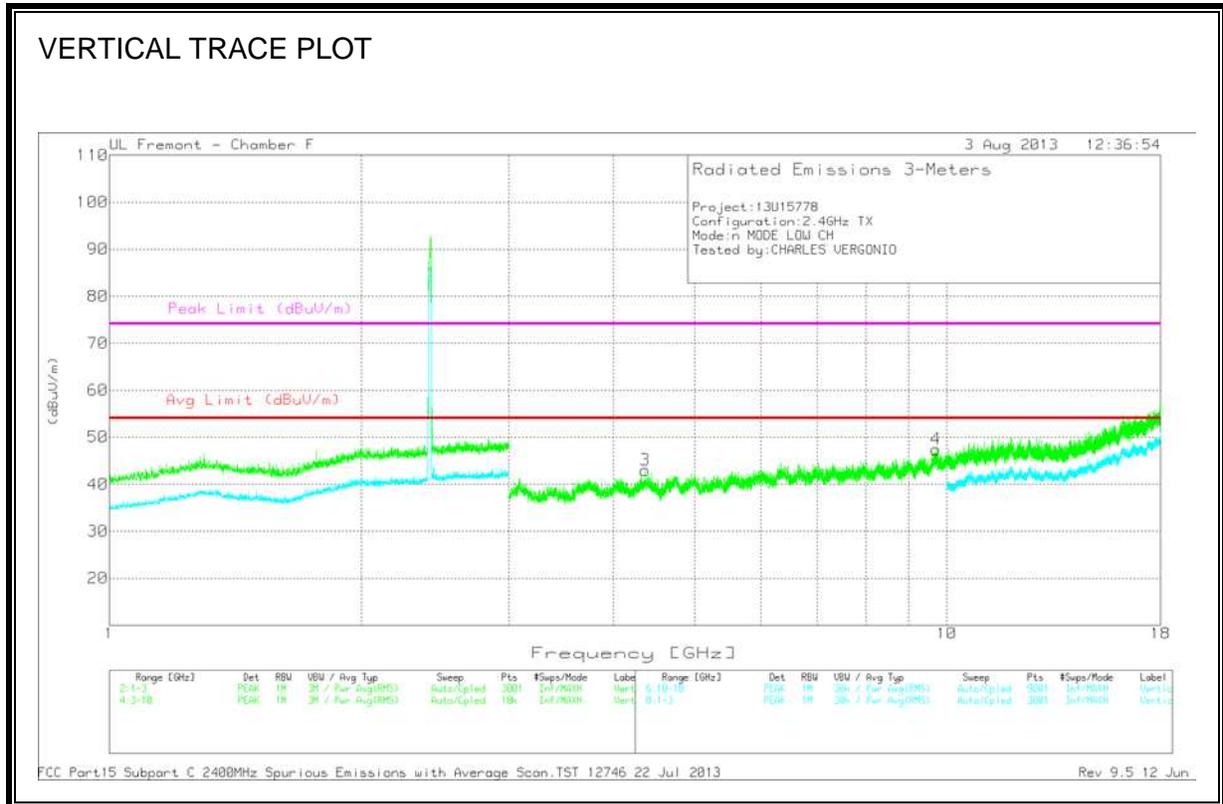
AUTHORIZED BANDEDGE (HIGH CHANNEL)





