



FCC CFR47 PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

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

MODEL NUMBER: SM-C105S

FCC ID: A3LSMC105S

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Prepared for

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.
416, MAETAN 3-DONG, YEONGTONG-GU
SUWON-CITY, GYEONGGI-DO 443-742, South Korea

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

MODEL: SM-C105S

SERIAL NUMBER: 1693679-VS

DATE TESTED: AUGUST 14-26, 2013

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

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

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

Approved & Released
For UL Verification Services Inc. By:



PHILIP KIM
WiSE PROGRAM MANAGER
UL Verification Services Inc.

Tested By:



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.

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:

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

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 an 802.11 A/B/G/N 1X1 HT20, HT40 + BT4.0 (LE) + GSM/ WCDMA / LTE BAR PHONE.

5.2. MAXIMUM 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	20.06	101.39
2412 - 2462	802.11g	22.73	187.50
2412 - 2462	802.11n HT20	21.38	137.40
5745-5825	802.11a	19.78	95.06
5745-5825	802.11n HT20	19.55	90.16
5745-5825	802.11n HT40	18.24	66.68

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of -1.22 dBi for 2.4GHz and -0.18dBi for 5.8GHz.

5.4. SOFTWARE AND FIRMWARE

Software version was SMC105S.001

The firmware used was Android 4.2.2.

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.

Based on the baseline scan, the worst-case data rates were which provide the highest duty cycle:

802.11b mode: 1 Mbps
802.11g mode: 6 Mbps
802.11a mode: 6 Mbps
802.11n HT20mode: MCS0
802.11n HT40mode: 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	SAMSUNG	ETA-U90KWK	N/A	N/A
Earphone	SAMSUNG	EO-HS3303WE	N/A	N/A

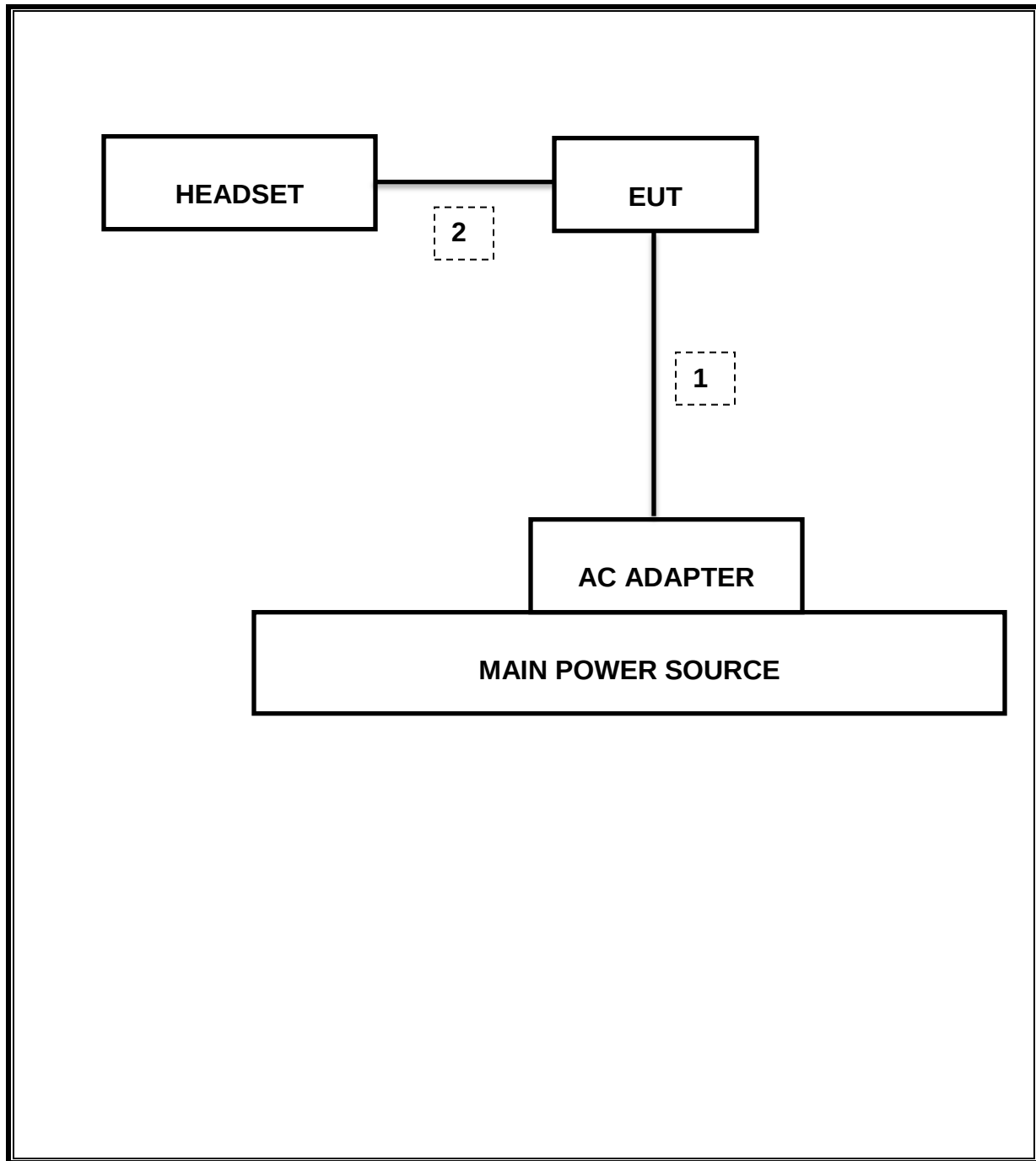
I/O CABLES

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 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	08/08/13	08/08/14
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. SUMMARY TABLE

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Worst Case
15.247 (a)(2)	RSS-210 A8.2(a)	Occupied Band width (6dB)	>500KHz	Conducted	Pass	8.15MHz
2.1051, 15.247 (d)	RSS-210 A8.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass	-37.35dBm
15.247	RSS-210 A8.4	TX conducted output power	<30dBm		Pass	22.73dBm
15.247	RSS-210 A8.2	PSD	<8dBm		Pass	-4.35dBm
15.207 (a)	RSS-GEN 7.2.2	AC Power Line conducted emissions	Section 10	Radiated	Pass	38.55dBuV(AV)
15.205, 15.209	RSS-210 Clause 2.6, RSS-210 Clause 6	Radiated Spurious Emission	< 54dBuV/m		Pass	40.56dBuV/m

9. ANTENNA PORT TEST RESULTS

9.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

IC RSS-210 A8.2 (a)

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

TEST PROCEDURE

Reference to KDB 558074 DTS Meas Guidance 8.0: The transmitter output is connected to a spectrum analyzer with the RBW set to 100KHz, the VBW $\geq 3 \times$ RBW, peak detector and max hold.

RESULTS

9.1.1. 802.11b MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	8.15	0.5
Mid	2437	8.15	0.5
High	2462	8.15	0.5
Worst		8.15	

9.1.2. 802.11g MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	15.21	0.5
Mid	2437	15.21	0.5
High	2462	15.33	0.5
Worst		15.33	

9.1.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	15.67	0.5
Mid	2437	15.42	0.5
High	2462	16.75	0.5
Worst		16.75	

9.1.1. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5745	16.290	0.5
Mid	5785	15.670	0.5
High	5825	15.330	0.5
Worst		16.290	

9.1.2. 802.11n HT20 MODE IN THE 5.8 GHz BAND

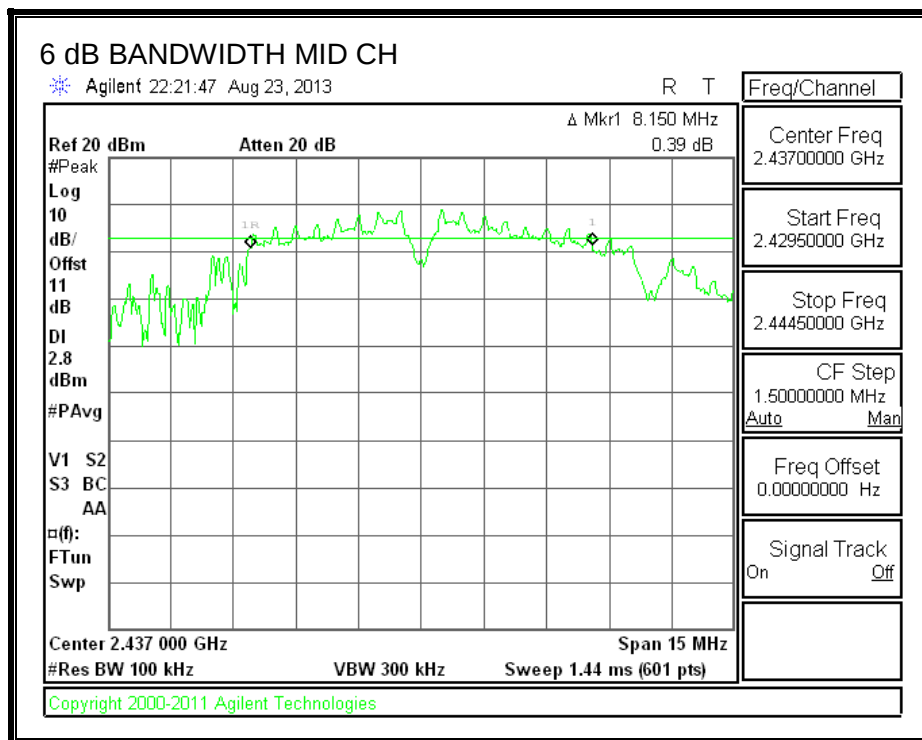
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5745	16.540	0.5
Mid	5785	16.380	0.5
High	5825	16.880	0.5
Worst		16.880	

9.1.3. 802.11n HT40 MODE IN THE 5.8 GHz BAND

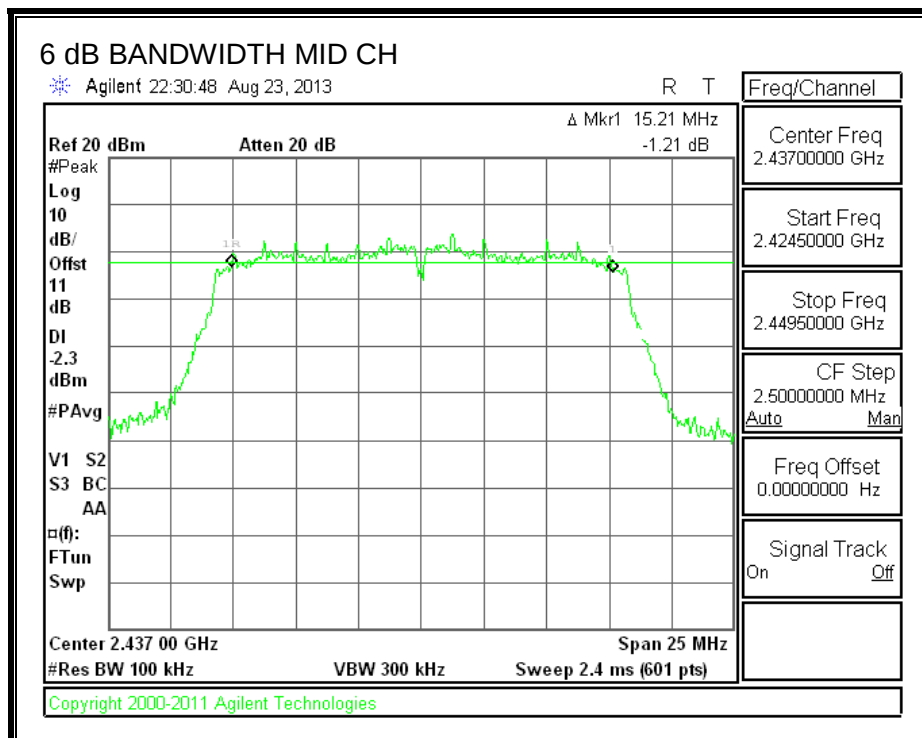
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5755	36.5	0.5
High	5795	36.5	0.5
Worst		36.5	0.5

9.1.4. Results

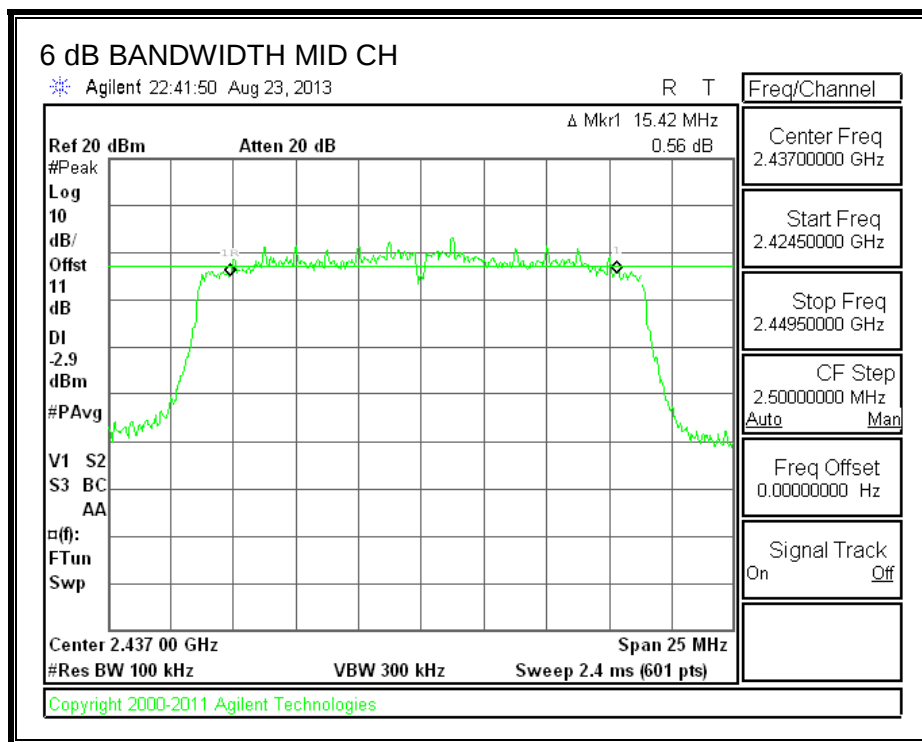
802.11b 6 dB BANDWIDTH



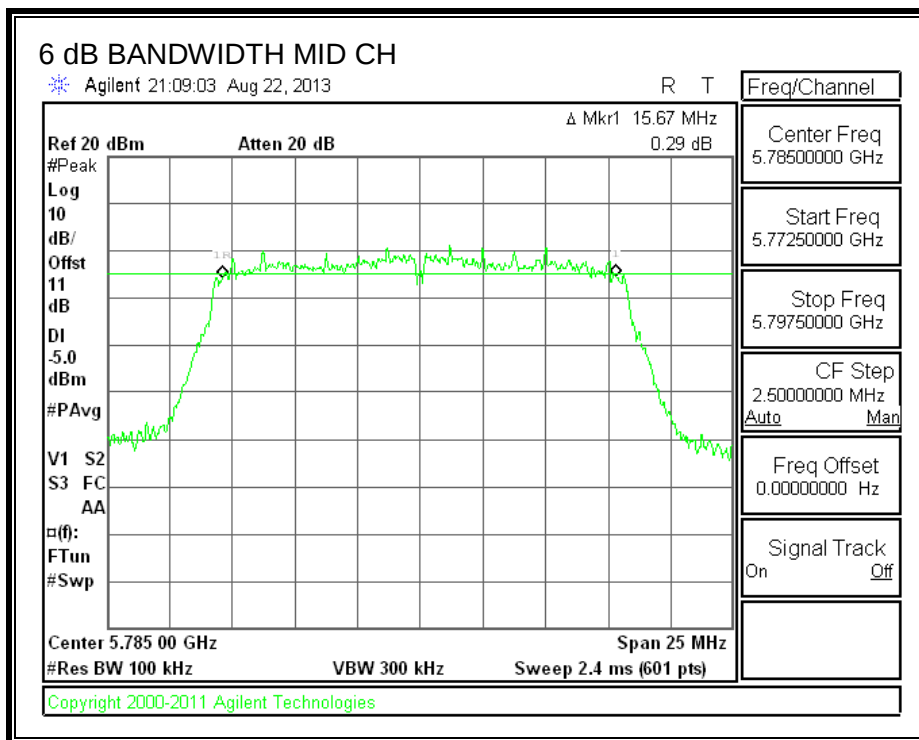
802.11g 6 dB BANDWIDTH



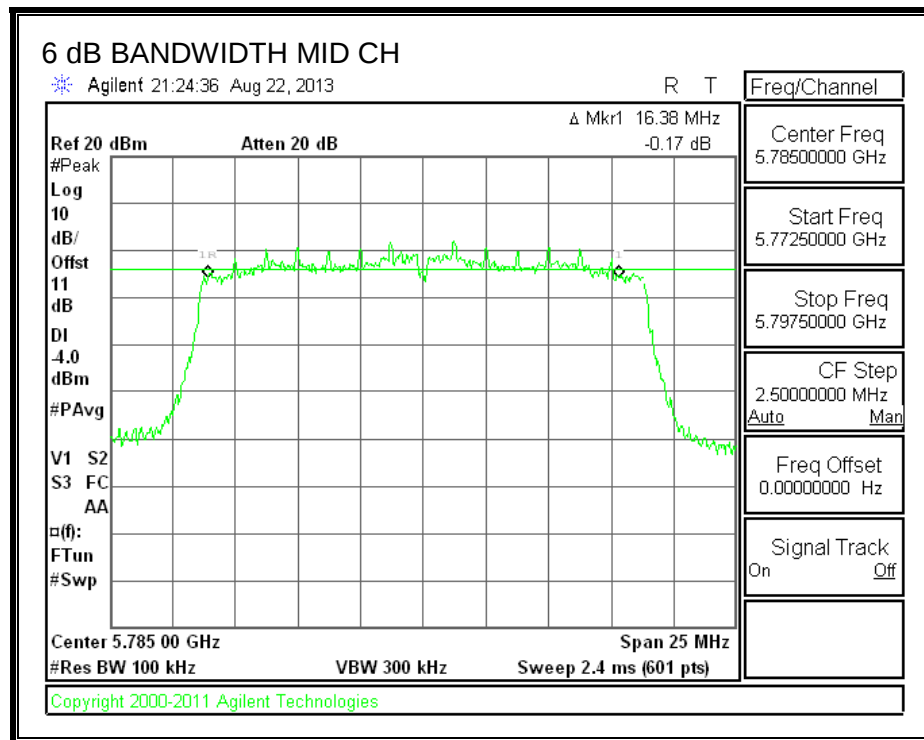
802.11n 6 dB BANDWIDTH



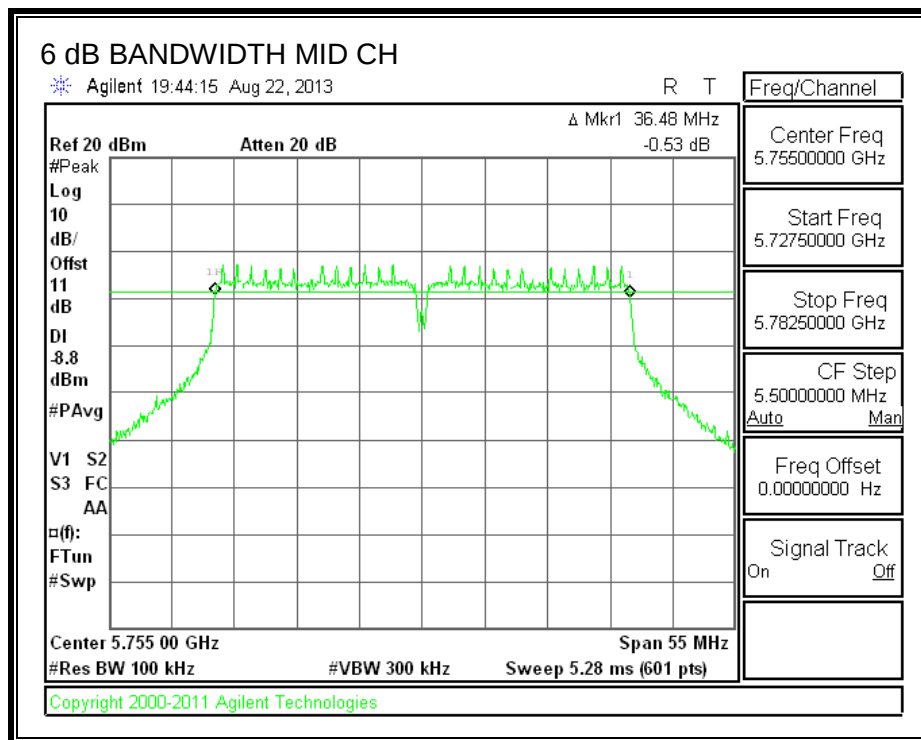
5.8 11a 6db BANDWIDTH



5.8 11n HT20 6db BANDWIDTH



5.8 11n HT40 6db BANDWIDTH



9.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

9.2.1. 802.11b MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	13.56
Mid	2437	13.52
High	2462	13.58
Worst		13.58

9.2.1. 802.11g MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	16.21
Mid	2437	16.23
High	2462	16.31
Worst		16.31

9.2.1. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	17.30
Mid	2437	17.26
High	2462	17.39
Worst		17.39

9.2.2. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	17.407
Mid	5785	16.322
High	5825	16.332
Worst		17.407

9.2.3. 802.11n HT20 MODE IN THE 5.8 GHz BAND

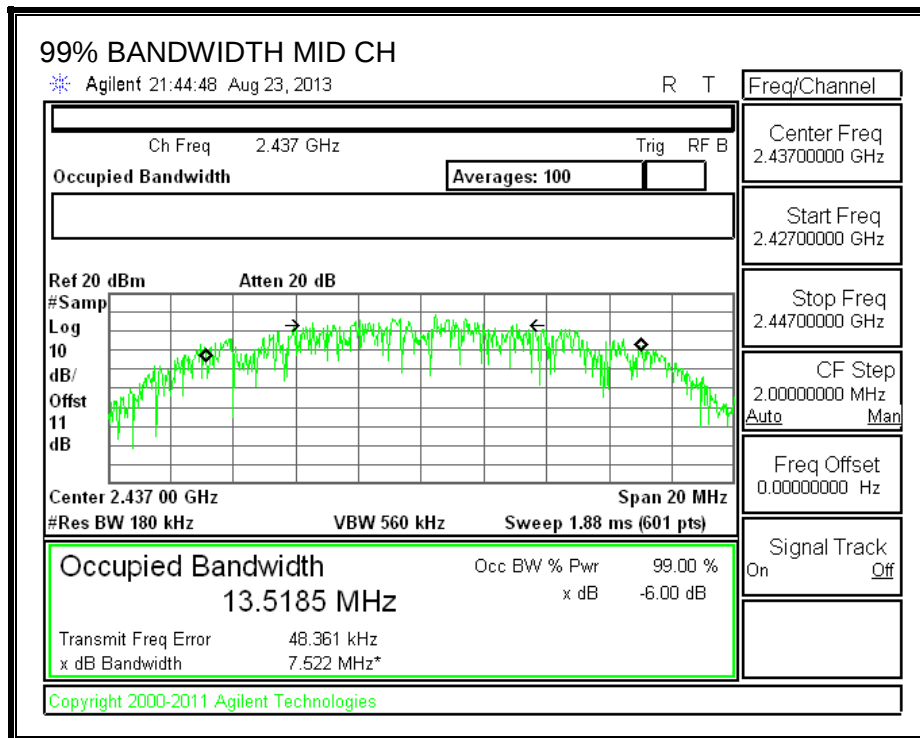
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5745	17.460
Mid	5785	17.479
High	5825	17.408
Worst		17.479

9.2.4. 802.11n HT40 MODE IN THE 5.8 GHz BAND

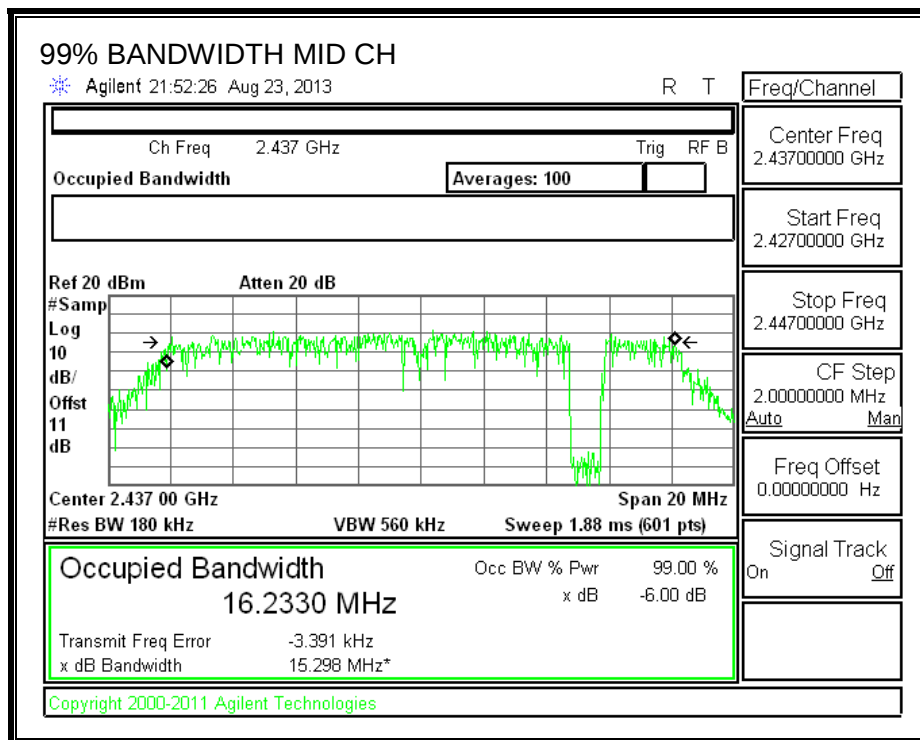
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	5755	37.1
High	5795	36.9
Worst		37.1

9.2.5. Results

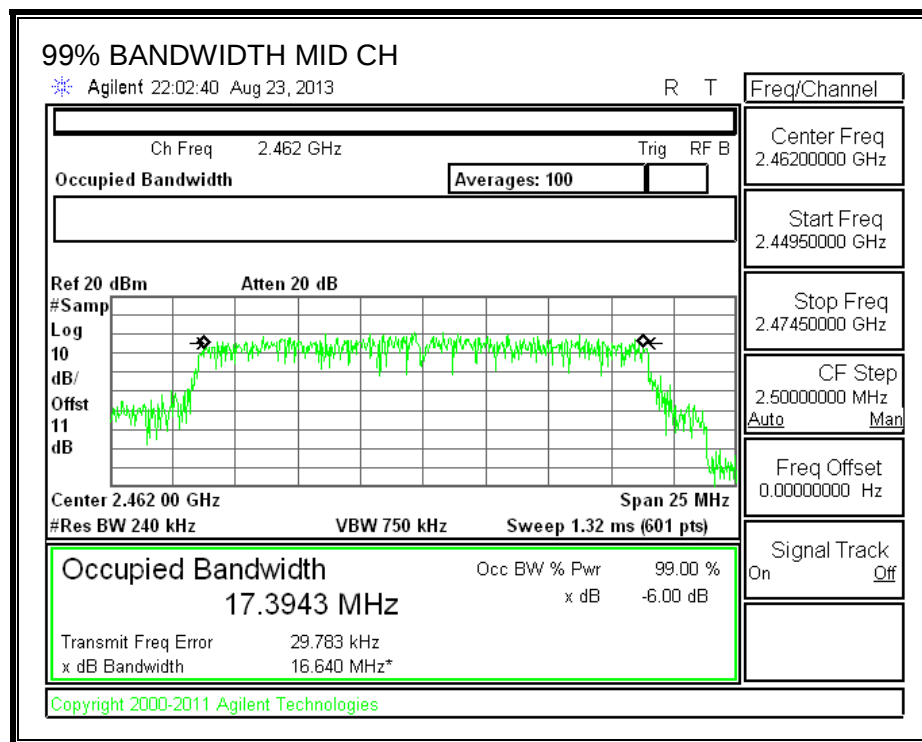
802.11b 99% BANDWIDTH



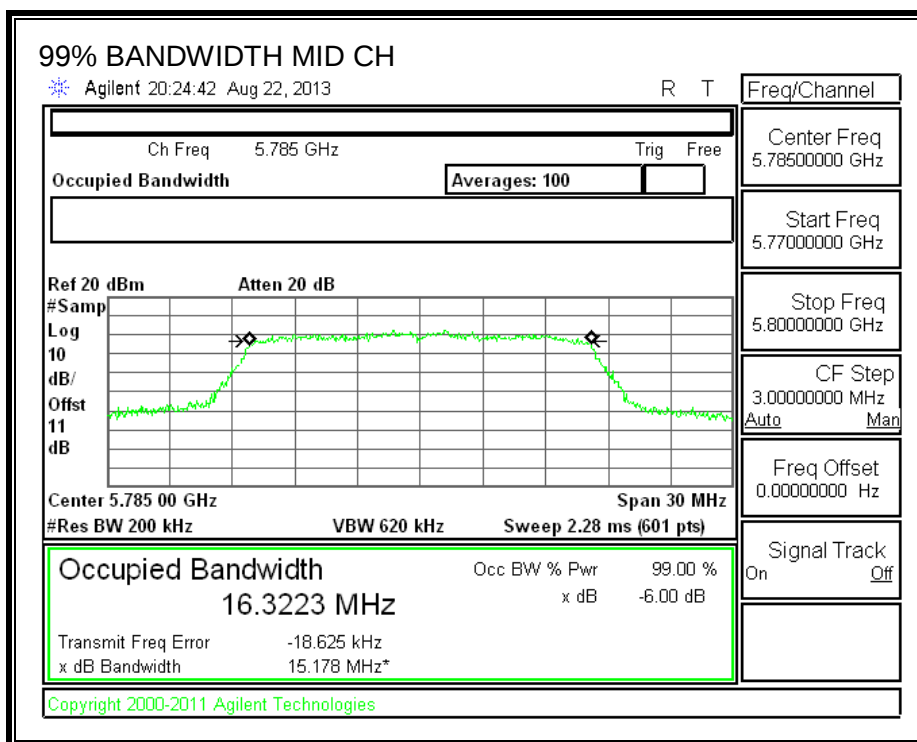
802.11g 99% BANDWIDTH



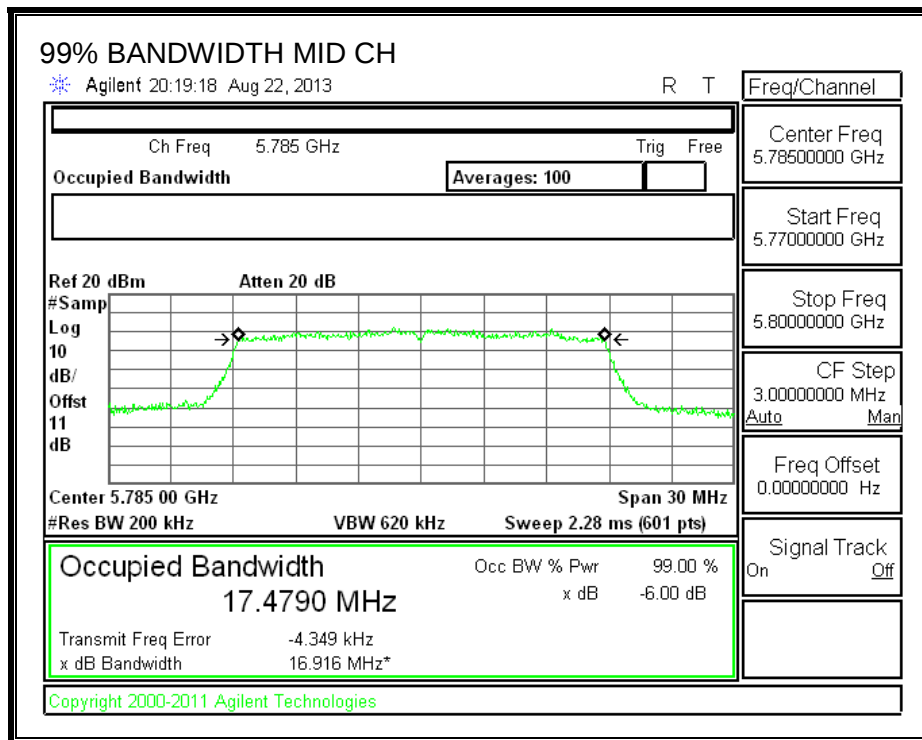
802.11n 99% BANDWIDTH



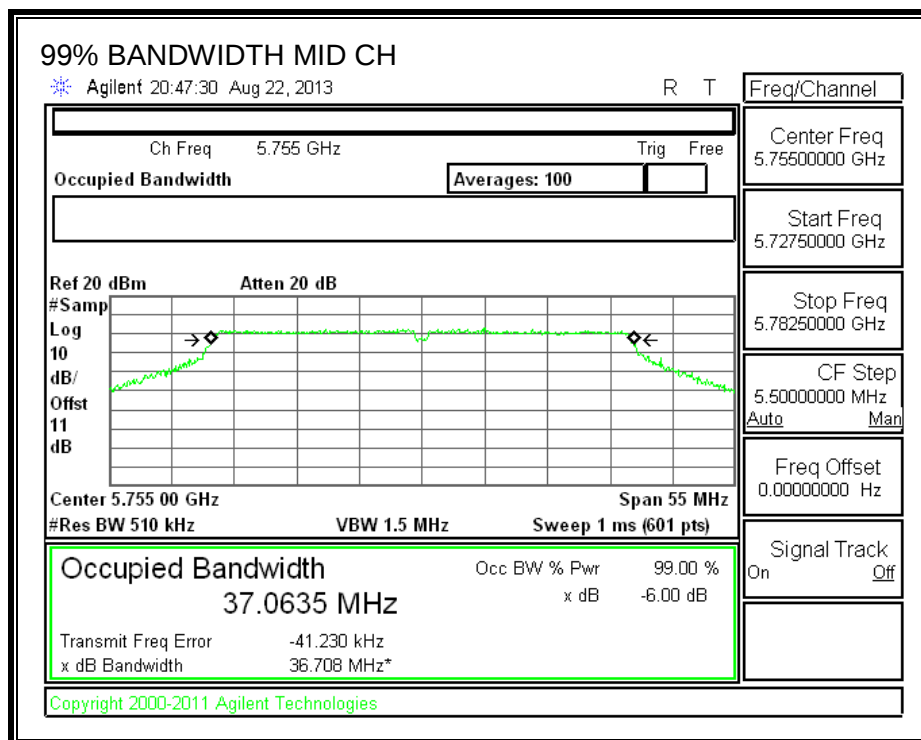
5.8 11a 99% BANDWIDTH



5.8 11n HT20 99% BANDWIDTH



5.8 11n HT40 99% BANDWIDTH



9.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 11 dB (including 10 dB pad and 1 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

