



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

CERTIFICATION TEST REPORT

FOR

TABLET DEVICE

MODEL NUMBER: A1566

FCC ID: BCGA1566

IC: 579C-A1566

REPORT NUMBER: 14U18207-E2, Revision A

ISSUE DATE: SEPTEMBER 12, 2014

Prepared for
APPLE, INC.
1 INFINITE LOOP
CUPERTINO, CA 95014, U.S.A.

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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
---	09/02/14	Initial Issue	F. de Anda
A	09/12/14	Update EUT description	D. Garcia

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: APPLE, INC.
1 INFINITE LOOP
CUPERTINO, CA 95014, U.S.A.

EUT DESCRIPTION: TABLET DEVICE

MODEL: A1566

SERIAL NUMBER: DLXMX010G4LV(Conducted), DLXMX00JG4LV(Radiated)

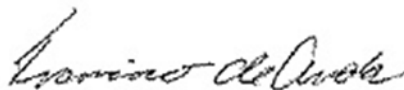
DATE TESTED: July 14, 2014 - July 25, 2014

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

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services 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 and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services 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:



FRANCISCO DE ANDA
Operations Manager
UL Verification Services Inc.

Tested By:



NANCY GARCIA
Lab Technician
UL Verification Services Inc

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2009, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 3, and RSS-210 Issue 8.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 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	☐ Chamber D
☐ Chamber B	☐ Chamber E
☐ Chamber C	☐ Chamber F
	☒ Chamber G
	☒ Chamber H

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://ts.nist.gov/standards/scopes/2000650.htm>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

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 tablet with multimedia functions (music, application support, and video), IEEE 802.11a/b/g/n/ac radio, Bluetooth and BLE radio. The rechargeable battery is not user accessible.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2402 - 2480	BLE	8.67	7.37

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PiFA antenna, with a maximum gain of +2.016dBi.

5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was 12B331

5.5. WORST-CASE CONFIGURATION AND MODE

The worst-case mode and channel used for 30-1000 MHz radiated and power line conducted emissions was including headset, AC charger and the mode and channel with the highest output power.

The worst-position was the EUT with highest emissions. To determine the worst-case, the EUT is a portable device that has three orientations; therefore X, Y and Z orientations have been investigated with AC adapter and Headset, and the worst case was found to be Y (Landscape) position without AC adapter and headset.

There are two vendors of the WiFi/Bluetooth radio modules: variant 1 and variant 2. The Wi-Fi/Bluetooth radio modules have the same mechanical outline (e.g., the same package dimension and pin-out layout), use the same on-board antenna matching circuit, have an identical antenna structure, and are built and tested to conform to the same specifications and to operate within the same tolerances.

Baseline testing was performed on the two variants to determine the worst case on all conducted power and radiated emissions.

DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC/DC adapter	Apple	A1357	N/A	NA
Earphone	Apple	NA	NA	NA
Laptop	Apple	A1278	C02HJ0A7DTY4	NA
DC power supply	Sorensen	XT 15-4	1319A02780	NA

I/O CABLES (CONDUCTED TEST)

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	Antenna	1	SMA	Un-Shielded	0.2	To spectrum Analyzer
2	USB	1	USB	Shielded	1	N/A
3	DC	1	DC	Un-shielded	0.8	N/A

I/O CABLES (RADIATED ABOVE 1 GHZ)

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
None used						

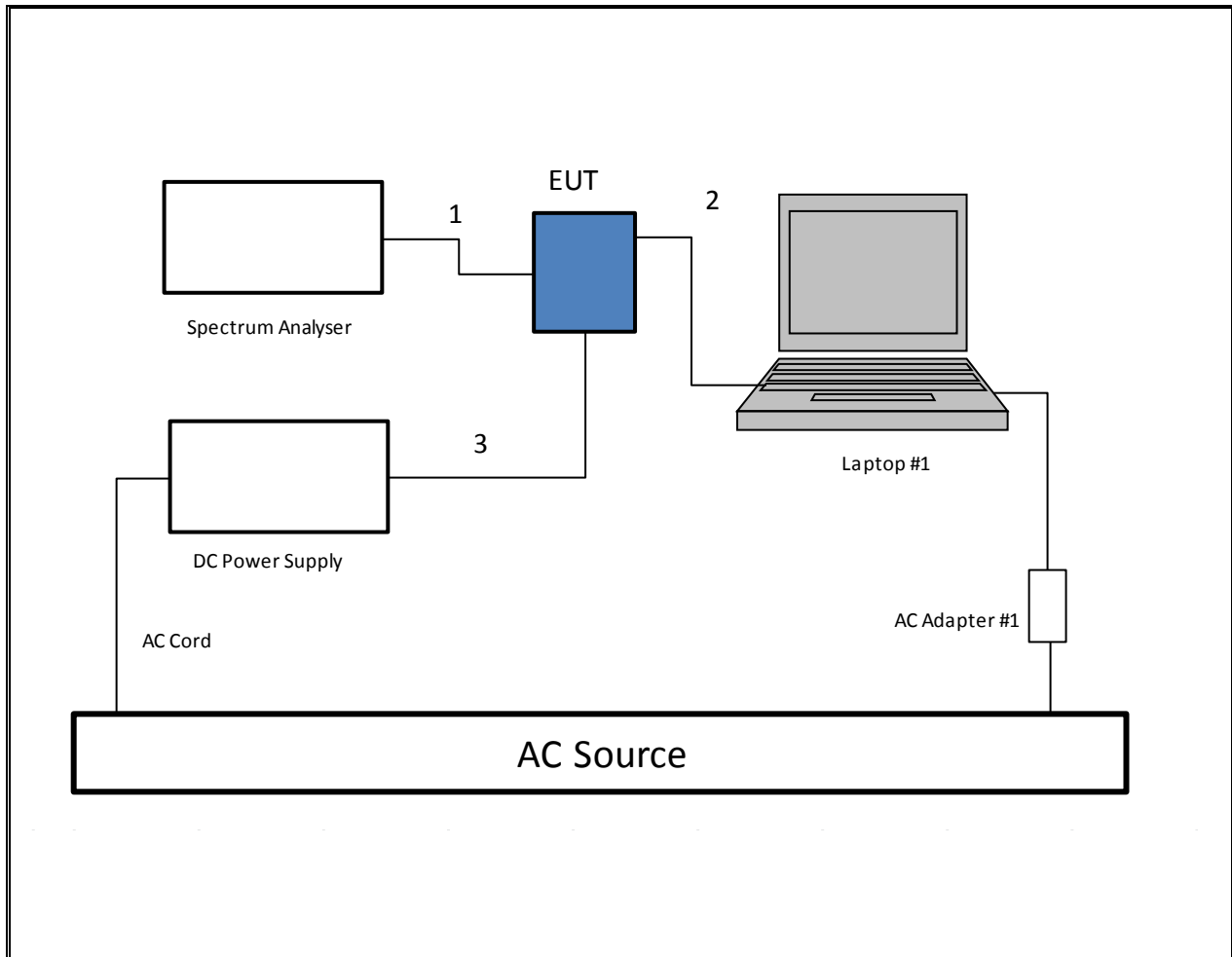
I/O CABLES (AC POWER CONDUCTED TEST and below 1 GHZ)

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	1	US115	Un-Shielded	0.8	NA
2	DC	1	lightning	Un-Shielded	1	NA
3	Audio	1	Jack	Un-Shielded	0.5	NA

TEST SETUP- CONDUCTED PORT

The EUT was tested connected to a host Laptop via USB cable adapter and spectrum analyzer to antenna port. Test software exercised the EUT.

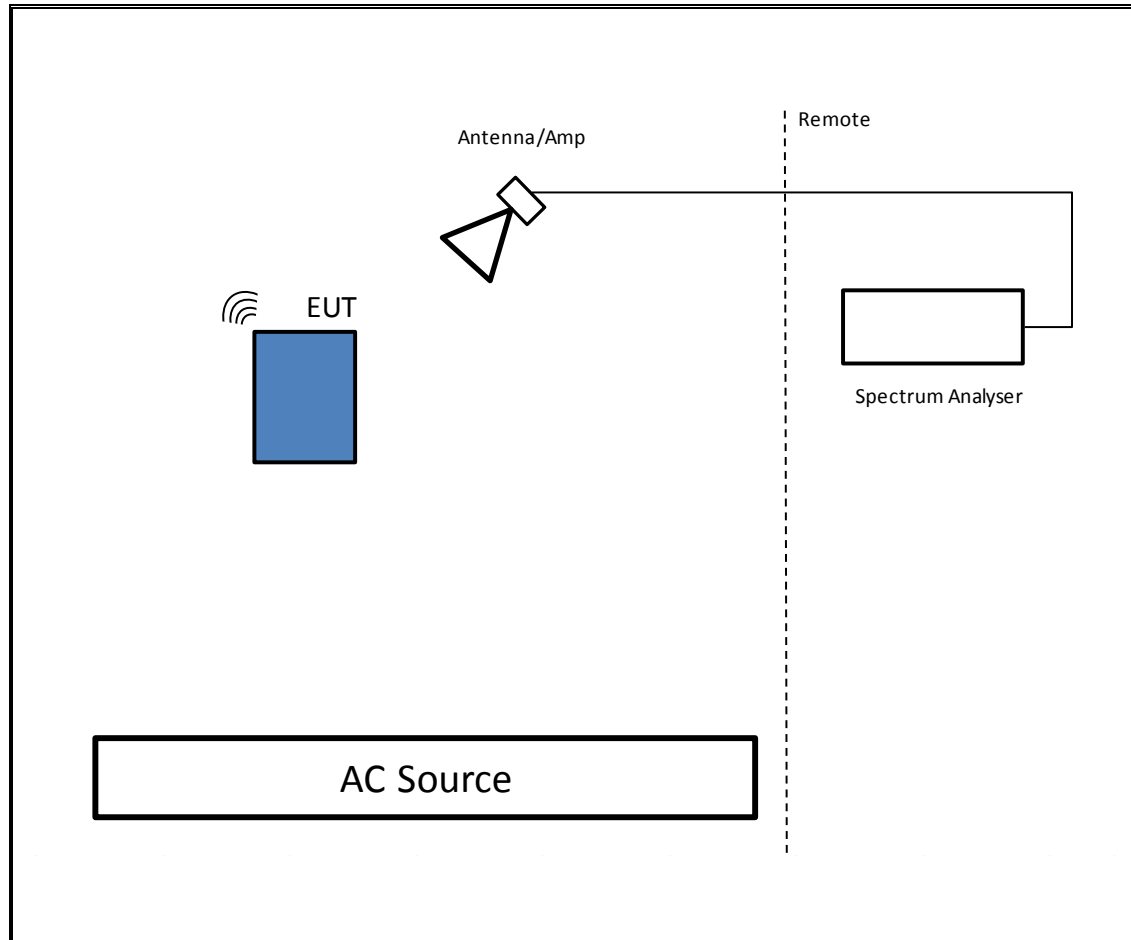
SETUP DIAGRAM



TEST SETUP- RADIATED-ABOVE 1 GHZ

The EUT was tested battery powered. Test software exercised the EUT.

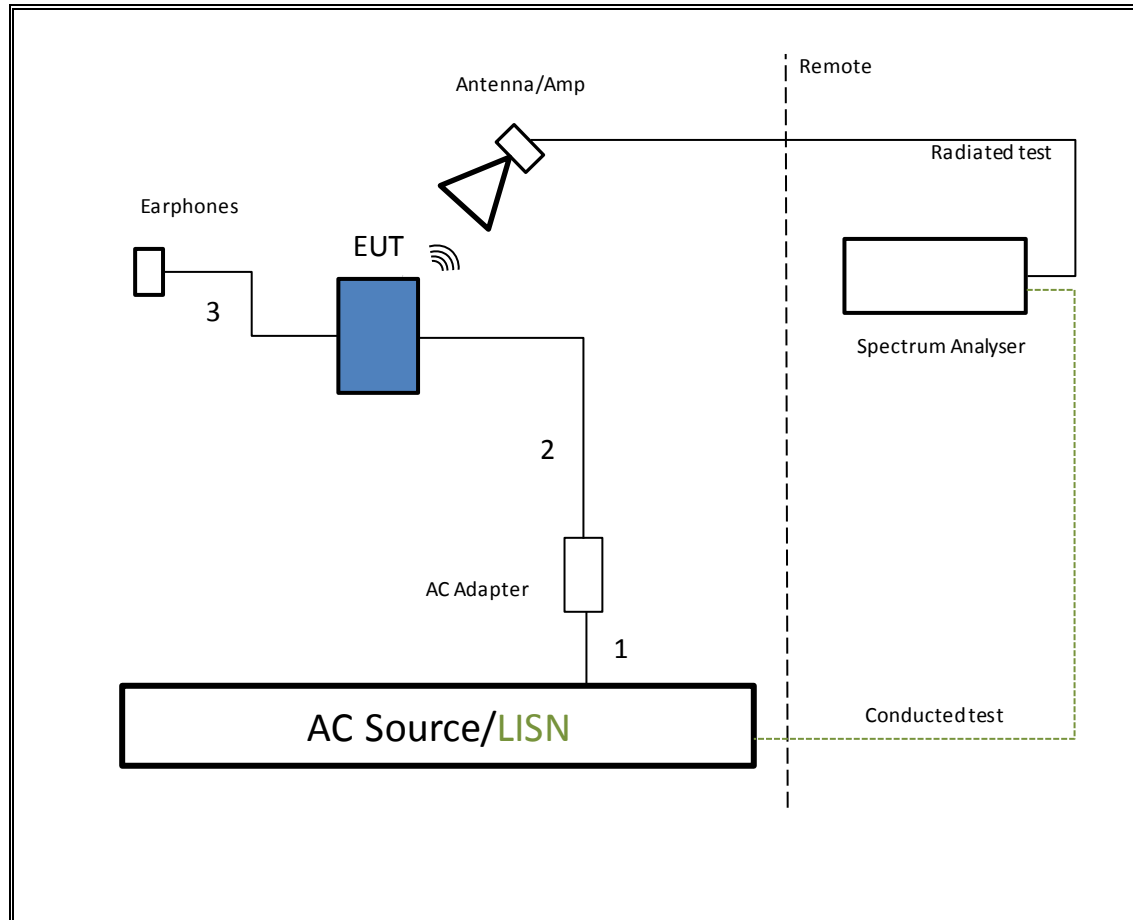
SETUP DIAGRAM



TEST SETUP- BELOW 1GHZ & AC LINE CONDUCTED TESTS

The EUT was tested with earphones connected and powered by AC adapter. Test software exercised the EUT.