HARMONICS AND SPURIOUS EMISSIONS

Low Channel



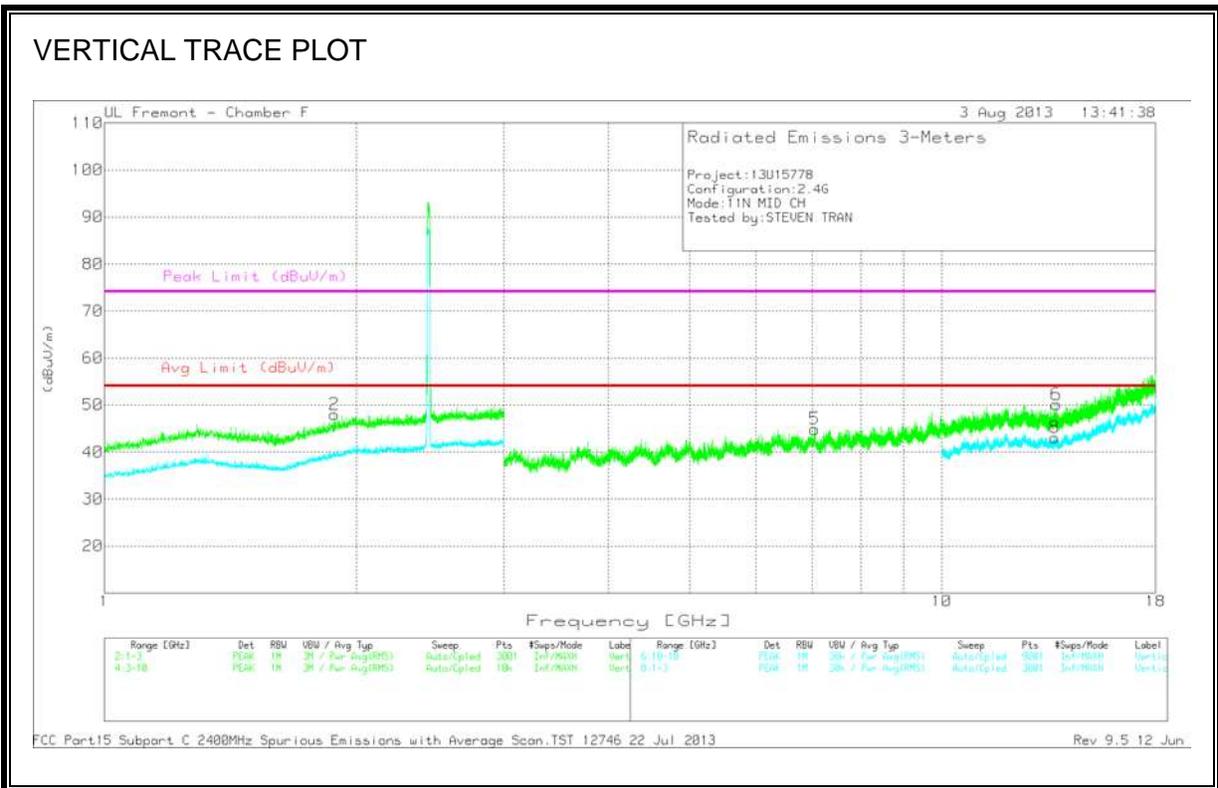
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cb/Fit r/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	4.365	40.5	PK	33.6	-31.1	43	53.97	-10.97	74	-31	0-360	100	V
4	9.71	35.42	PK	37.4	-25.4	47.42	53.97	-6.55	74	-26.58	0-360	100	V

PK - Peak detector

Mid Channel



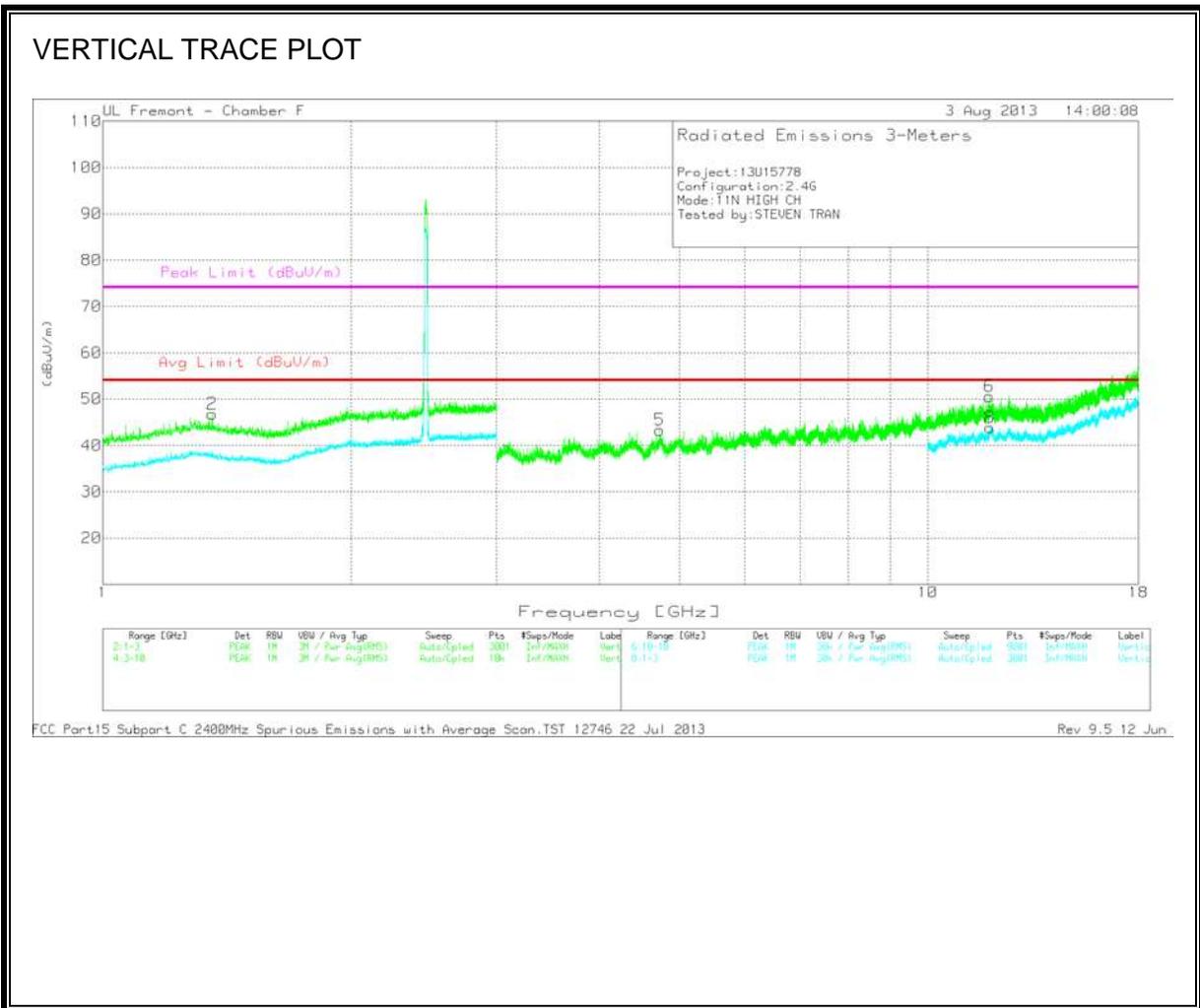
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cb/Flt r/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	1.883	41.81	PK	31	-24.8	48.01	53.97	-5.96	74	-25.99	0-360	101	V
5	7.053	37.77	PK	35.7	-28.6	44.87	53.97	-9.1	74	-29.13	0-360	200	V
6	13.703	37.19	PK	39.1	-26.2	50.09	-	-	74	-23.91	0-360	200	V
8	13.651	30.38	PK	39.1	-26.4	43.08	53.97	-10.89	-	-	0-360	201	V