9.3.1. 802.11b MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	Power (dBm)
Low	2412	16.20
Mid	2437	17.20
High	2462	16.60

9.3.2. 802.11g MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	Power (dBm)
Low	2412	14.00
Mid	2437	13.60
High	2462	14.10

9.3.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	Power (dBm)
Low	2412	11.80
Mid	2437	12.40
High	2462	11.90

9.3.4. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5745	12.300
Mid	5785	12.100
High	5825	12.100
Worst		12.300

9.3.5. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5745	12.100
Mid	5785	12.100
High	5825	12.100
Worst		12.100

9.3.6. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	5755	11.6
High	5795	11.6
Worst		11.6

9.4. OUTPUT POWER

LIMITS

FCC §15.247

IC RSS-210 A8.4

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

9.4.1. 802.11b MODE IN THE 2.4 GHz BAND

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2412	-1.67	30.00	30	36	30.00
Mid	2437	-1.22	30.00	30	36	30.00
High	2462	-1.27	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	19.00	19.00	30.00	-11.00
Mid	2437	20.06	20.06	30.00	-9.94
High	2462	19.15	19.15	30.00	-10.85
Worst			20.06		

9.4.2. 802.11g MODE IN THE 2.4 GHz BAND

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2412	-1.67	30.00	30	36	30.00
Mid	2437	-1.22	30.00	30	36	30.00
High	2462	-1.27	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	22.73	22.73	30.00	-7.27
Mid	2437	22.06	22.06	30.00	-7.94
High	2462	22.61	22.61	30.00	-7.39
Worst			22.73		

9.4.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2412	-1.67	30.00	30	36	30.00
Mid	2437	-1.22	30.00	30	36	30.00
High	2462	-1.27	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	21.38	21.38	30.00	-8.62
Mid	2437	20.92	20.92	30.00	-9.08
High	2462	20.22	20.22	30.00	-9.78
Worst			21.38		

9.4.1. 802.11a MODE IN THE 5.8 GHz BAND

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	5745	-0.28	30.00	30	36	30.00
Mid	5785	-0.28	30.00	30	36	30.00
High	5825	-0.18	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	5745	19.78	19.78	30.00	-10.22
Mid	5785	19.35	19.35	30.00	-10.65
High	5825	19.52	19.52	30.00	-10.48
Worst			19.78		

9.4.1. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	5745	-0.28	30.00	30	36	30.00
Mid	5785	-0.28	30.00	30	36	30.00
High	5825	-0.18	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	5745	19.55	19.55	30.00	-10.45
Mid	5785	19.08	19.08	30.00	-10.92
High	5825	19.26	19.26	30.00	-10.74
Worst			19.55		

9.4.1. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Limits

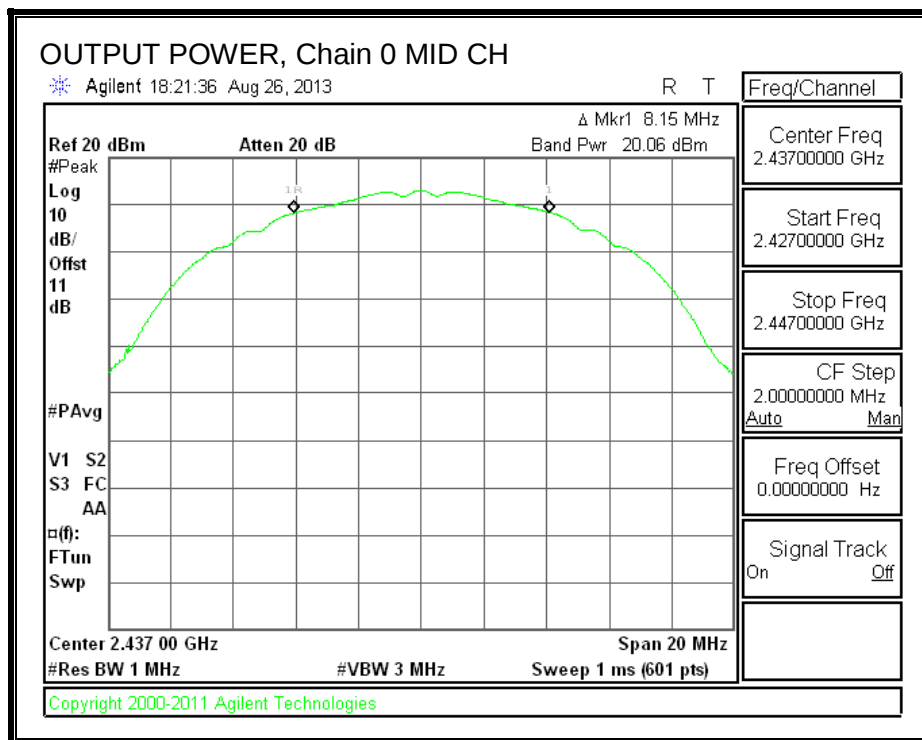
Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	5755	-0.28	30.00	30	36	30.00
High	5795	-0.18	30.00	30	36	30.00

Results

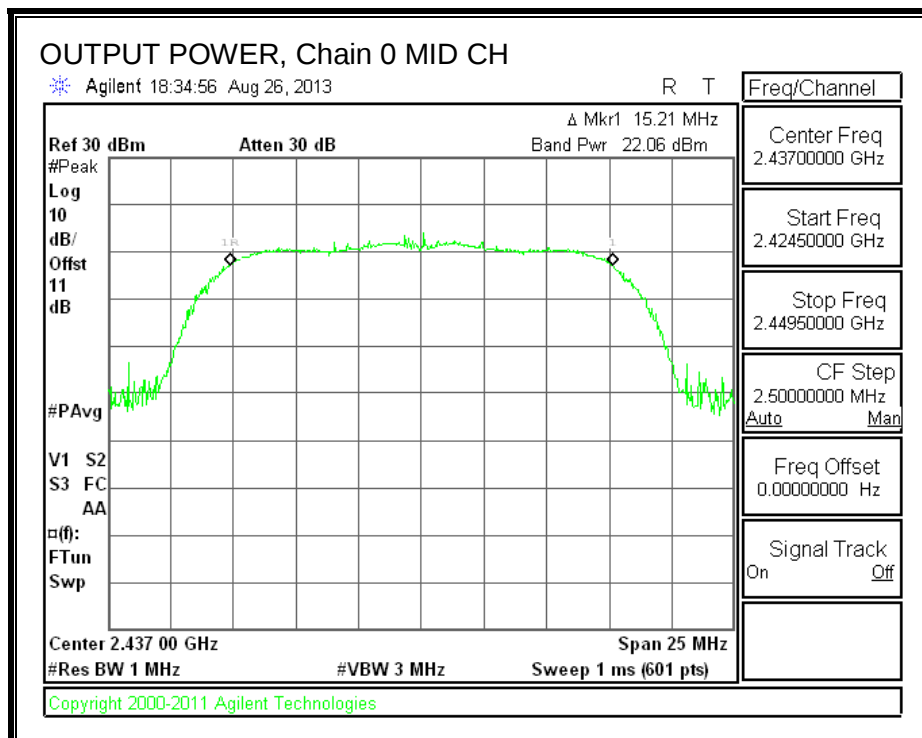
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	5755	18.24	18.24	30.00	-11.76
High	5795	18.13	18.13	30.00	-11.87
Worst			18.24		

9.4.2. PLOTS

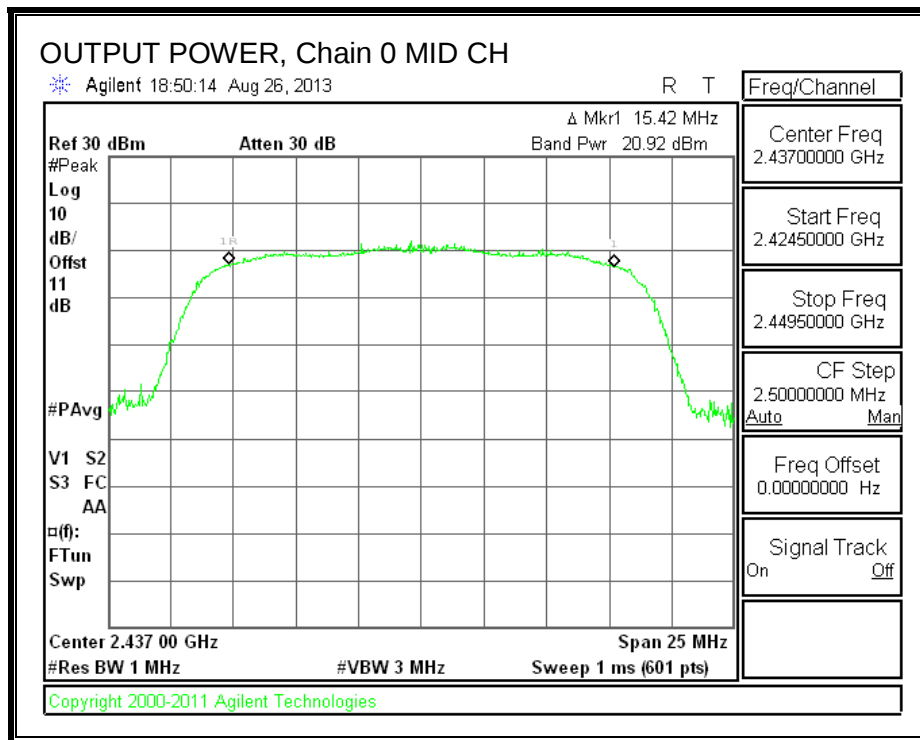
802.11b OUTPUT POWER, Chain 0



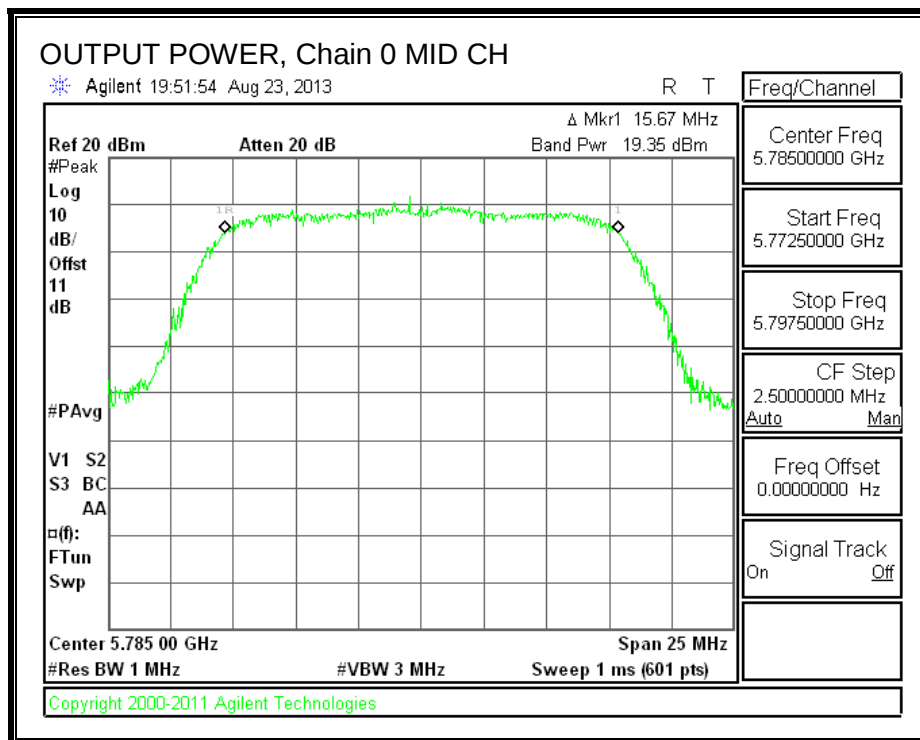
802.11g OUTPUT POWER, Chain 0



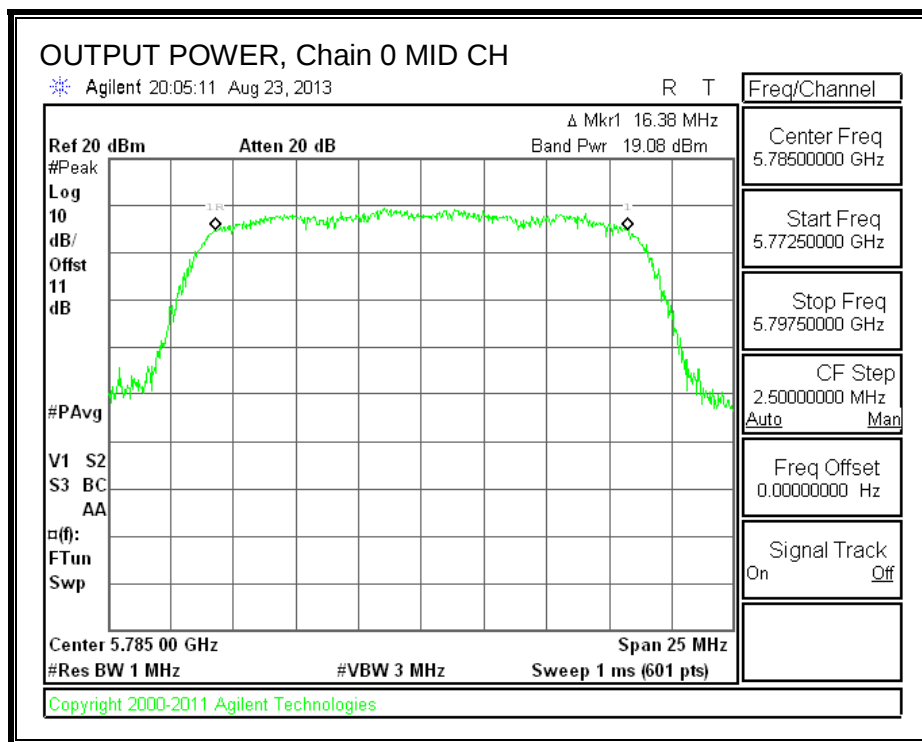
802.11n OUTPUT POWER, Chain 0



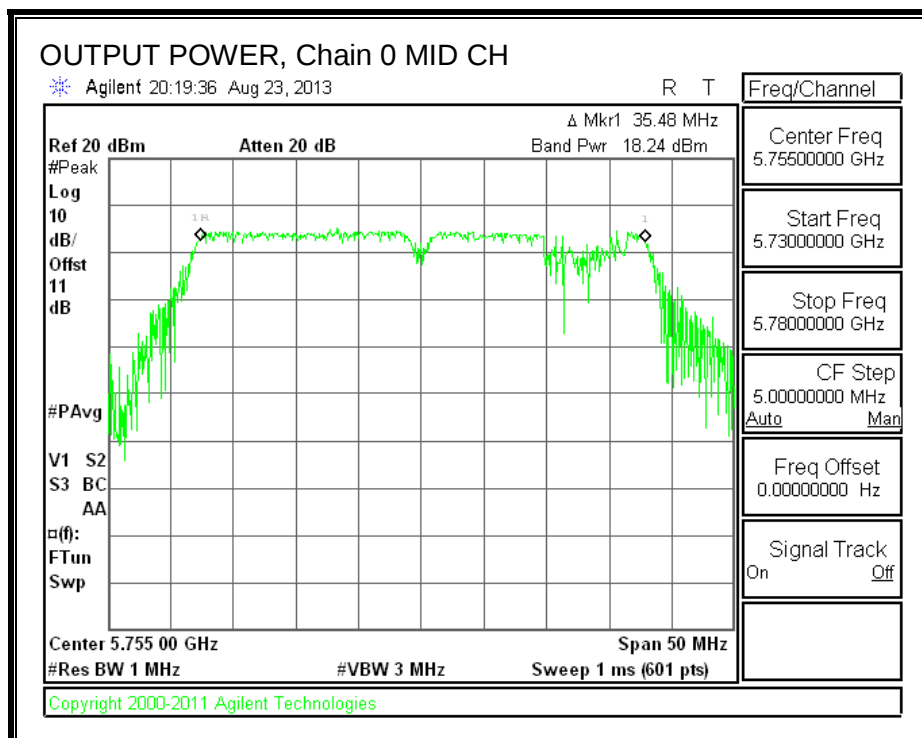
802.11a 5.8GHz OUTPUT POWER, Chain 0



802.11n HT20 5.8GHz OUTPUT POWER, Chain 0



802.11n HT40 5.8GHz OUTPUT POWER, Chain 0



9.5. PSD

LIMITS

FCC §15.247

IC RSS-210 A8.2

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

9.5.1. 802.11b MODE IN THE 2.4 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-4.52	8.0	-12.5
Mid	2437	-4.35	8.0	-12.4
High	2462	-5.75	8.0	-13.8

9.5.2. 802.11g MODE IN THE 2.4 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-9.66	8.0	-17.7
Mid	2437	-10.04	8.0	-18.0
High	2462	-10.37	8.0	-18.4

9.5.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-12.26	8.0	-20.3
Mid	2437	-9.90	8.0	-17.9
High	2462	-12.13	8.0	-20.1

9.5.1. 802.11a MODE IN THE 5.8 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	5745	-12.82	8.0	-20.8
Mid	5785	-12.81	8.0	-20.8
High	5825	-12.18	8.0	-20.2

9.5.1. 802.11n HT20 MODE IN THE 5.8 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	5745	-12.29	8.0	-20.3
Mid	5785	-12.48	8.0	-20.5
High	5825	-11.95	8.0	-20.0

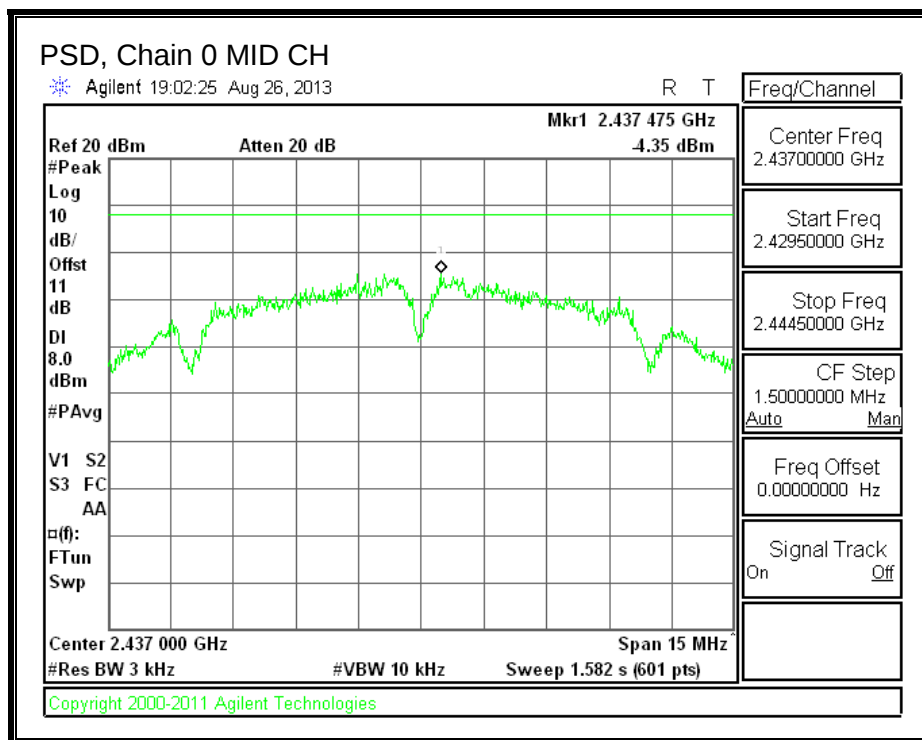
9.5.1. 802.11n HT40 MODE IN THE 5.8 GHz BAND

PSD Results

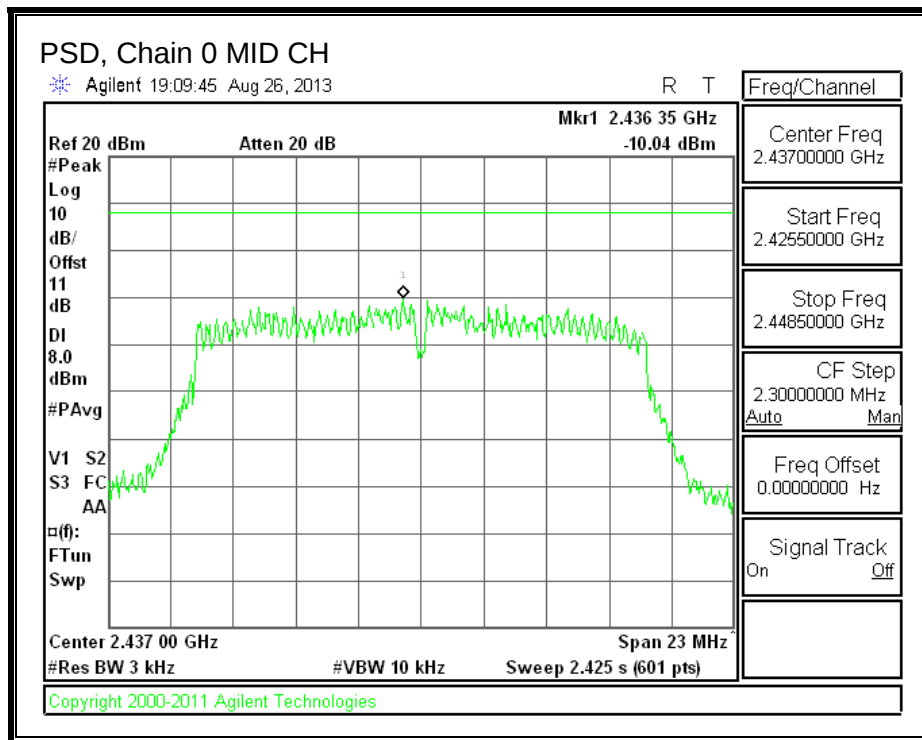
Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	5755	-17.29	8.0	-25.3
High	5795	-17.79	8.0	-25.8

9.5.2. Results

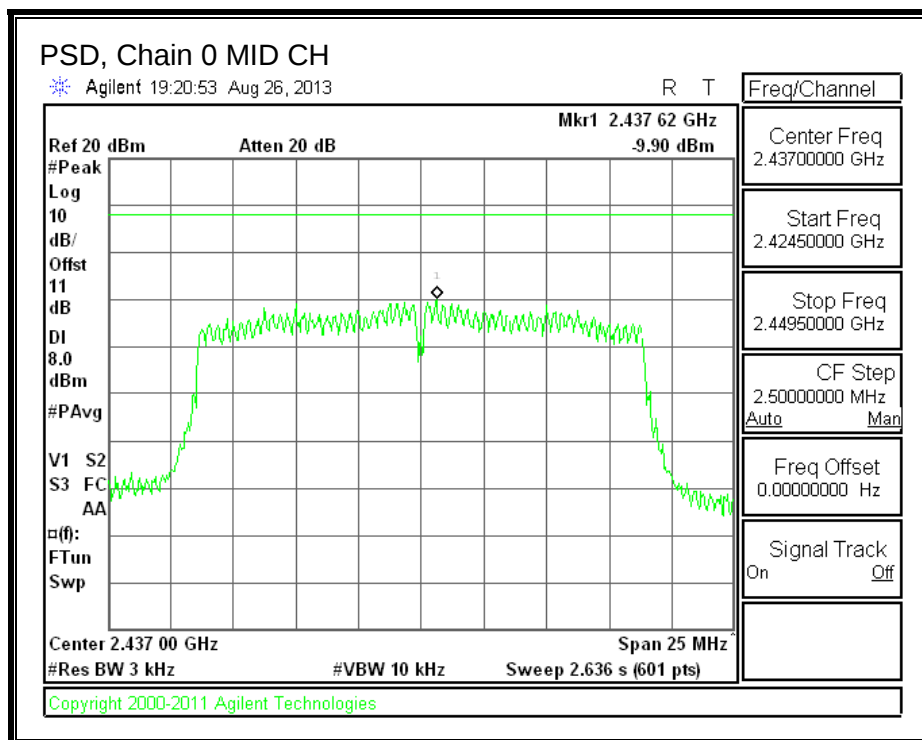
802.11b PSD, Chain 0



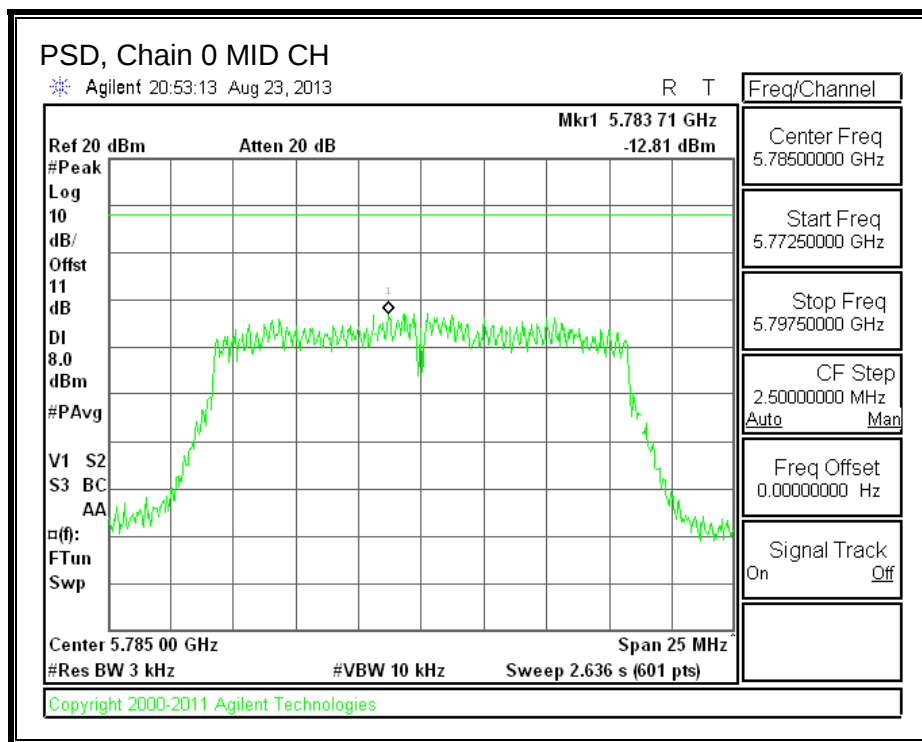
802.11g PSD, Chain 0



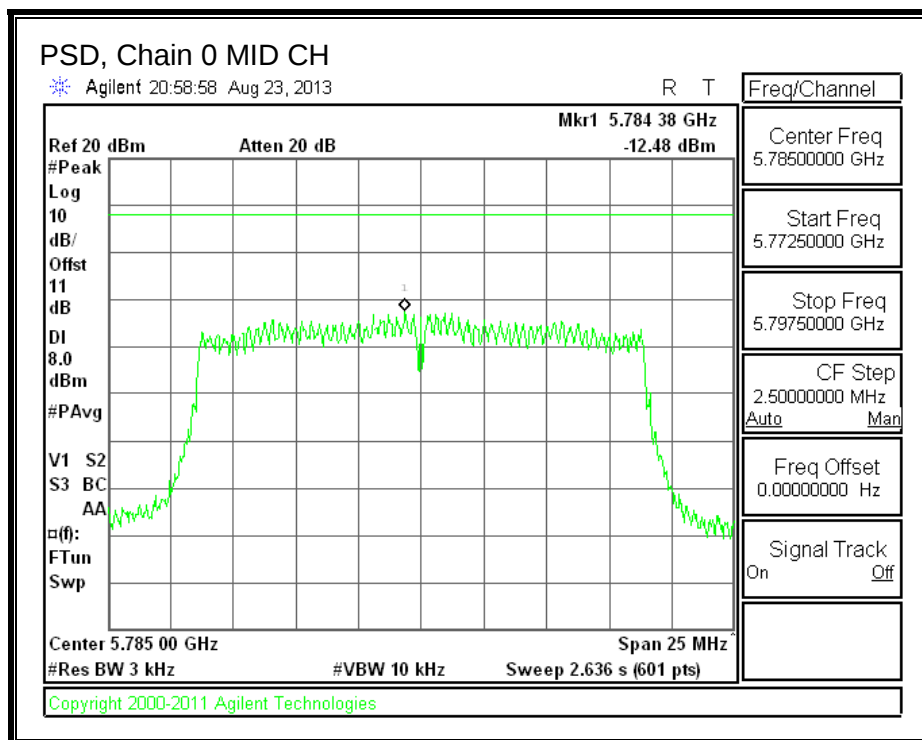
802.11n PSD, Chain 0



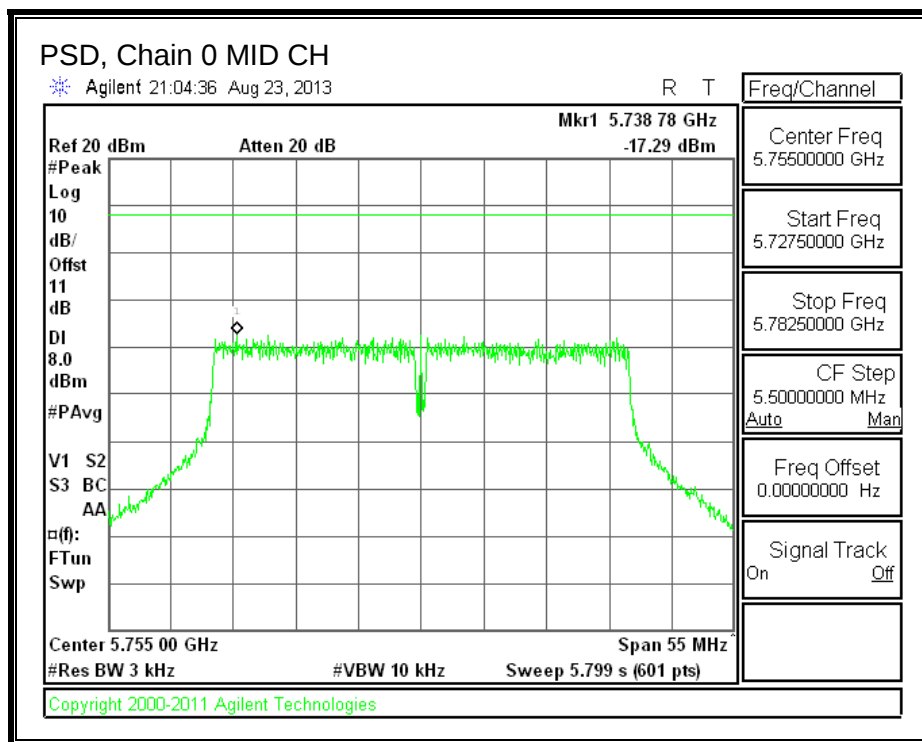
802.11a PSD, Chain 0



802.11n HT20 PSD, Chain 0



802.11n HT40 PSD, Chain 0



9.6. OUT-OF-BAND EMISSIONS

LIMITS

FCC §15.247 (d)

IC RSS-210 A8.5

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

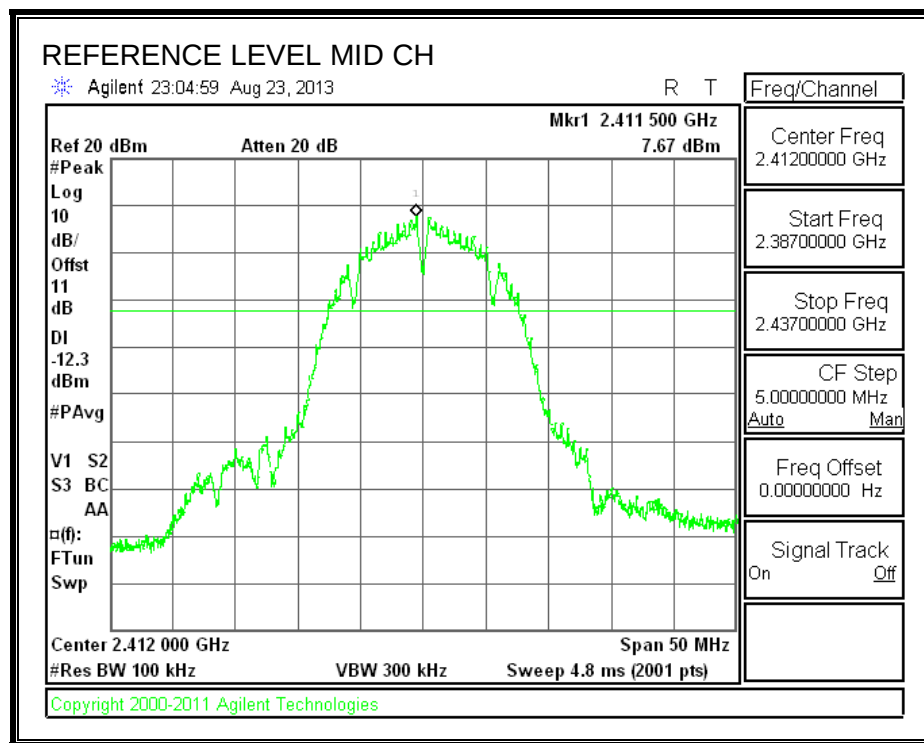
TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer with RBW = 100 kHz, VBW = 300 kHz, peak detector, and max hold. Measurements utilizing these settings are made of the in-band reference level, bandedge (where measurements to the general radiated limits will not be made) and out-of-band emissions.