SETUP DIAGRAM



6. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST				
Description	Manufacturer	Model	Asset	Cal Due
Antenna, Horn, 18 GHz	ETS Lindgren	3117	00165318	04/04/15
Antenna, Horn, 26.5 GHz	ARA	MWH-1826/B	C00980	11/26/14
Wideband Power Sensor	Agilent	N1921A	F00360	09/30/14
Peak Power Meter	Agilent / HP	N1911A	F00025	05/06/15
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY53310593	05/07/15
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A-544	RENTAL	05/02/15
Antenna, Bilog, 2 GHz	Sunol Sciences	JB3	A051314-2	05/14/15
Preamplifier, 1300 MHz (T835)	Sonoma	310	N02891	12/30/14
Preamplifier, 26.5 GHz	Agilent / HP	8449B	F00167	03/25/15
EMI Test Receiver, 9 kHz-7 GHz	R & S	ESCI 7	F00092	09/05/14
LISN, 30 MHz	FCC	LISN-50/250-25-2	C00626	01/14/15
Filter, LPF 5GHz	Micro-Tronics	LPS17541	F00174	08/24/14
RF-Amplifier 1-18Ghz	Miteq	AFS42-00101800-25-s-	F00005	08/24/14

7. MEASUREMENT METHODS

6 dB BW: KDB 558074 D01.

Output Power: KDB 558074 D01.

Power Spectral Density: KDB 558074 D01.

Out-of-band emissions in non-restricted bands: KDB 558074 D01.

Out-of-band emissions in restricted bands: KDB 558074 D01.

9. ANTENNA PORT TEST RESULTS

9.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (KHz)	Minimum Limit (KHz)
Low	2402	733.500	500.0
Middle	2440	682.500	500.0
High	2480	733.500	500.0

6 dB BANDWIDTH LOW CH

Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω DC SENSE:INT ALIGN: AUTO 11:43:56 AM Jul 15, 2014

PN0: Wide IF Gain: Low Trig: Free Run #Ave Type: RMS

TRACE 1 2 3 4 5 6 TYPE: N N N N N N N N DET: P N N N N N

Ref Offset 11 dB Ref 20.00 dBm Δ Mkr2 733.5 kHz -0.03 dB

10 dB/div Log

Center 2.4020000 GHz Span 1.500 MHz
#Res BW 100 kHz #VBW 300 kHz Sweep 20.0 ms (1001 pts)

MKR	MODE	TRIG	SEL	F	P	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.402 243 0 GHz	8.36 dBm			
2	Δ 3	1	f	733.5 kHz (Δ)	-0.03 dB			
3	F	1	f	2.401 628 0 GHz	2.19 dBm			
4								
5								
6								
7								
8								
9								
10								
11								
12								

MSG STATUS

Frequency

Auto Tune

Center Freq 2.402000000 GHz

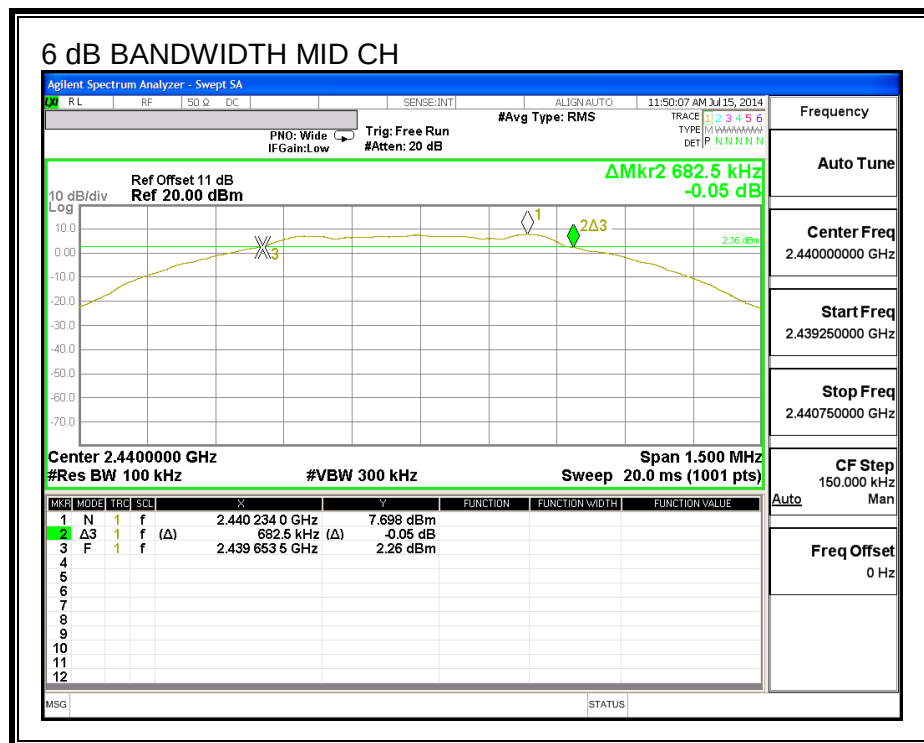
Start Freq 2.401250000 GHz

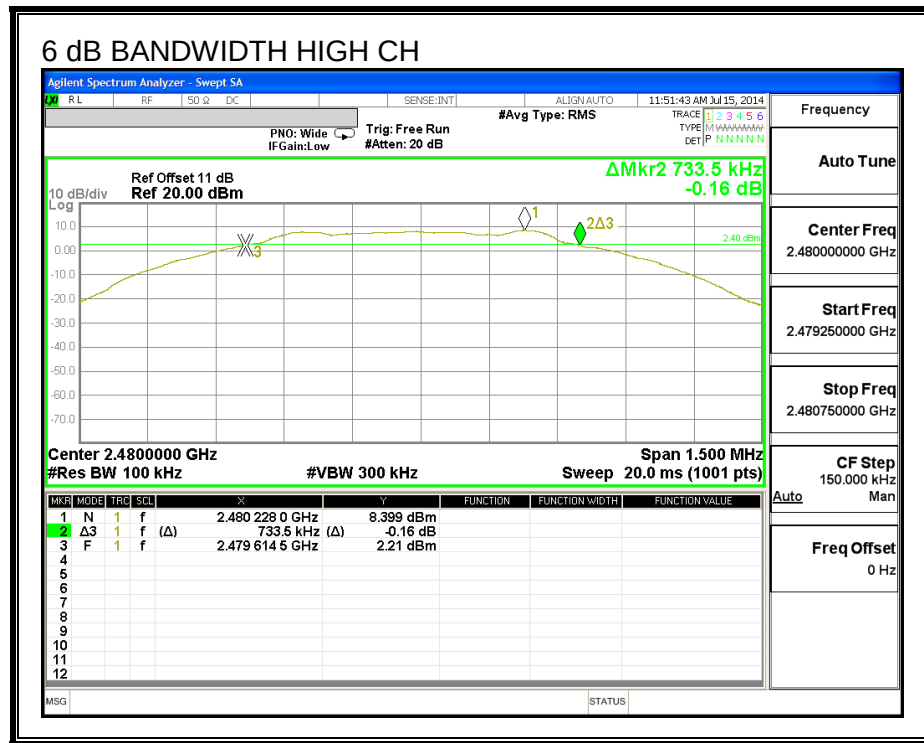
Stop Freq 2.402750000 GHz

CF Step 150.000 kHz

Auto Man

Freq Offset 0 Hz





9.2. 99% BANDWIDTH

LIMIT

None; for reporting purposes only.

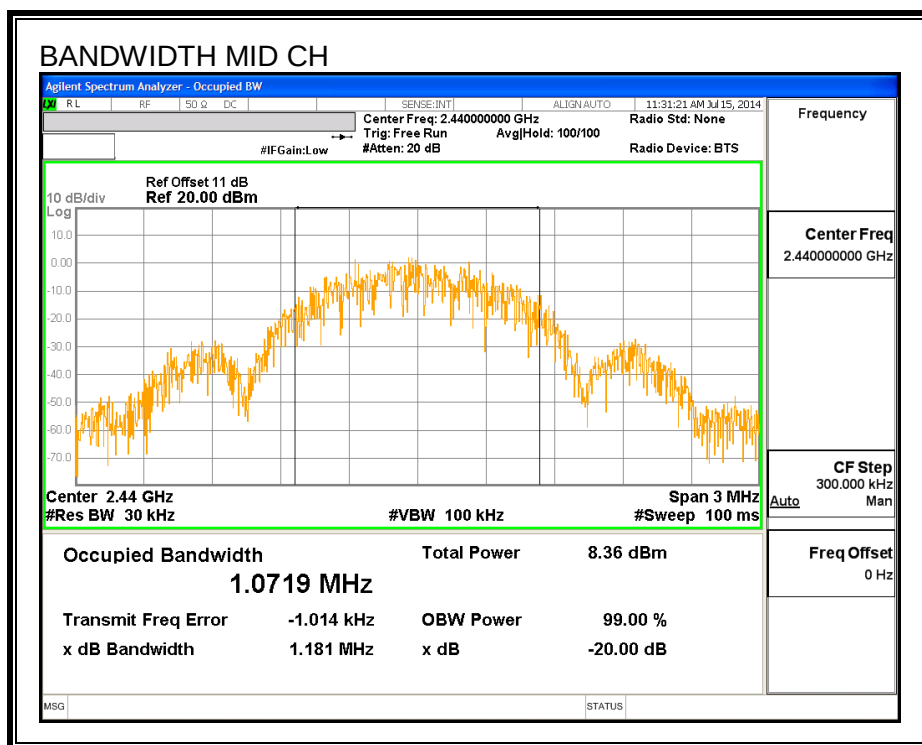
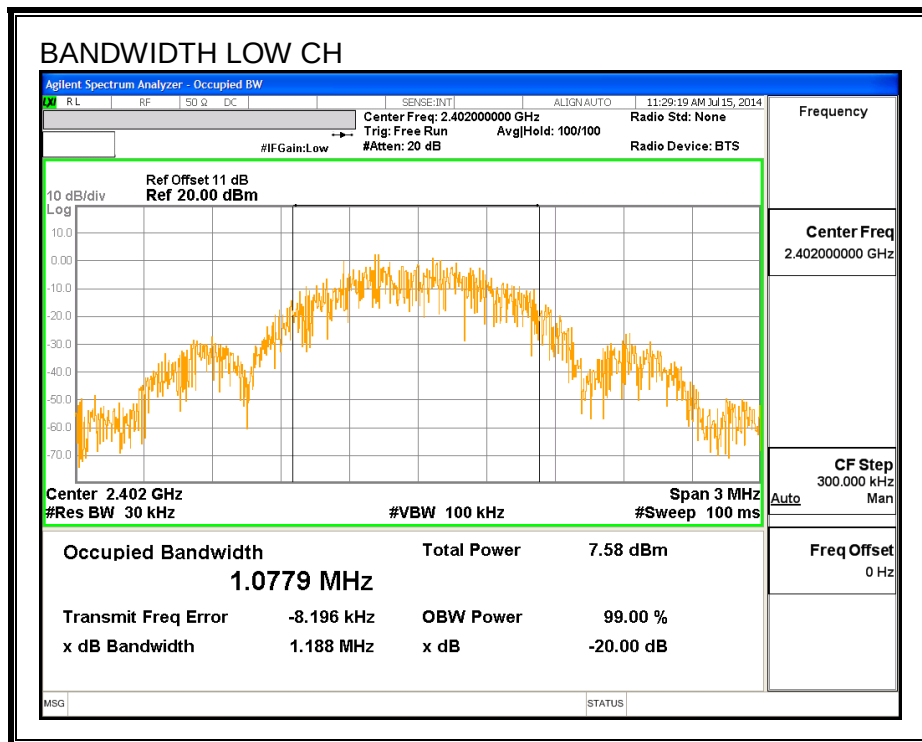
TEST PROCEDURE

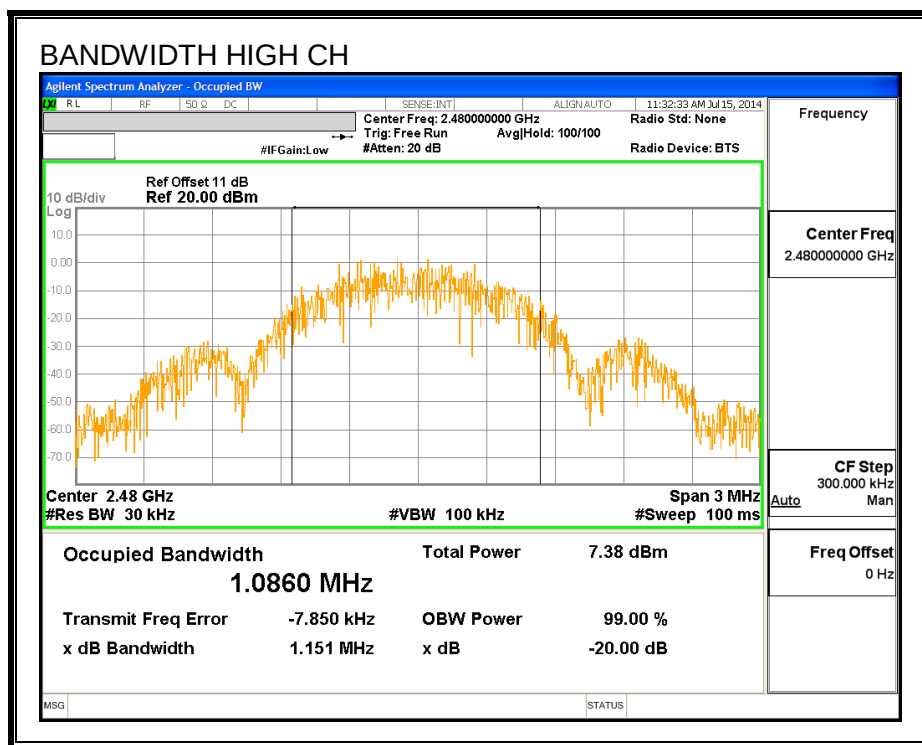
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth and to 1% of the span. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