PK - Peak detector

High Channel



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

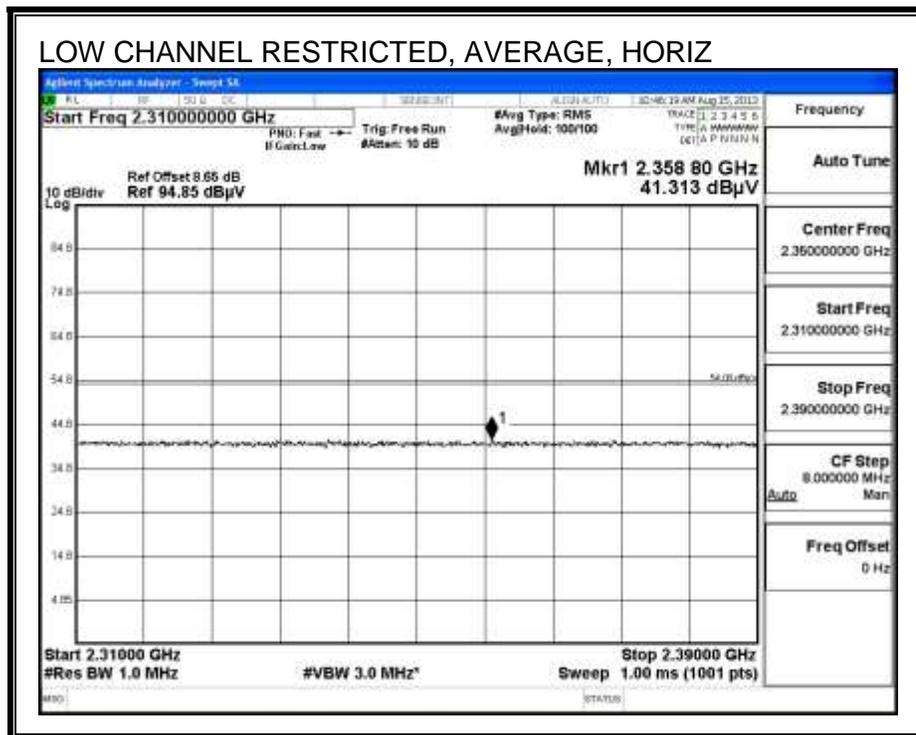
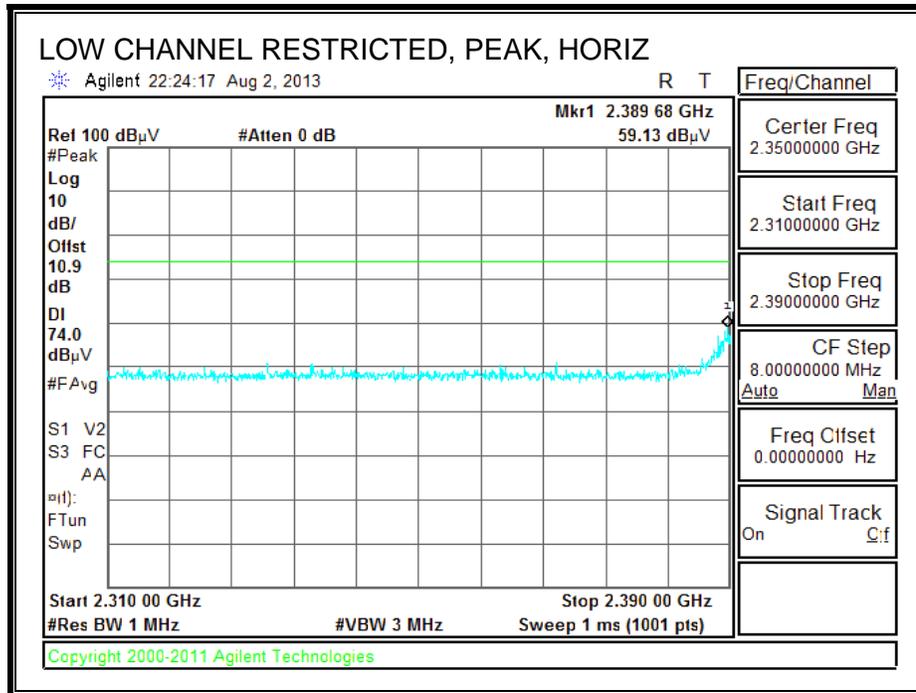
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cb/Filter/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	1.357	42.7	PK	29.6	-25.5	46.8	53.97	-7.17	74	-27.2	0-360	101	V
5	4.732	40.2	PK	34.1	-31	43.3	53.97	-10.67	74	-30.7	0-360	101	V
6	11.873	35.99	PK	39.3	-24.7	50.59	-	-	74	-23.41	0-360	201	V
8	11.888	28.94	PK	39.3	-24.4	43.84	53.97	-10.13	-	-	0-360	101	V