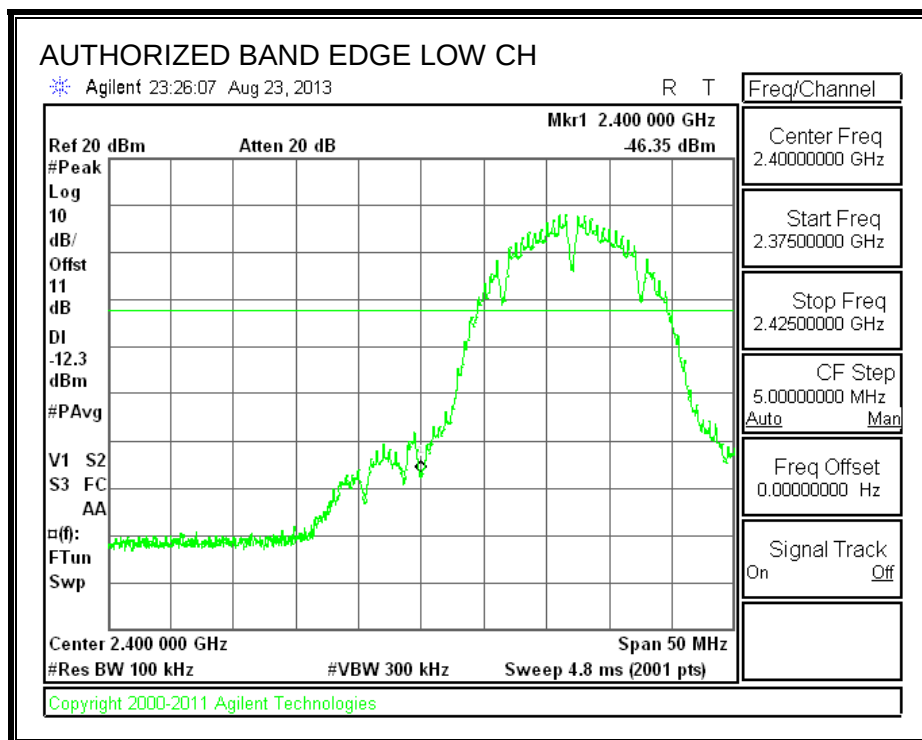
RESULTS

9.6.1. 802.11b MODE IN THE 2.4 GHz BAND

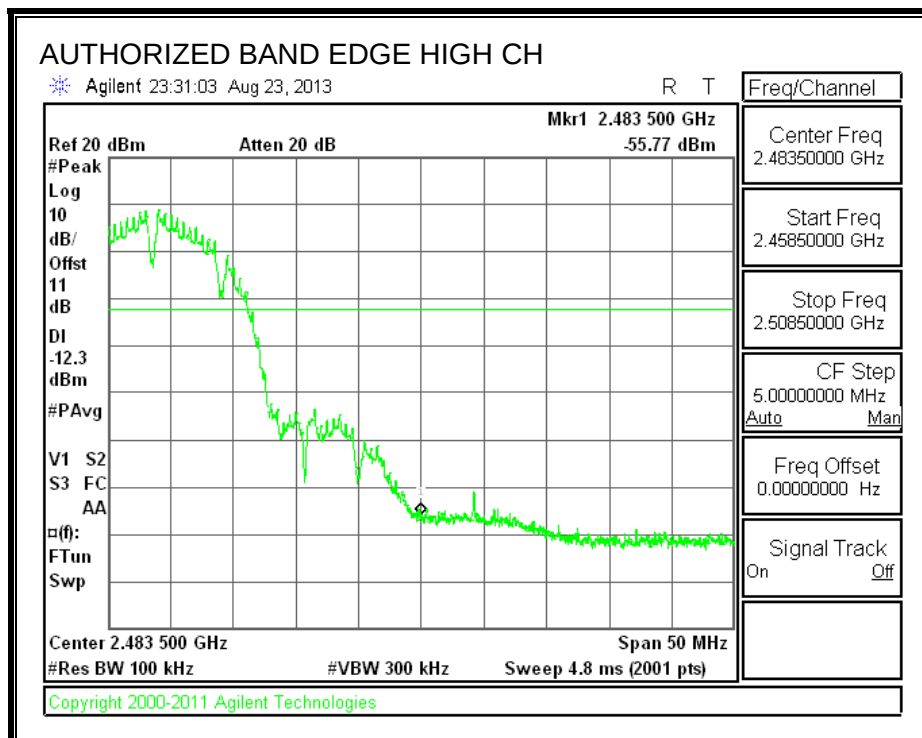
IN-BAND REFERENCE LEVEL



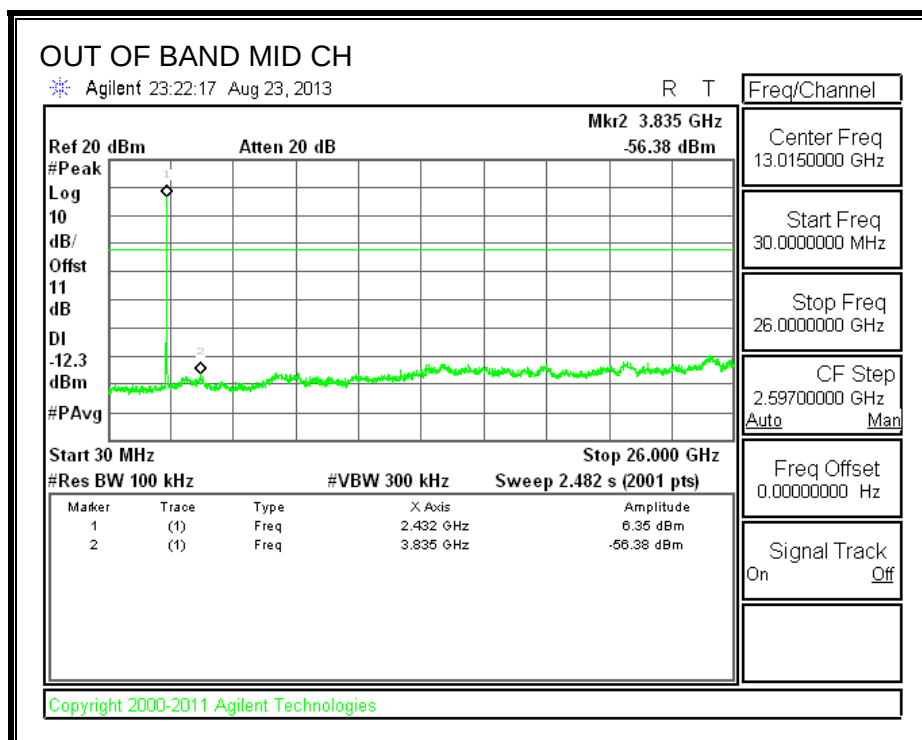
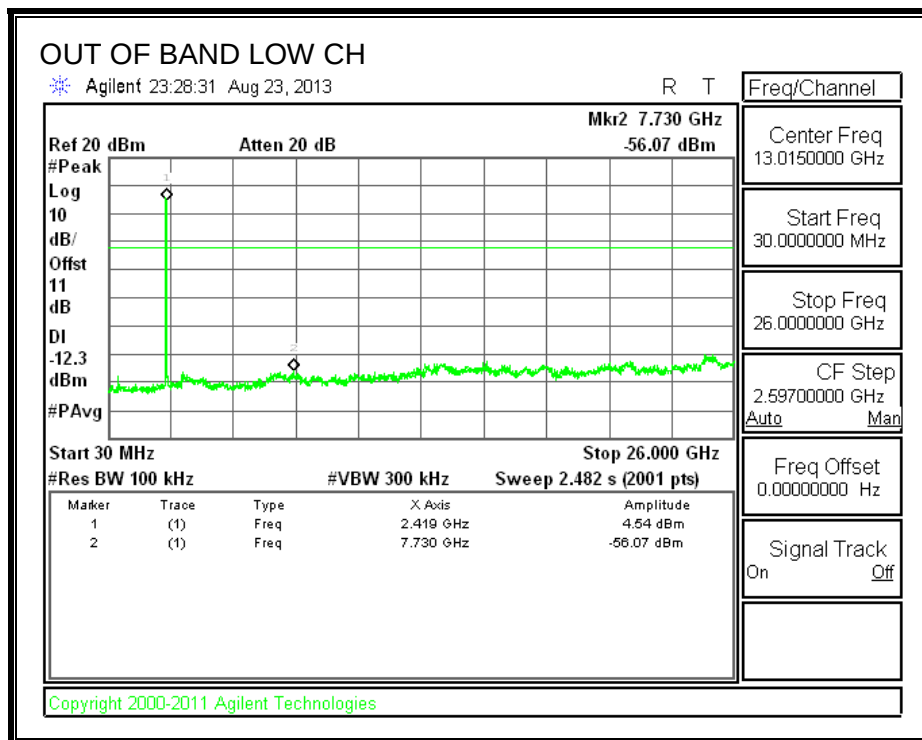
LOW CHANNEL BANDEDGE

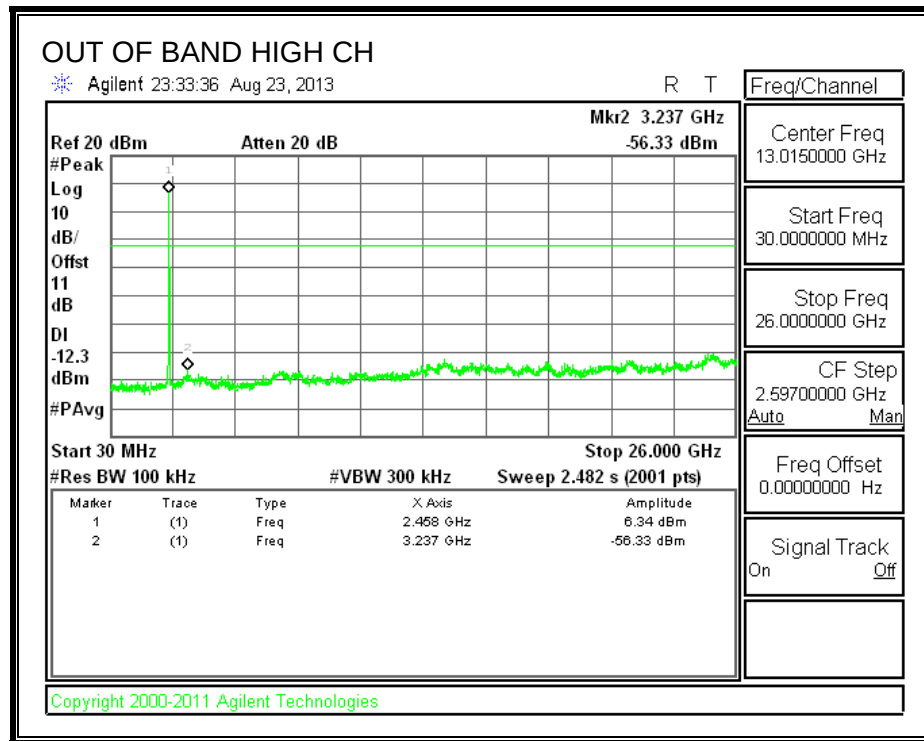


HIGH CHANNEL BANDEDGE



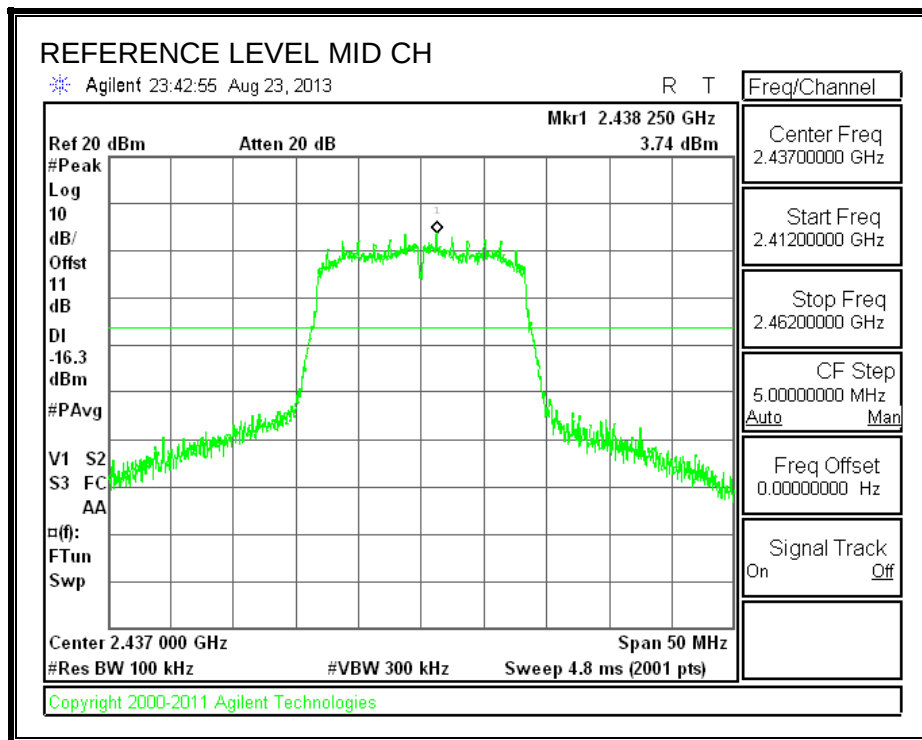
OUT-OF-BAND EMISSIONS



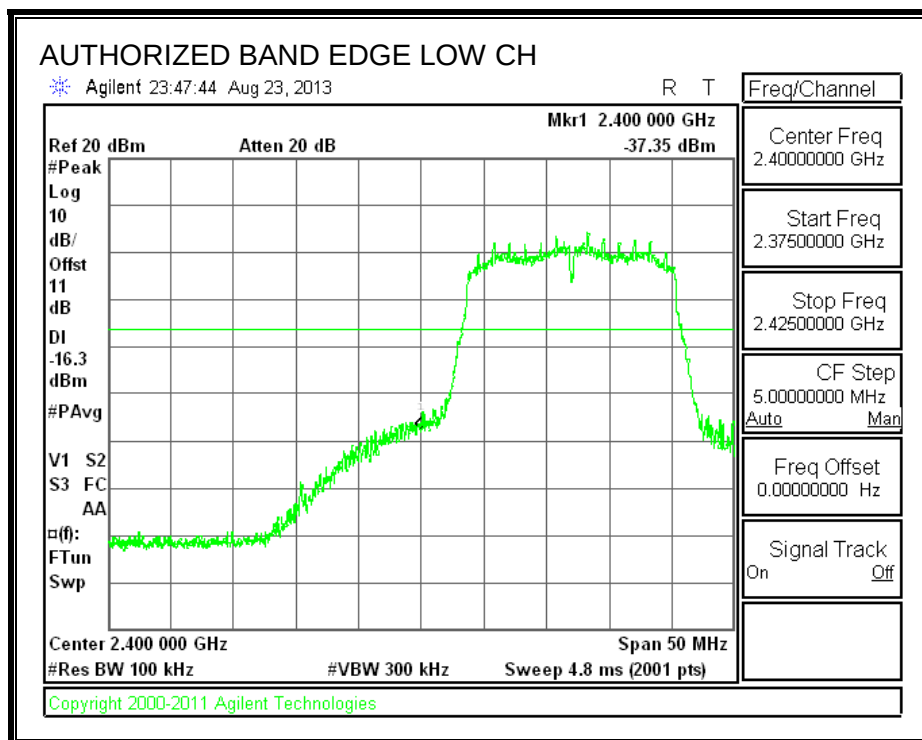


9.6.1. 802.11g MODE IN THE 2.4 GHz BAND

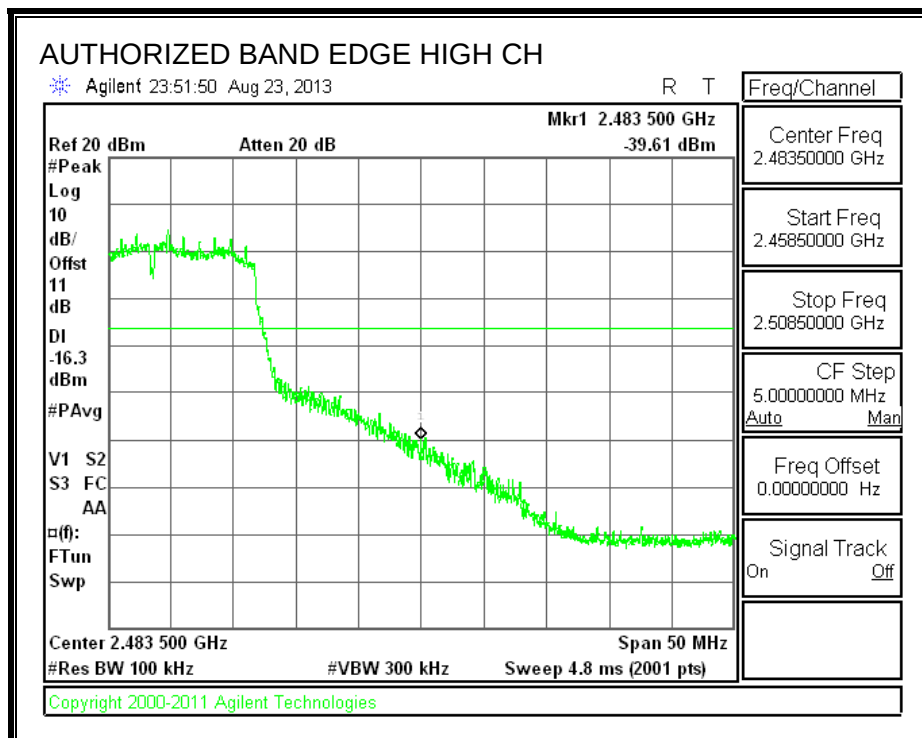
IN-BAND REFERENCE LEVEL



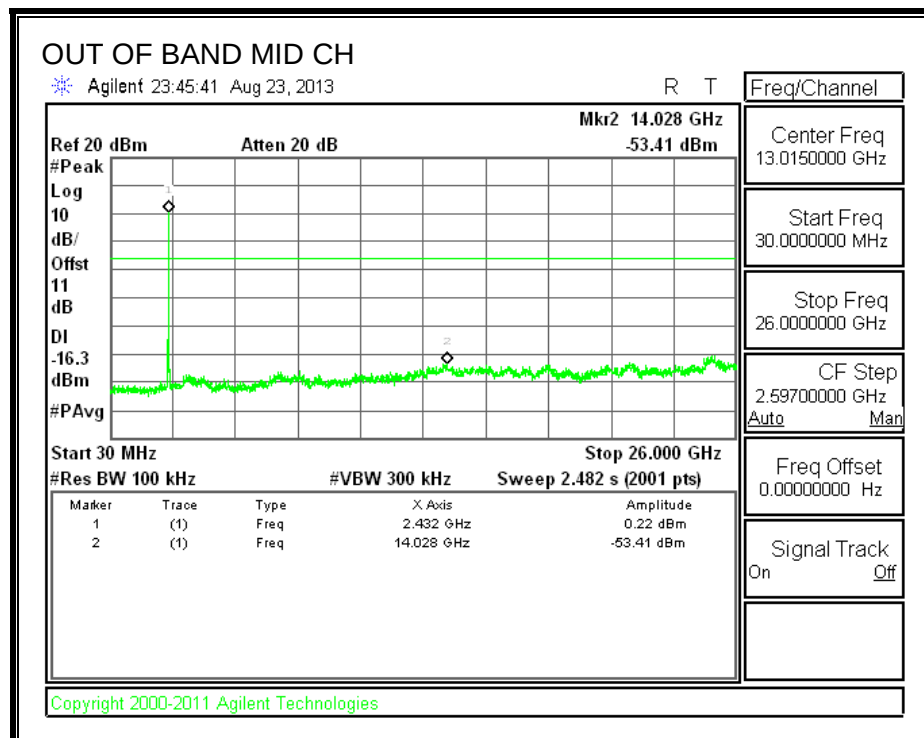
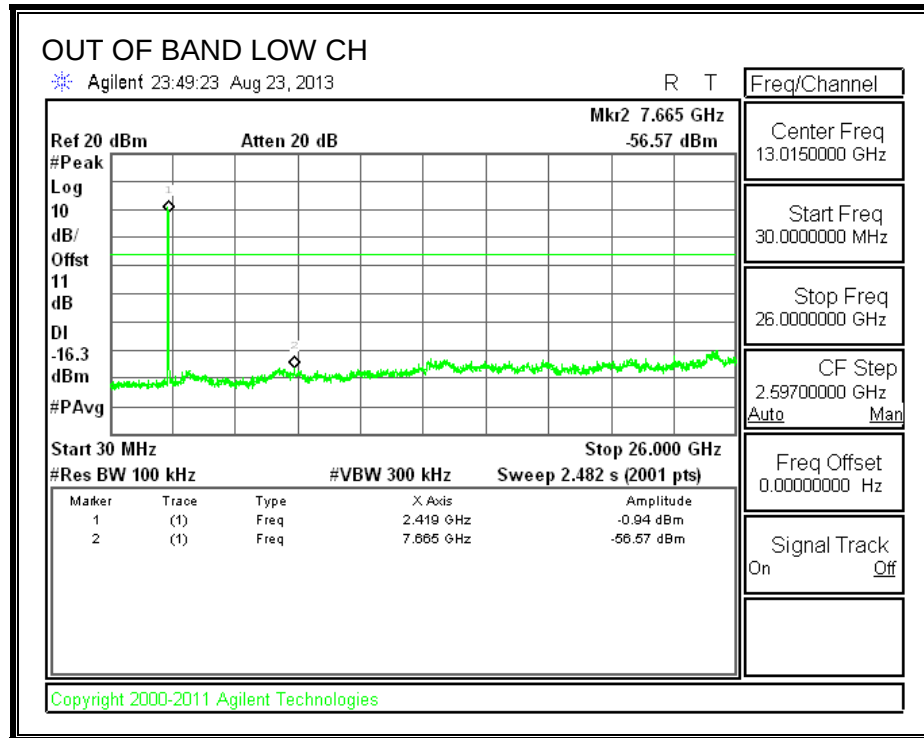
LOW CHANNEL BANDEDGE

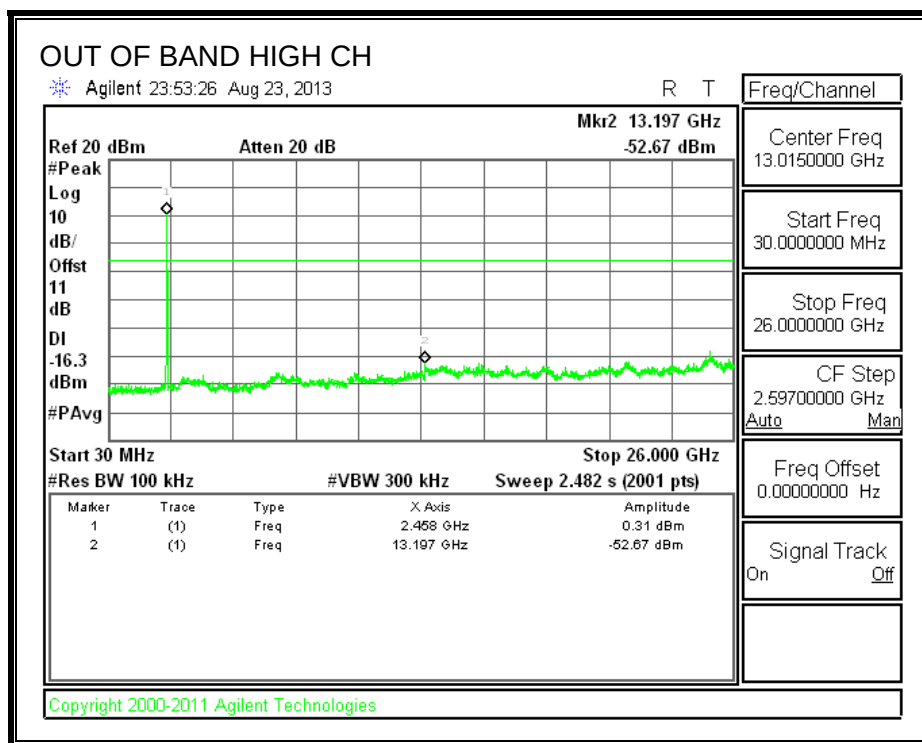


HIGH CHANNEL BANDEDGE



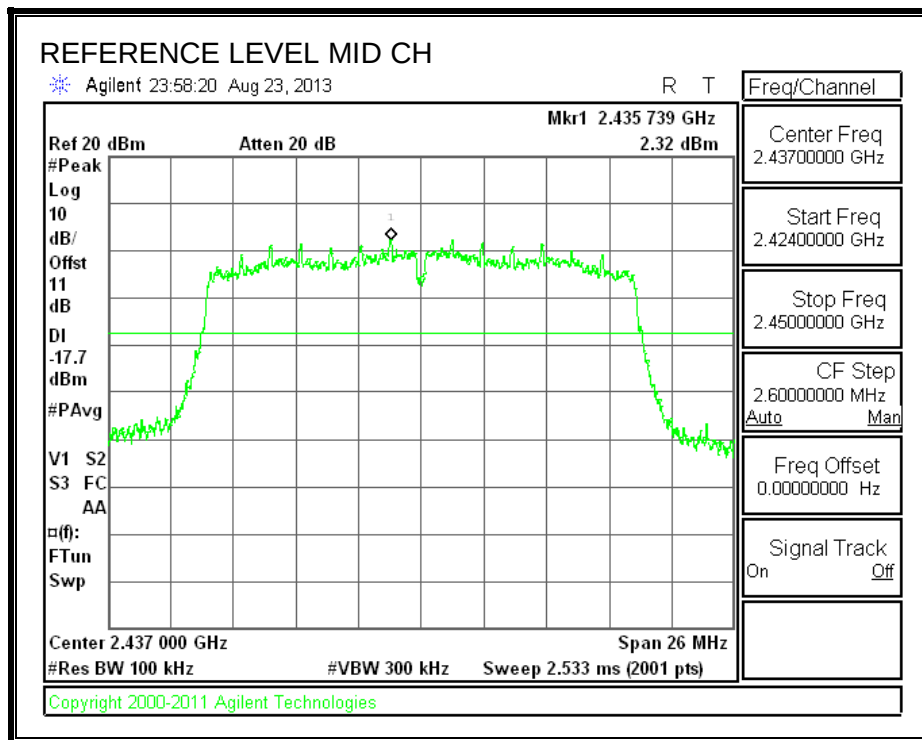
OUT-OF-BAND EMISSIONS



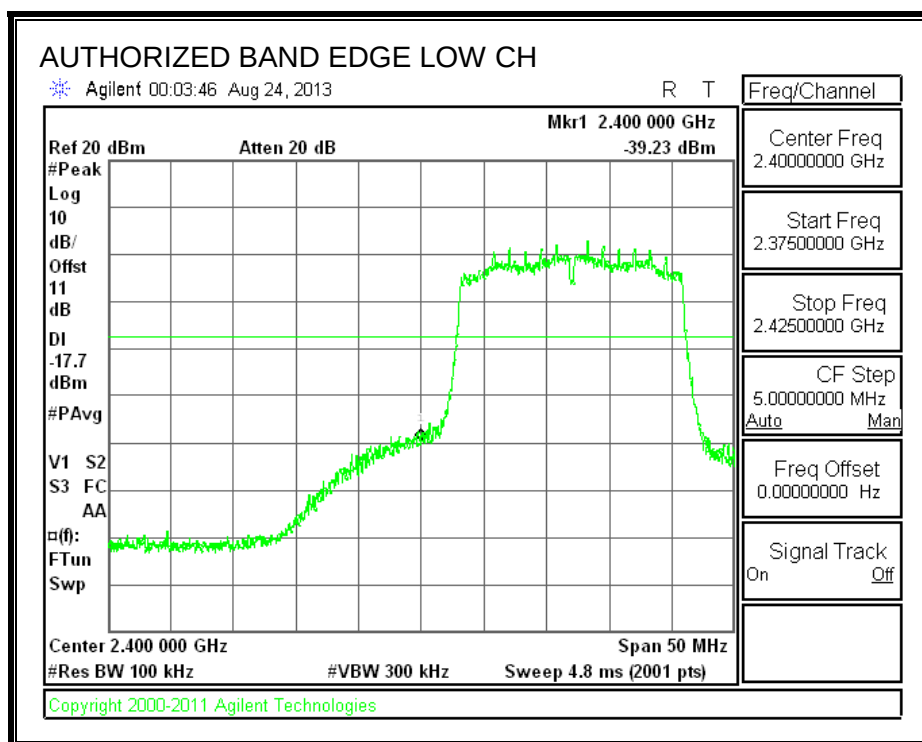


9.6.2. 802.11n MODE IN THE 2.4 GHz BAND

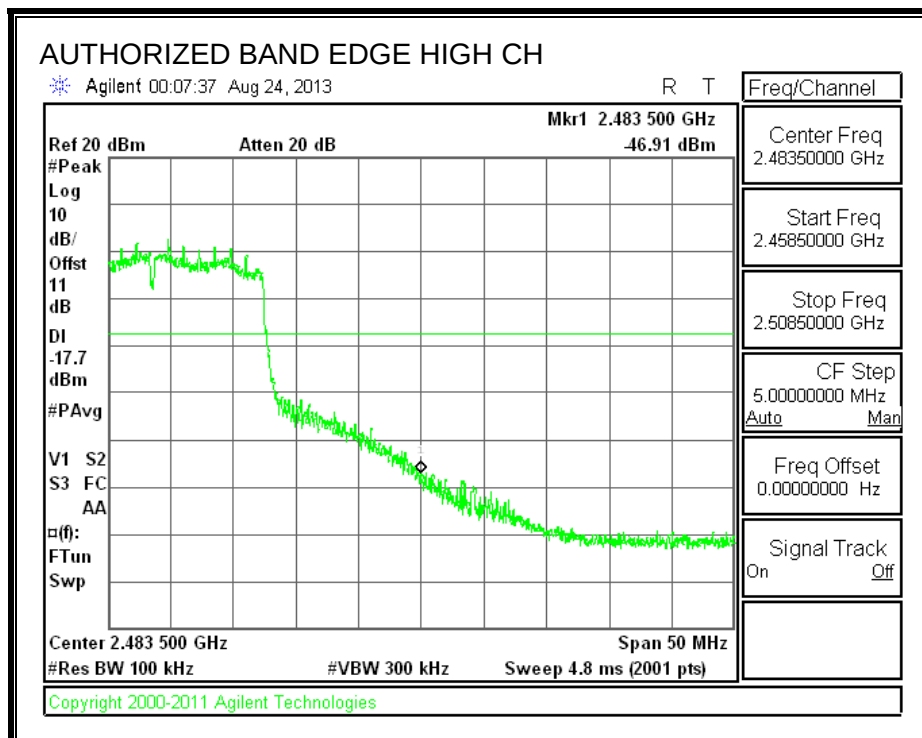
IN-BAND REFERENCE LEVEL



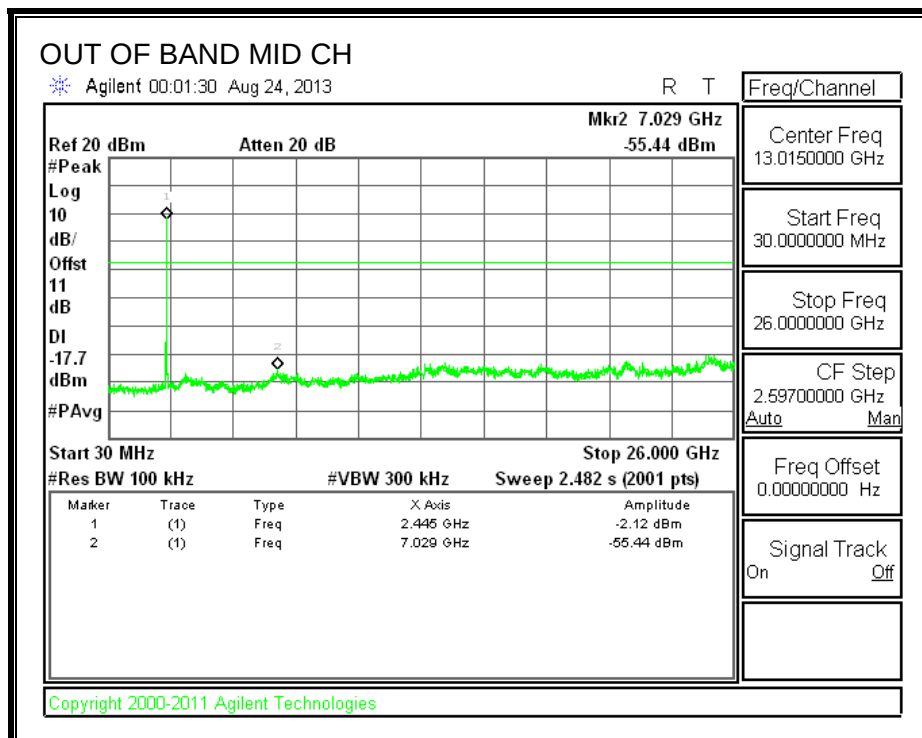
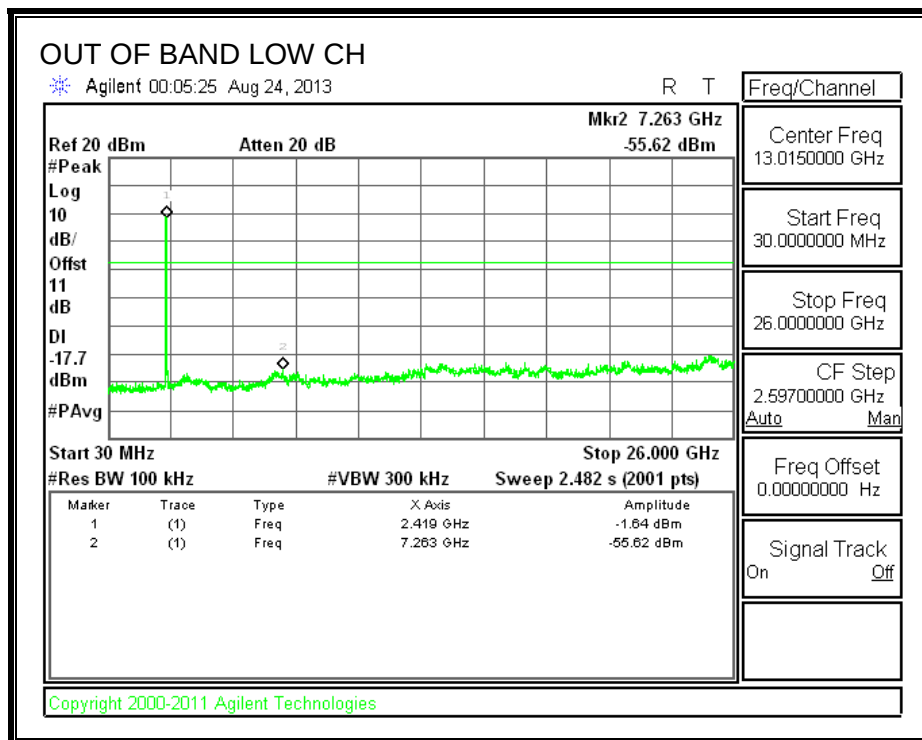
LOW CHANNEL BANDEDGE