RESULTS

Frequency (MHz)	99% Bandwidth (MHz)
2402	1.0779
2440	1.0719
2480	1.0860

99% BANDWIDTH





9.3. OUTPUT POWER

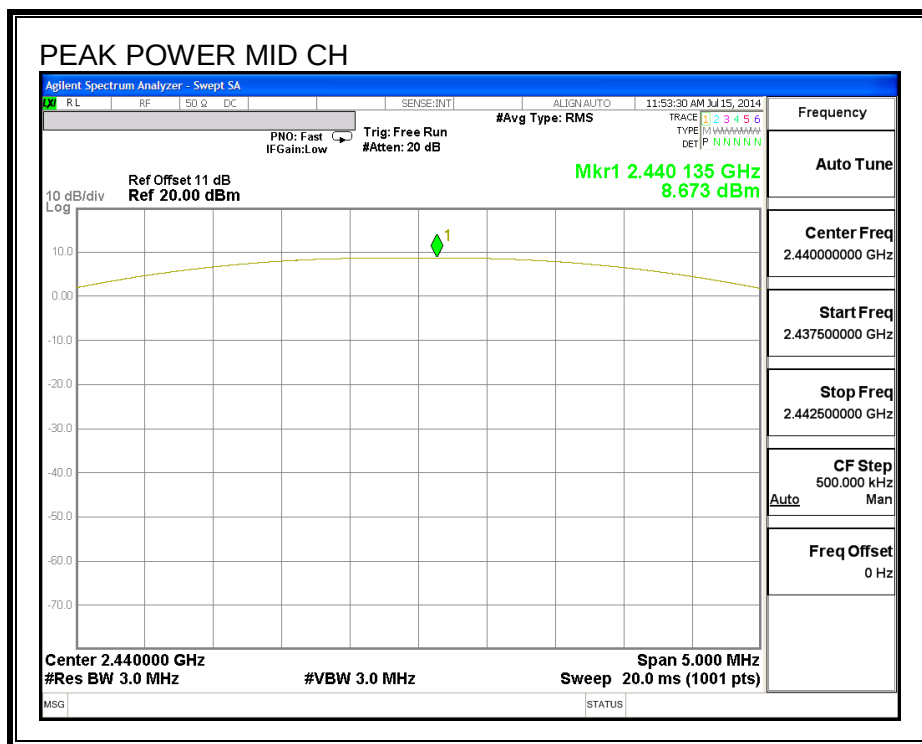
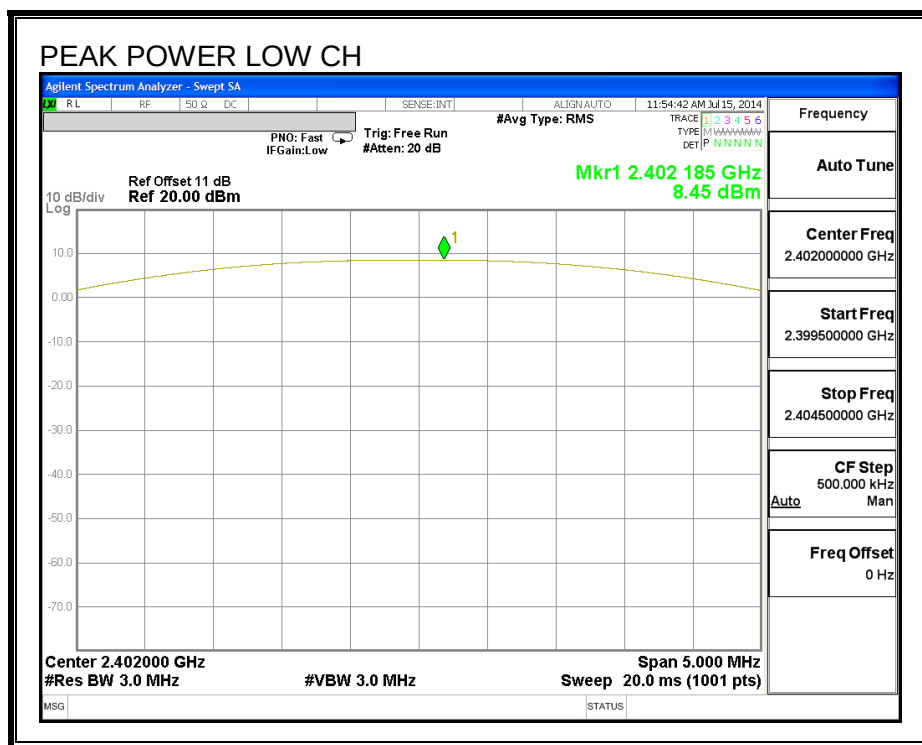
LIMIT

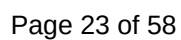
§15.247 (b) (1)

The maximum antenna gain is less than 6 dBi, therefore the limit is 30 dBm.

RESULTS

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	8.450	30	-21.55
Middle	2440	8.673	30	-21.33
High	2480	8.350	30	-21.65





9.4. AVERAGE POWER

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

The cable assembly insertion loss of 10.5 dB (including 10 dB pad and 0.5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	8.31
Middle	2440	8.42
High	2480	8.4

9.5. POWER SPECTRAL DENSITY

LIMITS

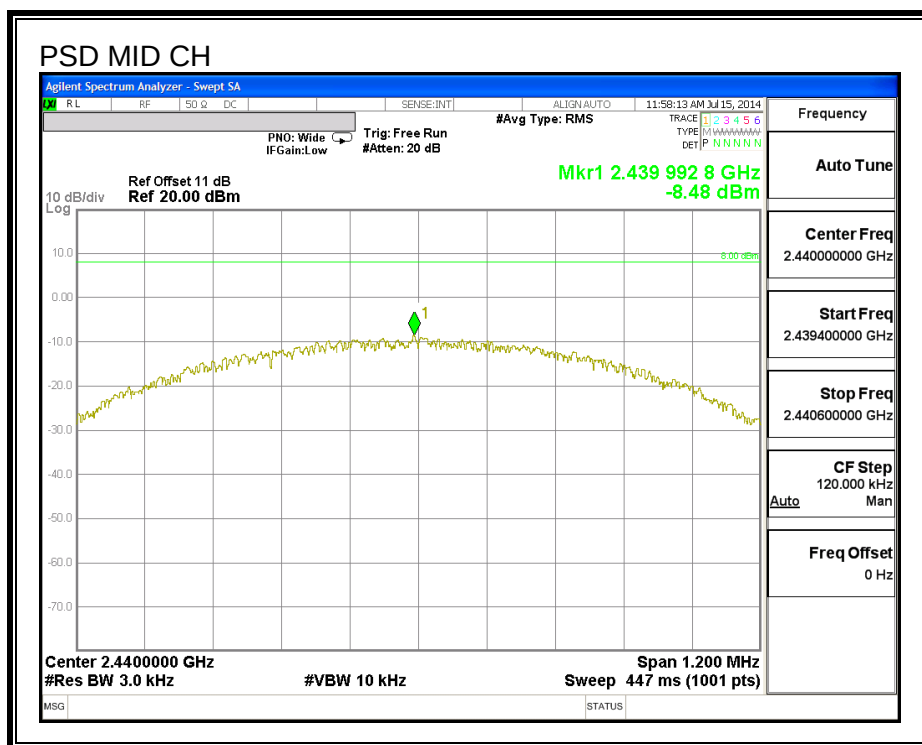
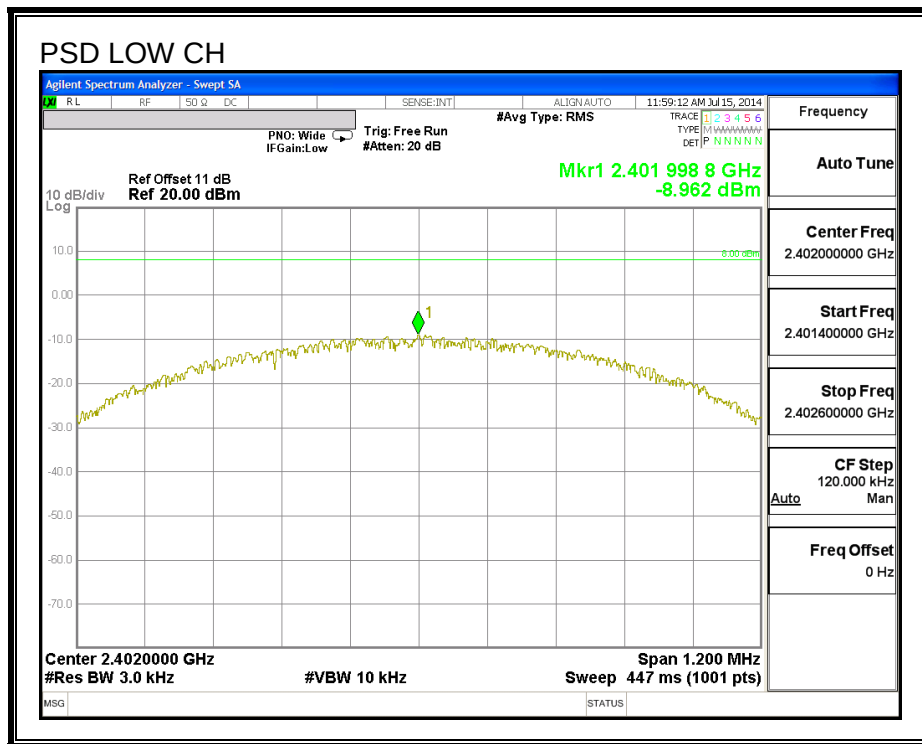
FCC §15.247 (e)

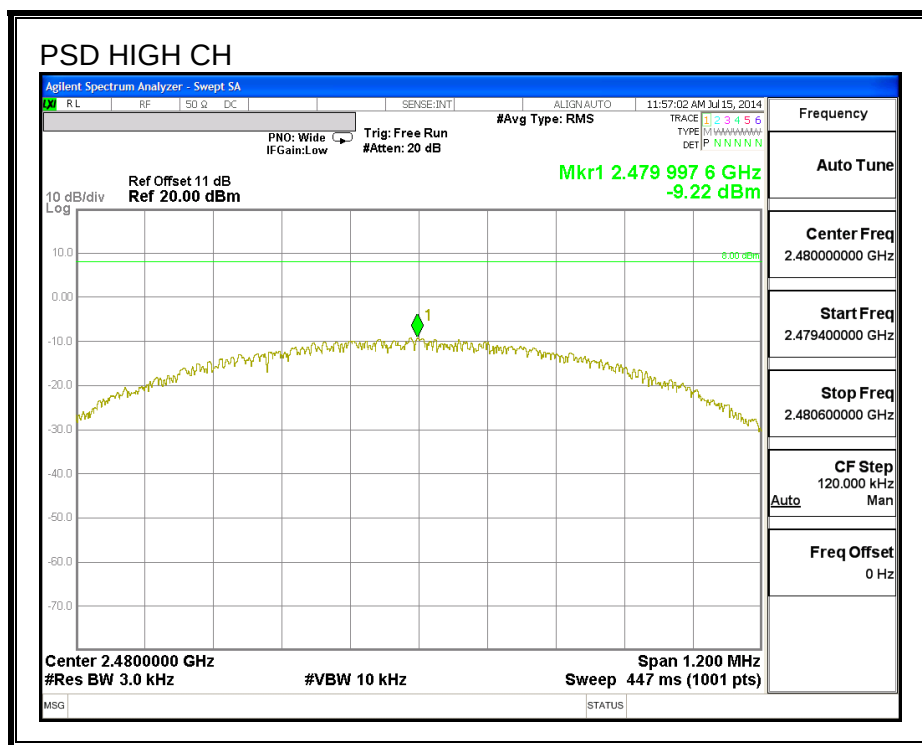
The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

RESULTS

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)
Low	2402	-8.96	8	-16.96
Middle	2440	-8.48	8	-16.48
High	2480	-9.22	8	-17.22