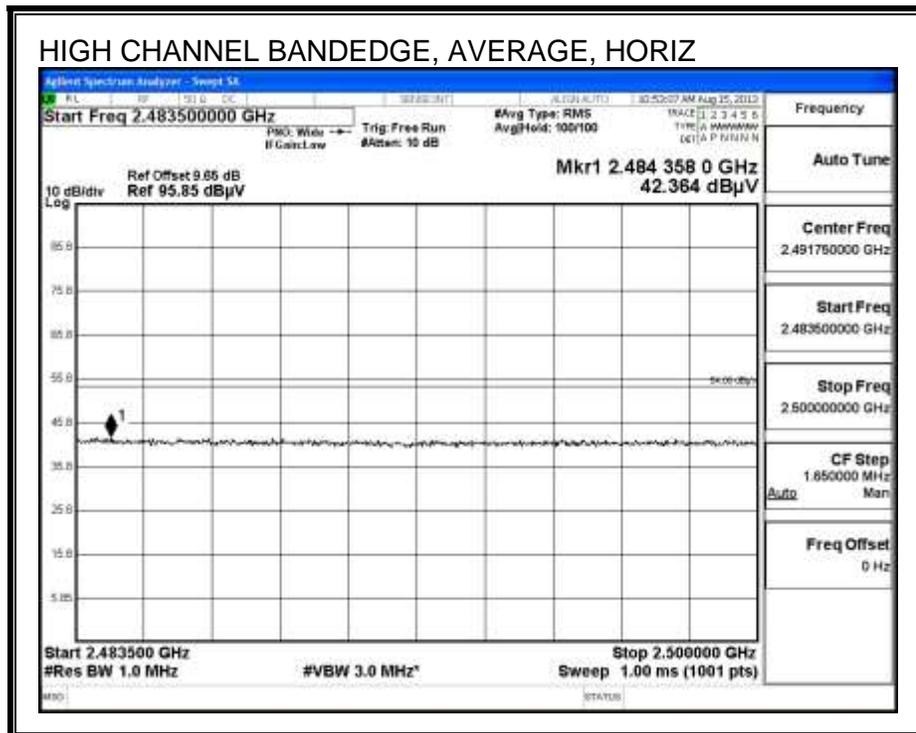
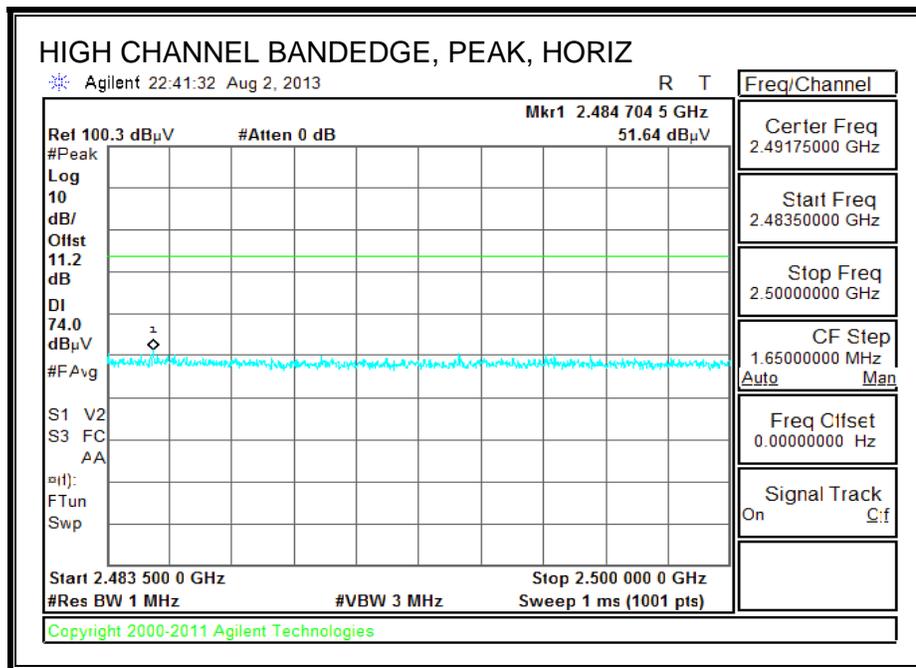
PK - Peak detector