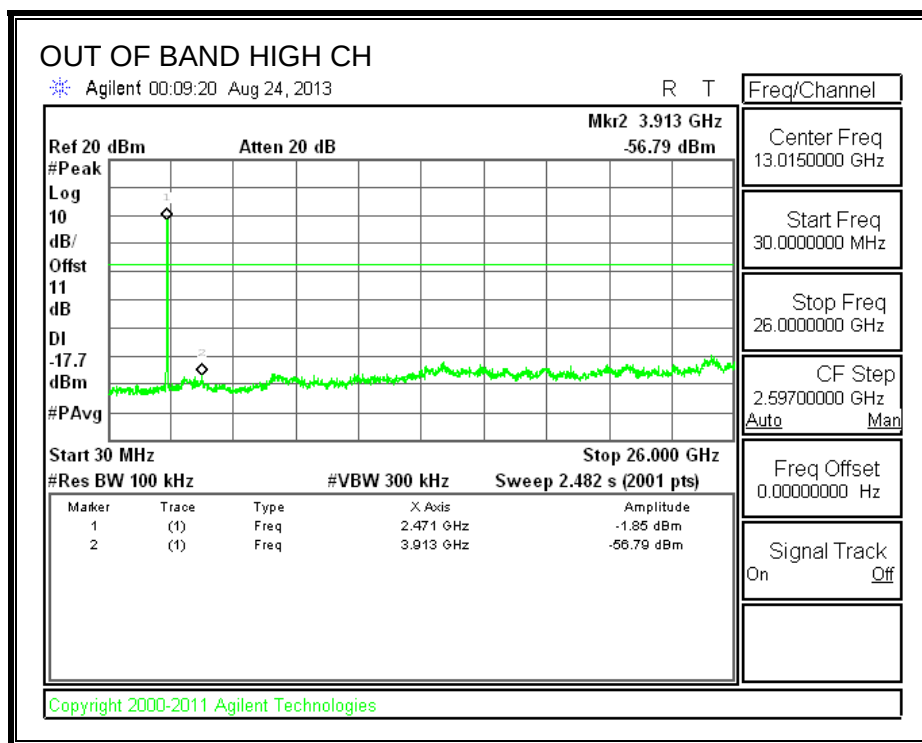


HIGH CHANNEL BANDEDGE



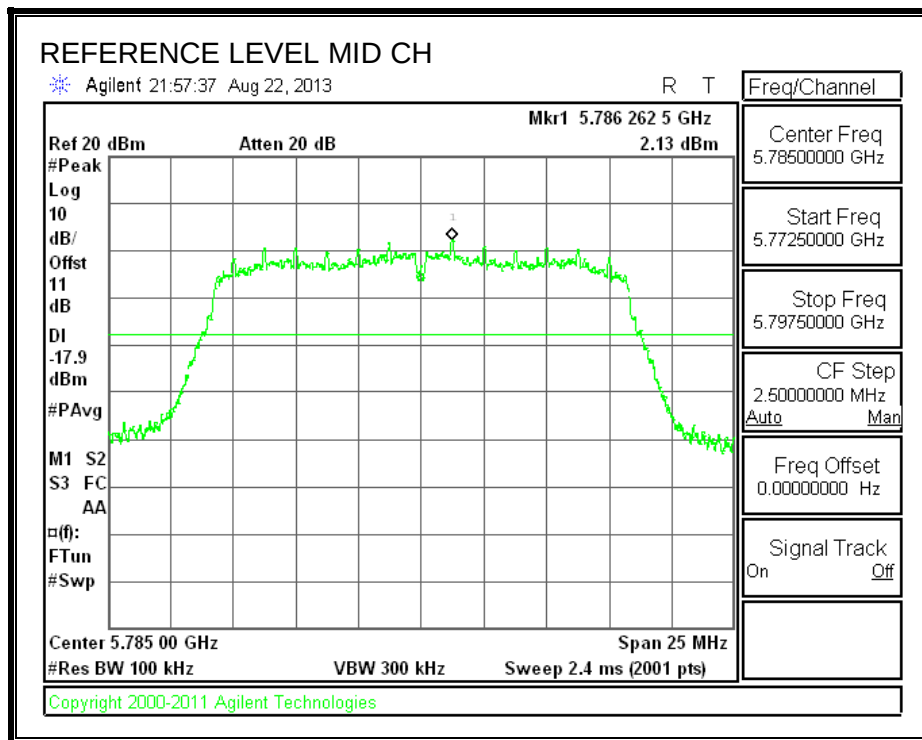
OUT-OF-BAND EMISSIONS



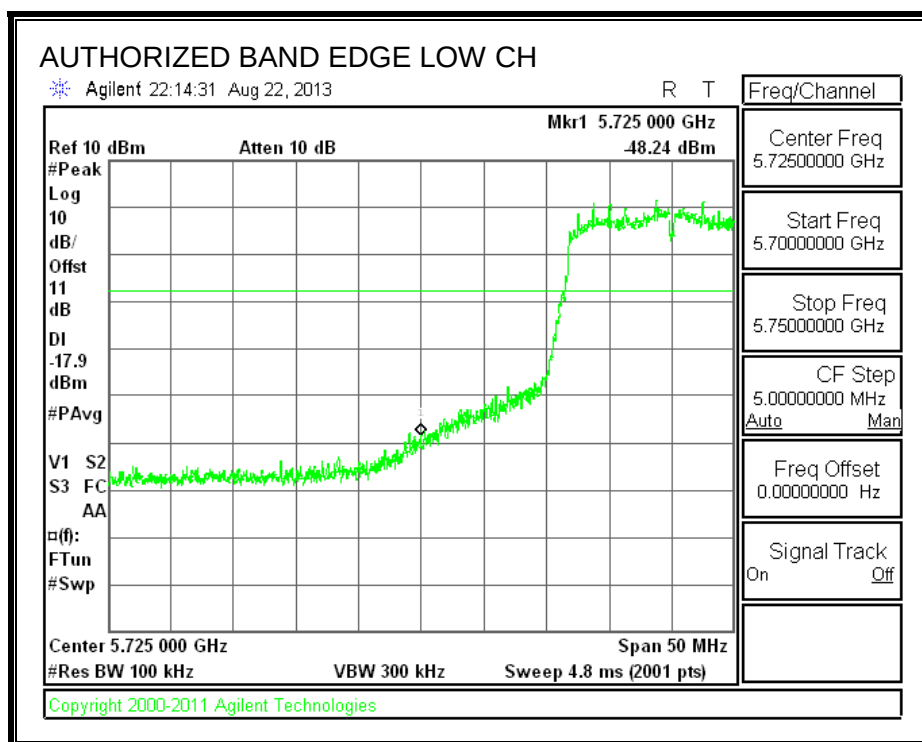


9.6.1. 802.11a MODE IN THE 5.8 GHz BAND

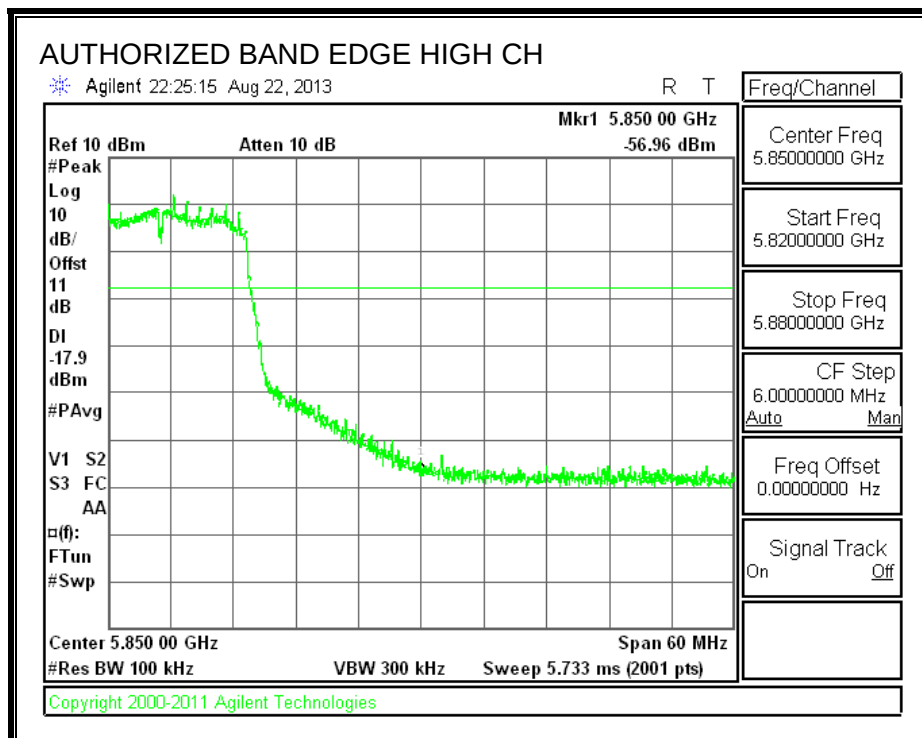
IN-BAND REFERENCE LEVEL



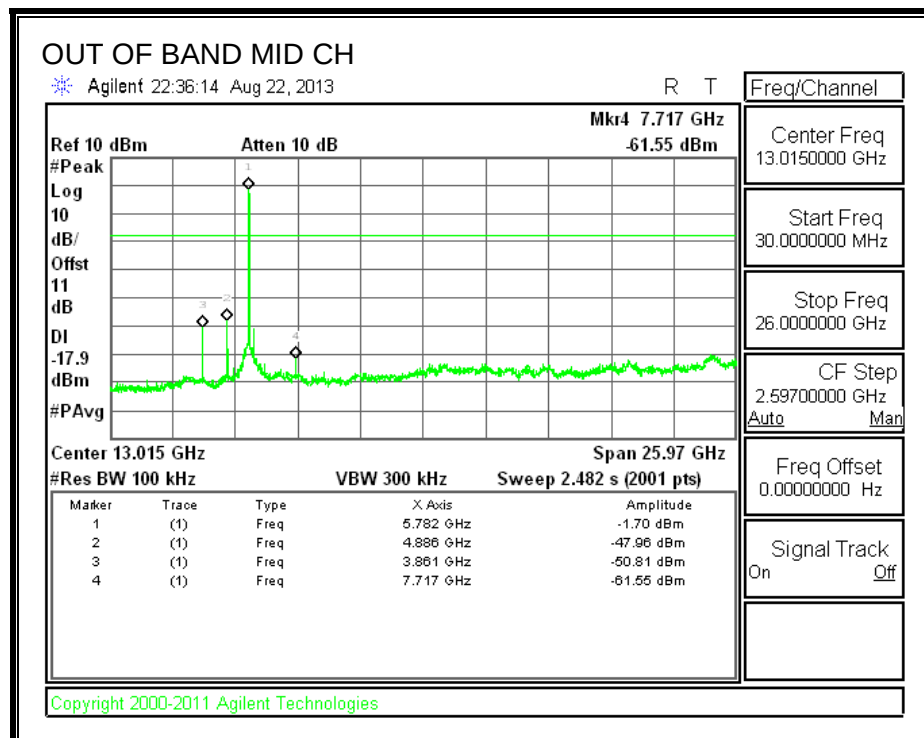
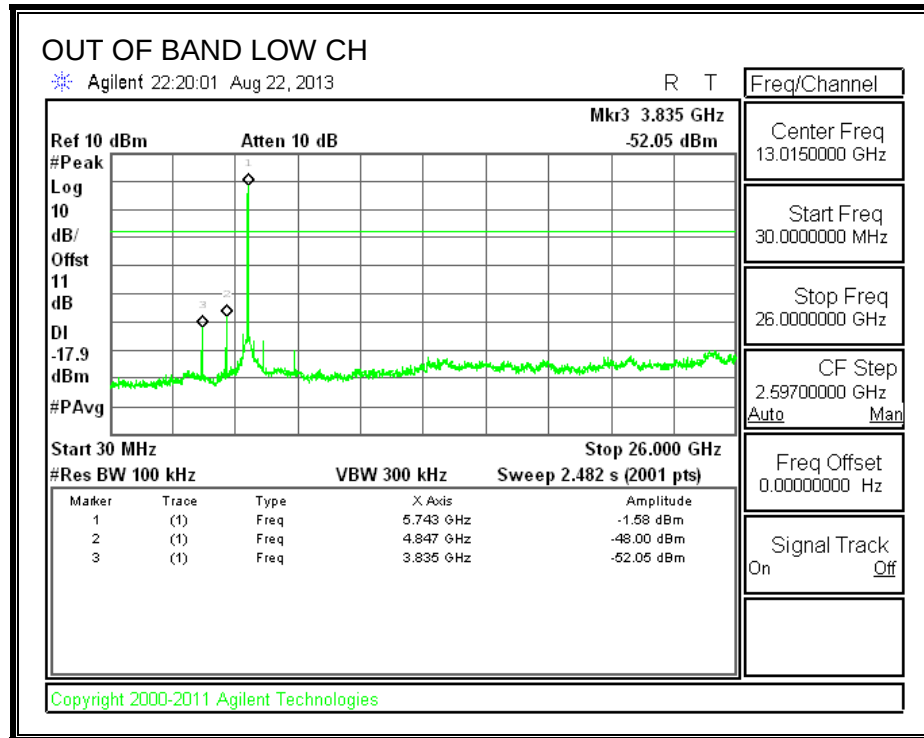
LOW CHANNEL BANDEDGE

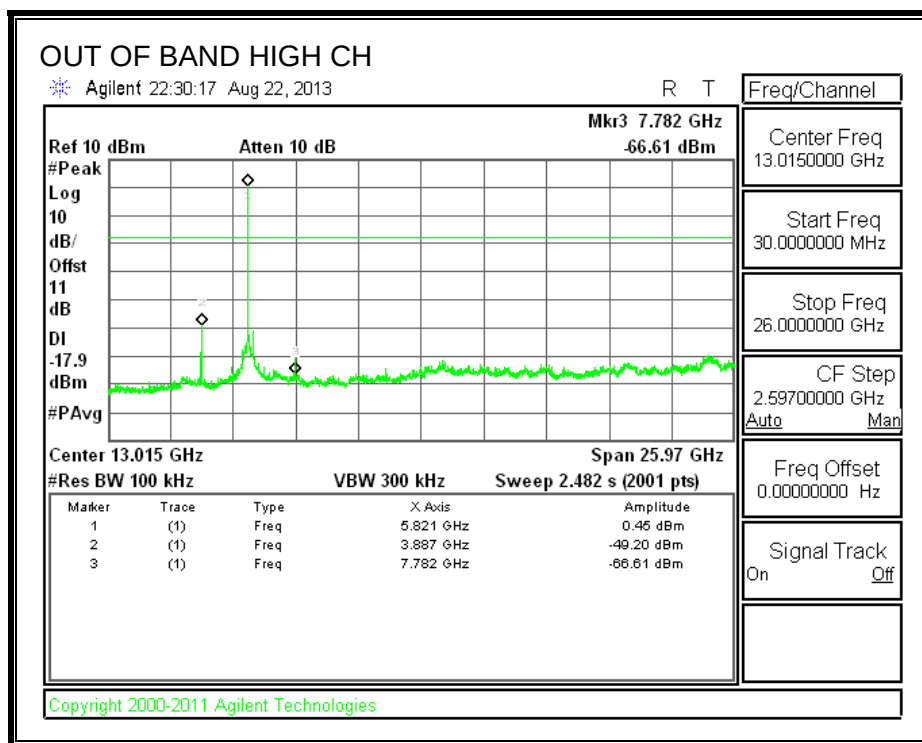


HIGH CHANNEL BANDEDGE



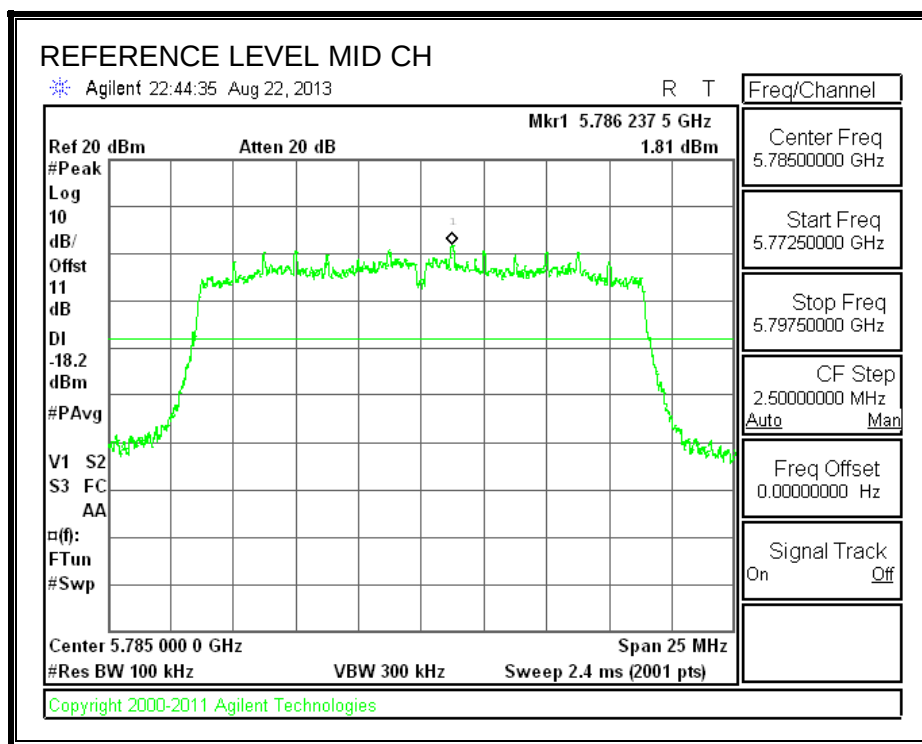
OUT-OF-BAND EMISSIONS



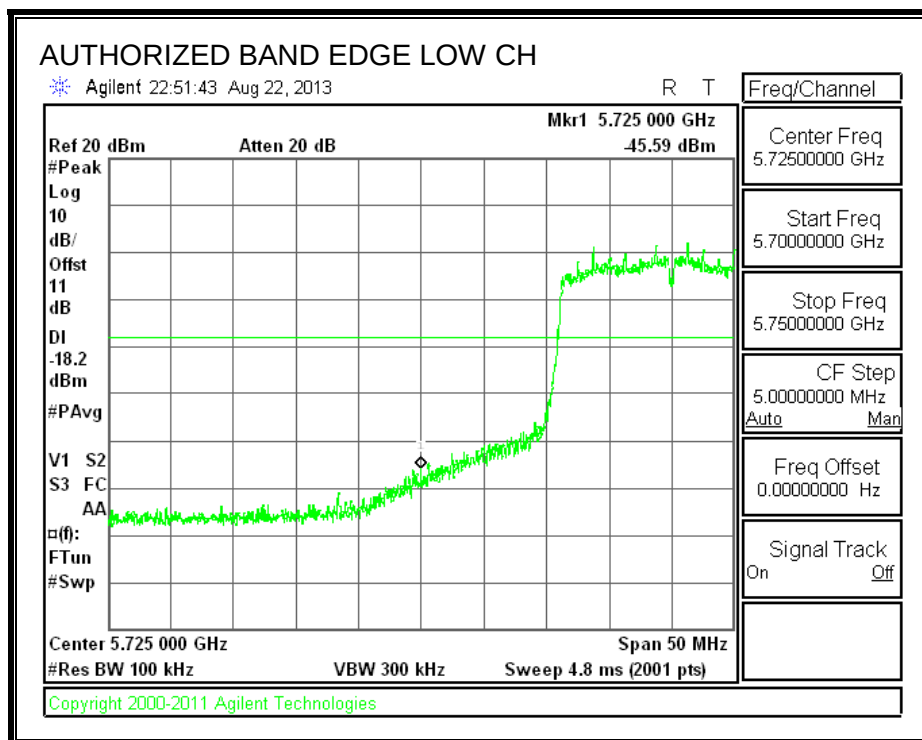


9.6.1. 802.11n HT20 MODE IN THE 5.8 GHz BAND

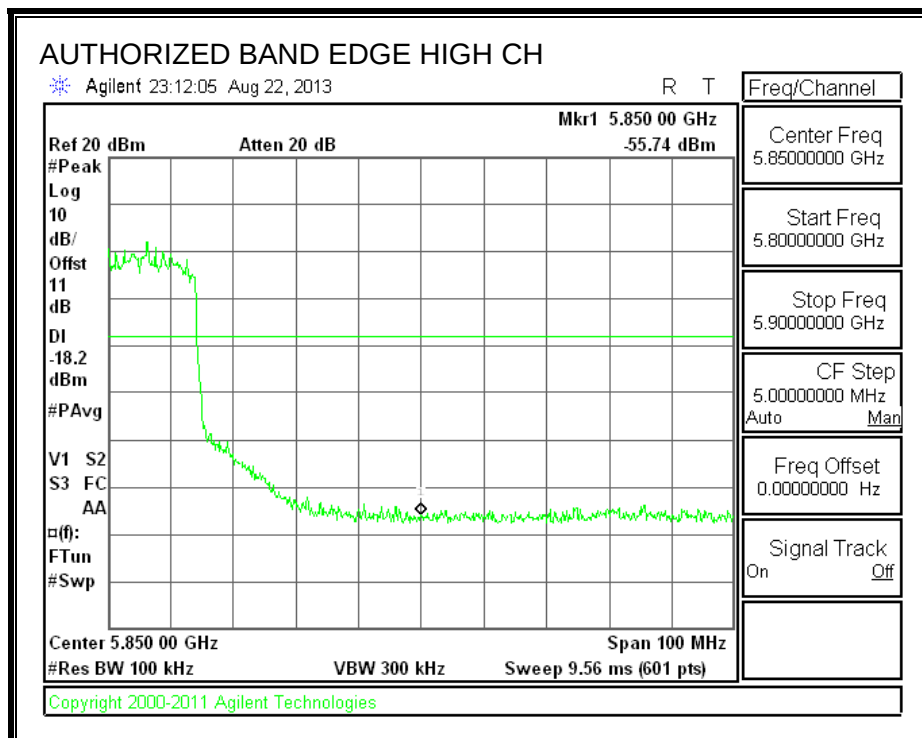
IN-BAND REFERENCE LEVEL



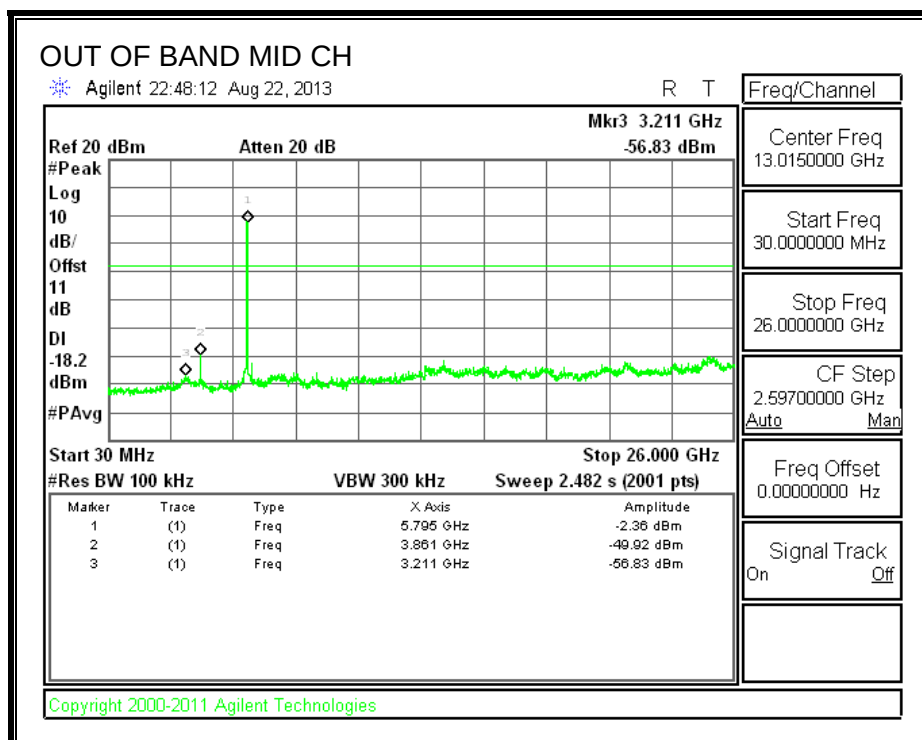
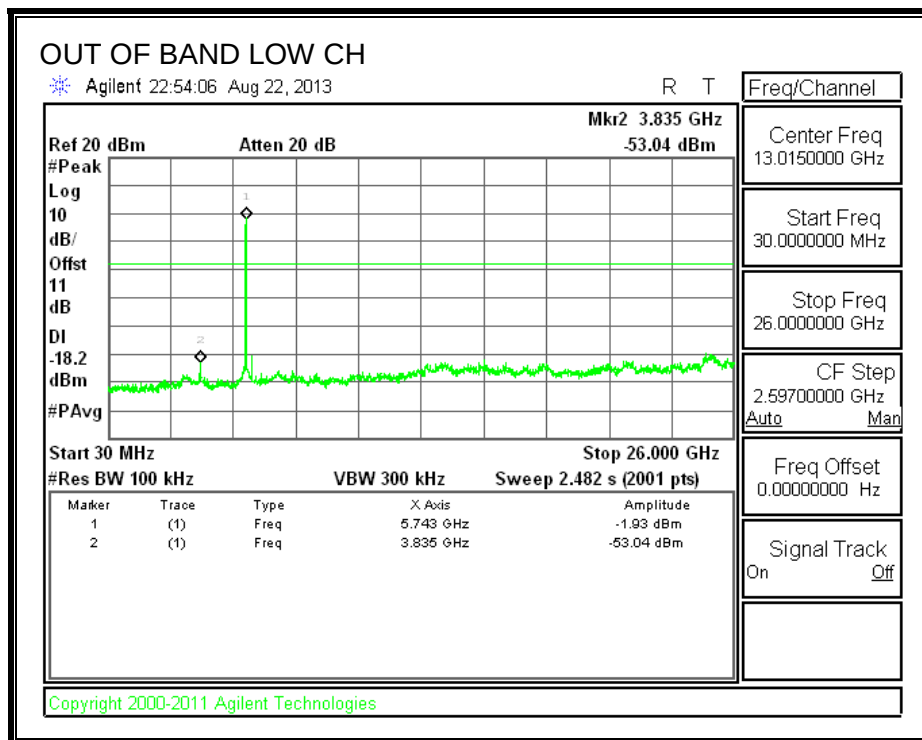
LOW CHANNEL BANDEGE

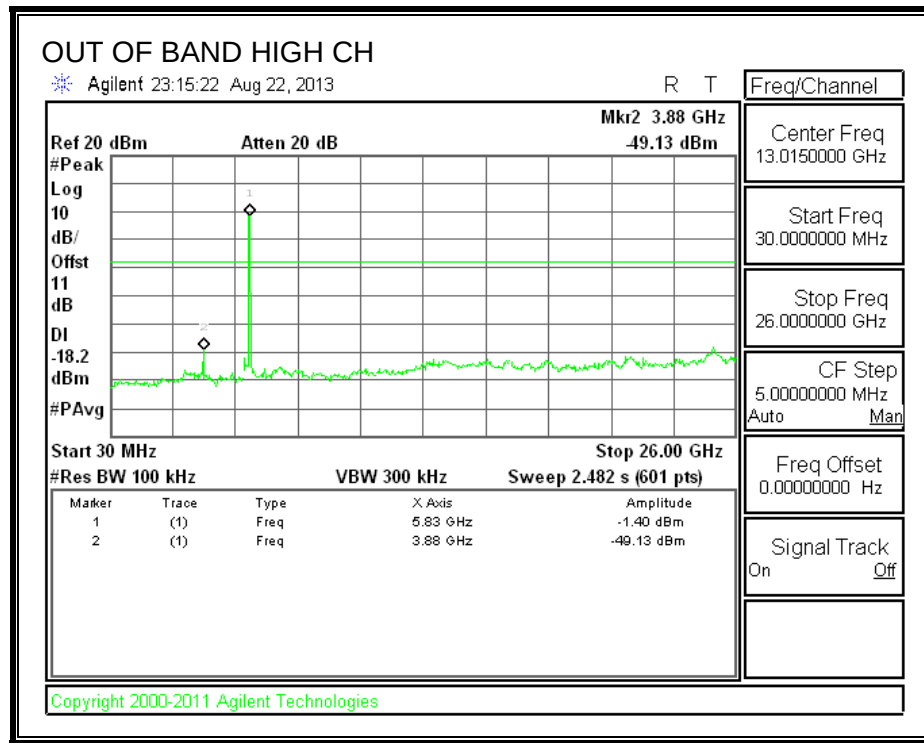


HIGH CHANNEL BANDEGE



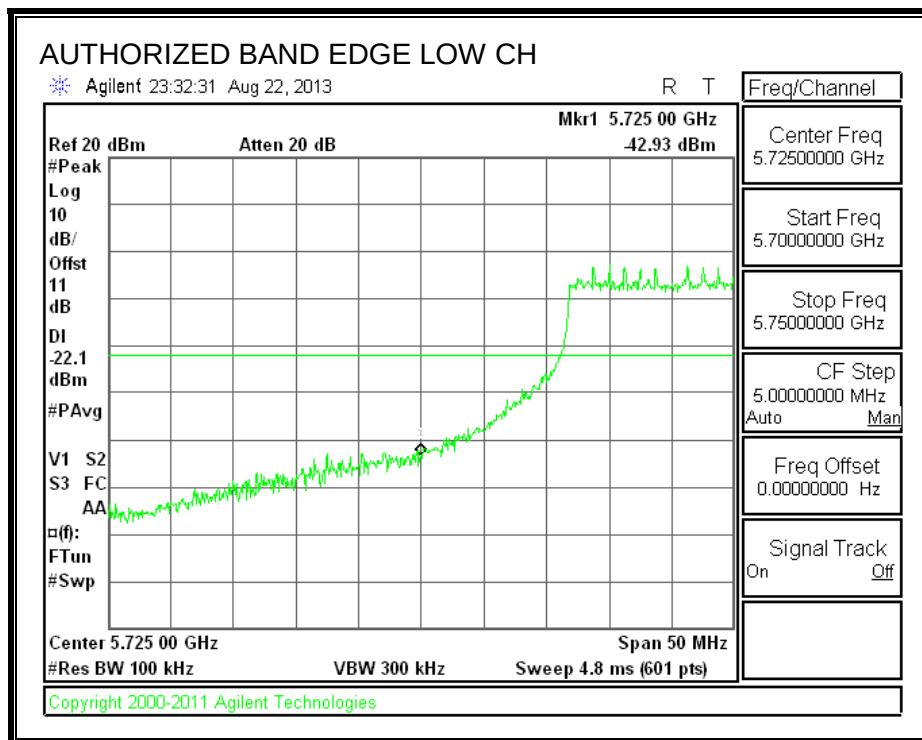
OUT-OF-BAND EMISSIONS



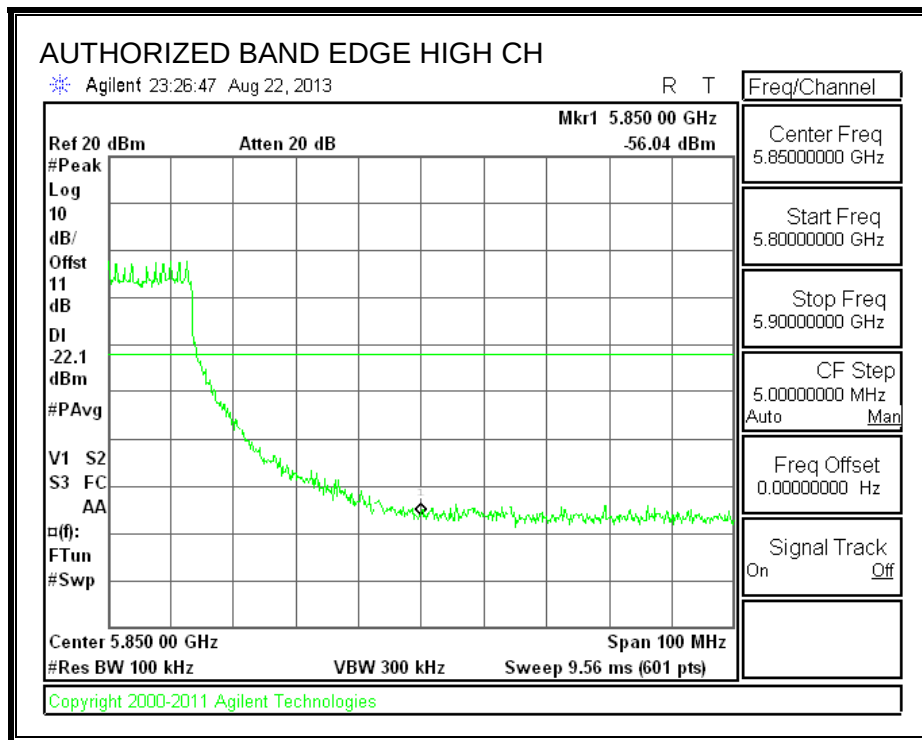


9.6.1. 802.11n HT40 MODE IN THE 5.8 GHz BAND

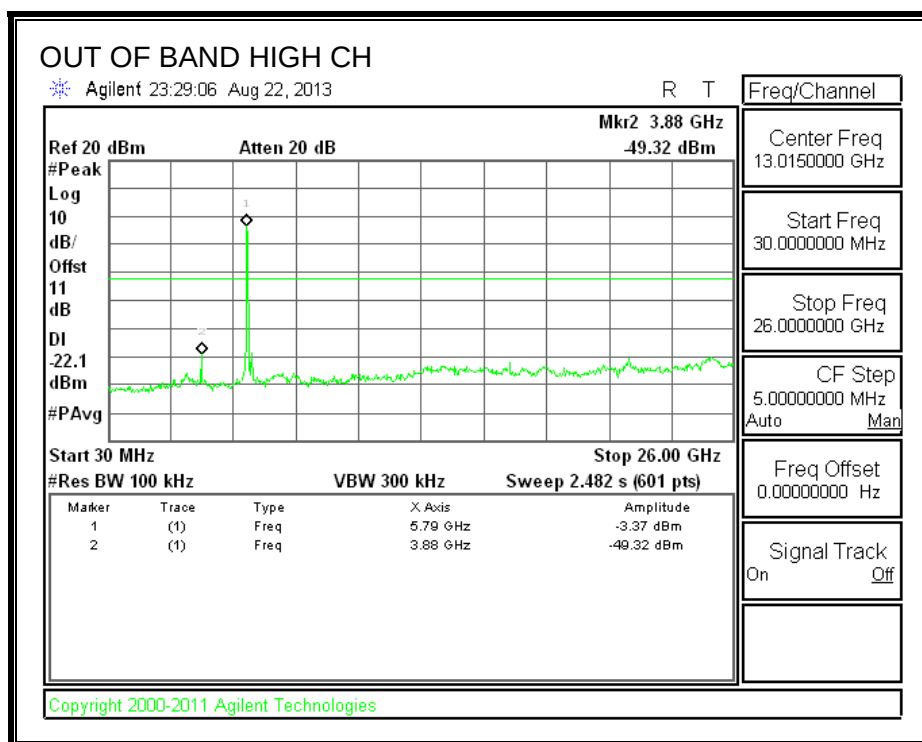
LOW CHANNEL BANDEDGE



HIGH CHANNEL BANDEDGE



OUT-OF-BAND EMISSIONS



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.

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 3 MHz for peak measurements and add duty cycle factor for average measurements. Duty cycle factor= $10\log(1/x)$.