POWER SPECTRAL DENSITY





9.6. CONDUCTED SPURIOUS EMISSIONS

LIMITS

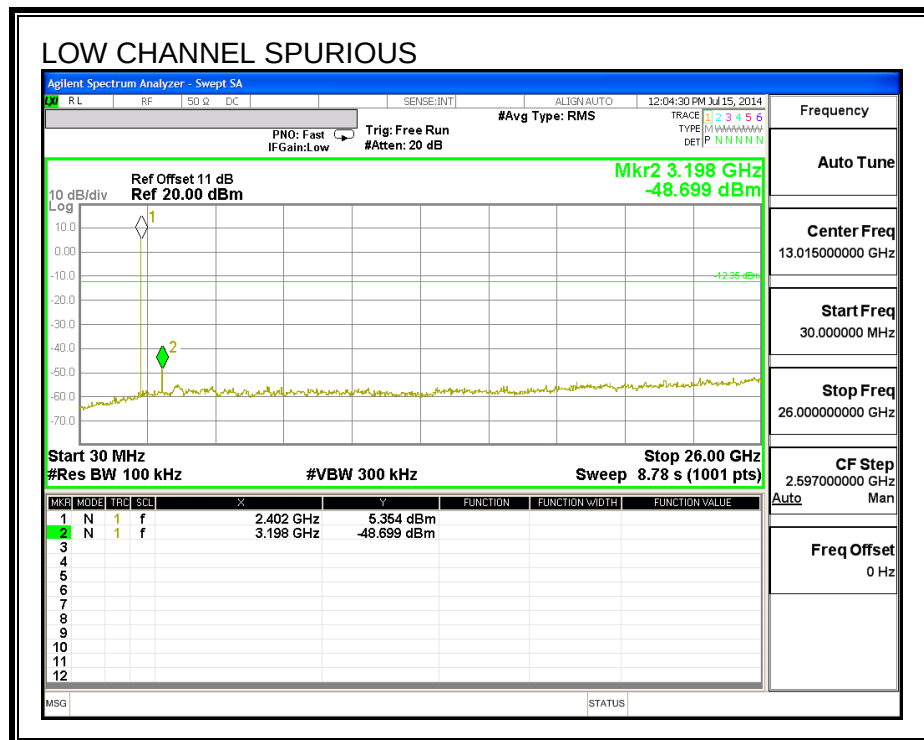
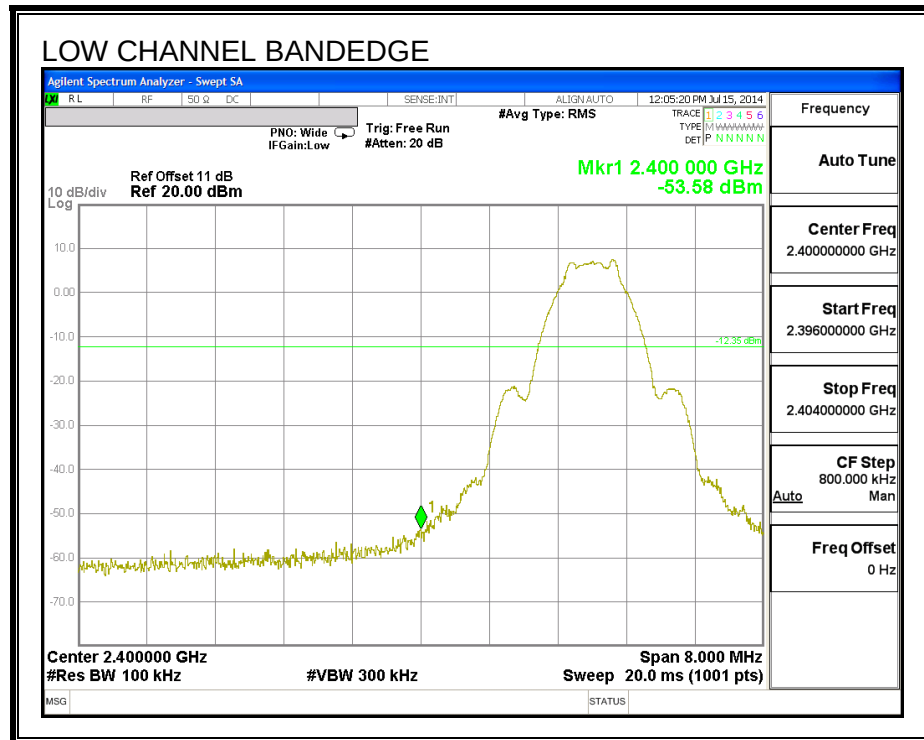
FCC §15.247 (d)

IC RSS-210 A8.5

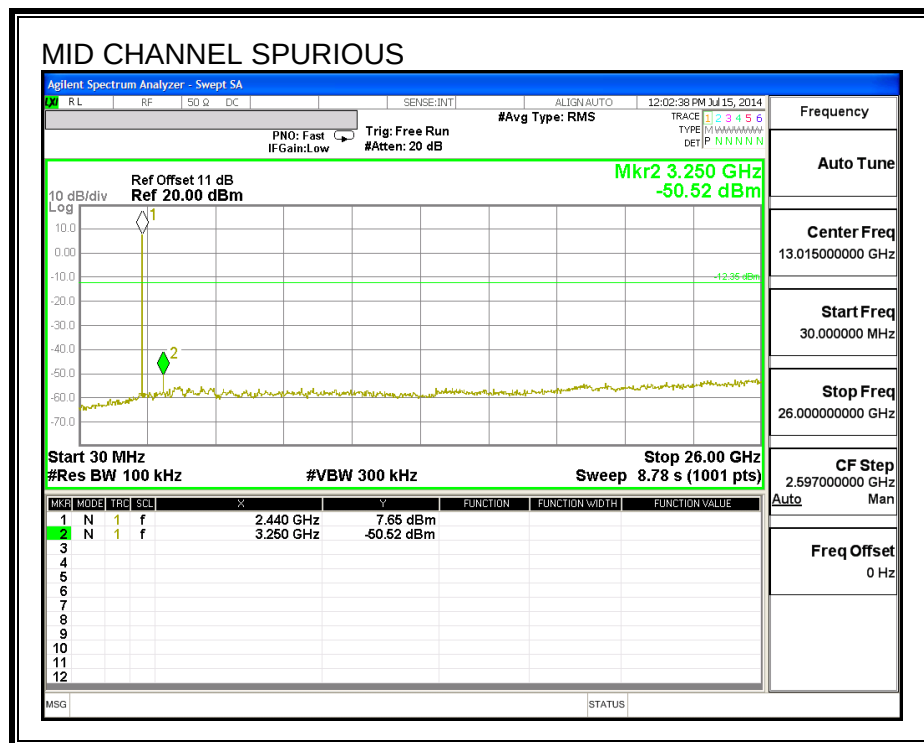
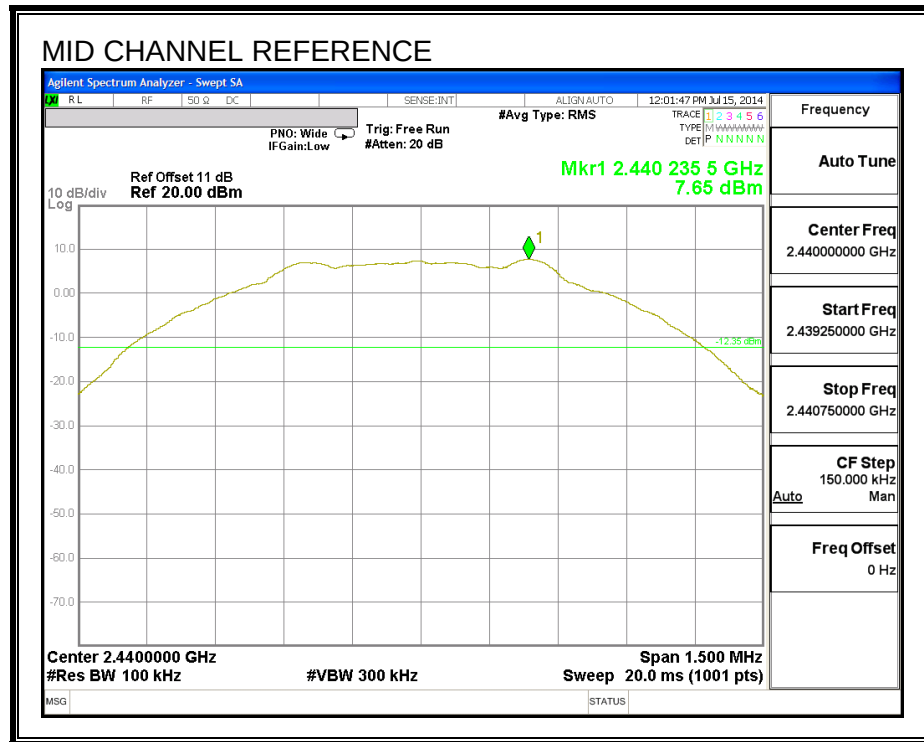
Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

RESULTS

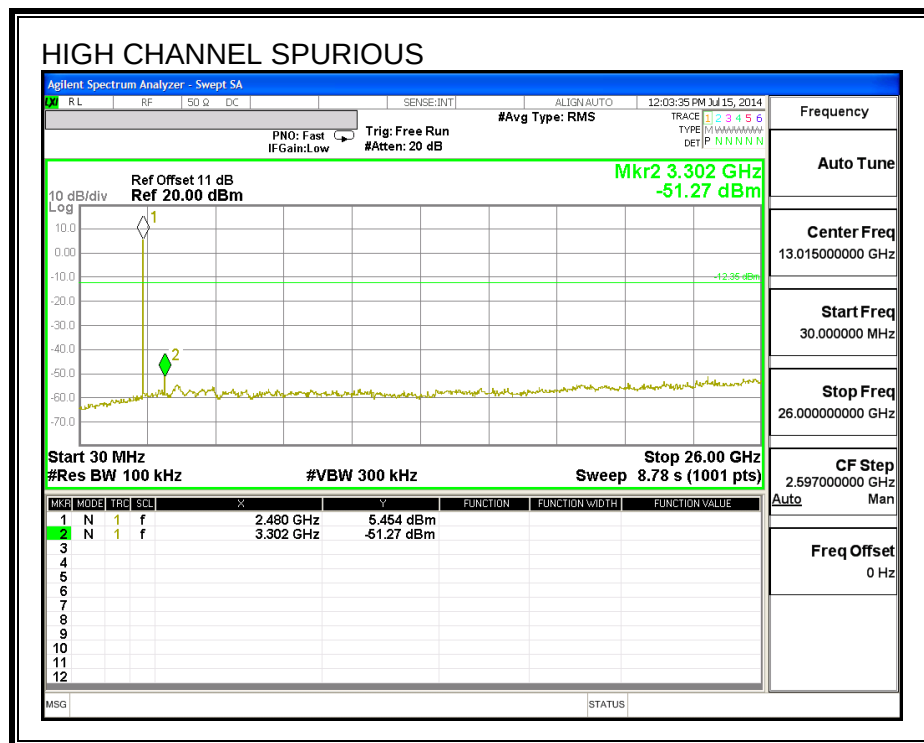
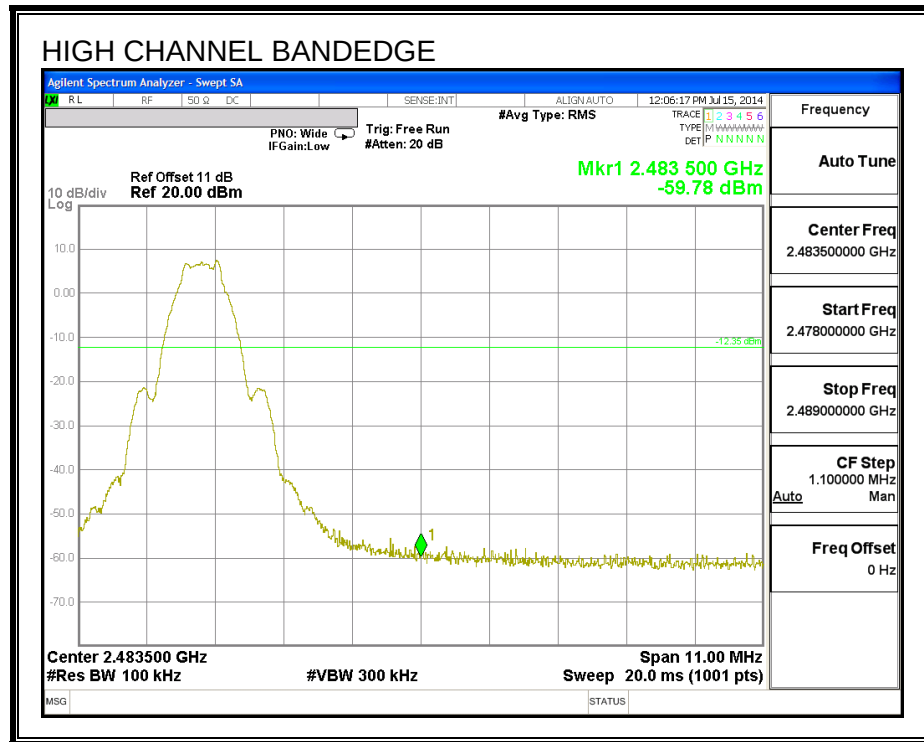
SPURIOUS EMISSIONS, LOW CHANNEL



SPURIOUS EMISSIONS, MID CHANNEL



SPURIOUS EMISSIONS, HIGH CHANNEL



10. RADIATED TEST RESULTS

10.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-210 Clause 2.6 (Transmitter)

IC RSS-GEN Clause 6 (Receiver)

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

TEST PROCEDURE

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

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

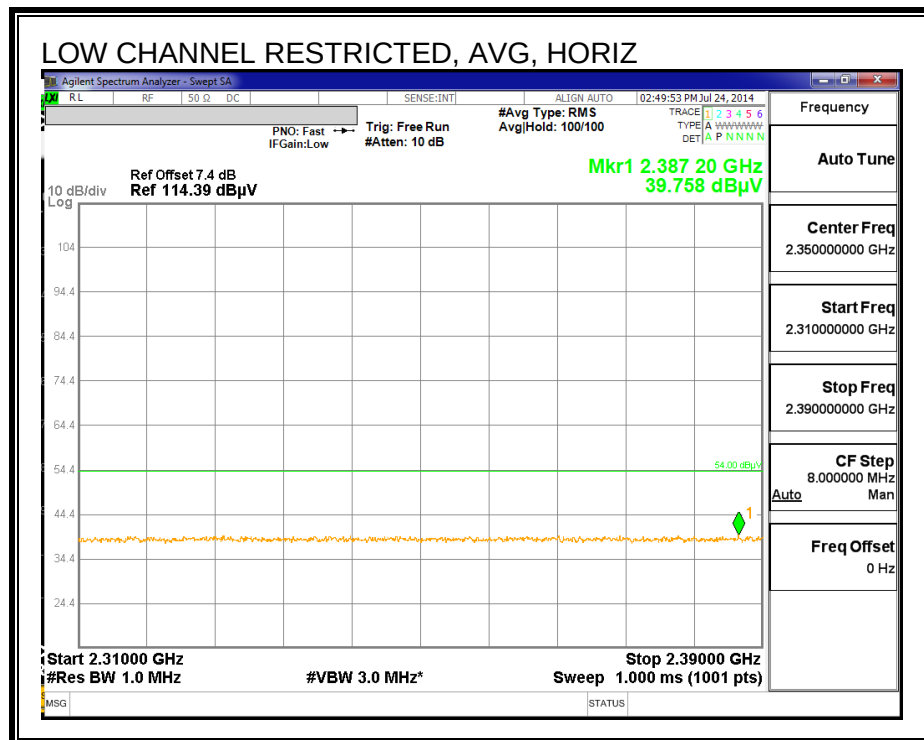
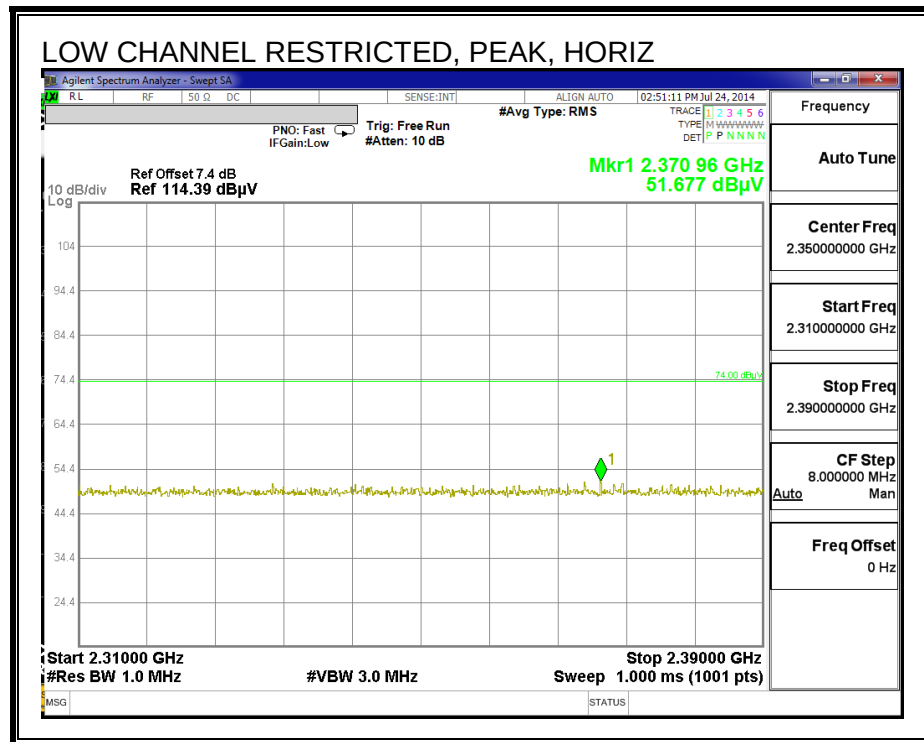
For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 10 Hz for average measurements.