8.6. TX ABOVE 1 GHz 802.11ac VHT20 MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

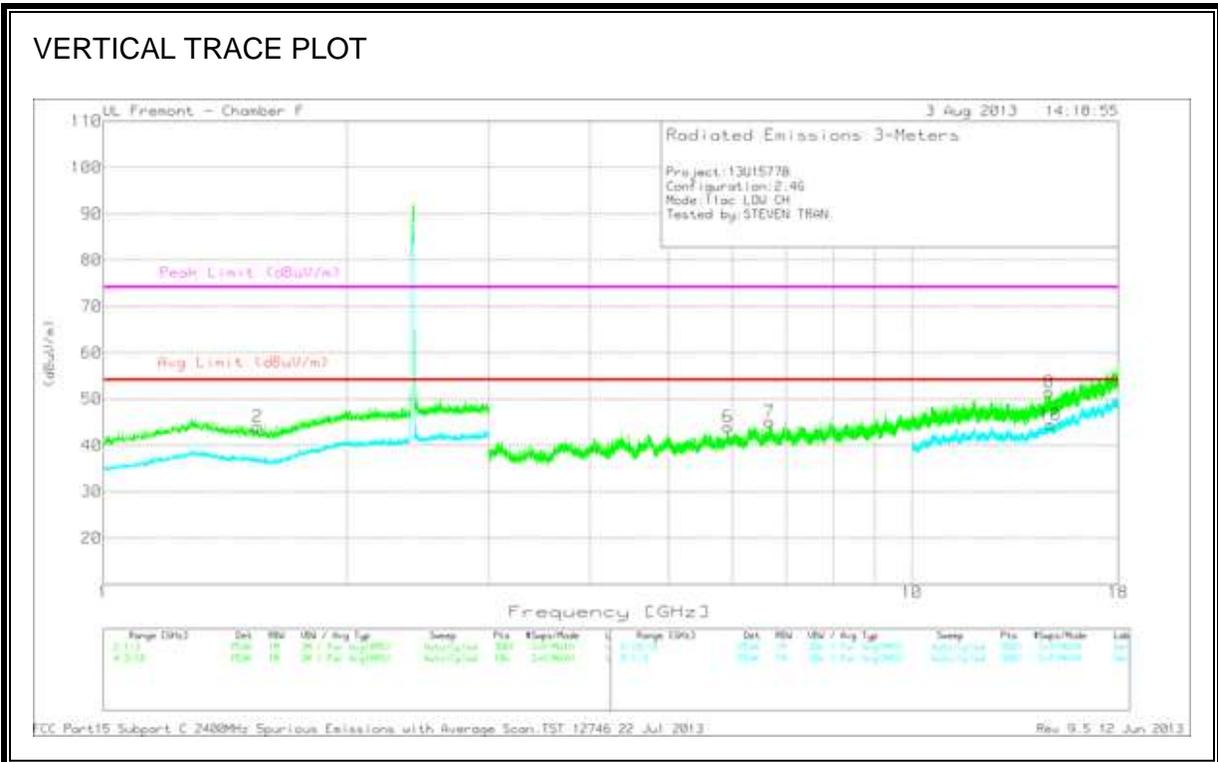


AUTHORIZED BANDEDGE (HIGH CHANNEL)