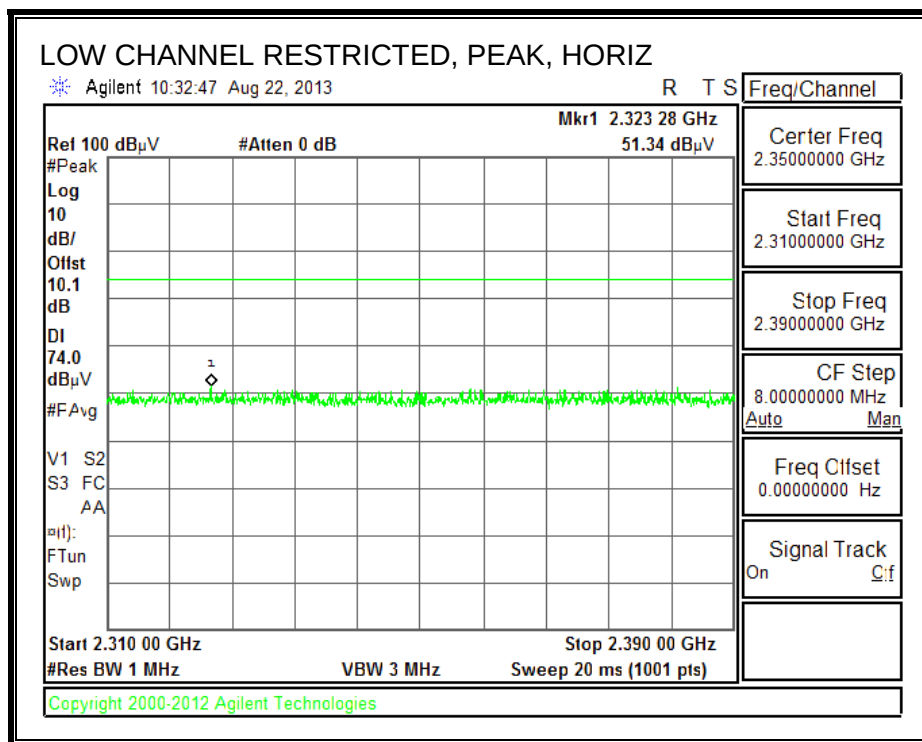
The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

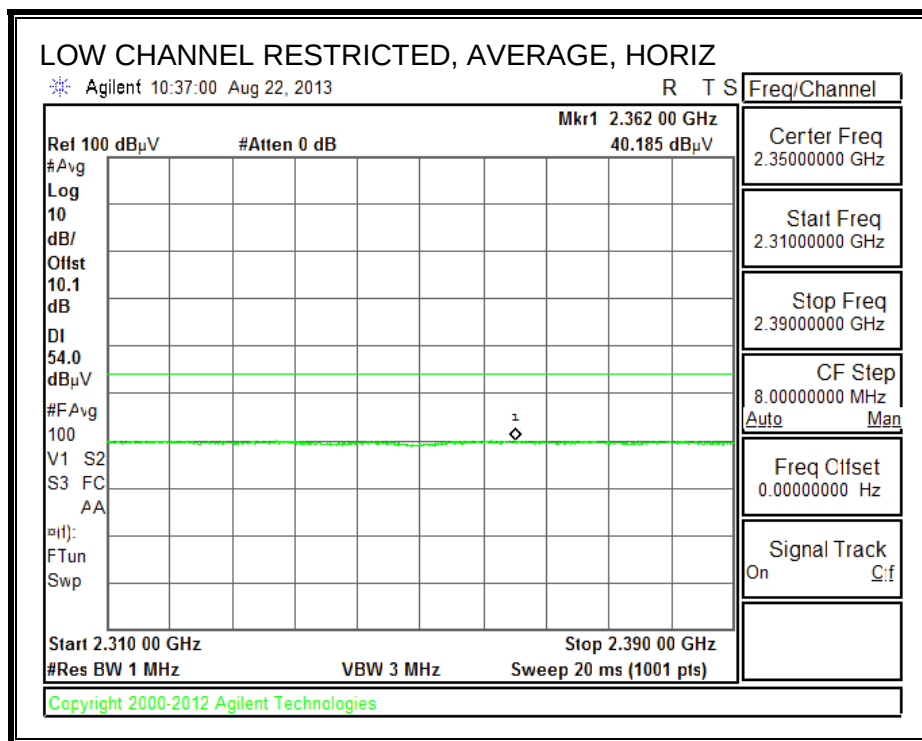
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

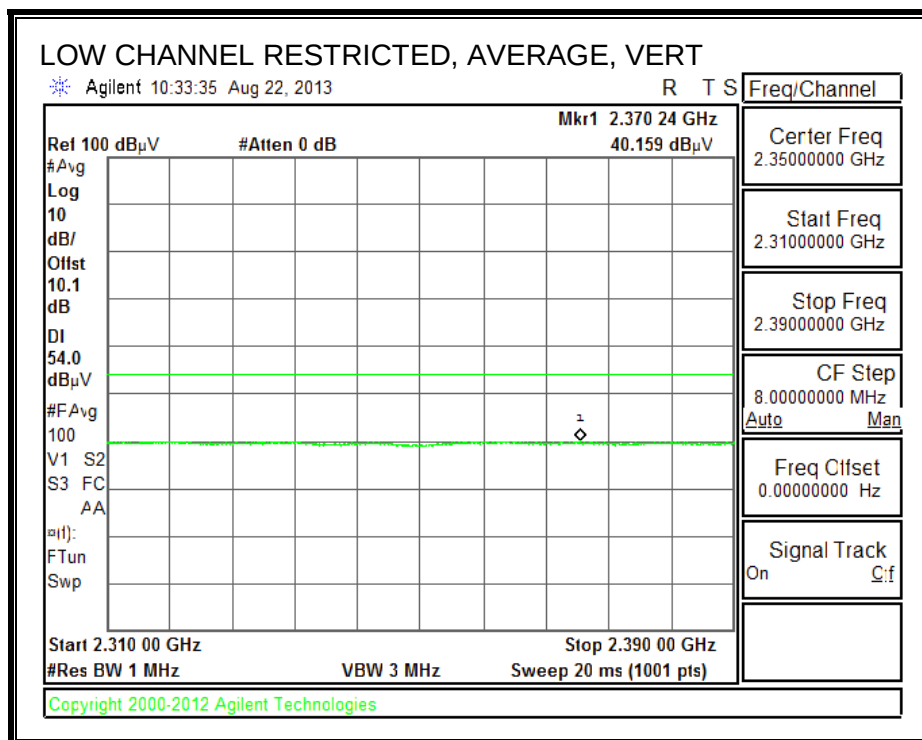
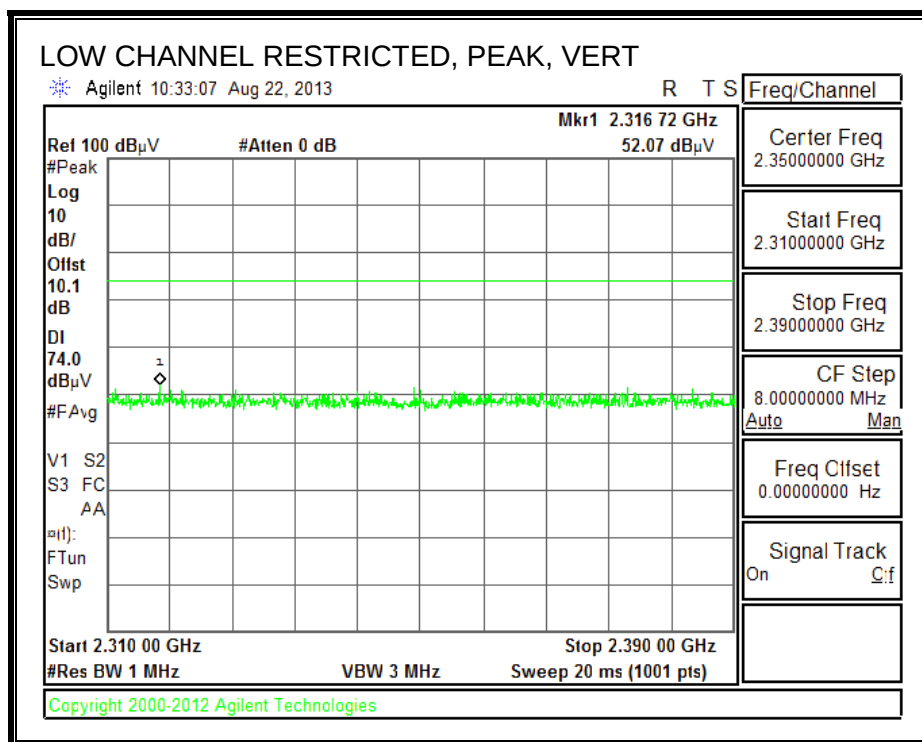
10.2. TRANSMITTER ABOVE 1 GHz

10.2.1. TX ABOVE 1 GHz 802.11b MODE IN THE 2.4 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

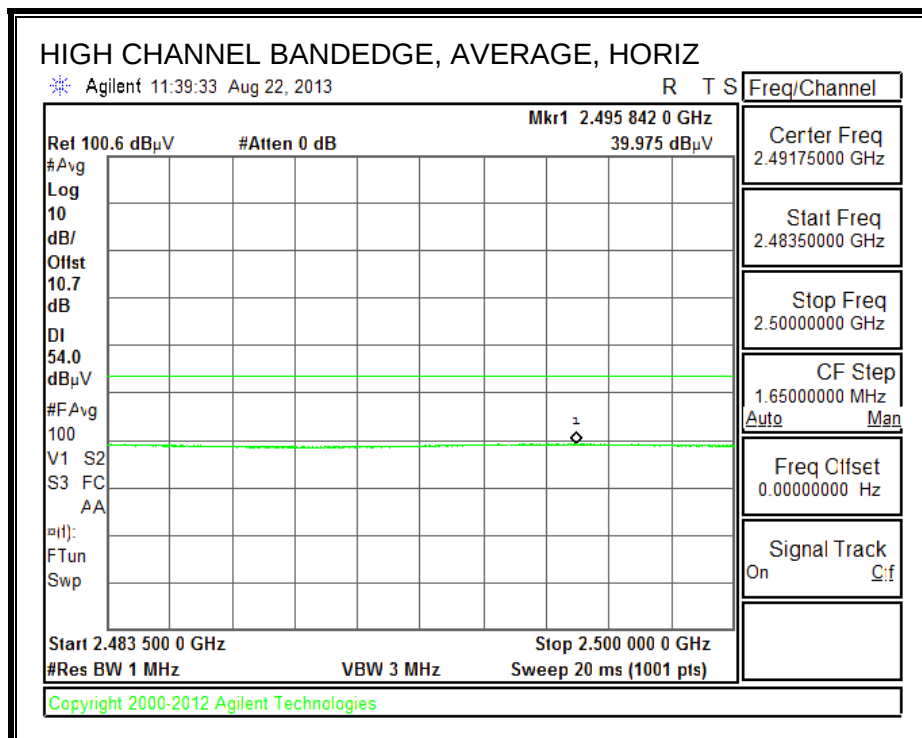
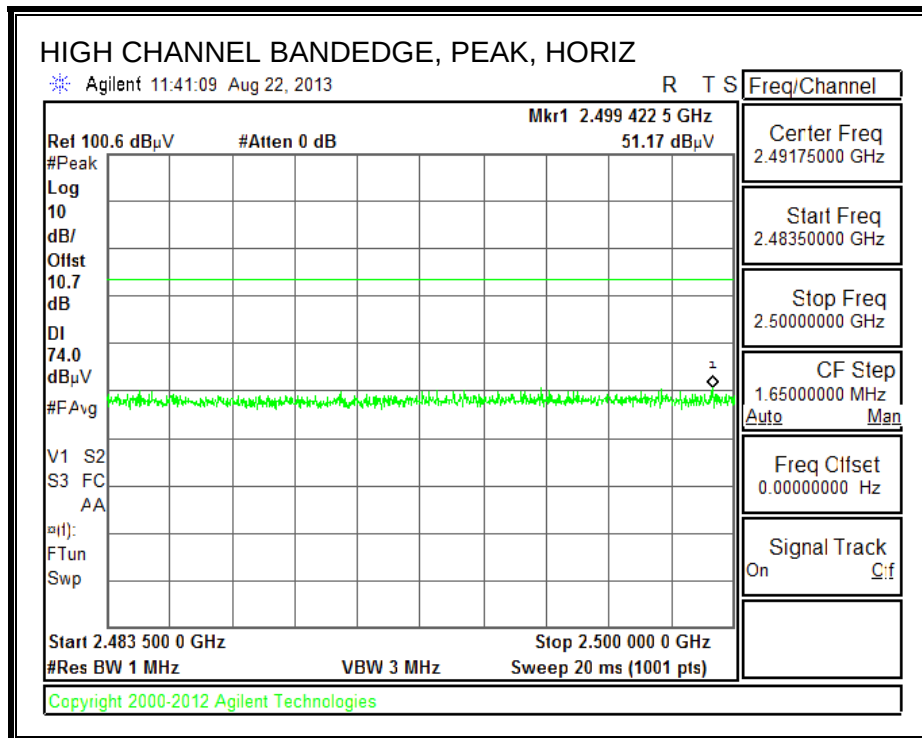
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

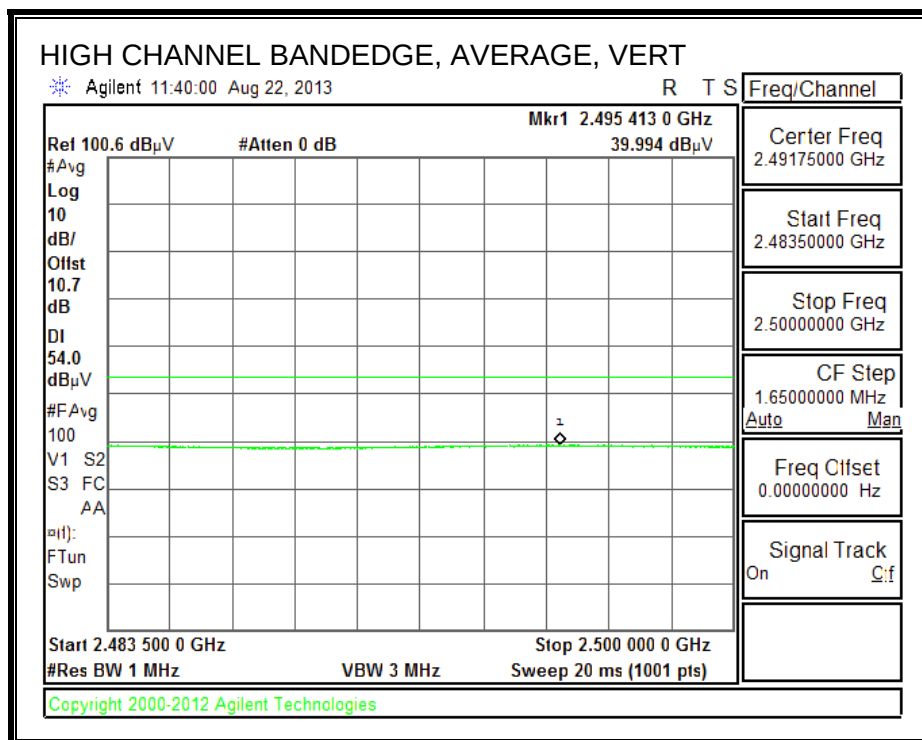
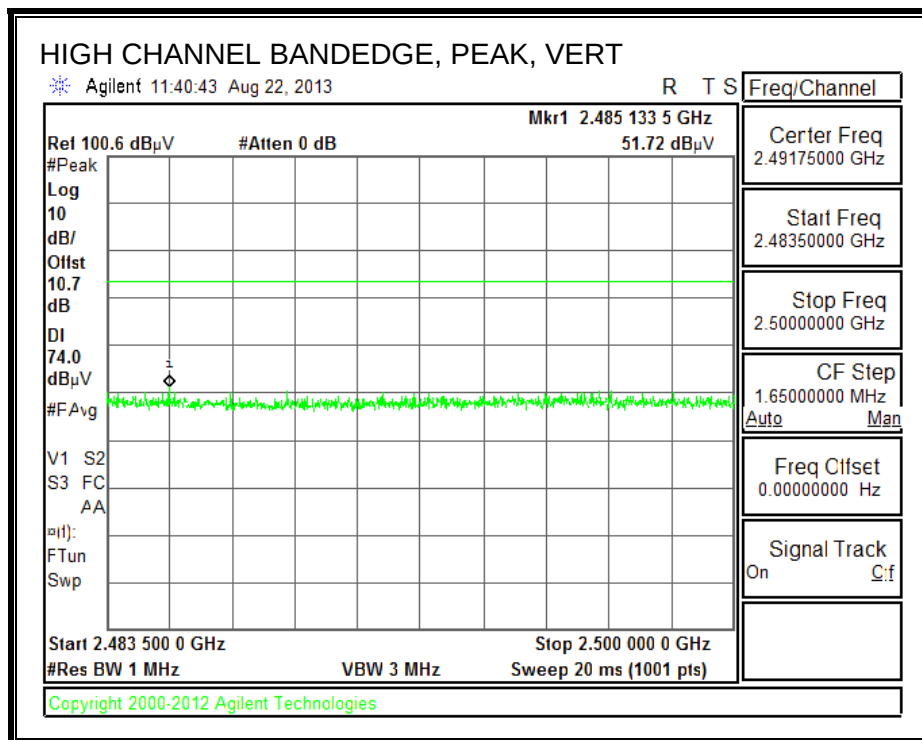






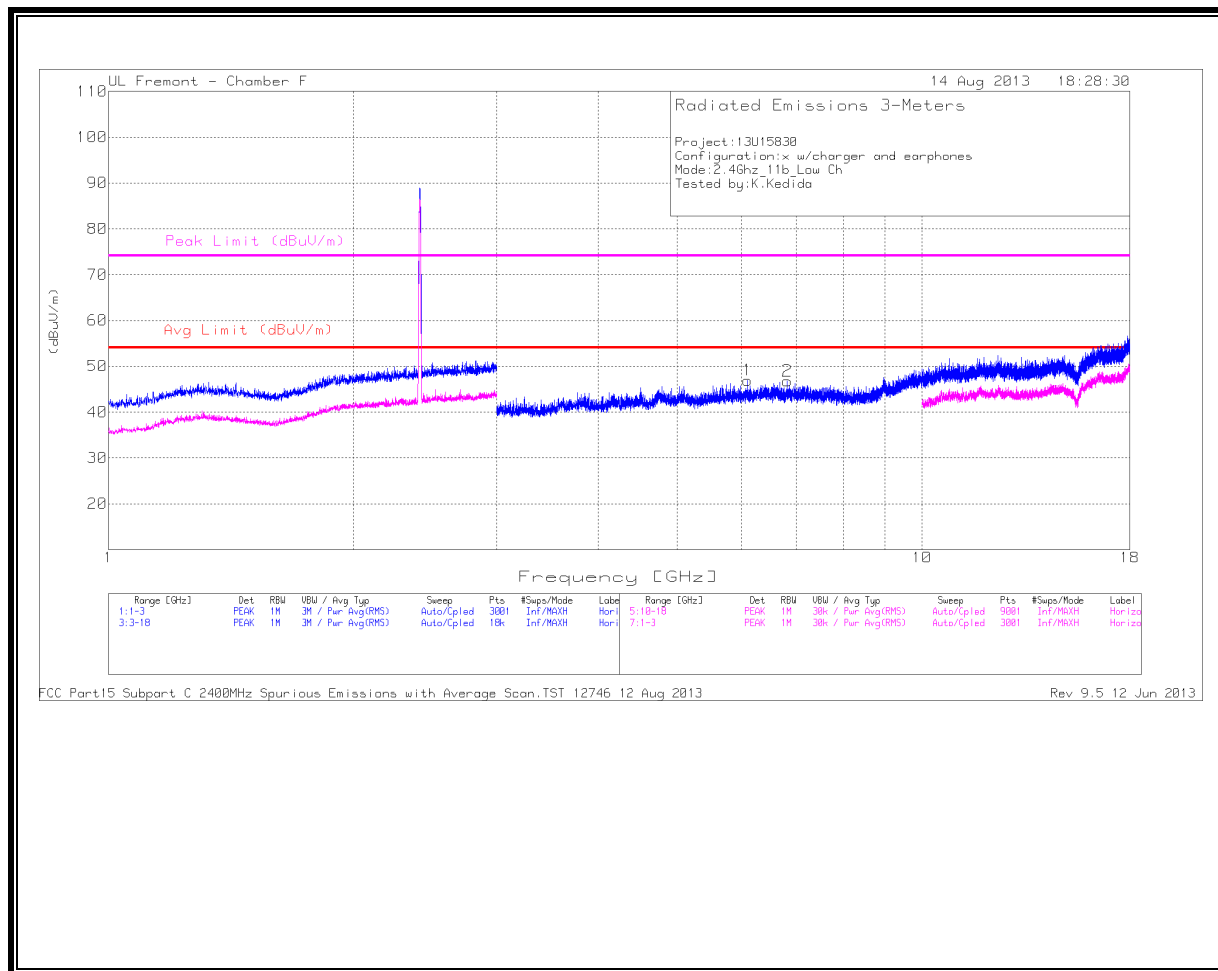
AUTHORIZED BANDEDGE (HIGH CHANNEL)



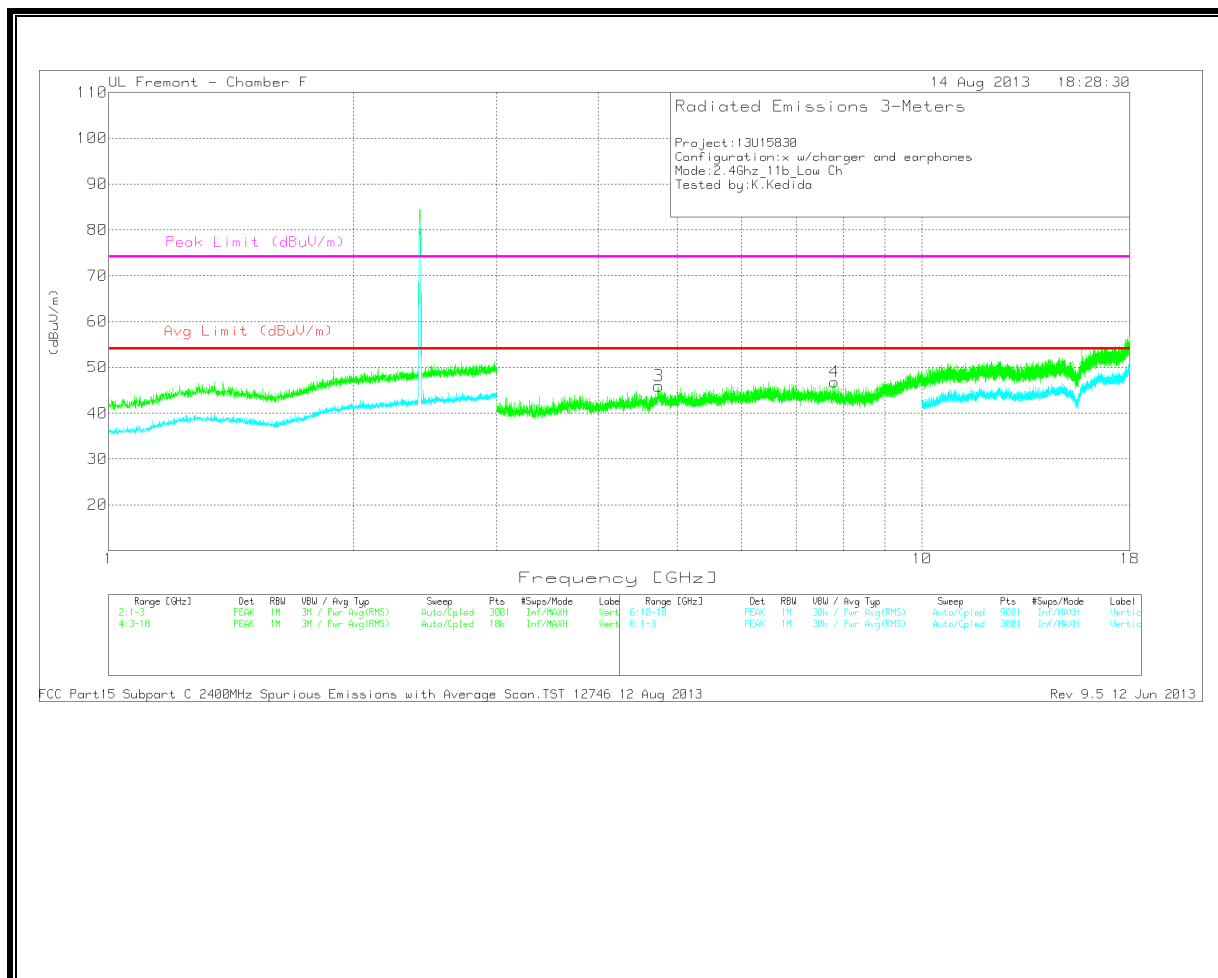


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



VERTICAL



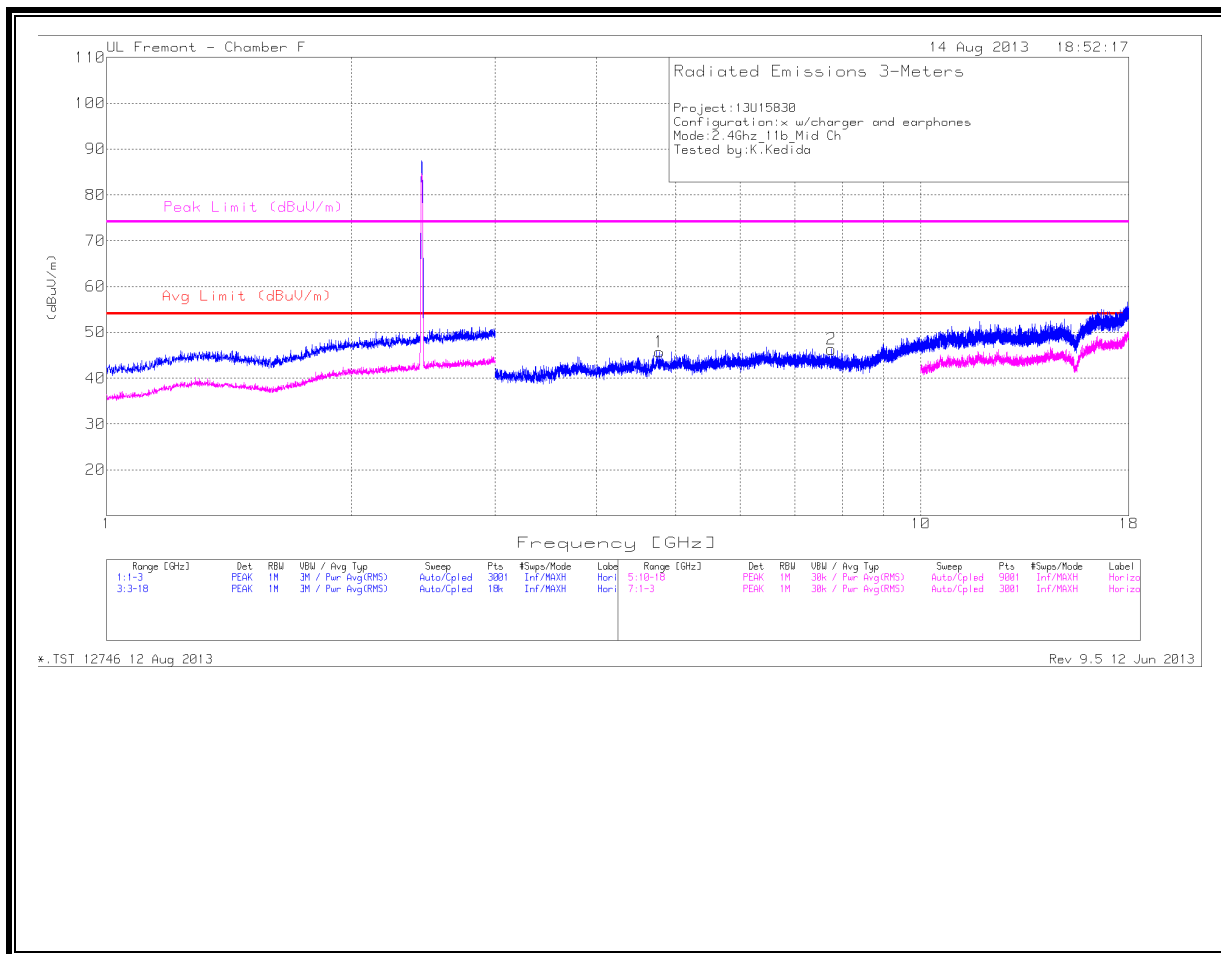
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	T345 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T186 BRF 2.4-2.5GHz	Corrected Reading dB(uVolts /meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height (cm)	Polarity
6.1	39.17	PK	35.4	-27.6	46.97	53.97	-7	74	-27.03	0-360	199	H	6.1
6.828	38.6	PK	35.7	-27.5	46.8	53.97	-7.17	74	-27.2	0-360	100	H	6.828
4.743	40.34	PK	34.1	-28.5	45.94	53.97	-8.03	74	-28.06	0-360	100	V	4.743
7.806	37.73	PK	35.9	-26.8	46.83	53.97	-7.14	74	-27.17	0-360	201	V	7.806

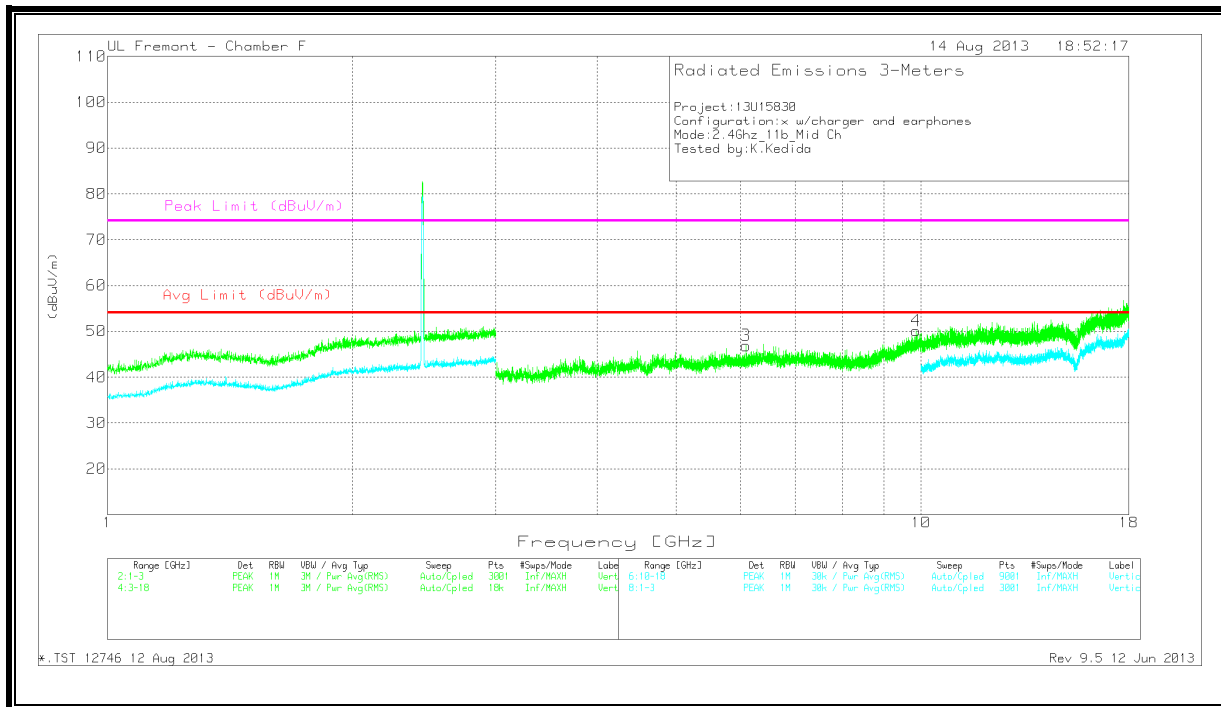
PK - Peak detector

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

MID CHANNEL
HORIZONTAL



VERTICAL



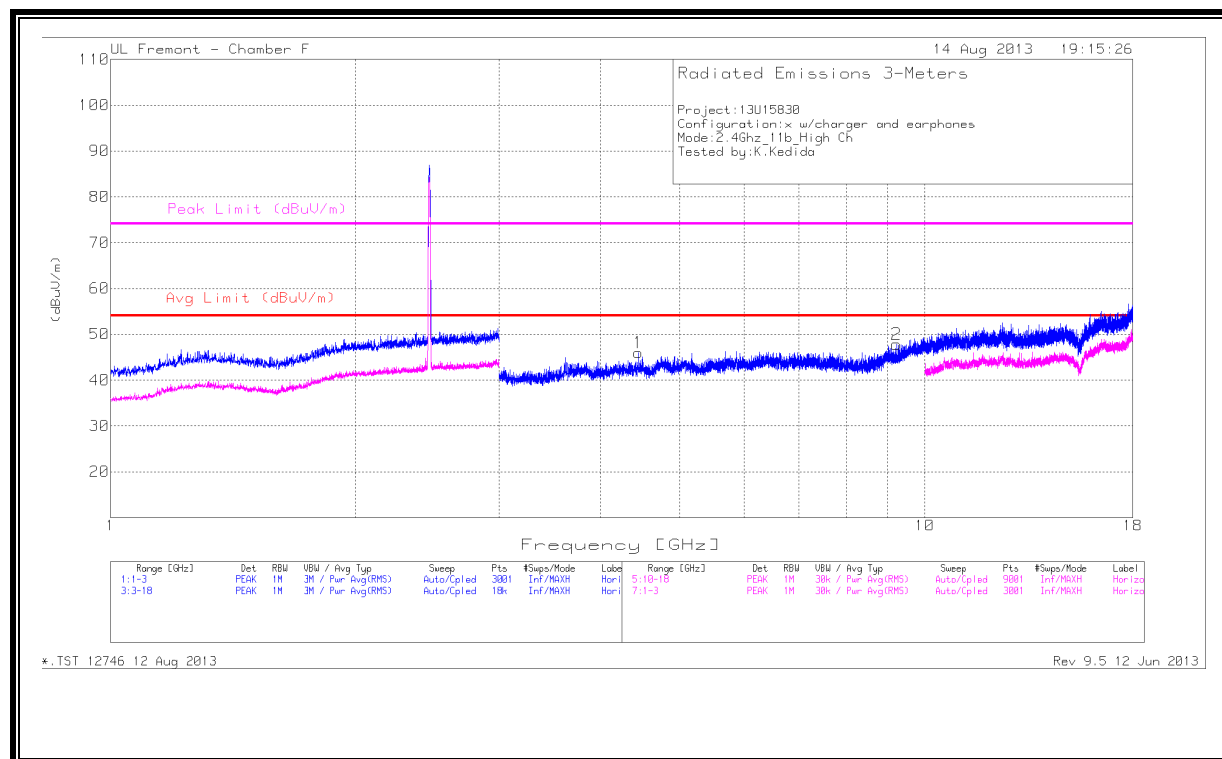
MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	T345 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T186 BRF 2.4- 2.5GHz	Corrected Reading dB(uVolts /meter)	E-Fields [dBuV/ m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height (cm)	Polarity
4.775	39.83	PK	34.1	-28.2	45.73	53.97	-8.24	74	-28.27	0-360	199	H	4.775
7.761	37.43	PK	35.9	-27	46.33	53.97	-7.64	74	-27.67	0-360	100	H	7.761
6.095	39.06	PK	35.4	-27.6	46.86	53.97	-7.11	74	-27.14	0-360	101	V	6.095
9.86	36.13	PK	37.6	-23.6	50.13	53.97	-3.84	74	-23.87	0-360	101	V	9.86