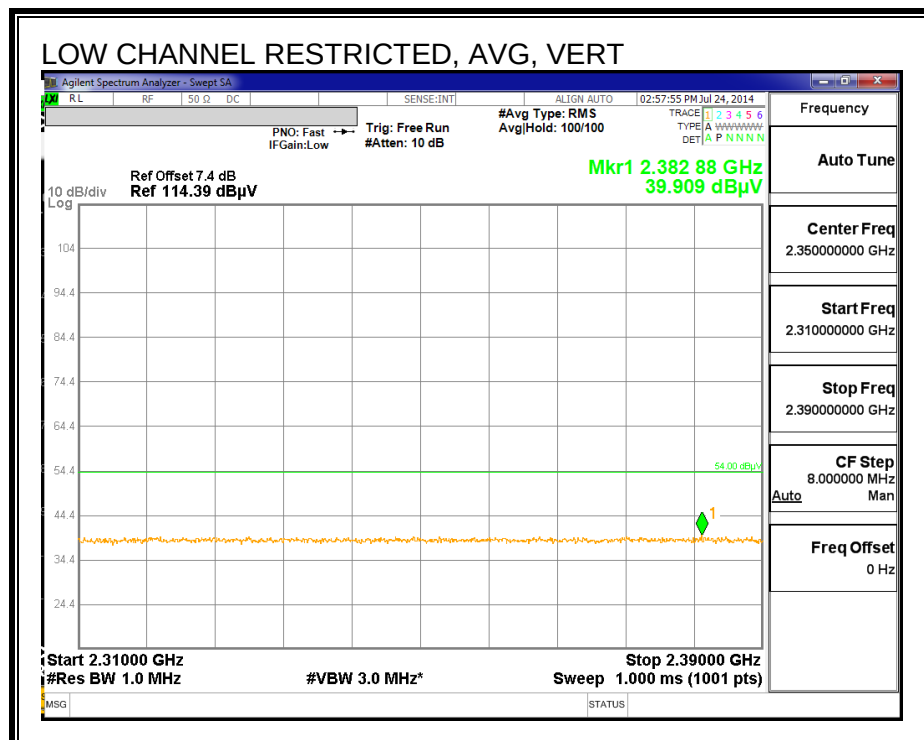
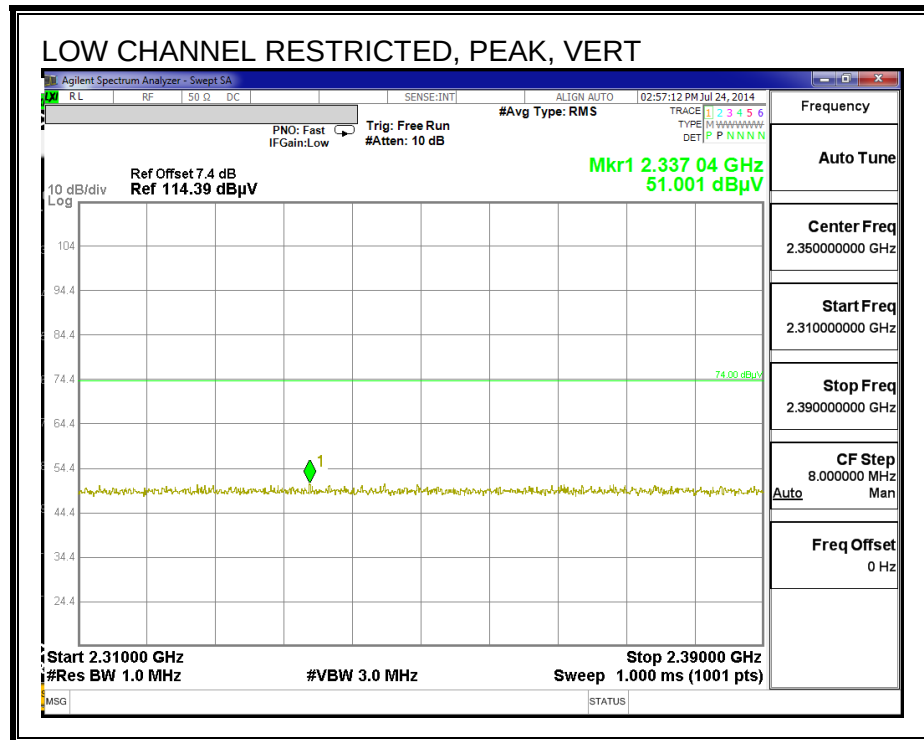
For 2.4 GHz band, the spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

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

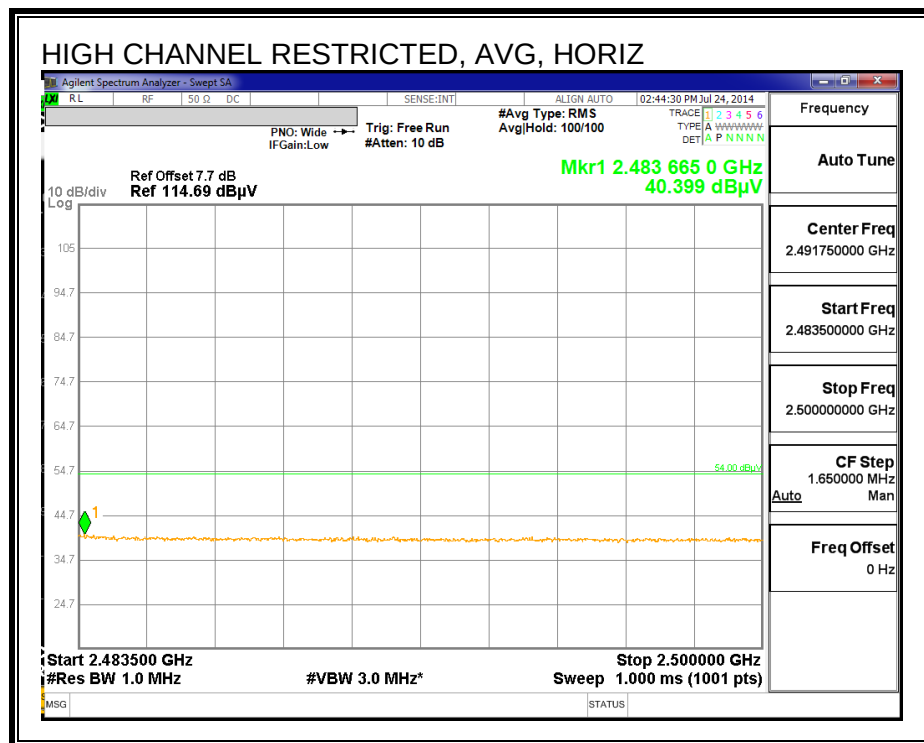
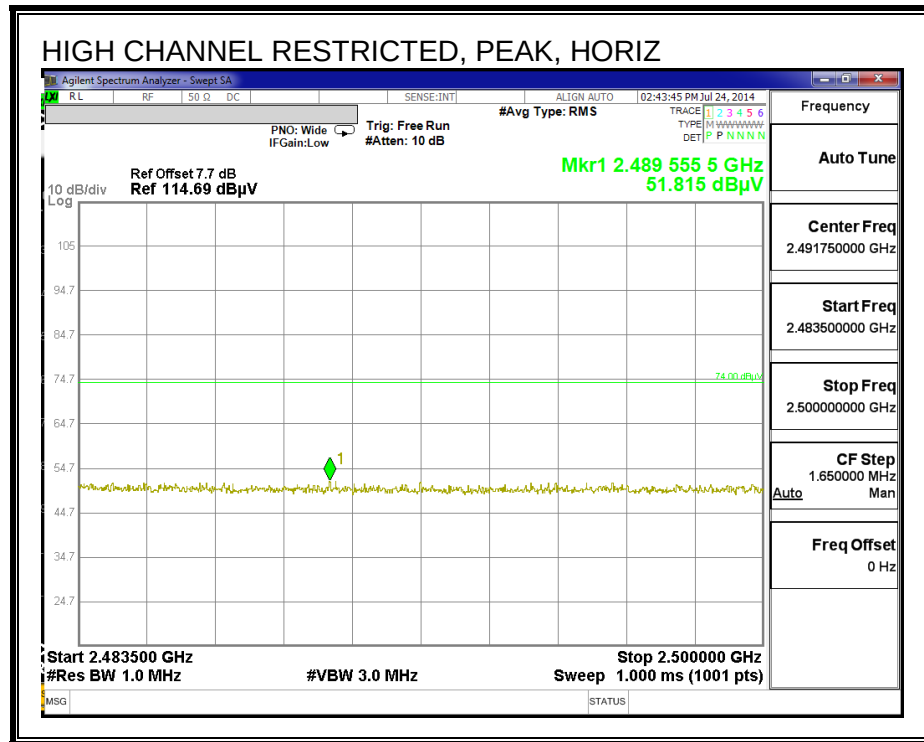
10.2. TRANSMITTER ABOVE 1 GHz

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

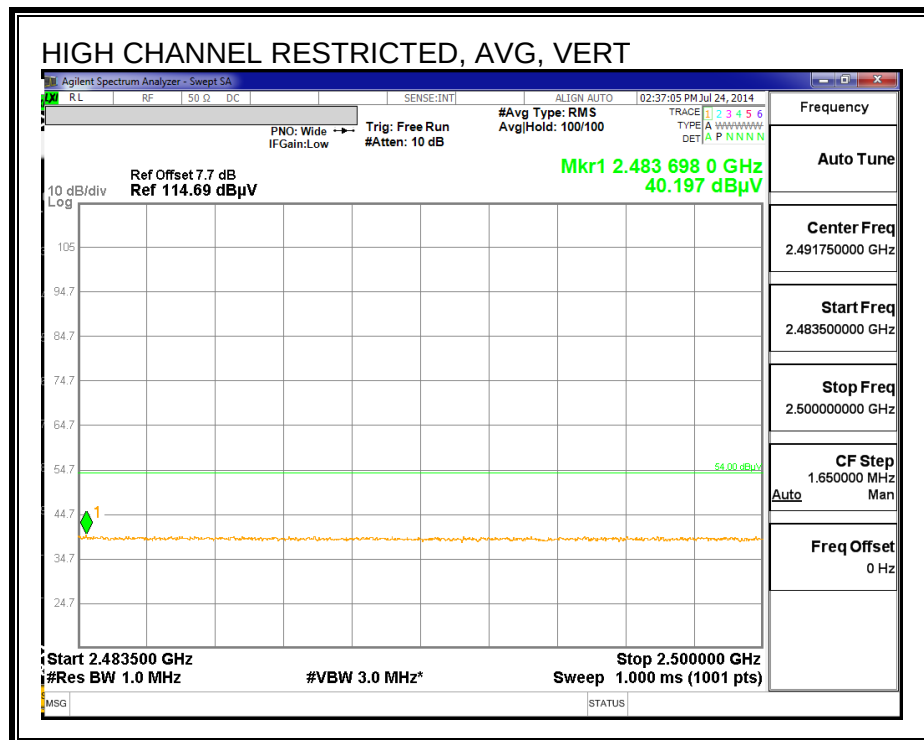
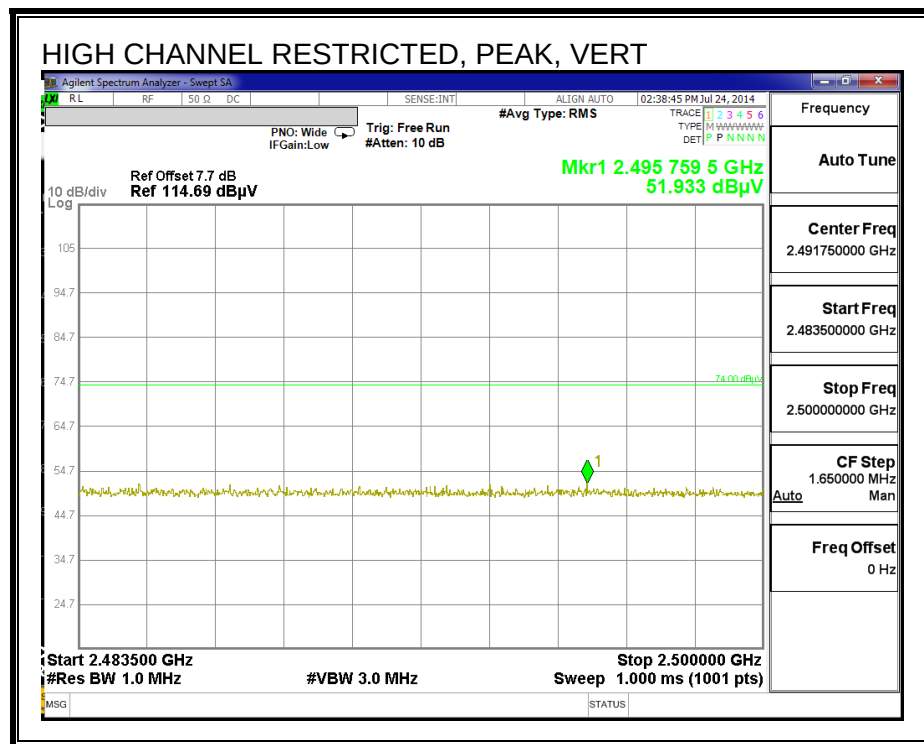


RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

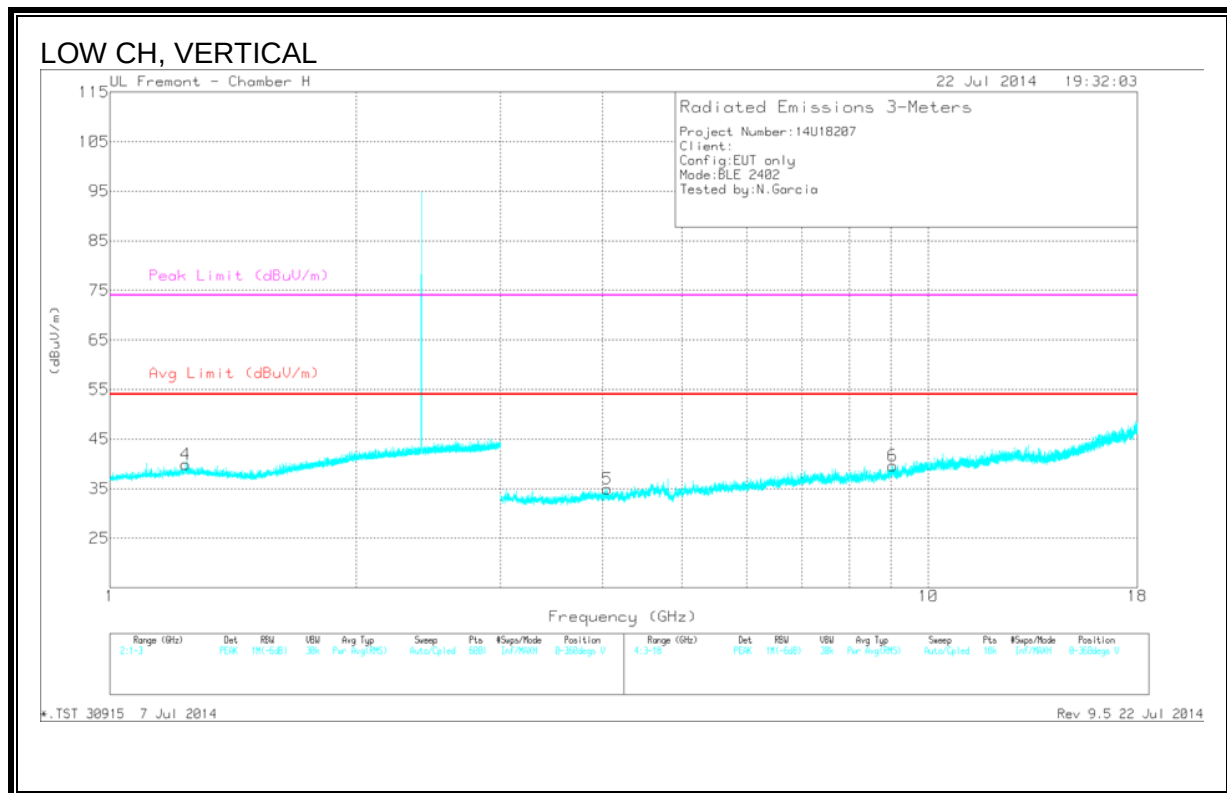
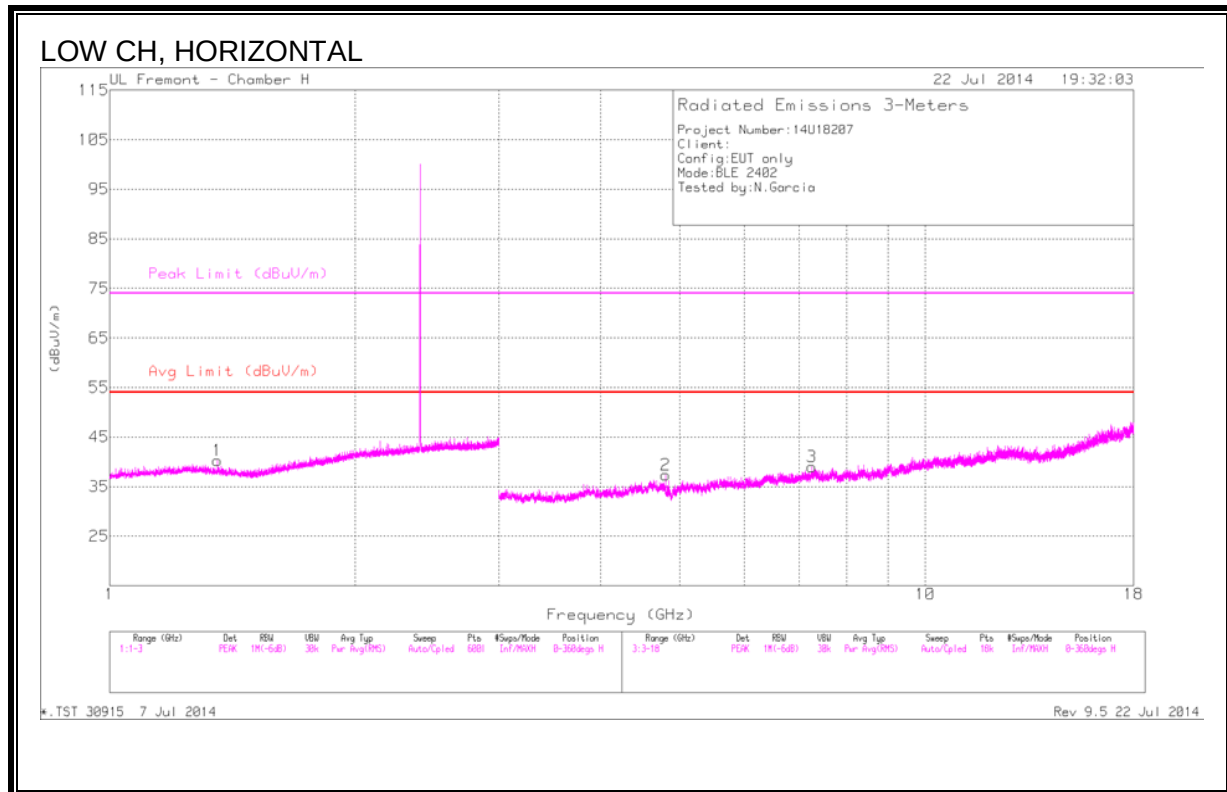
RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



LOW CHANNEL HARMONICS AND SPURIOUS EMISSIONS



DATA

Radiated Emissions

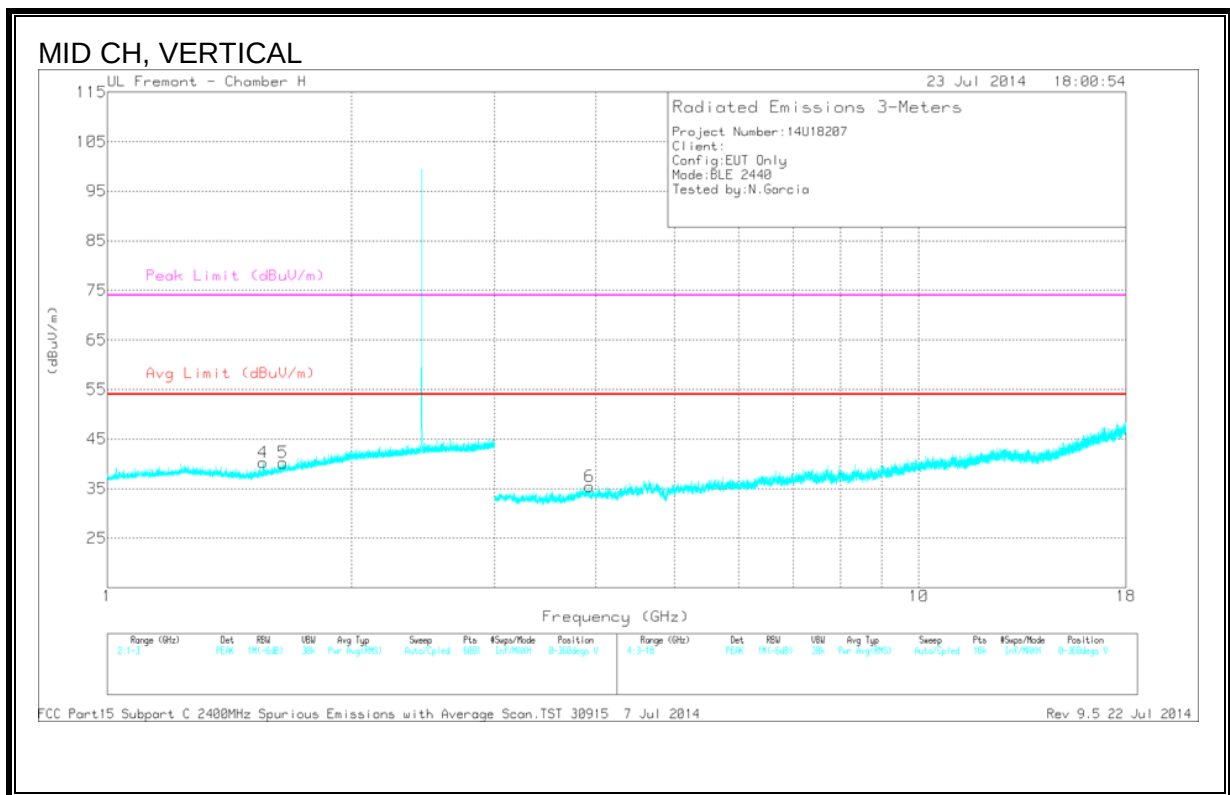
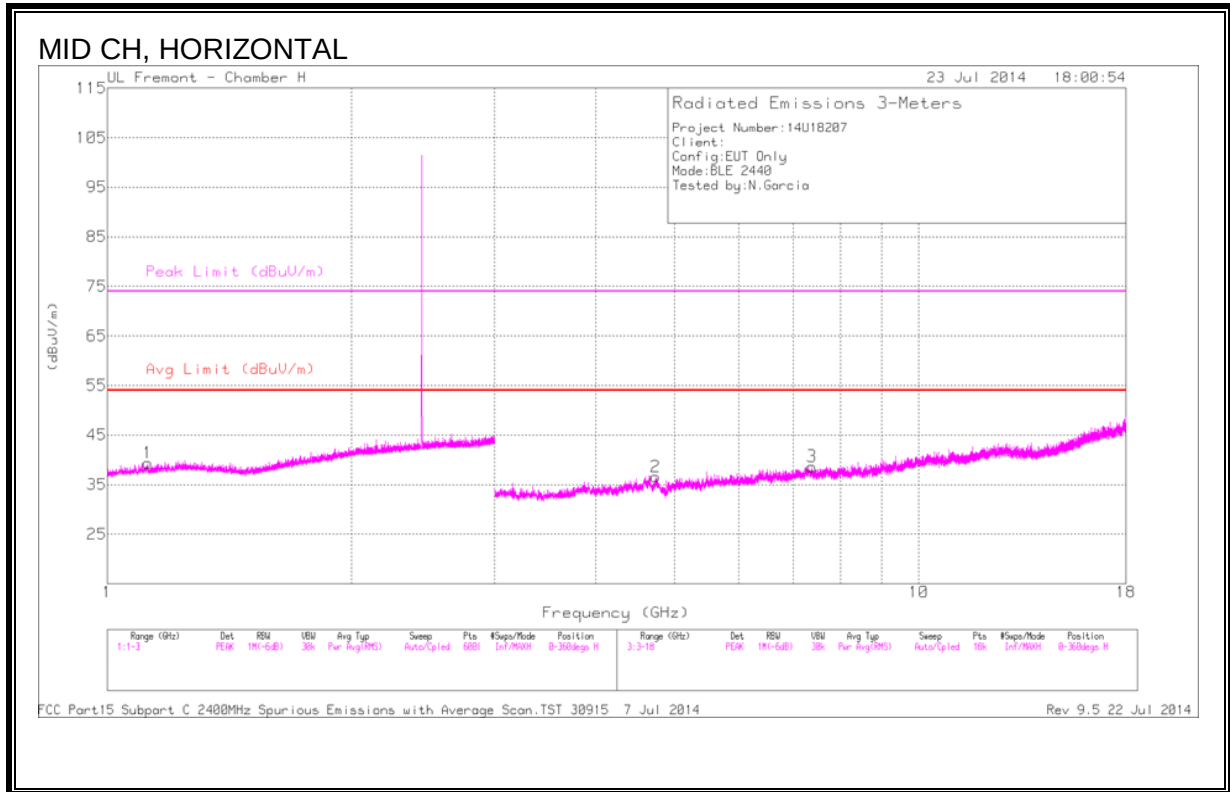
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.354	44.23	PK2	28.5	-25.7	47.03	-	-	74	-26.97	52	232	H
	* 1.357	30.77	MAv1	28.4	-25.6	33.57	54	-20.43	-	-	52	232	H
4	* 1.238	44.32	PK2	28.9	-25.9	47.32	-	-	74	-26.68	10	202	V
	* 1.238	31.04	MAv1	28.9	-25.9	34.04	54	-19.96	-	-	10	202	V
3	* 7.255	40.06	PK2	36.2	-30	46.26	-	-	74	-27.74	304	109	H
	* 7.254	27.2	MAv1	36.2	-30	33.4	54	-20.6	-	-	304	109	H
2	* 4.804	43.29	PK2	34.3	-32.5	45.09	-	-	74	-28.91	319	128	H
	* 4.804	33.74	MAv1	34.3	-32.5	35.54	54	-18.46	-	-	319	128	H
5	* 4.057	40.45	PK2	33.5	-32	41.95	-	-	74	-32.05	125	240	V
	* 4.056	27.98	MAv1	33.5	-32	29.48	54	-24.52	-	-	125	240	V
6	* 9.053	37.2	PK2	36.4	-26.7	46.9	-	-	74	-27.1	6	100	V
	* 9.054	24.82	MAv1	36.4	-26.6	34.62	54	-19.38	-	-	6	100	V