HARMONICS AND SPURIOUS EMISSIONS

Low Channel



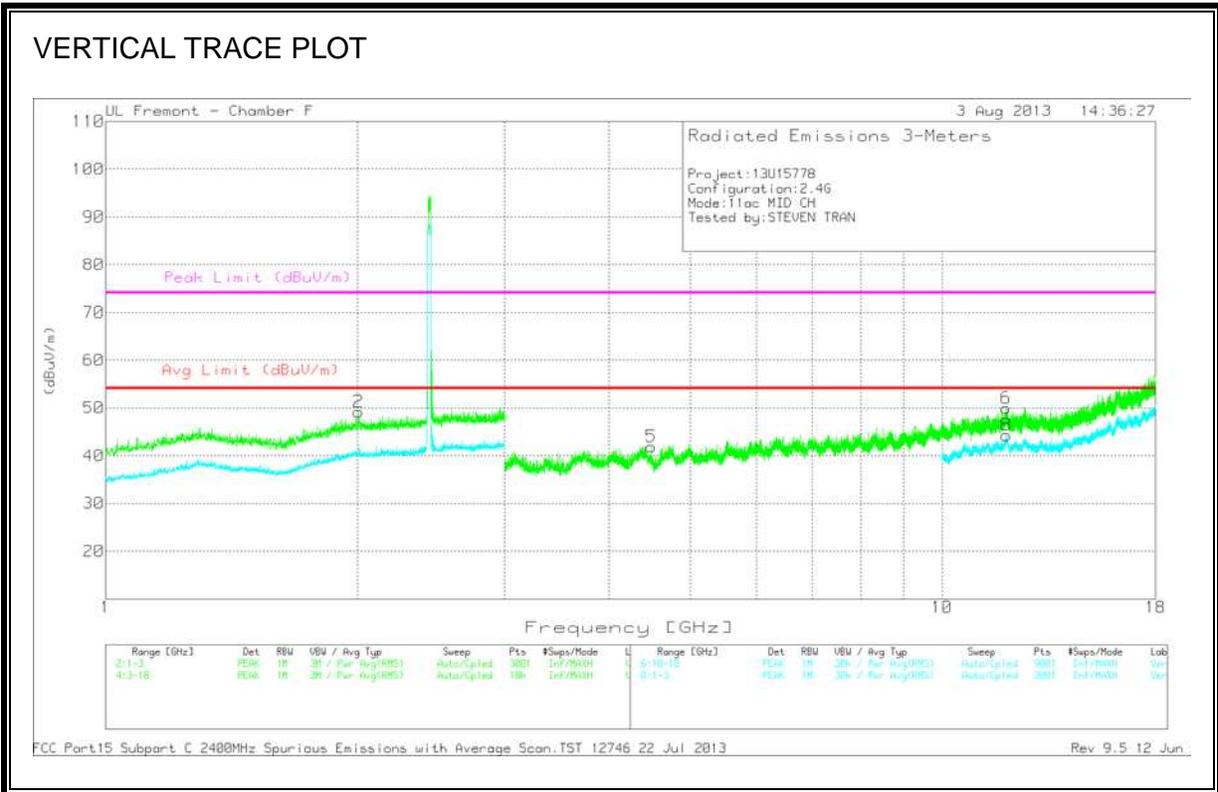
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cb/F/r/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	1.553	40.94	PK	28.4	-25.3	44.04	53.97	-9.93	74	-29.96	0-360	101	V
6	5.922	39.19	PK	35.3	-30.5	43.99	53.97	-9.98	74	-30.01	0-360	200	V
7	6.672	38.21	PK	35.8	-28.9	45.11	53.97	-8.86	74	-28.89	0-360	200	V
10	14.832	30.28	PK	40	-25.8	44.48	53.97	-9.49	74	-29.52	0-360	201	V