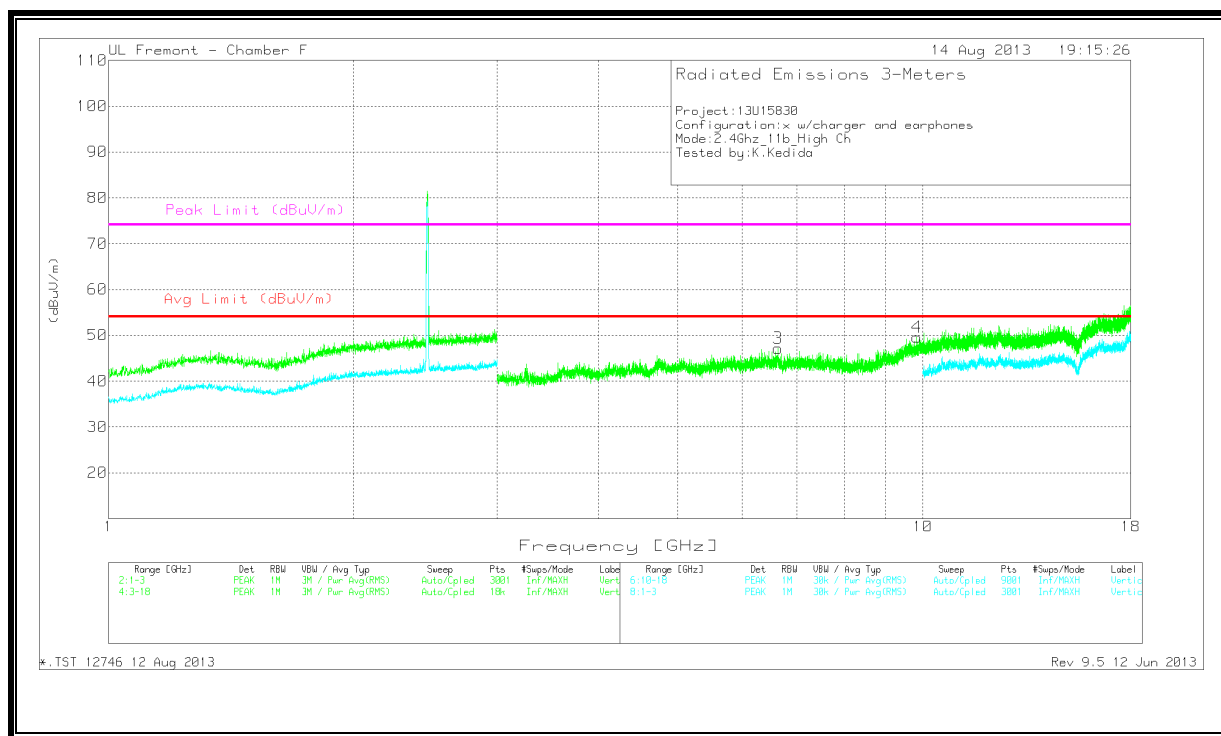
PK - Peak detector

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

HIGH CHANNEL
HORIZONTAL



VERTICAL



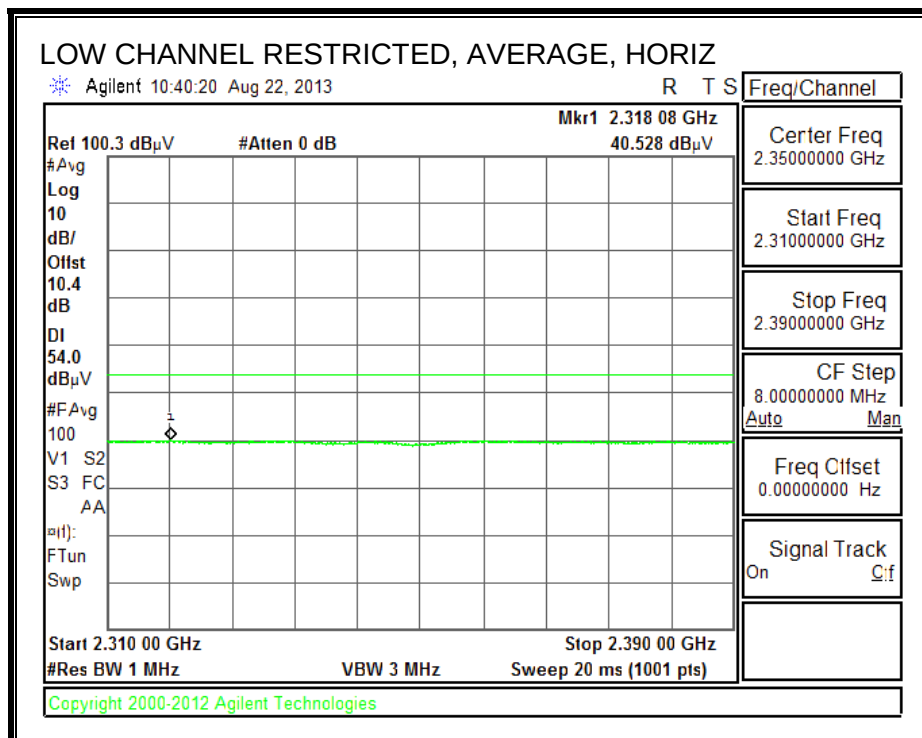
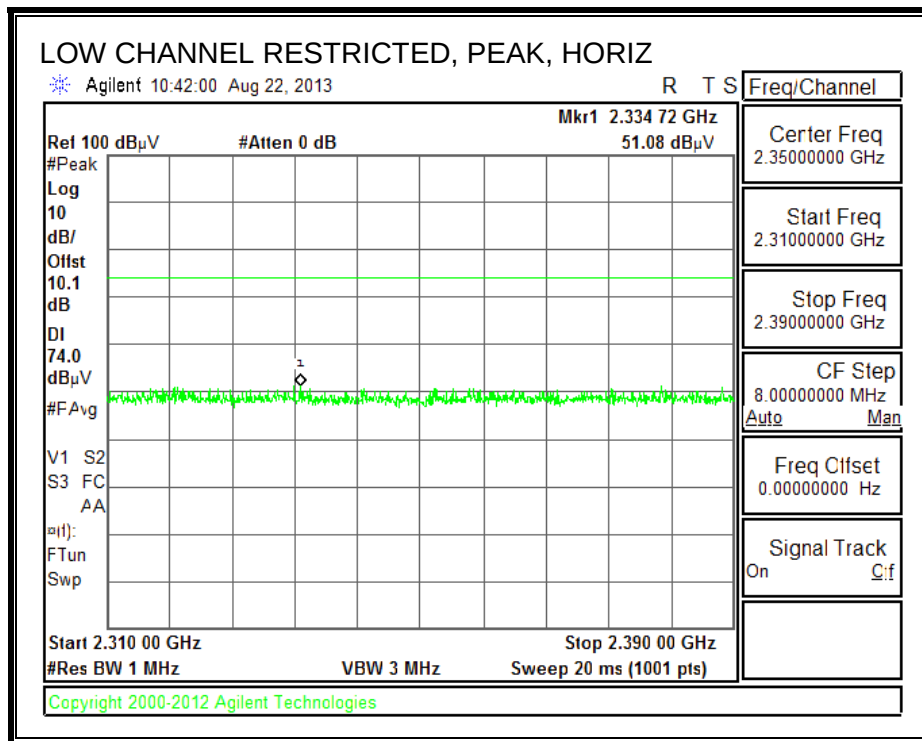
HIGH CHANNEL DATA

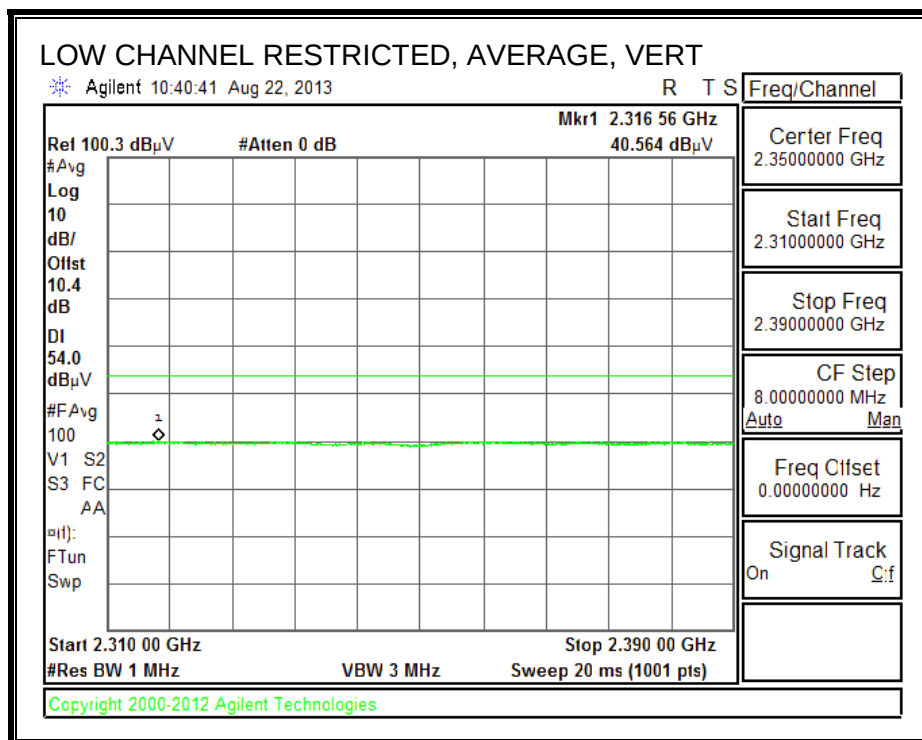
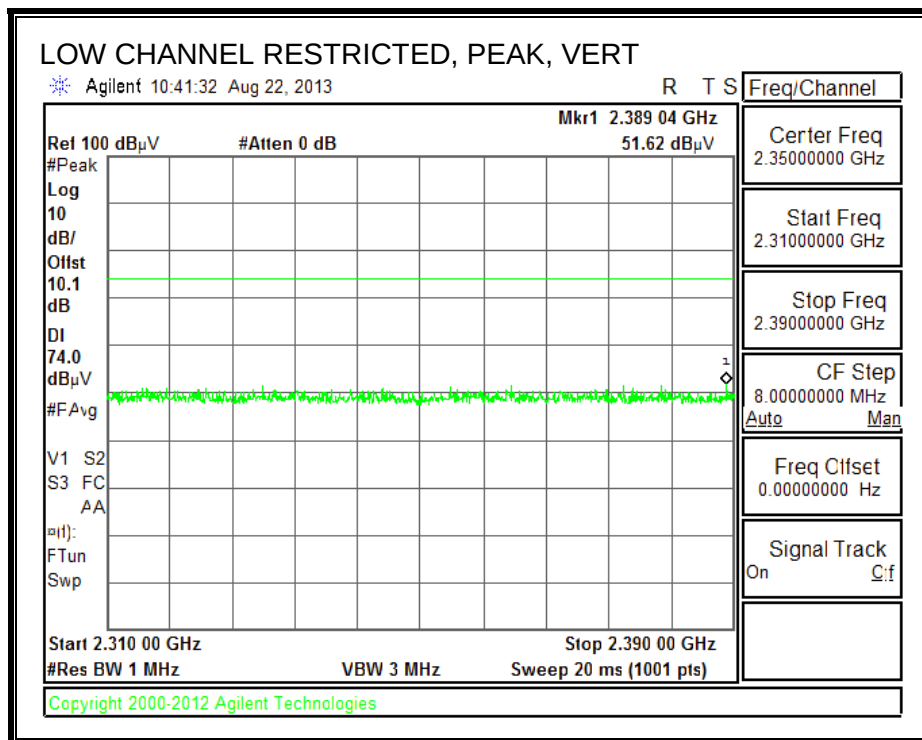
Frequency (GHz)	Meter Reading (dBuV)	Det	T345 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T186 BRF 2.4- 2.5GHz	Corrected Reading dB(uVolts /meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/ m] - Peak	Margin (dB)	Height (cm)	Polarity
4.449	40.79	PK	33.8	-28.6	45.99	53.97	-7.98	74	-28.01	0-360	199	H	4.449
9.228	36.1	PK	36.6	-24.9	47.8	53.97	-6.17	74	-26.2	0-360	199	H	9.228
6.636	38.44	PK	35.8	-27.1	47.14	53.97	-6.83	74	-26.86	0-360	101	V	6.636
9.832	35.69	PK	37.5	-23.6	49.59	53.97	-4.38	74	-24.41	0-360	101	V	9.832

PK - Peak detector

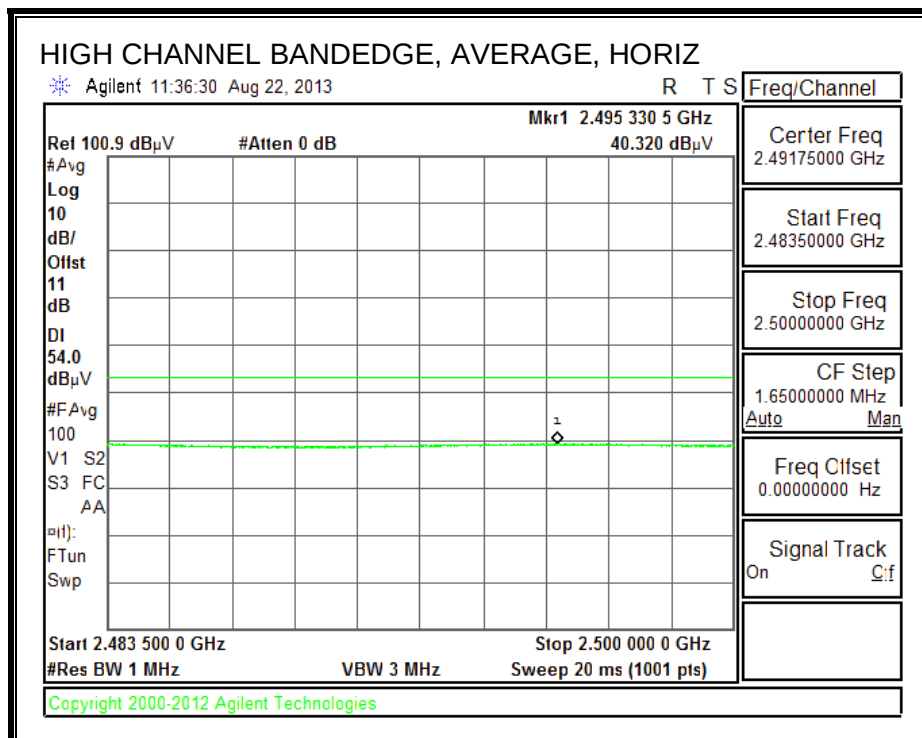
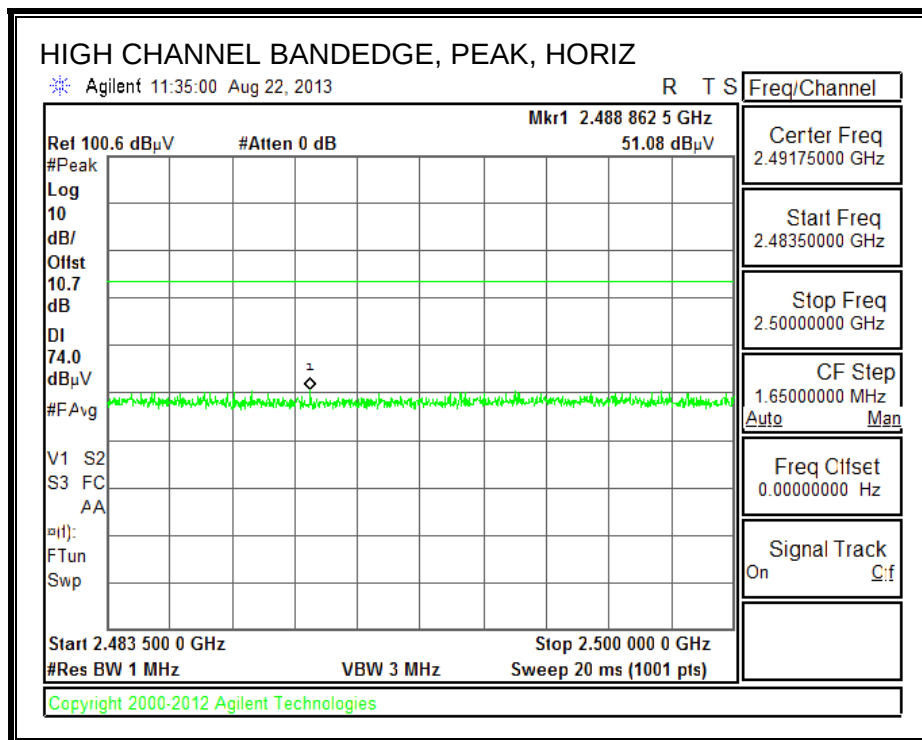
10.2.2. TX ABOVE 1 GHz 802.11g MODE IN THE 2.4 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

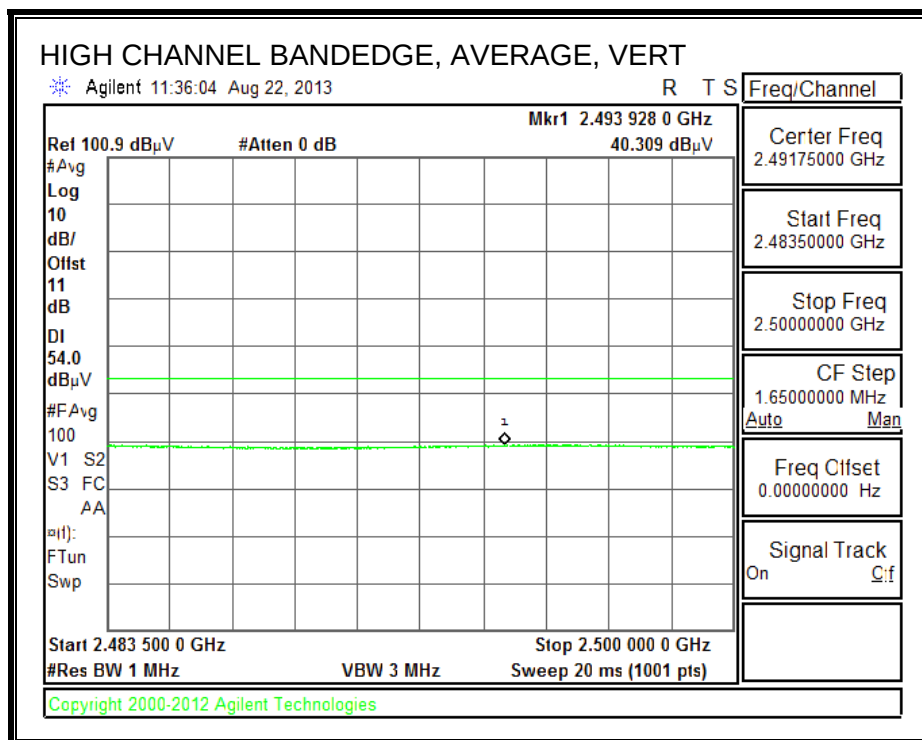
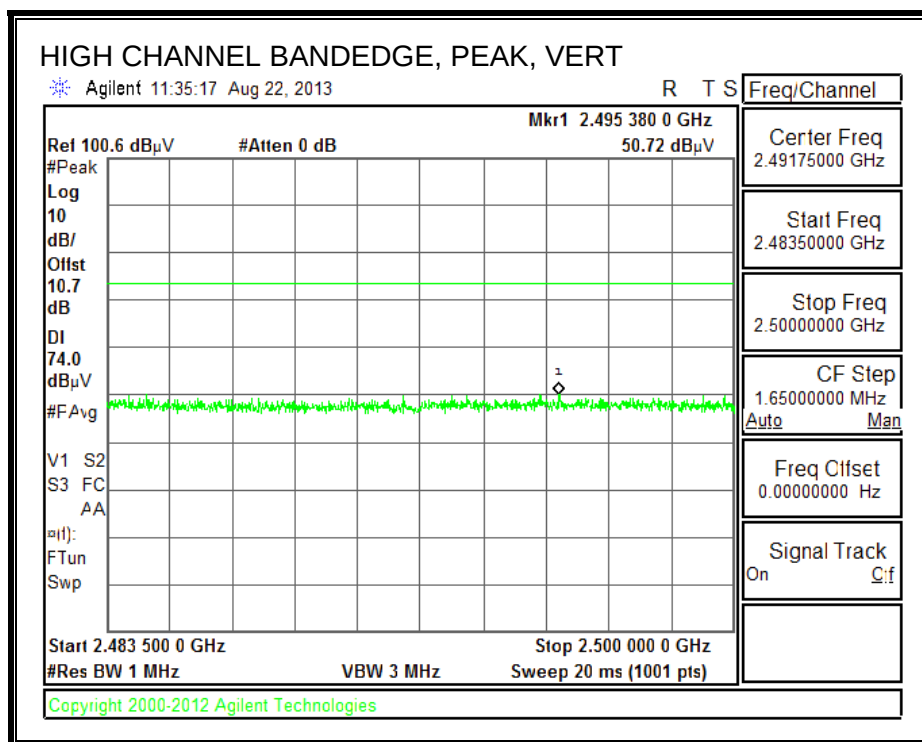
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.





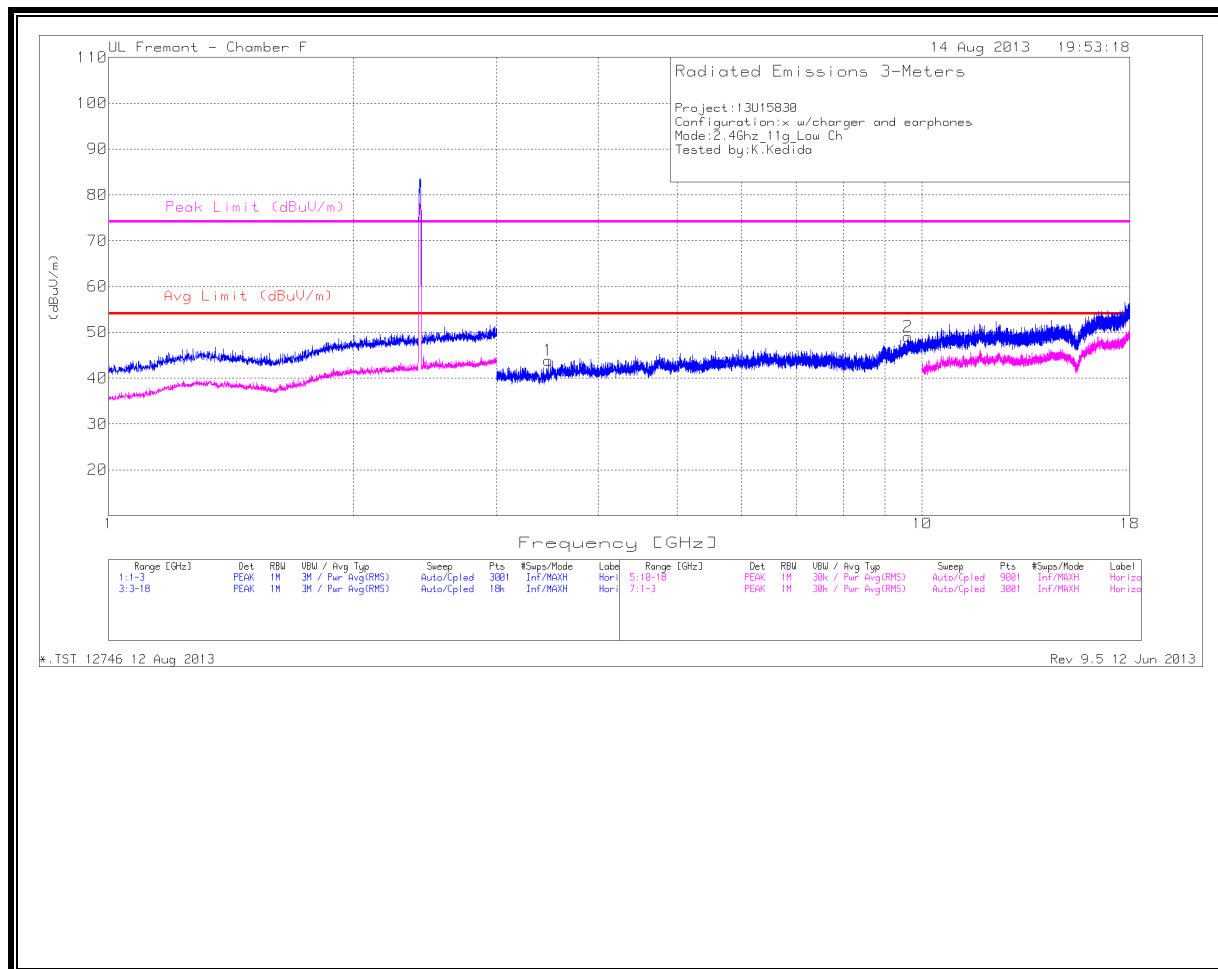
AUTHORIZED BANDEDGE (HIGH CHANNEL)



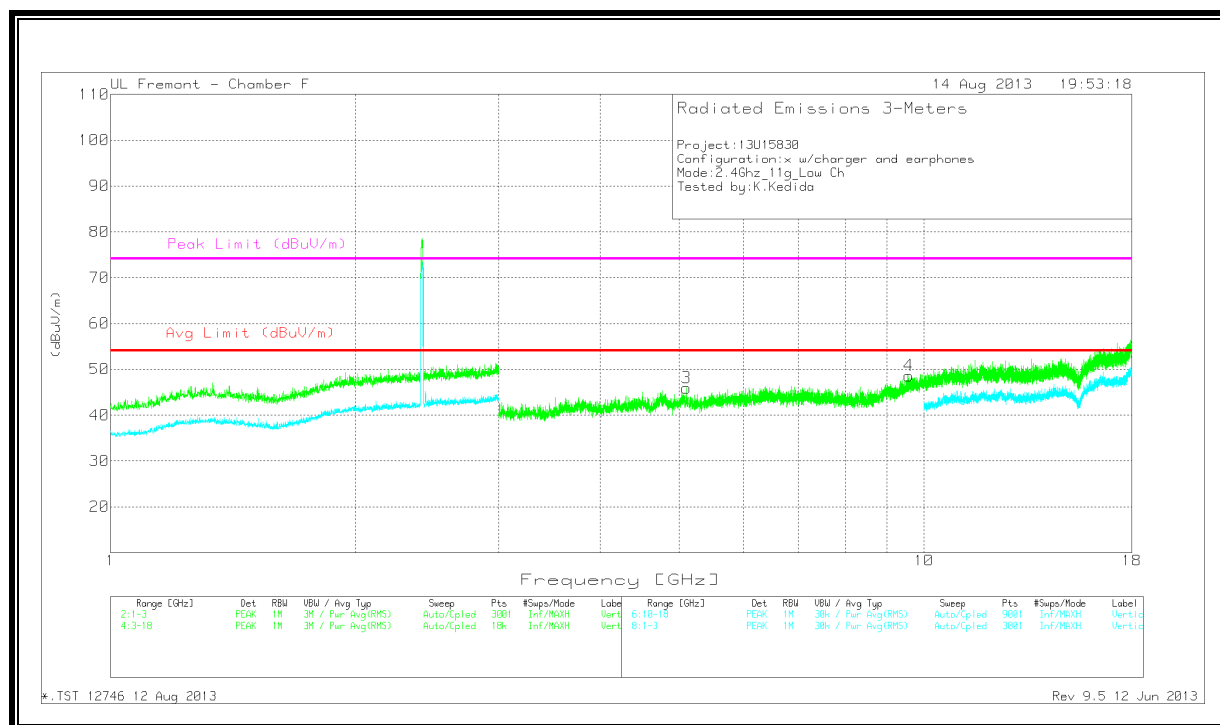


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



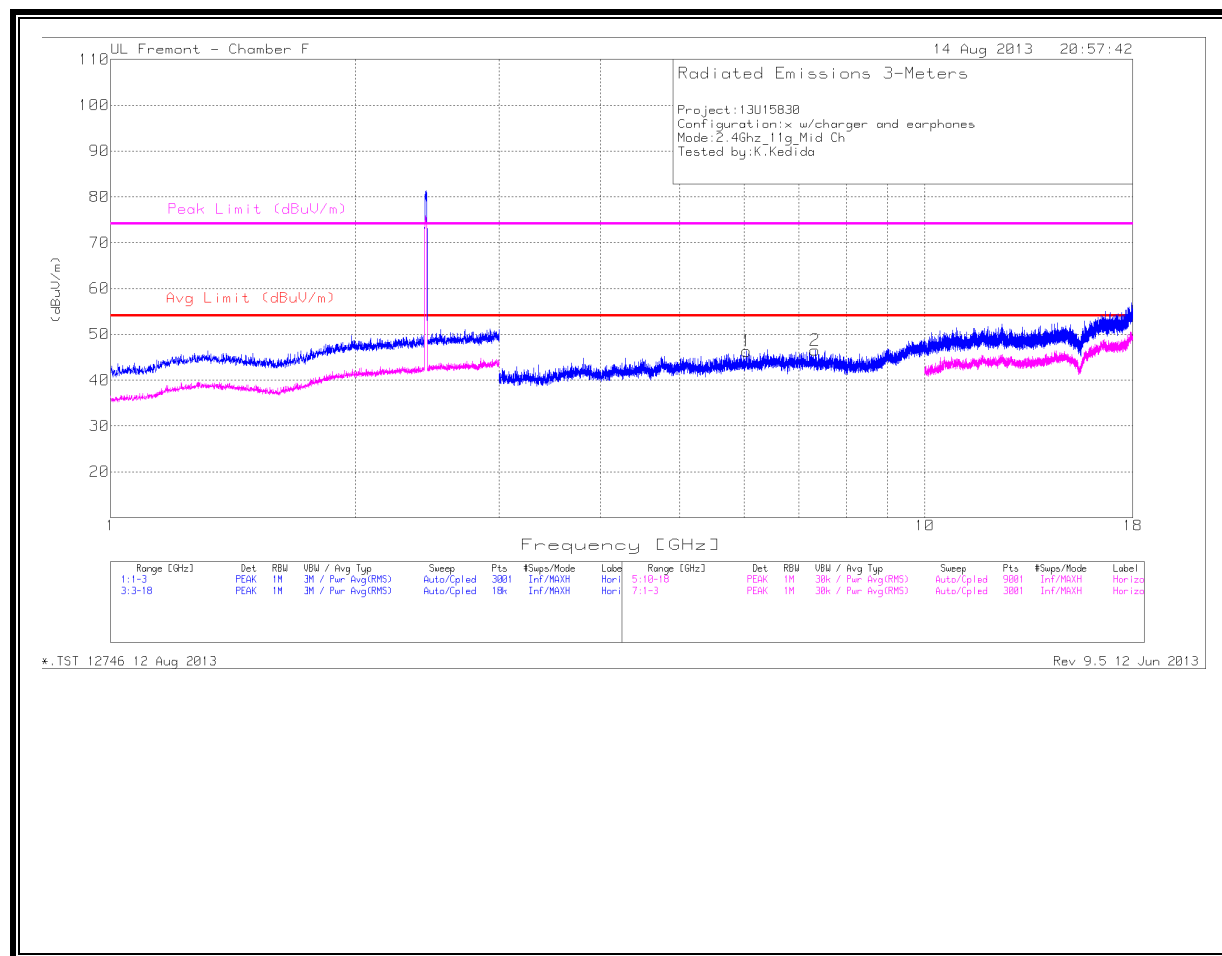
VERTICAL



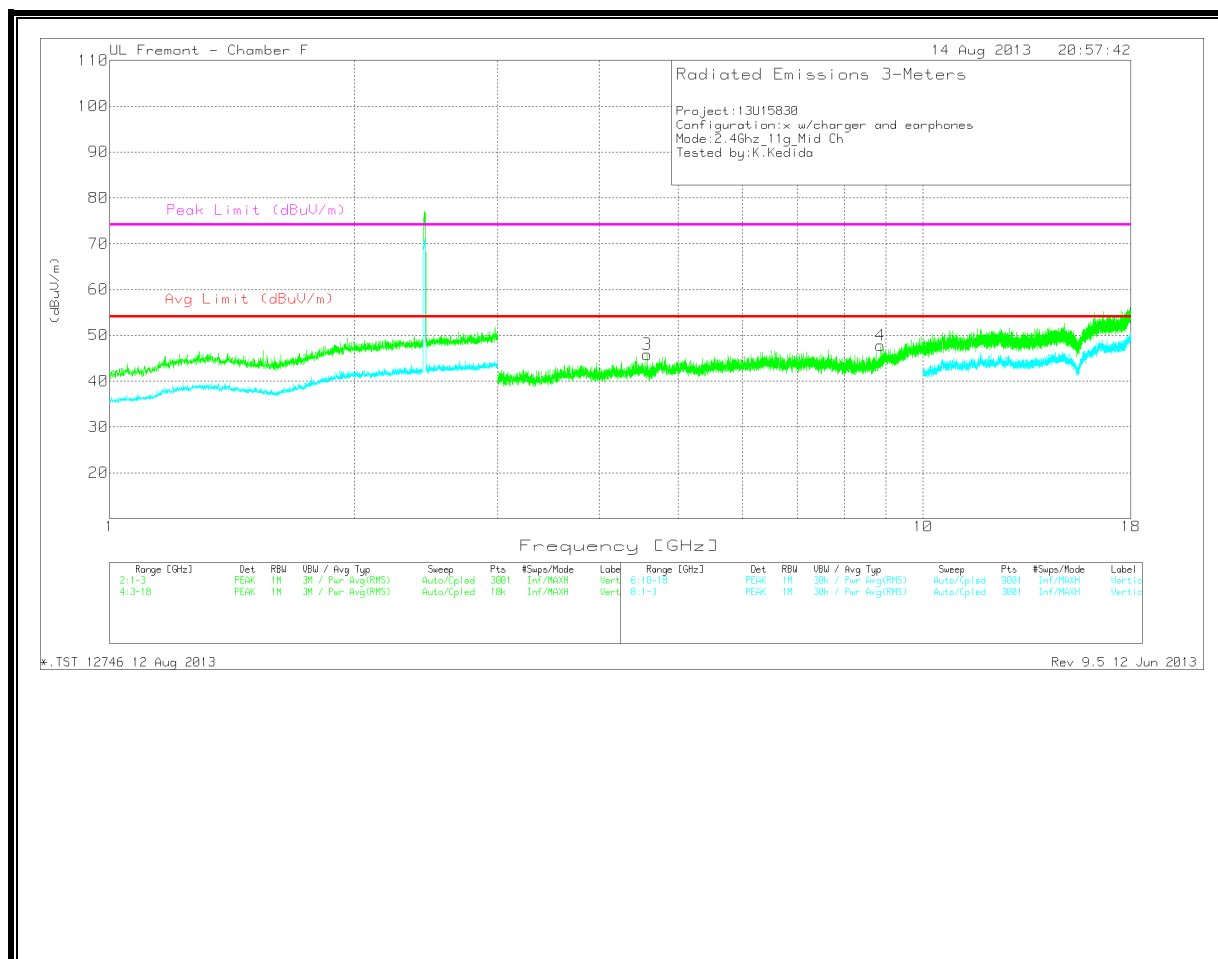
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	T345 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T186 BRF 2.4- 2.5GHz	Corrected Reading dB(uVolts /meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m]] - Peak	Margin (dB)	Height (cm)	Polarity
3.473	39.77	PK	33.1	-29	43.87	53.97	-10.1	74	-30.13	0-360	199	H	3.473
9.605	34.62	PK	37.3	-22.9	49.02	53.97	-4.95	74	-24.98	0-360	199	H	9.605
5.102	38.94	PK	34.2	-27.2	45.94	53.97	-8.03	74	-28.06	0-360	101	V	5.102
9.577	34.59	PK	37.2	-23.2	48.59	53.97	-5.38	74	-25.41	0-360	101	V	9.577