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

MAv1 - KDB558074 Option 1 Maximum RMS Average

PK2 - KDB558074 Method: Maximum Peak

MID CHANNEL HARMONICS AND SPURIOUS EMISSIONS



DATA

Radiated Emissions

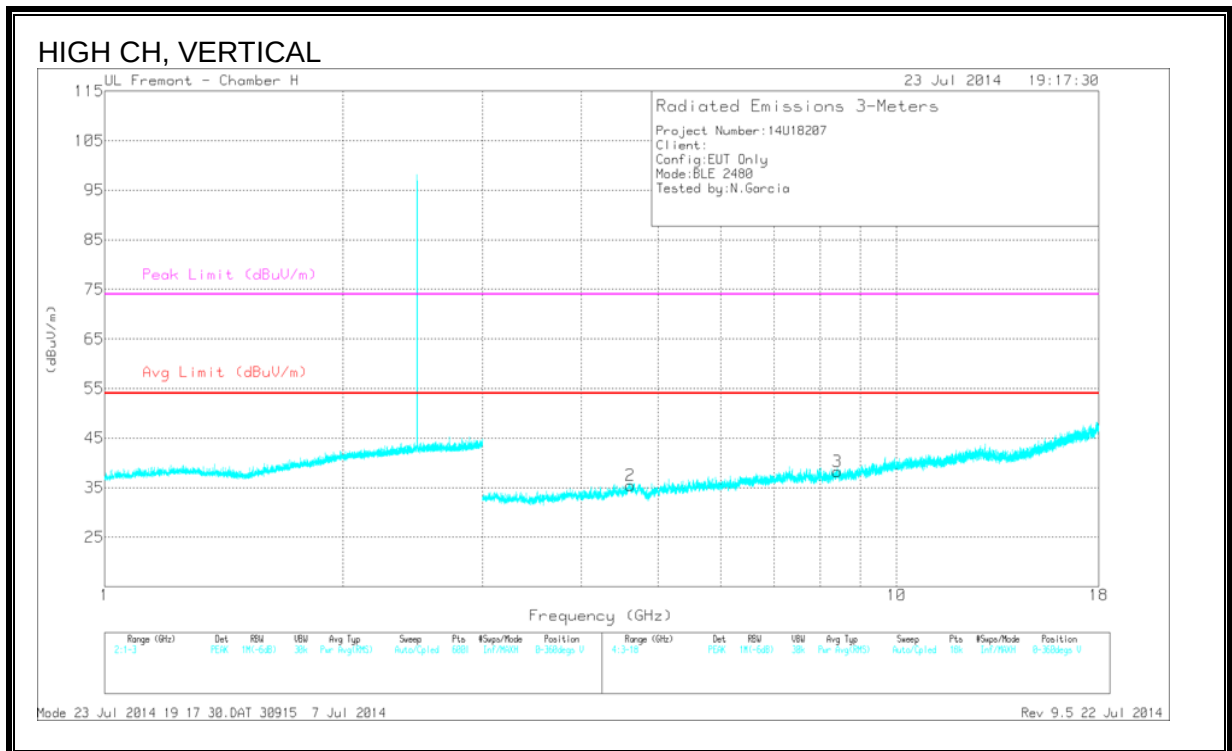
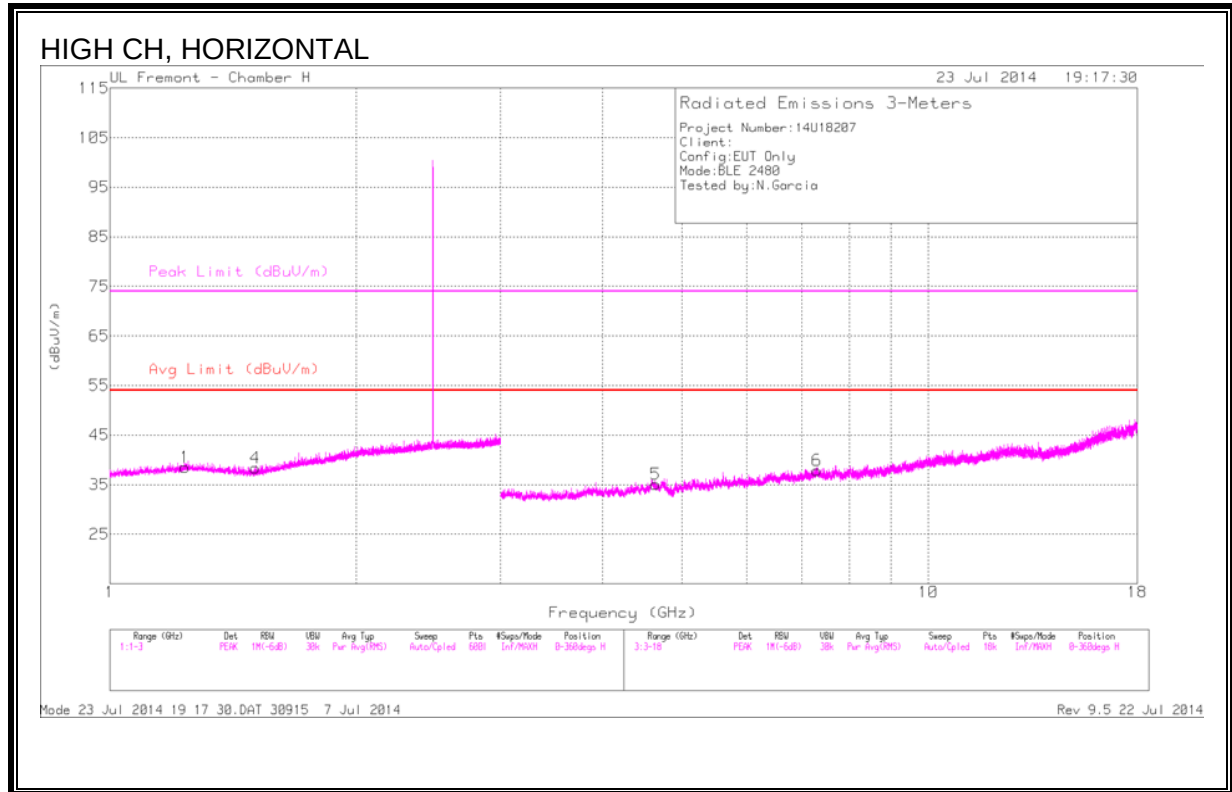
Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.12	44.34	PK2	28.3	-25.8	46.84	-	-	74	-27.16	350	134	H
	* 1.121	32.79	MAv1	28.3	-25.8	35.29	54	-18.71	-	-	350	134	H
4	* 1.555	44.41	PK2	28.1	-25.3	47.21	-	-	74	-26.79	146	118	V
	* 1.556	32.5	MAv1	28.1	-25.3	35.3	54	-18.7	-	-	146	118	V
2	* 4.735	40.93	PK2	34.3	-32	43.23	-	-	74	-30.77	22	328	H
	* 4.736	30.62	MAv1	34.3	-32	32.92	54	-21.08	-	-	22	328	H
3	* 7.381	38.7	PK2	36.1	-29.1	45.7	-	-	74	-28.3	83	201	H
	* 7.378	27.97	MAv1	36.1	-29.1	34.97	54	-19.03	-	-	83	201	H
6	* 3.931	42.71	PK2	33.4	-33.2	42.91	-	-	74	-31.09	105	303	V
	* 3.93	31.45	MAv1	33.4	-33.2	31.65	54	-22.35	-	-	105	303	V
5	1.647	44.48	PK2	28.9	-25	48.38	-	-	-	-	21	179	V
	1.647	32.34	MAv1	28.9	-25	36.24	-	-	-	-	21	179	V

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

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL HARMONICS AND SPURIOUS EMISSIONS



DATA

Radiated Emissions

Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.236	44.03	PK2	28.9	-25.9	47.03	-	-	74	-26.97	342	198	H
	* 1.235	32.82	MAv1	28.9	-25.9	35.82	54	-18.18	-	-	342	198	H
4	* 1.502	44.39	PK2	27.7	-25.4	46.69	-	-	74	-27.31	61	264	H
	* 1.502	32.44	MAv1	27.7	-25.4	34.74	54	-19.26	-	-	61	264	H
5	* 4.641	41.83	PK2	34.2	-31.7	44.33	-	-	74	-29.67	98	352	H
	* 4.645	30.51	MAv1	34.2	-31.7	33.01	54	-20.99	-	-	98	352	H
6	* 7.31	39.64	PK2	36.2	-29.1	46.74	-	-	74	-27.26	87	212	H
	* 7.31	28.32	MAv1	36.2	-29.1	35.42	54	-18.58	-	-	87	212	H
2	* 4.612	42.31	PK2	34.1	-32.4	44.01	-	-	74	-29.99	213	106	V
	* 4.613	31.17	MAv1	34.1	-32.4	32.87	54	-21.13	-	-	213	106	V
3	* 8.418	38.83	PK2	36.1	-27.6	47.33	-	-	74	-26.67	78	124	V
	* 8.418	27.4	MAv1	36.1	-27.6	35.9	54	-18.1	-	-	78	124	V

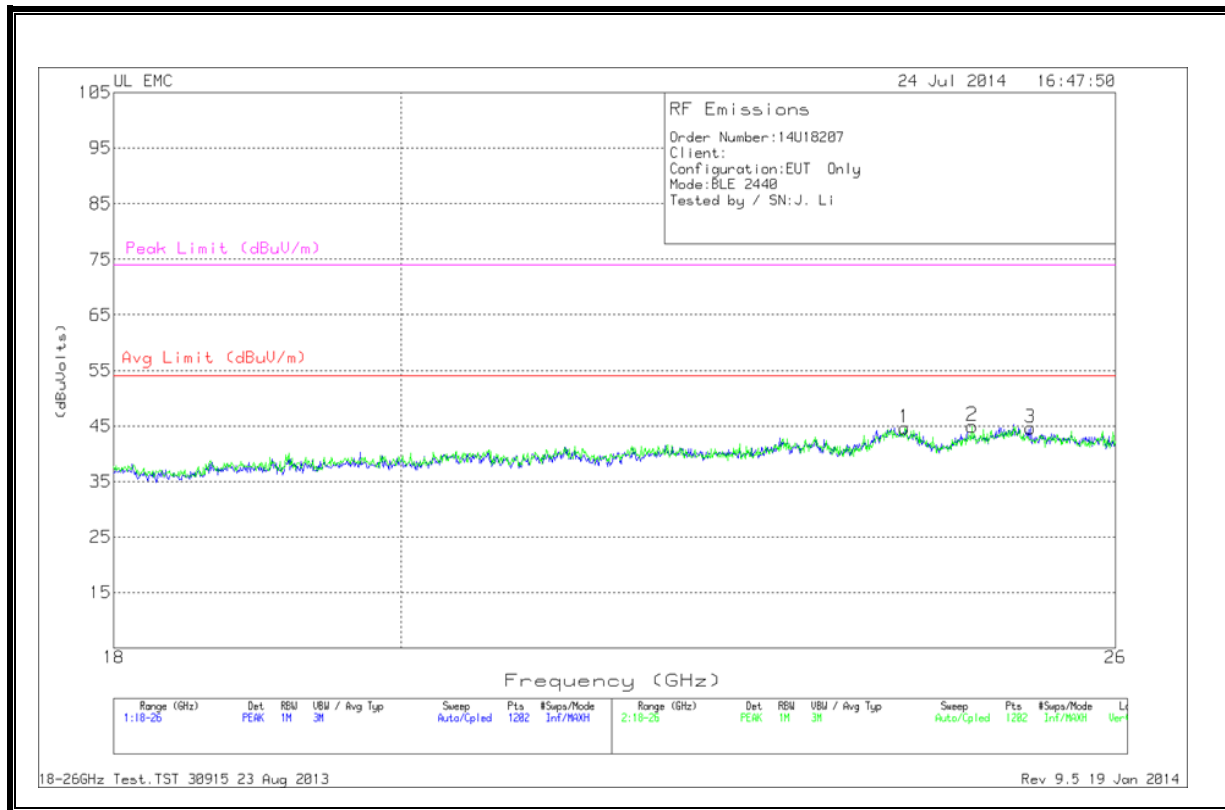
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

10.3. WORST-CASE ABOVE 18 GHz

SPURIOUS EMISSIONS 18 TO 26 GHz (WORST-CASE CONFIGURATION, HORIZONTAL & VERTICAL)