PK - Peak detector

Mid Channel



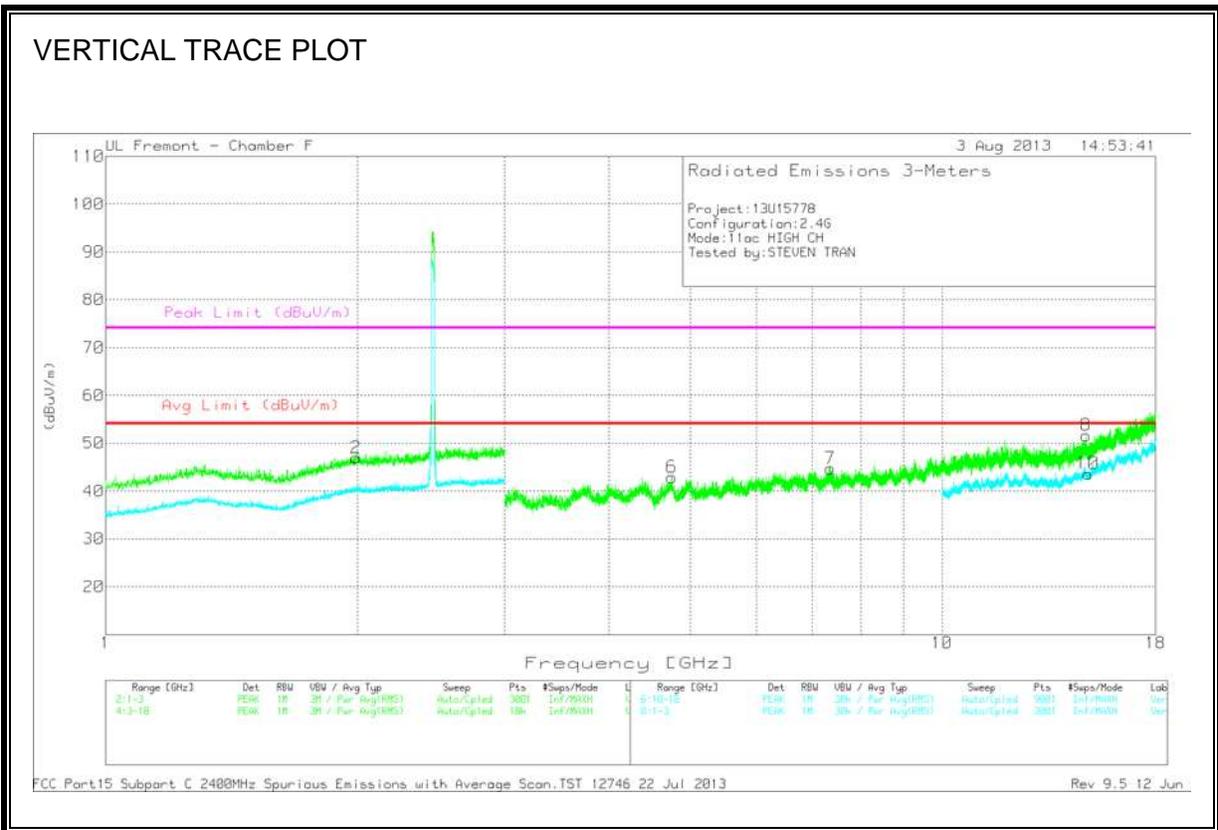
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cb/Fit r/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.007	42.19	PK	31.6	-24.6	49.19	53.97	-4.78	74	-24.81	0-360	201	V
5	4.492	39.87	PK	33.9	-31.9	41.87	53.97	-12.1	74	-32.13	0-360	101	V
8	11.94	29.07	PK	39.3	-24.1	44.27	53.97	-9.7	74	-29.73	0-360	101	V

PK - Peak detector

High Channel



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

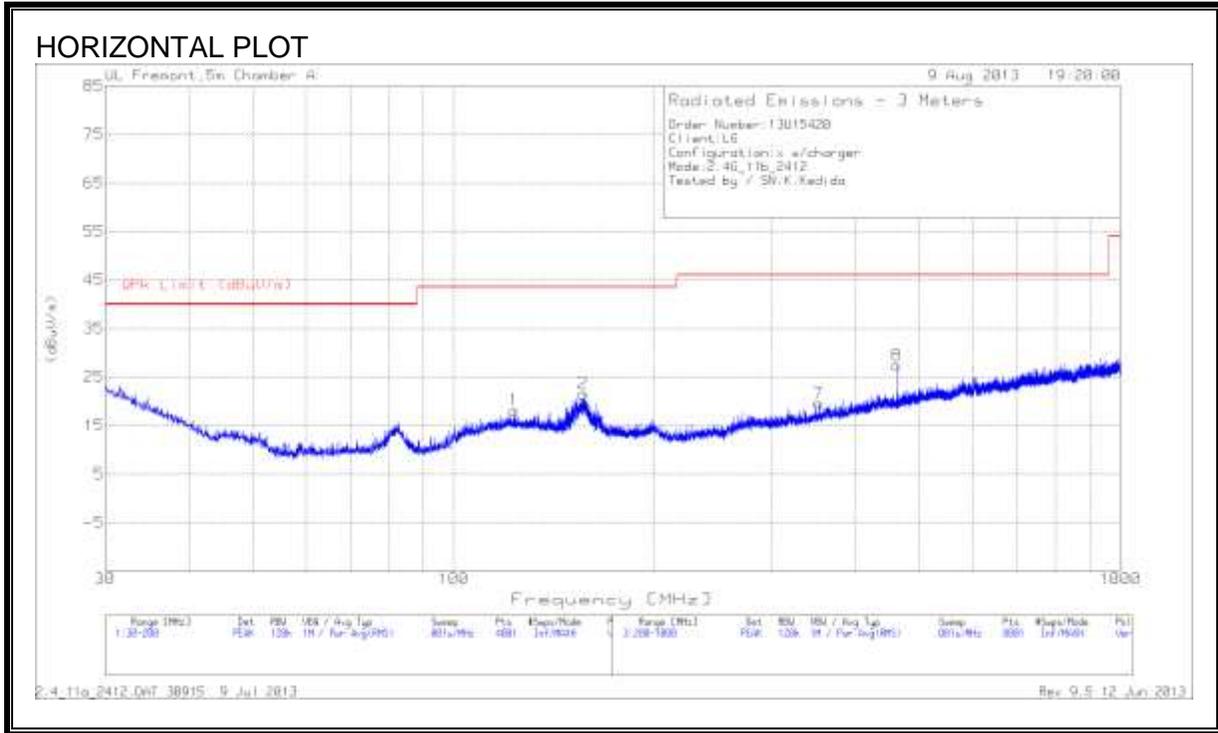
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cb/F/r/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	1.994	40.06	PK	31.6	-24.7	46.96	53.97	-7.01	74	-27.04	0-360	201	V
6	4.754	40.08	PK	34.1	-31.3	42.88	53.97	-11.09	74	-31.12	0-360	201	V
7	7.354	37.22	PK	35.7	-28.2	44.72	53.97	-9.25	74	-29.28	0-360	201	V
10	14.942	29.71	PK	40.1	-26.2	43.61	53.97	-10.36	74	-30.39	0-360	201	V