MID CHANNEL
HORIZONTAL



VERTICAL



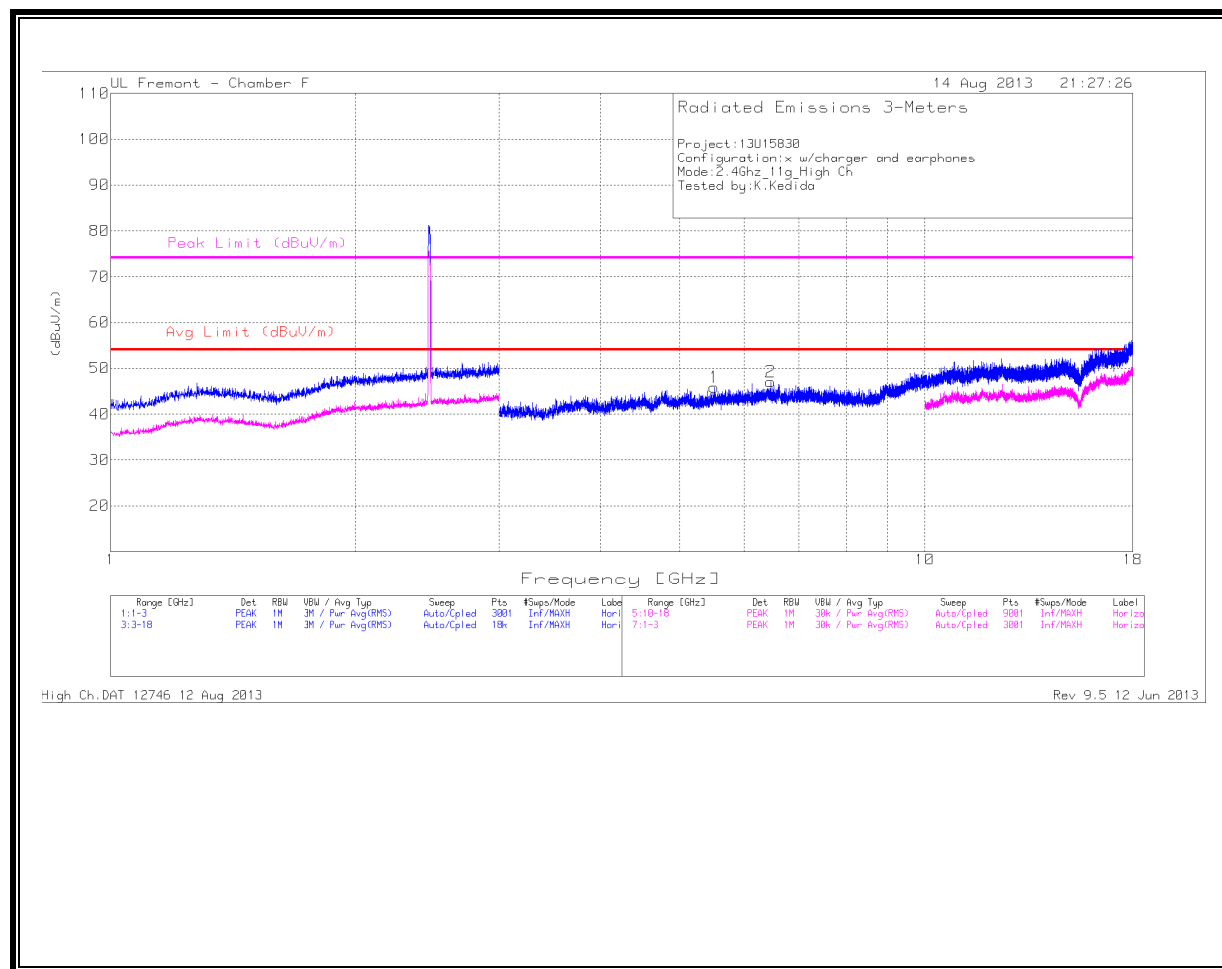
MID CHANNEL DATA

Trace Markers

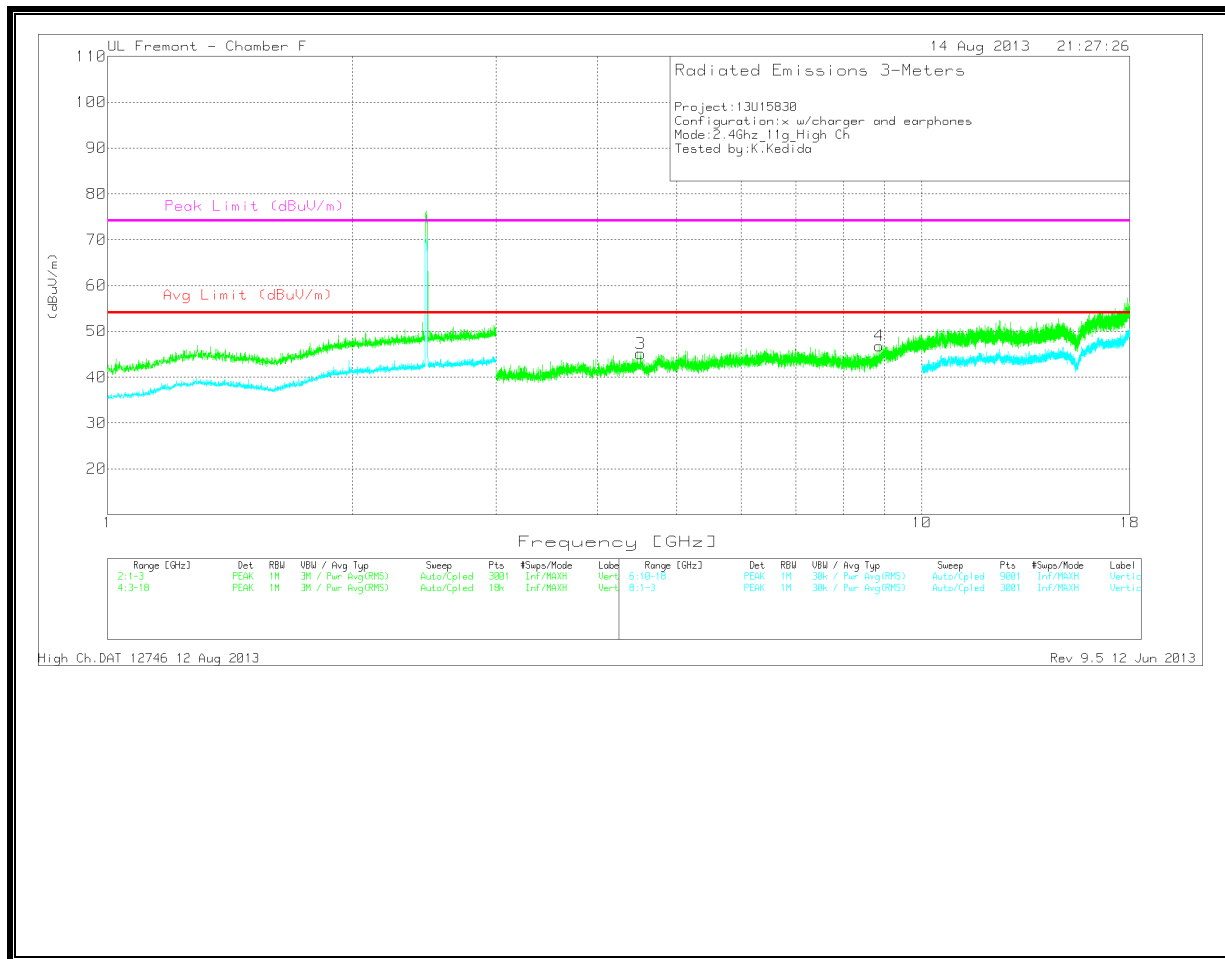
Frequency (GHz)	Meter Reading (dBuV)	Det	T345 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T186 BRF 2.4- 2.5GHz	Corrected Reading dB(uVolts /meter)	E-Fields [dBuV/ m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height (cm)	Polarity
6.039	38.73	PK	35.4	-27.8	46.33	53.97	-7.64	74	-27.67	0-360	199	H	6.039
7.331	38.1	PK	35.7	-27.3	46.5	53.97	-7.47	74	-27.5	0-360	100	H	7.331
4.577	39.82	PK	34	-28	45.82	53.97	-8.15	74	-28.18	0-360	101	V	4.577
8.861	37.38	PK	36.3	-25.9	47.78	53.97	-6.19	74	-26.22	0-360	101	V	8.861

PK - Peak detector

HIGH CHANNEL
HORIZONTAL



VERTICAL



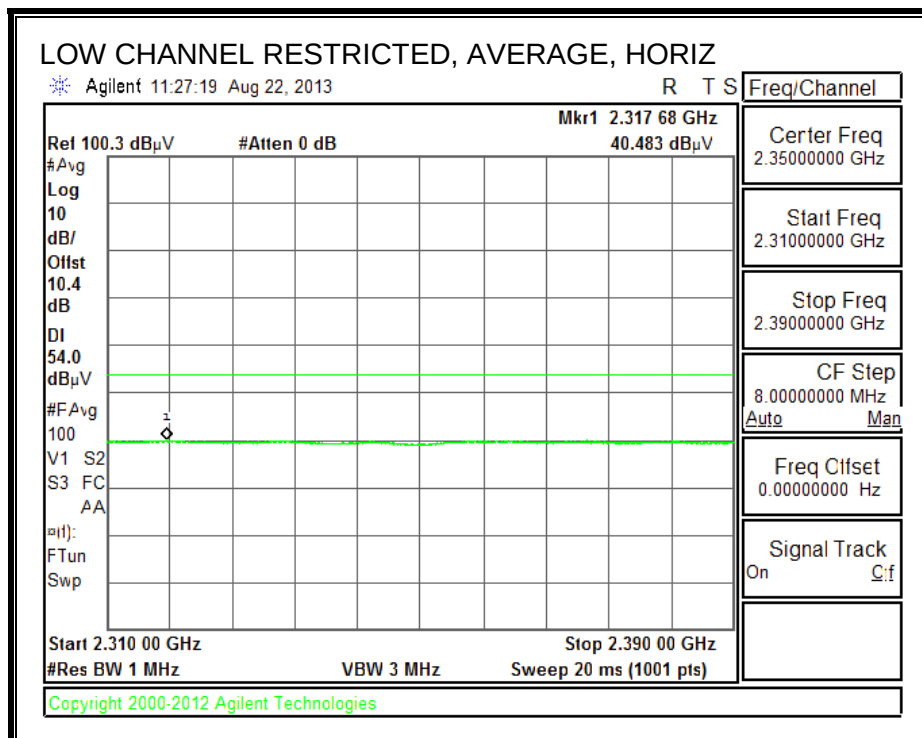
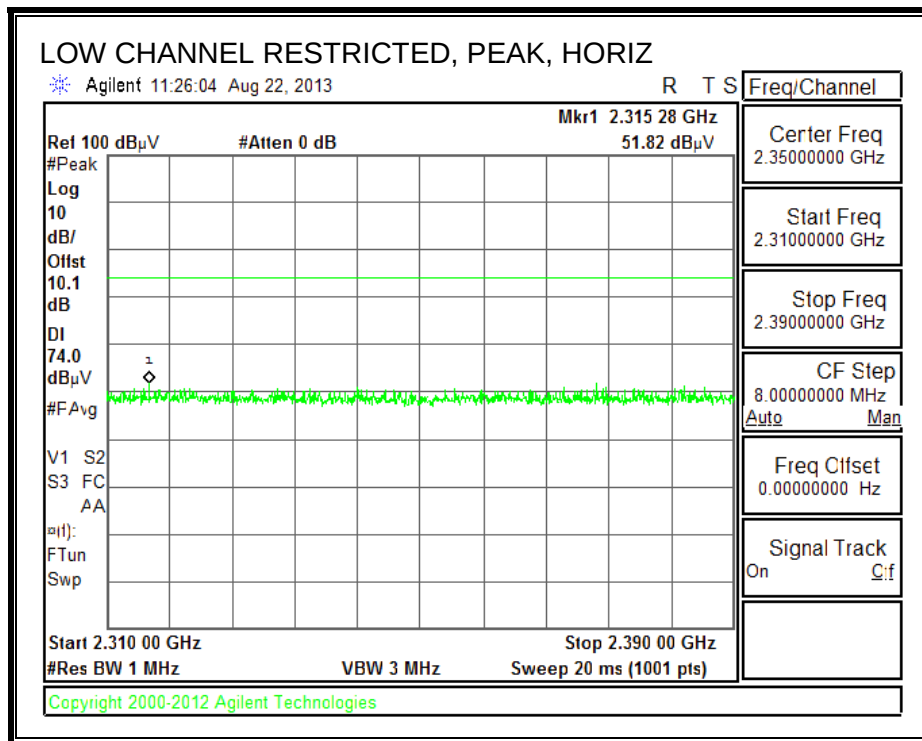
HIGH CHANNEL DATA

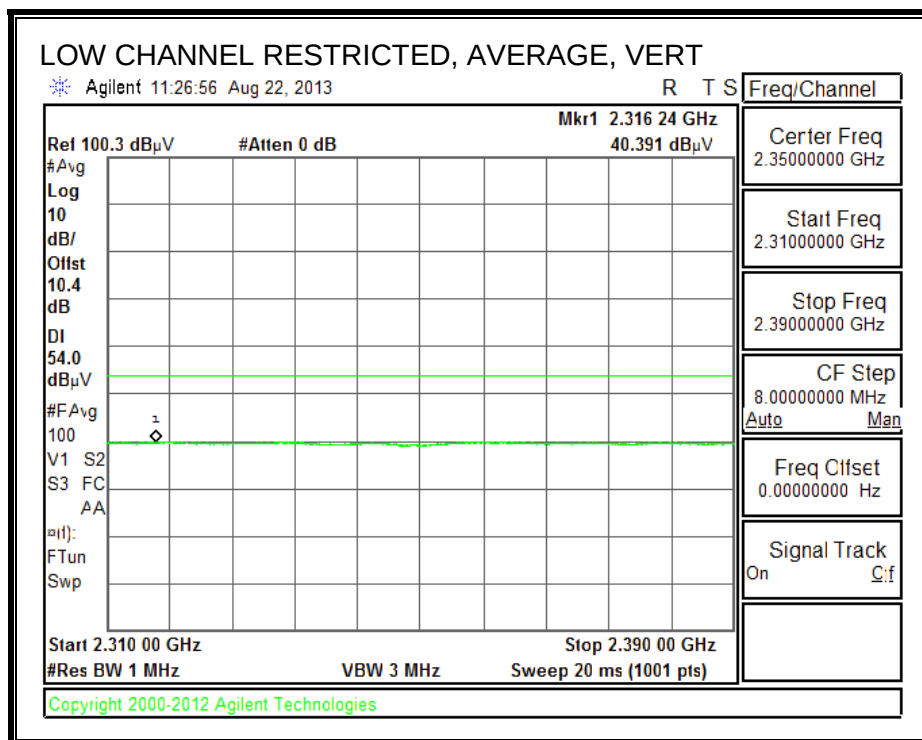
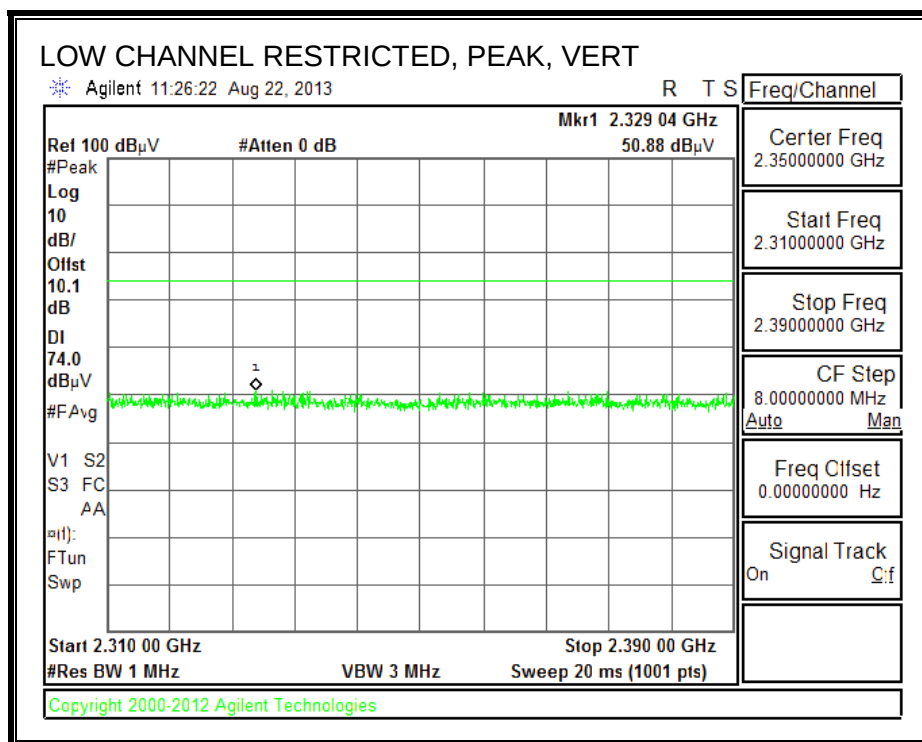
Frequency (GHz)	Meter Reading (dBuV)	Det	T345 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T186 BRF 2.4- 2.5GHz	Corrected Reading dB(uVolts /meter)	E-Fields [dBuV/ m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height (cm)	Polarity
5.511	39.88	PK	34.7	-28.7	45.88	53.97	-8.09	74	-28.12	0-360	100	H	5.511
6.464	38.77	PK	35.8	-27.5	47.07	53.97	-6.9	74	-26.93	0-360	100	H	6.464
4.513	39.13	PK	34	-28	45.13	53.97	-8.84	74	-28.87	0-360	200	V	4.513
8.859	36.53	PK	36.3	-26	46.83	53.97	-7.14	74	-27.17	0-360	101	V	8.859

PK - Peak detector

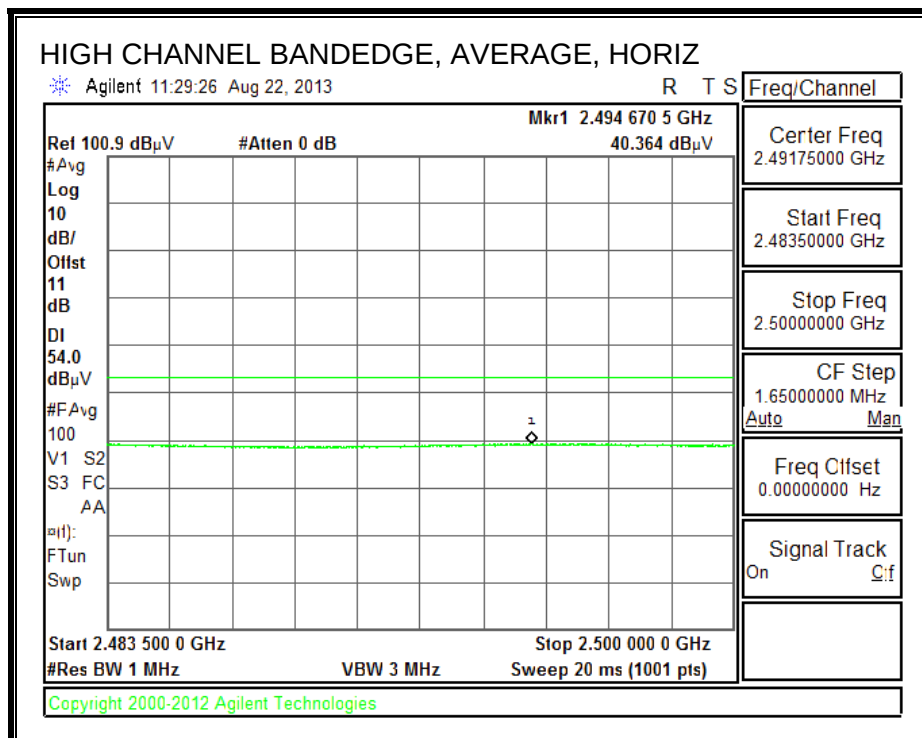
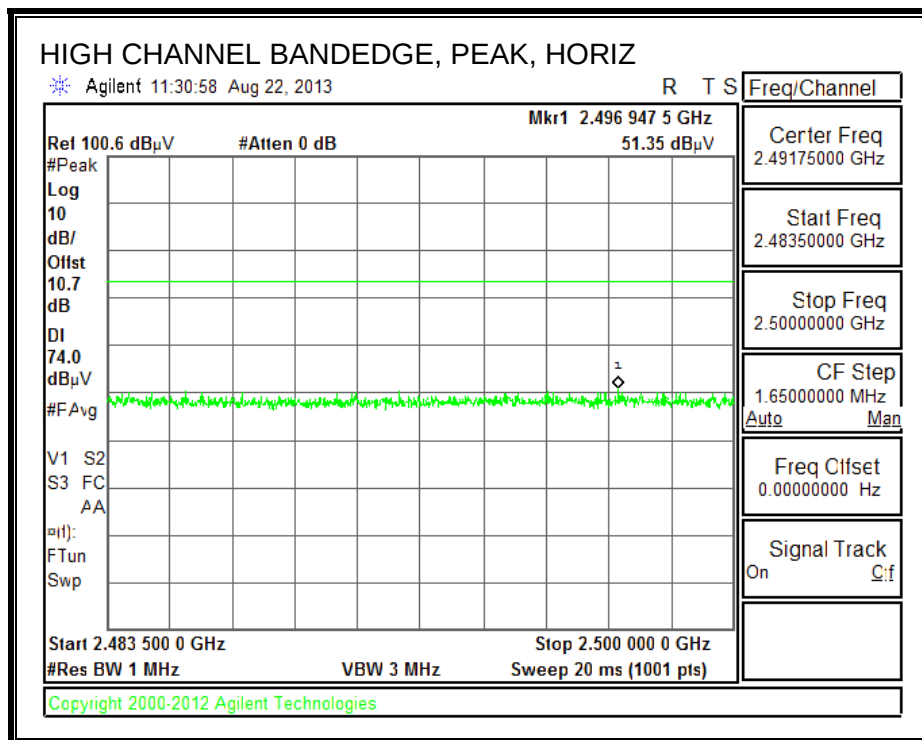
10.2.3. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 2.4 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

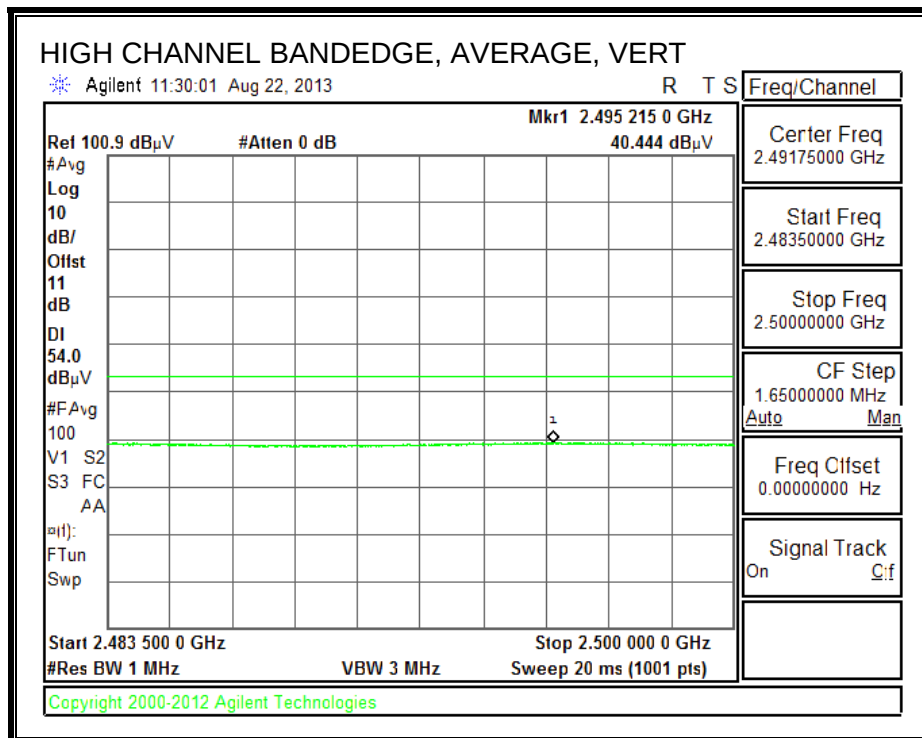
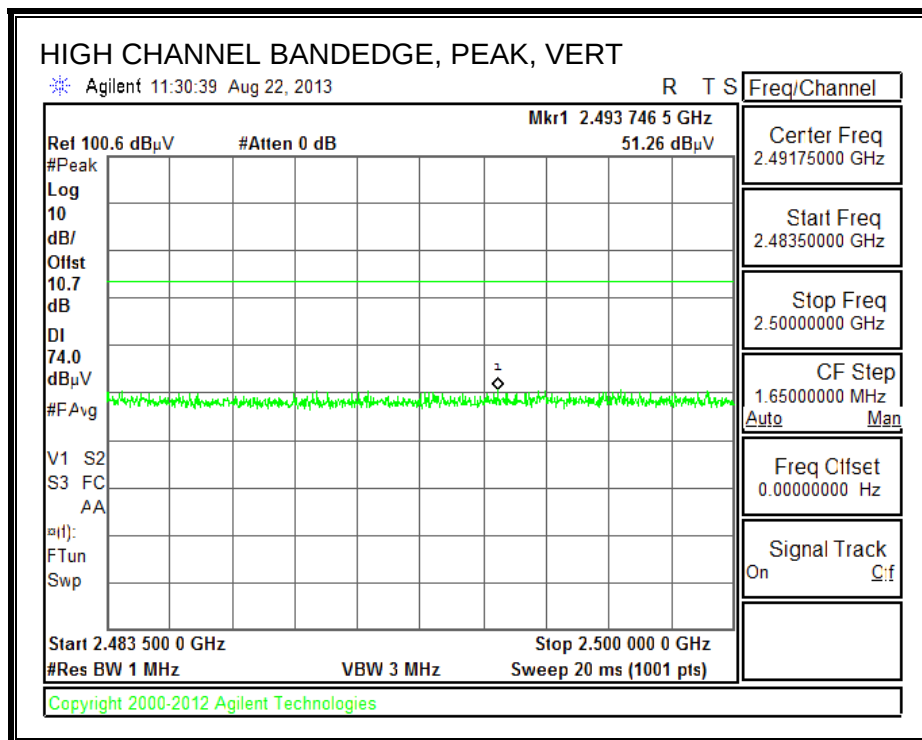
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.





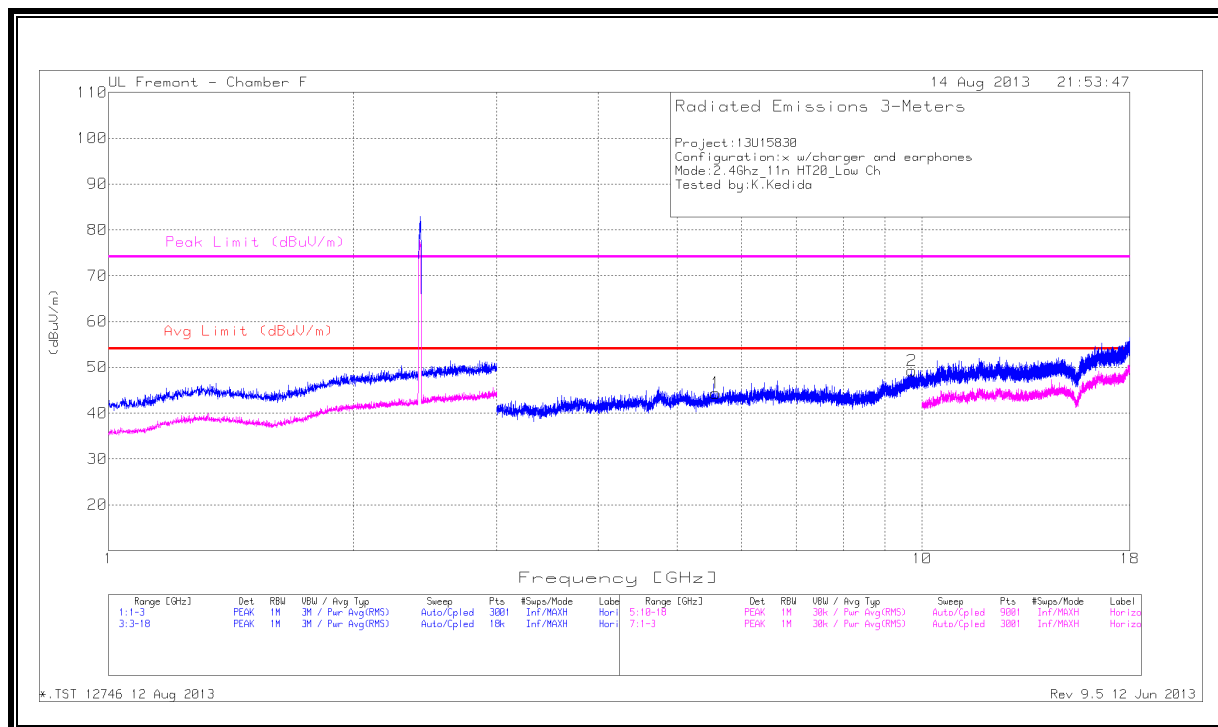
AUTHORIZED BANDEDGE (HIGH CHANNEL)



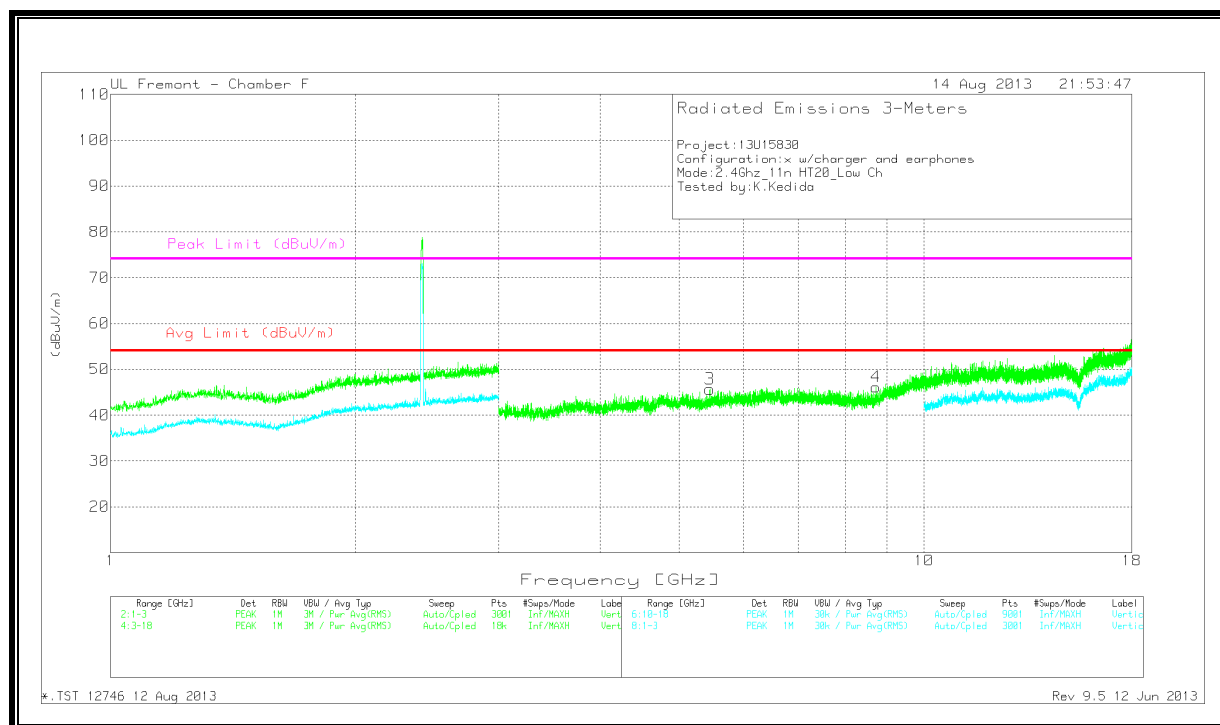


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL
HORIZONTAL



VERTICAL



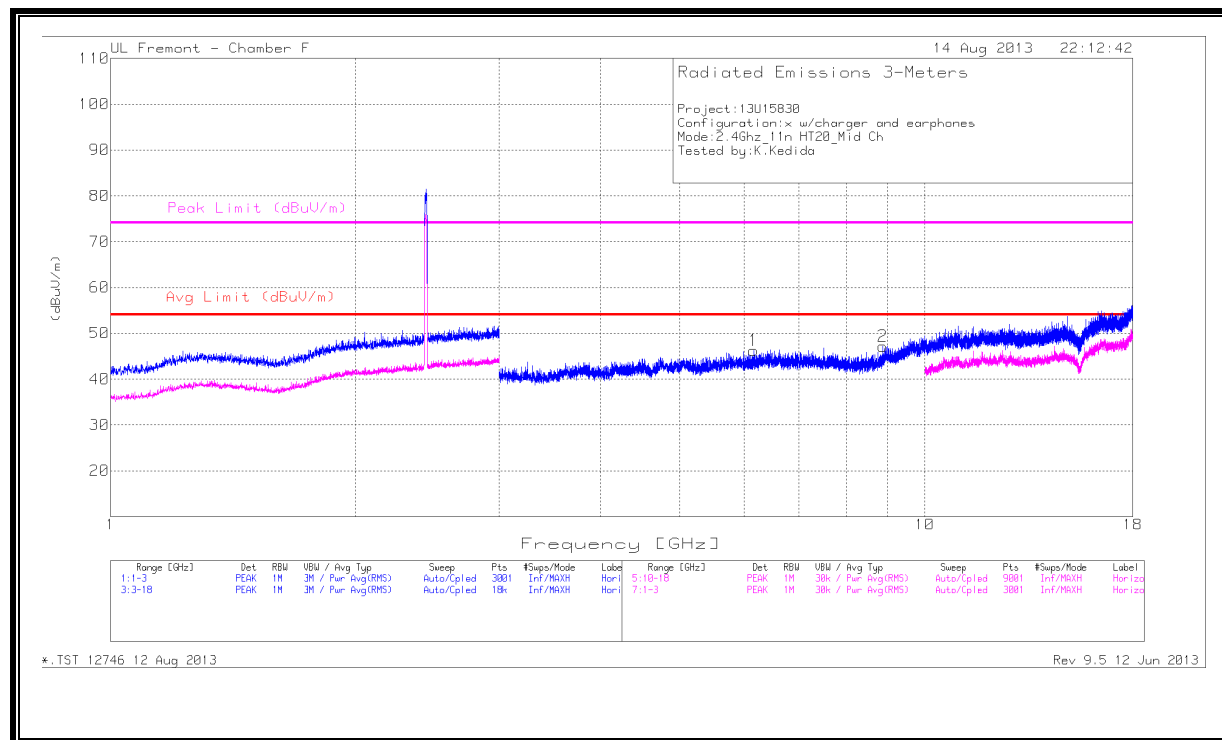
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	T345 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T186 BRF 2.4- 2.5GHz	Corrected Readingd B(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] Peak	Margin (dB)	Heig ht (cm)	Polarity
5.577	38.45	PK	34.7	-28.8	44.35	53.97	-9.62	74	-29.65	0-360	100	H	5.577
9.715	35.85	PK	37.4	-24	49.25	53.97	-4.72	74	-24.75	0-360	100	H	9.715
5.452	38.67	PK	34.7	-27.7	45.67	53.97	-8.3	74	-28.33	0-360	201	V	5.452
8.726	36.07	PK	36.2	-26.1	46.17	53.97	-7.8	74	-27.83	0-360	201	V	8.726