DATA

Trace Markers

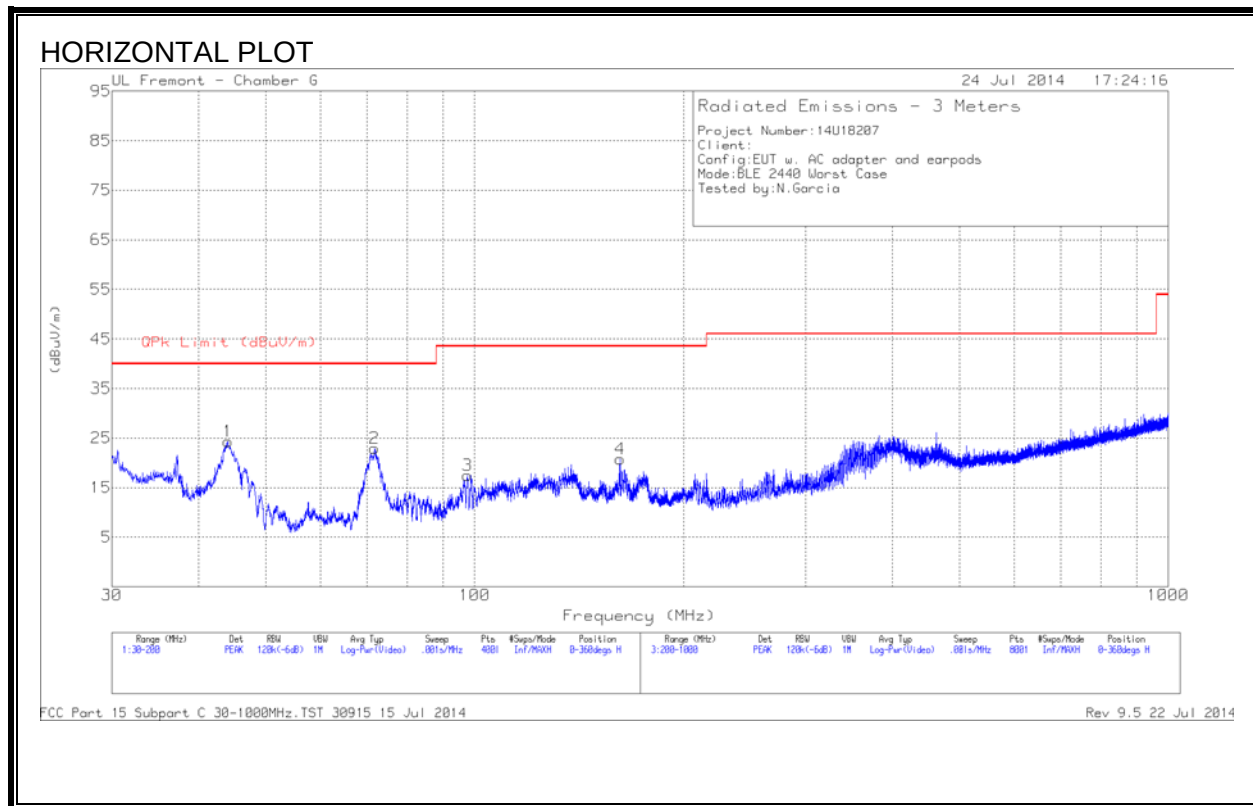
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T89 (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	24.062	43.17	PK	33.6	-22.6	-9.5	44.66	54	-9.33	74	-29.33
2	24.668	43.5	PK	33.9	-22.9	-9.5	45	54	-9	74	-29
3	25.201	43.17	PK	33.9	-22.9	-9.5	44.66	54	-9.33	74	-29.33

PK - Peak detector

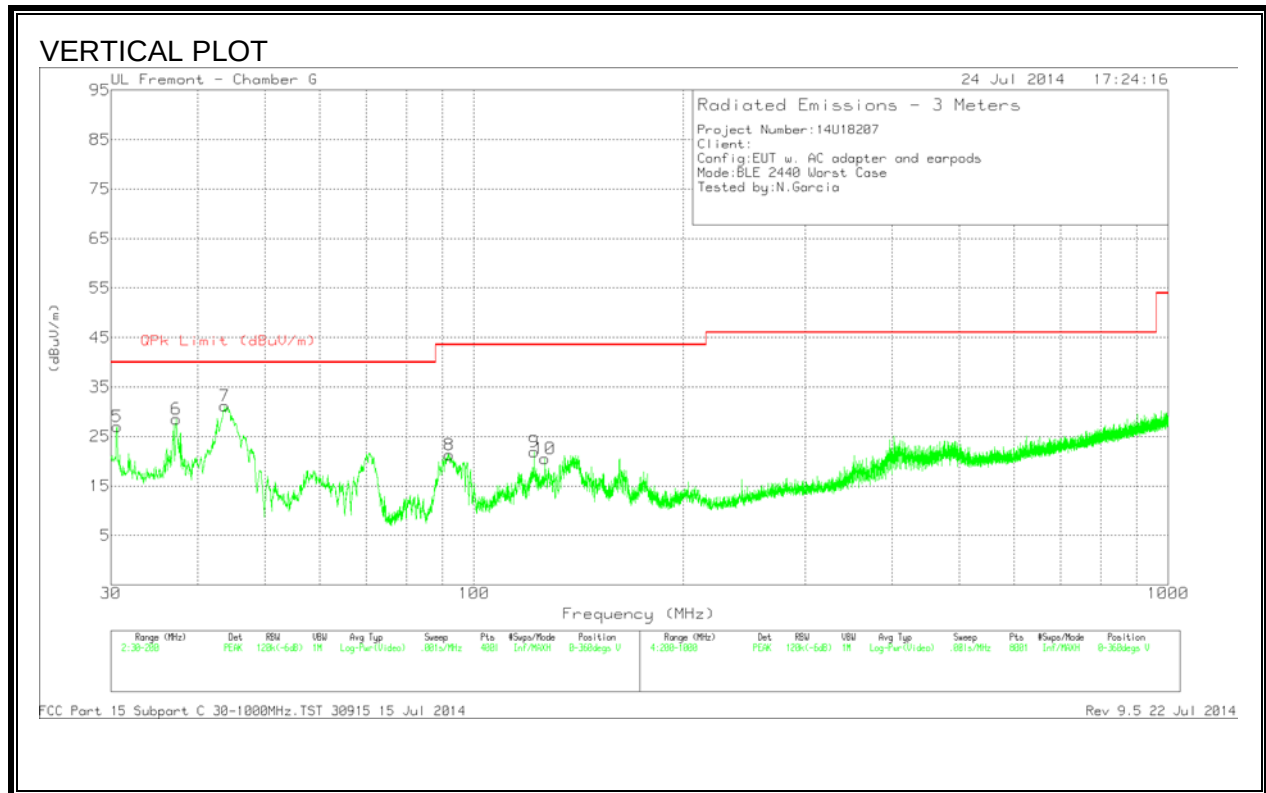
18-26GHz Test.TST 30915 23 Aug 2013 Rev 9.5 19 Jan 2014

10.4. 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)



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Hybrid	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
9	* 122.0975	35.26	PK	16.6	-29.9	21.96	43.52	-21.56	0-360	100	V
10	* 126.4325	33.57	PK	16.8	-29.9	20.47	43.52	-23.05	0-360	100	V
5	30.595	34.14	PK	23.7	-30.9	26.94	40	-13.06	0-360	100	V
6	37.2675	40.31	PK	19.1	-30.9	28.51	40	-11.49	0-360	100	V
7	43.77	47.56	PK	14.4	-30.8	31.16	40	-8.84	0-360	100	V
1	44.11	40.9	PK	14.1	-30.7	24.3	40	-15.7	0-360	401	H
2	71.7775	42.37	PK	11.1	-30.5	22.97	40	-17.03	0-360	301	H
8	92.05	40.5	PK	11	-30.2	21.3	43.52	-22.22	0-360	100	V
3	97.66	35.4	PK	12.2	-30.1	17.5	43.52	-26.02	0-360	301	H
4	162.005	35.19	PK	15.1	-29.5	20.79	43.52	-22.73	0-360	201	H

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

11. AC POWER LINE CONDUCTED EMISSIONS IS this with TX on?

LIMITS

FCC §15.207 (a)

RSS-Gen 7.2.2

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.4.

The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

Line-L1 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	Margin to Limit (dB)	CFR 47 Part 15 Class B Avg	Margin to Limit (dB)
1	.249	39.37	PK	.7	0	40.07	61.8	-21.73	51.8	-11.73
2	.249	27.54	Av	.7	0	28.24	61.8	-33.56	51.8	-23.56
21	.2985	39.1	PK	.6	0	39.7	60.3	-20.6	50.3	-10.6
22	.2985	25.18	Av	.6	0	25.78	60.3	-34.52	50.3	-24.52
3	.573	41.68	PK	.3	0	41.98	56	-14.02	46	-4.02
4	.573	26.53	Av	.3	0	26.83	56	-29.17	46	-19.17
5	1.536	27.49	PK	.2	.1	27.79	56	-28.21	46	-18.21
6	1.536	12.13	Av	.2	.1	12.43	56	-43.57	46	-33.57
7	2.499	26.96	PK	.2	.1	27.26	56	-28.74	46	-18.74
8	2.499	10.89	Av	.2	.1	11.19	56	-44.81	46	-34.81
9	7.2015	34.37	PK	.2	.1	34.67	60	-25.33	50	-15.33
10	7.2015	24.35	Av	.2	.1	24.65	60	-35.35	50	-25.35

PK - Peak detector

Av - average detection

Line-L2 .15 - 30MHz

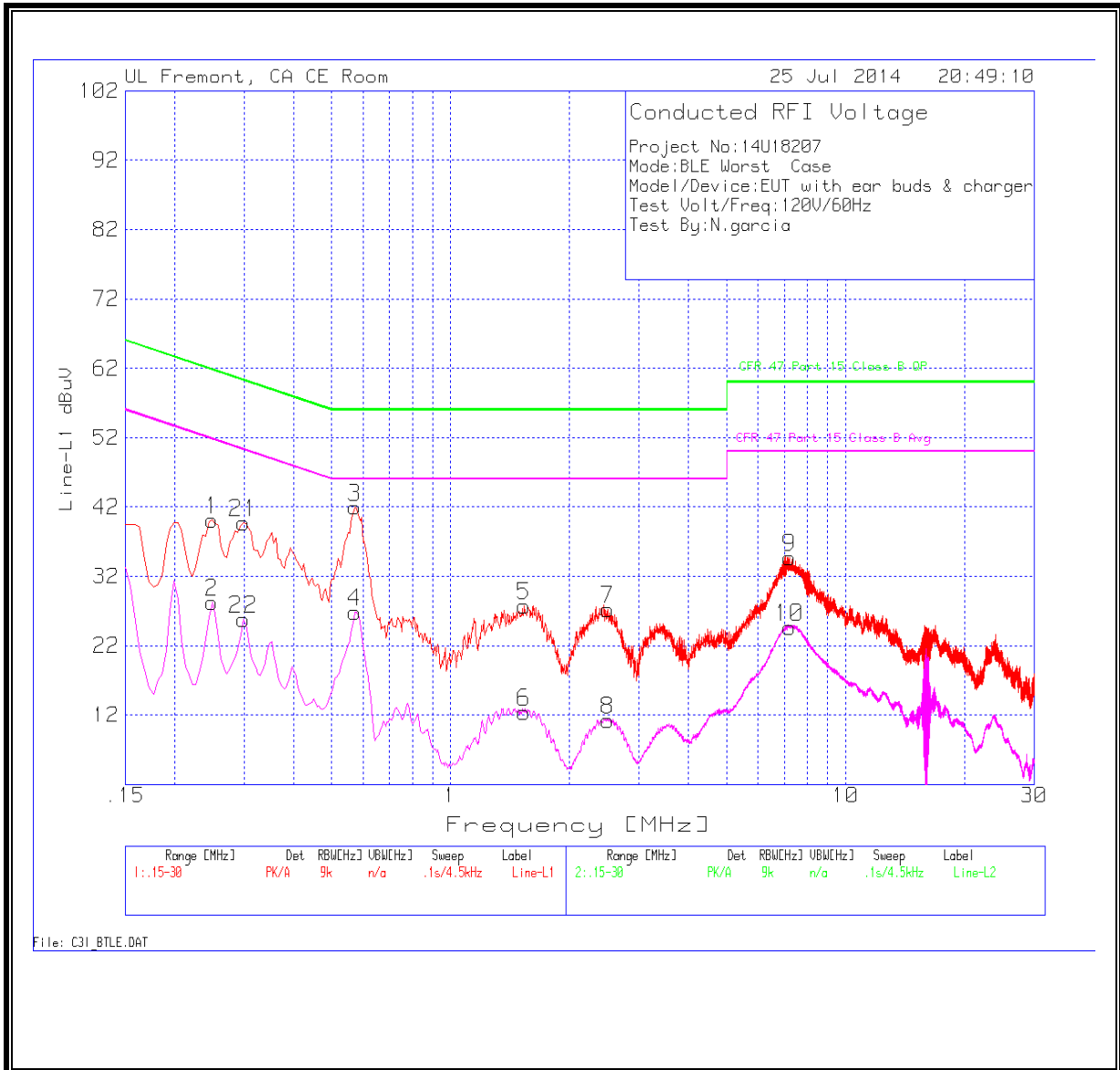
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2 (dB)	LC Cables 2&3 (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	Margin to Limit (dB)	CFR 47 Part 15 Class B Avg	Margin to Limit (dB)
11	.204	39.22	PK	1	0	40.22	63.4	-23.18	53.4	-13.18
12	.204	28.86	Av	1	0	29.86	63.4	-33.54	53.4	-23.54
13	.5775	40.49	PK	.3	0	40.79	56	-15.21	46	-5.21
14	.5775	29.72	Av	.3	0	30.02	56	-25.98	46	-15.98
15	1.6935	29.95	PK	.2	.1	30.25	56	-25.75	46	-15.75
16	1.6935	16.99	Av	.2	.1	17.29	56	-38.71	46	-28.71
23	2.715	28.9	PK	.2	.1	29.2	56	-26.8	46	-16.8
24	2.715	16.89	Av	.2	.1	17.19	56	-38.81	46	-28.81
17	7.377	31.25	PK	.2	.1	31.55	60	-28.45	50	-18.45
18	7.377	21.47	Av	.2	.1	21.77	60	-38.23	50	-28.23
19	28.5225	36.75	PK	.3	.3	37.35	60	-22.65	50	-12.65
20	28.5225	16.91	Av	.3	.3	17.51	60	-42.49	50	-32.49

PK - Peak detector

Av - average detection

LINE 1 PLOT



LINE 2 PLOT