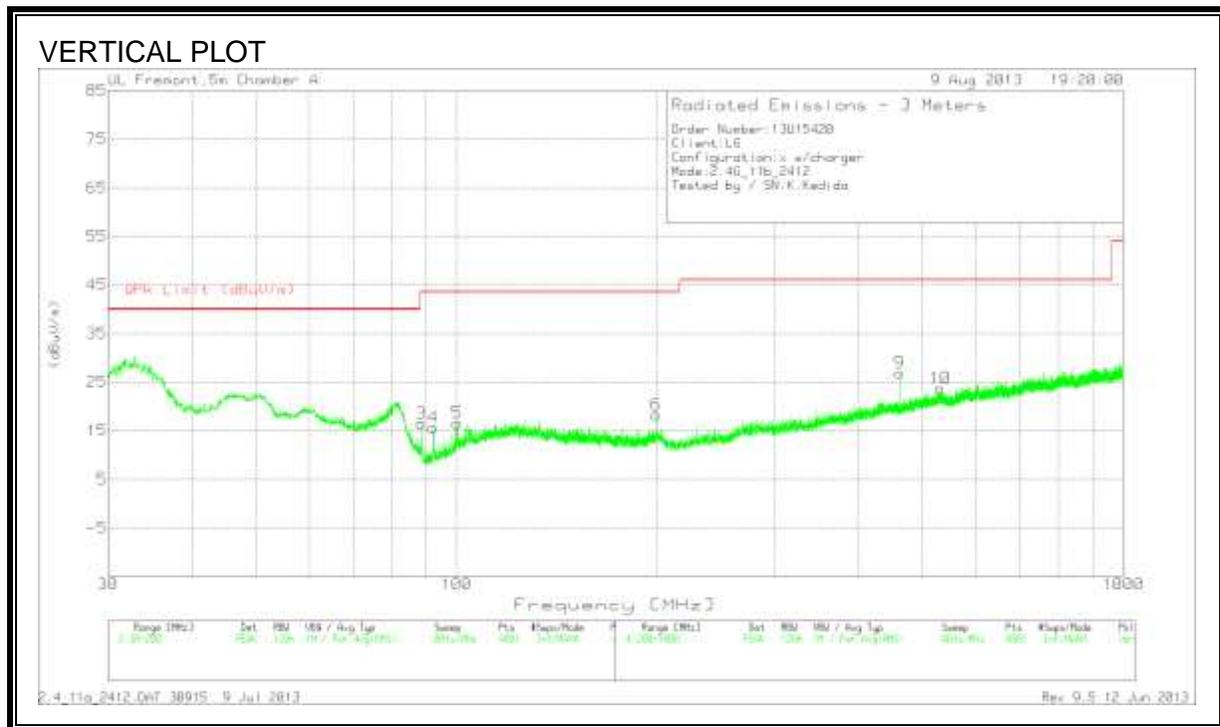
PK - Peak detector

8.7. WORST-CASE BELOW 1 GHz

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



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



Below 1G Data

Frequency (MHz)	Meter Reading (dBuV)	Det	AF T477 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
123.245	30.96	PK	13.8	-26.7	18.06	43.52	-25.46	0-360	200	H
156.4375	35.77	PK	12.3	-26.5	21.57	43.52	-21.95	0-360	200	H
88.5225	35.88	PK	7.6	-27	16.48	43.52	-27.04	0-360	100	V
92.1775	34.39	PK	8.2	-26.9	15.69	43.52	-27.83	0-360	100	V
100.295	33.09	PK	10.4	-26.9	16.59	43.52	-26.93	0-360	100	V
199.065	32.09	PK	12.3	-26.1	18.29	43.52	-25.23	0-360	100	V
352.6	30.33	PK	14.5	-25.3	19.53	46.02	-26.49	0-360	100	H
461.6	35.37	PK	16.7	-24.7	27.37	46.02	-18.65	0-360	400	H
461.6	34.89	PK	16.7	-24.7	26.89	46.02	-19.13	0-360	200	V
531.3	29.56	PK	18.2	-24.1	23.66	46.02	-22.36	0-360	400	V