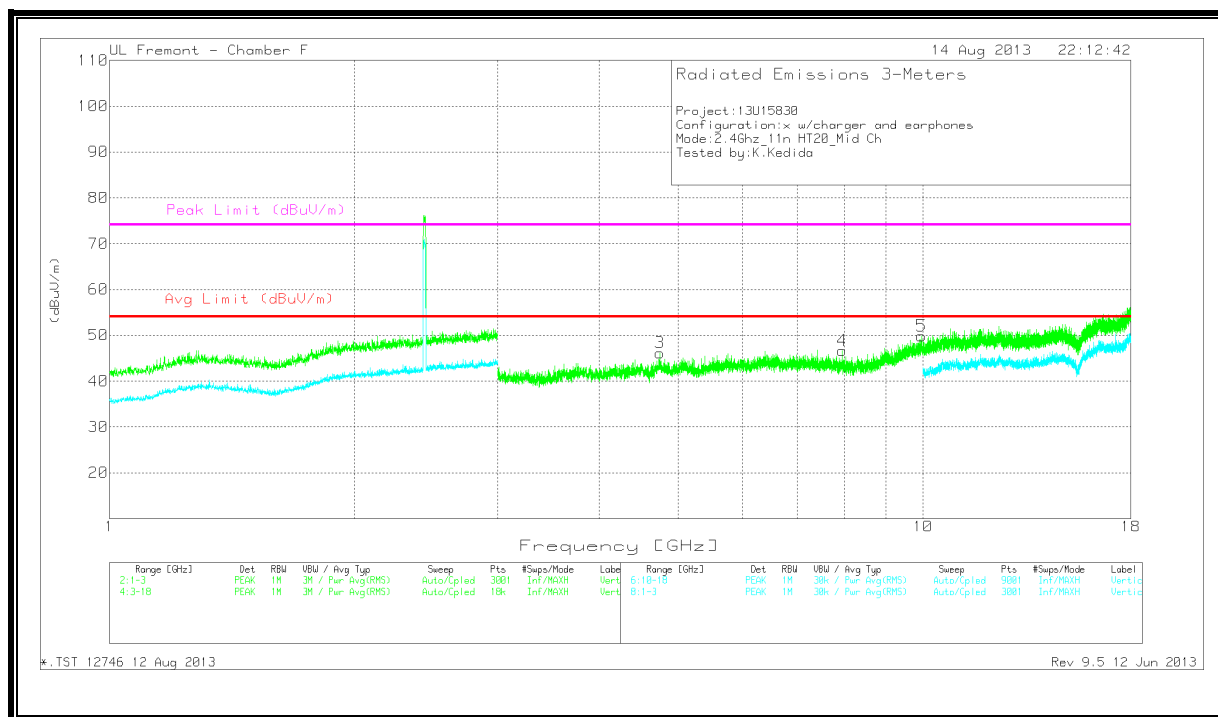
PK - Peak detector

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MID CHANNEL
HORIZONTAL



VERTICAL



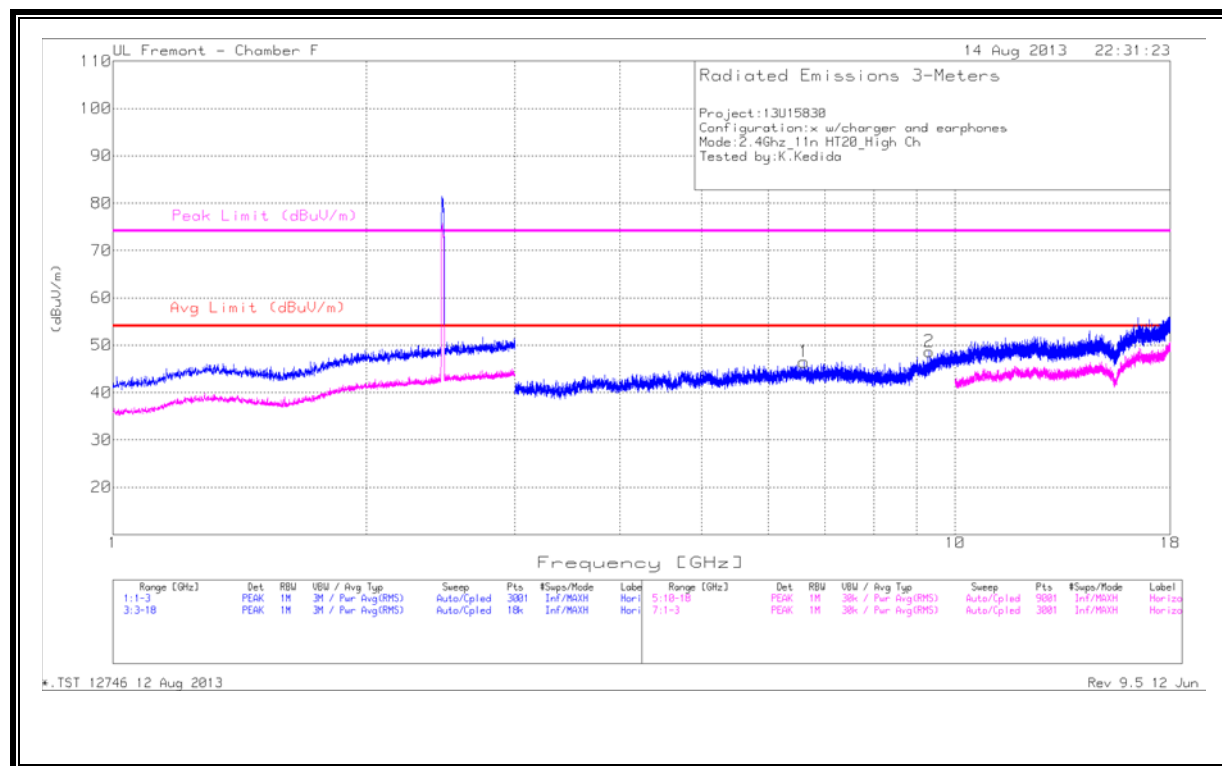
MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	T345 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T186 BRF 2.4-2.5GHz	Corrected Reading dB(uV/m)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height (cm)	Polarity
6.161	39.17	PK	35.4	-28.3	46.27	53.97	-7.7	74	-27.73	0-360	199	H	6.161
8.876	36.65	PK	36.3	-25.8	47.15	53.97	-6.82	74	-26.85	0-360	100	H	8.876
4.749	40.57	PK	34.1	-28.5	46.17	53.97	-7.8	74	-27.83	0-360	200	V	4.749
7.954	38.14	PK	35.9	-27.4	46.64	53.97	-7.33	74	-27.36	0-360	101	V	7.954
9.954	34.45	PK	37.6	-22.2	49.85	53.97	-4.12	74	-24.15	0-360	101	V	9.954

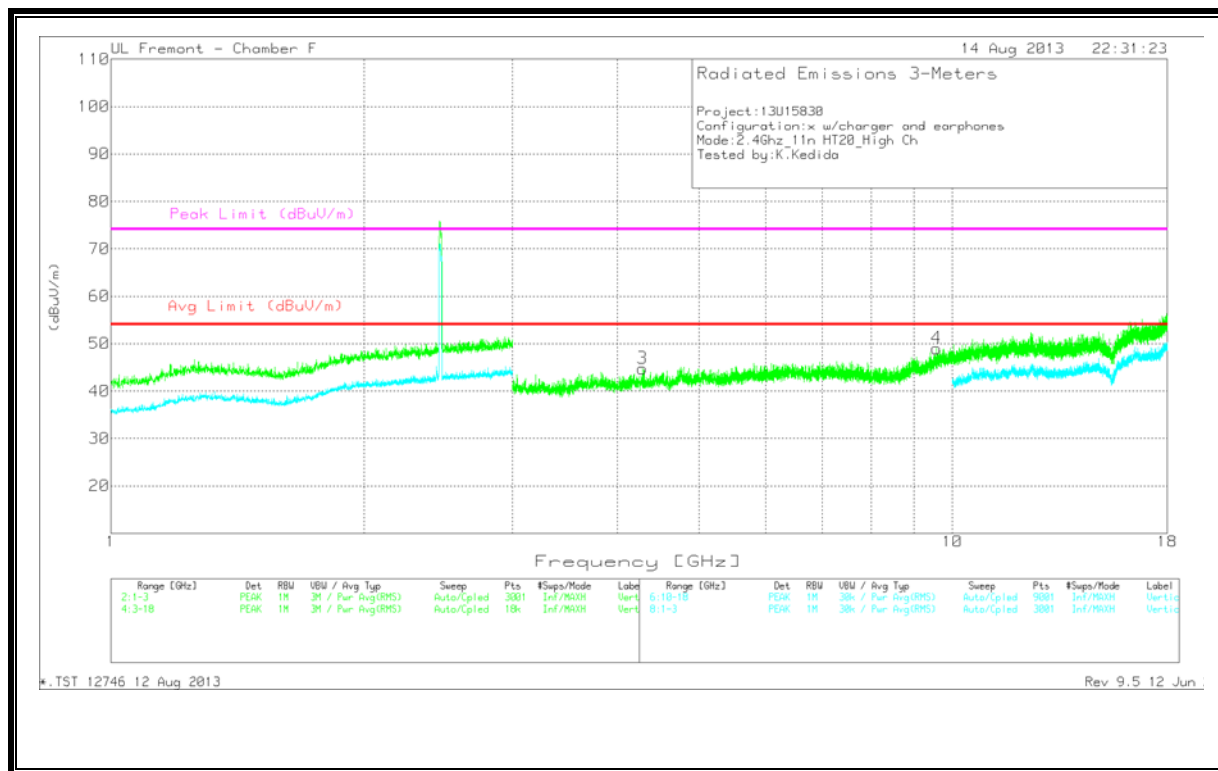
PK - Peak detector

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

HIGH CHANNEL
HORIZONTAL



VERTICAL



HIGH CHANNEL DATA

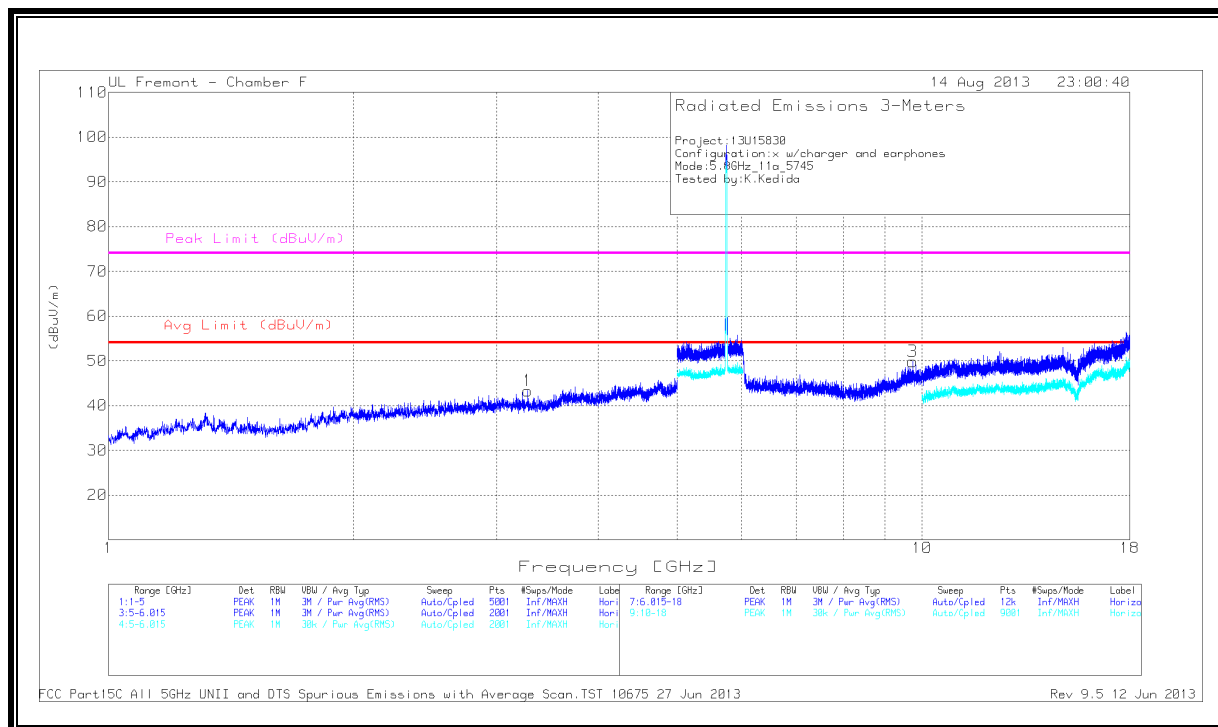
Frequency (GHz)	Meter Reading (dBuV)	Det	T345 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T186 BRF 2.4-2.5GHz	Corrected Reading dB(uVolts/meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height (cm)	Polarity
6.612	37.27	PK	35.8	-26.6	46.47	53.97	-7.5	74	-27.53	0-360	100	H	6.612
9.319	36.17	PK	36.7	-24.2	48.67	53.97	-5.3	74	-25.33	0-360	199	H	9.319
4.283	40.16	PK	33.5	-28.9	44.76	53.97	-9.21	74	-29.24	0-360	200	V	4.283
9.575	35.01	PK	37.2	-23.2	49.01	53.97	-4.96	74	-24.99	0-360	101	V	9.575

PK - Peak detector

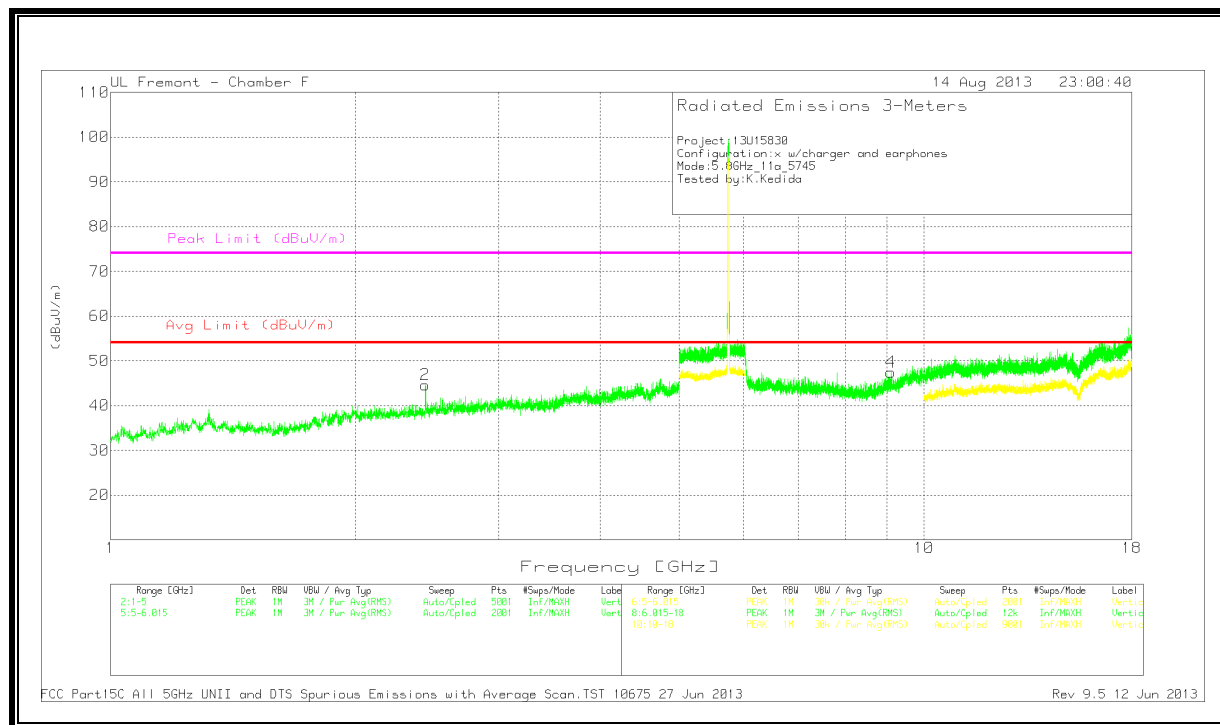
10.2.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.8 GHz BAND HARMONICS AND SPURIOUS EMISSIONS

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
HORIZONTAL



VERTICAL



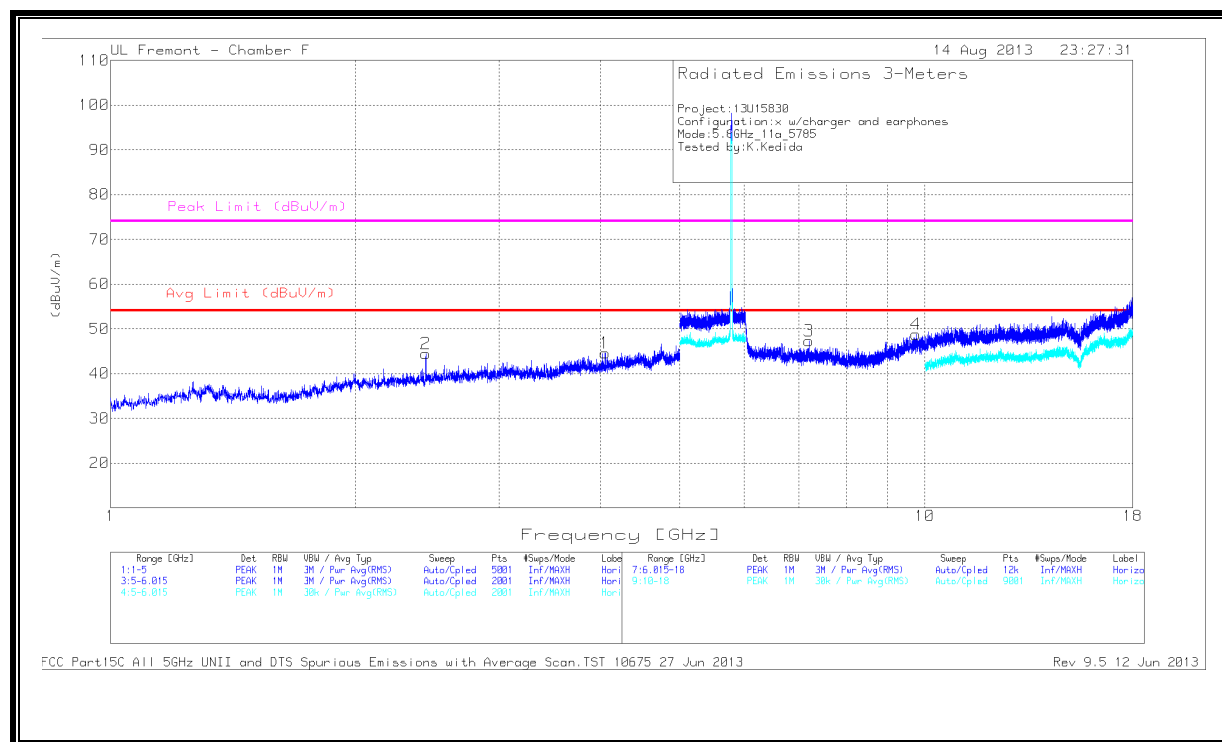
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	T345 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T186 BRF 2.4- 2.5GHz	Corrected Readingd B(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] Peak	Margin (dB)	Heig ht (cm)	Polarity
3.276	40.21	PK	33.1	-30	43.31	53.97	-10.66	74	-30.69	0-360	100	H	3.276
2.437	43.42	PK	32.3	-31.1	44.62	53.97	-9.35	74	-29.38	0-360	201	V	2.437
9.732	36.15	PK	37.4	-23.7	49.85	53.97	-4.12	74	-24.15	0-360	199	H	9.732
9.101	36.07	PK	36.4	-25	47.47	53.97	-6.5	74	-26.53	0-360	101	V	9.101

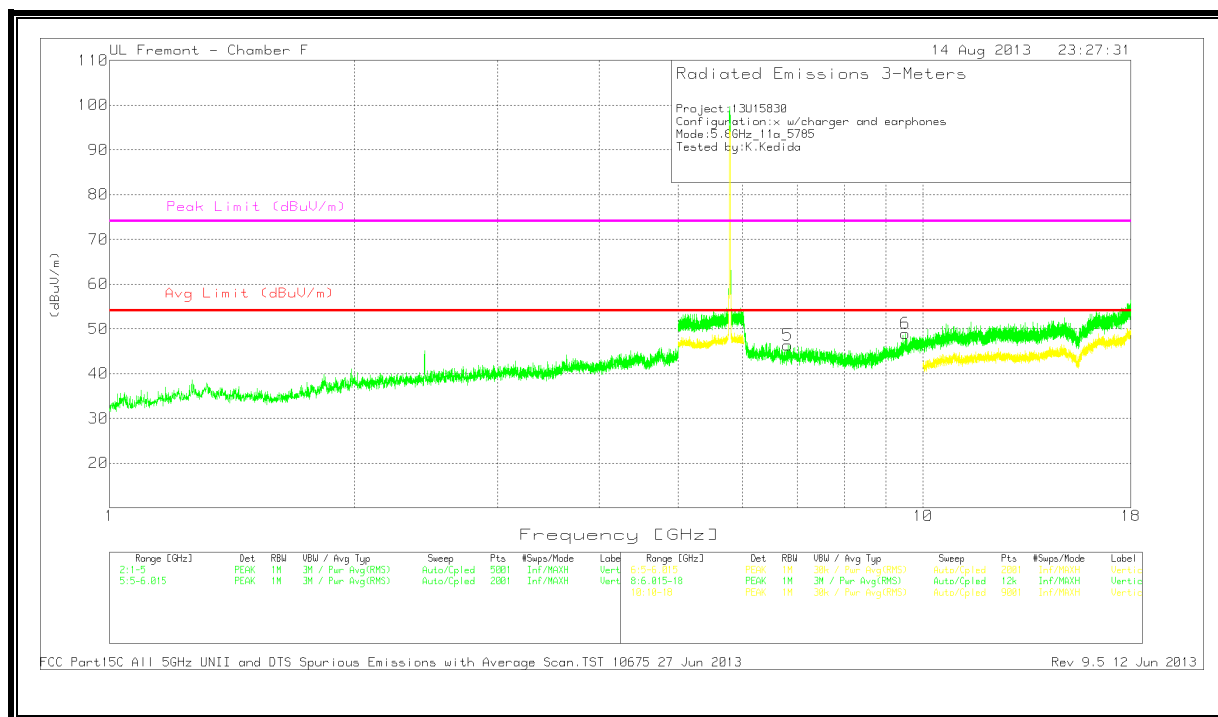
PK - Peak detector

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MID CHANNEL
HORIZONTAL



VERTICAL



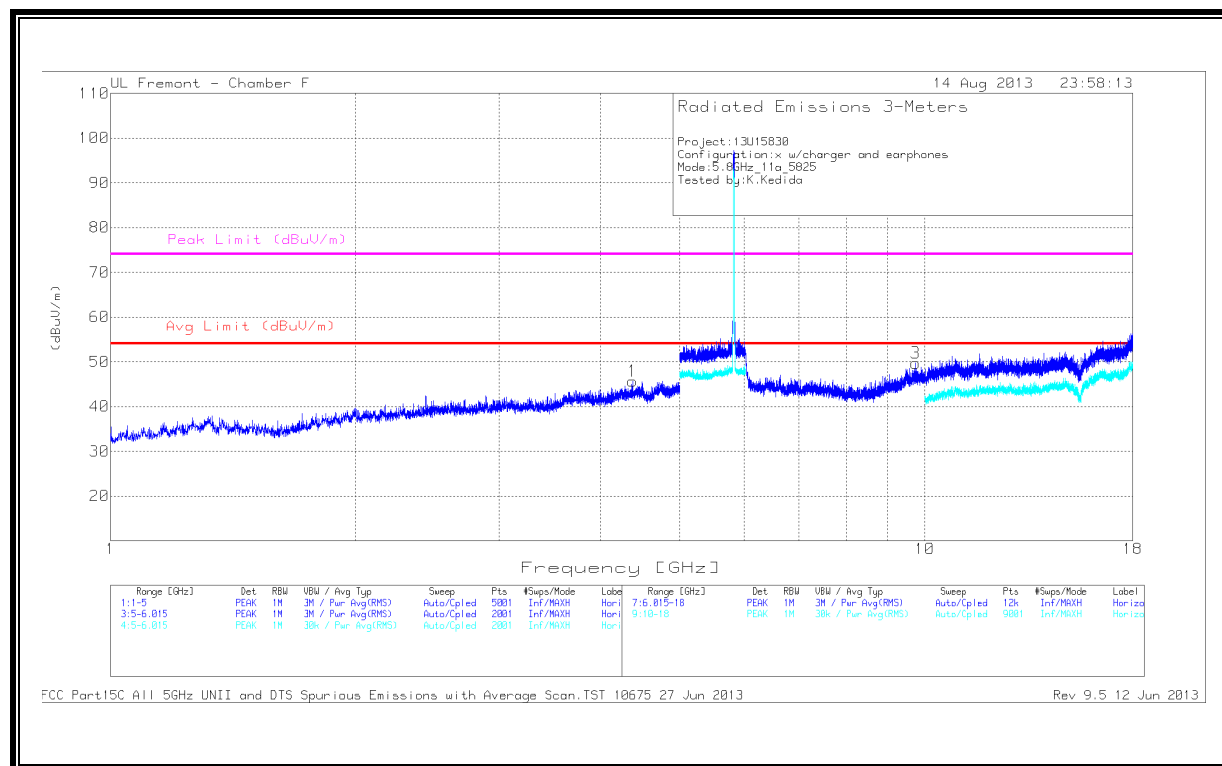
MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	T345 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T186 BRF 2.4-2.5GHz	Corrected Reading dB(uV/m)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height (cm)	Polarity
4.05	39.7	PK	33.4	-28.5	44.6	53.97	-9.37	74	-29.4	0-360	199	H	4.05
2.438	43.17	PK	32.3	-31	44.47	53.97	-9.5	74	-29.53	0-360	199	H	2.438
7.204	38.02	PK	35.7	-26.4	47.32	53.97	-6.65	74	-26.68	0-360	100	H	7.204
9.751	34.58	PK	37.4	-23.2	48.78	53.97	-5.19	74	-25.22	0-360	100	H	9.751
6.82	37.76	PK	35.7	-27.1	46.36	53.97	-7.61	74	-27.64	0-360	201	V	6.82
9.512	34.78	PK	37.2	-23	48.98	53.97	-4.99	74	-25.02	0-360	201	V	9.512

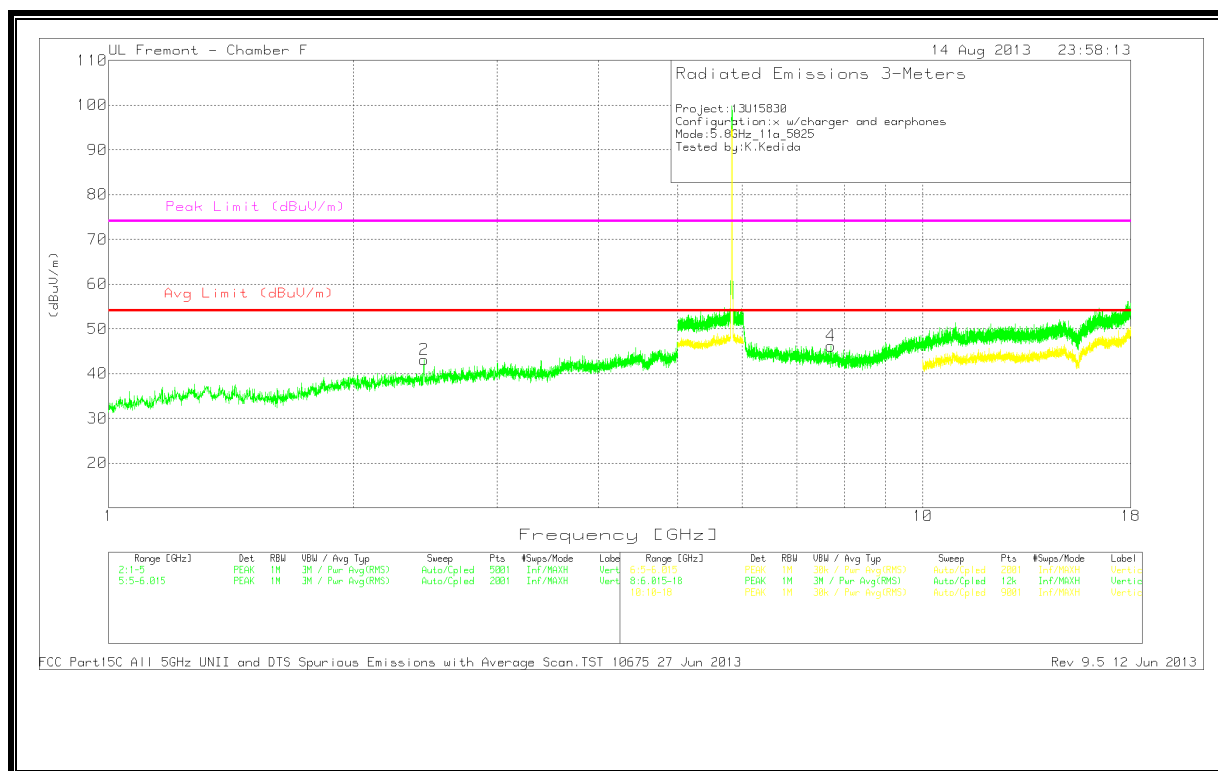
PK - Peak detector

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HIGH CHANNEL
HORIZONTAL



VERTICAL



HIGH CHANNEL DATA

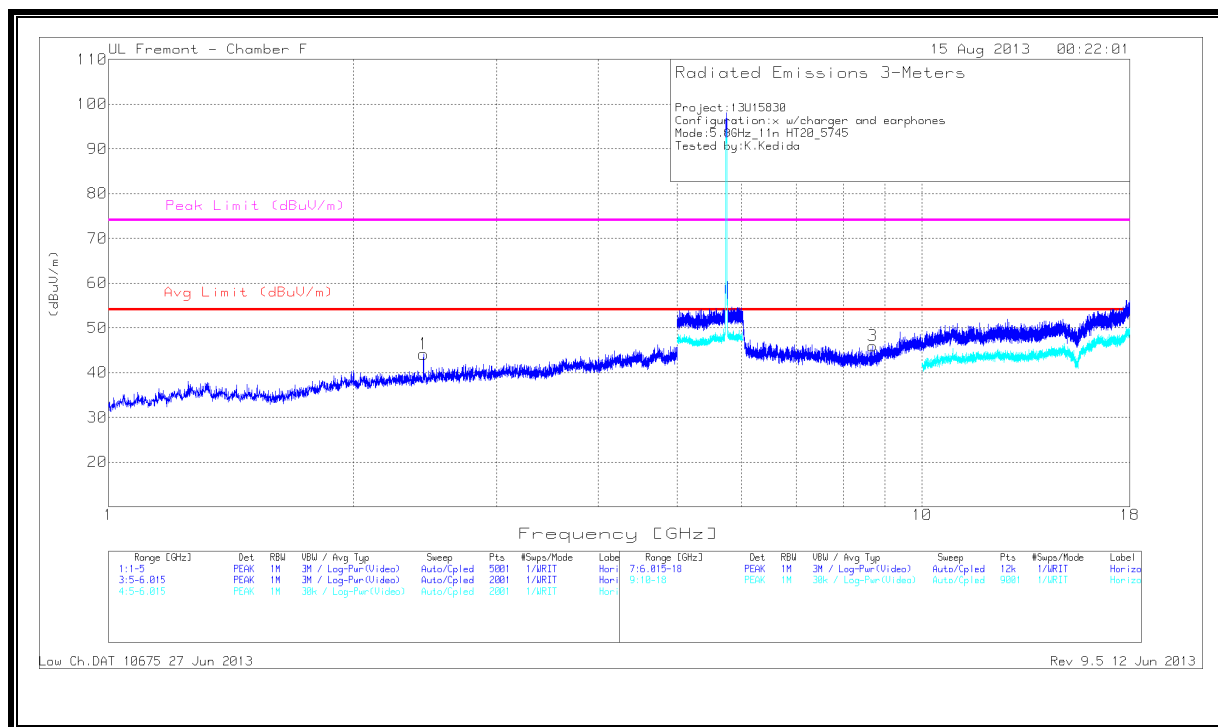
Frequency (GHz)	Meter Reading (dBuV)	Det	T345 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T186 BRF 2.4-2.5GHz	Corrected Reading dB(uVolts/meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height (cm)	Polarity
4.376	41.1	PK	33.6	-29	45.7	53.97	-8.27	74	-28.3	0-360	100	H	4.376
2.442	41.83	PK	32.3	-31	43.13	53.97	-10.84	74	-30.87	0-360	101	V	2.442
9.74	35.9	PK	37.4	-23.6	49.7	53.97	-4.27	74	-24.3	0-360	199	H	9.74
7.714	37.39	PK	35.9	-27.1	46.19	53.97	-7.78	74	-27.81	0-360	200	V	7.714

PK - Peak detector

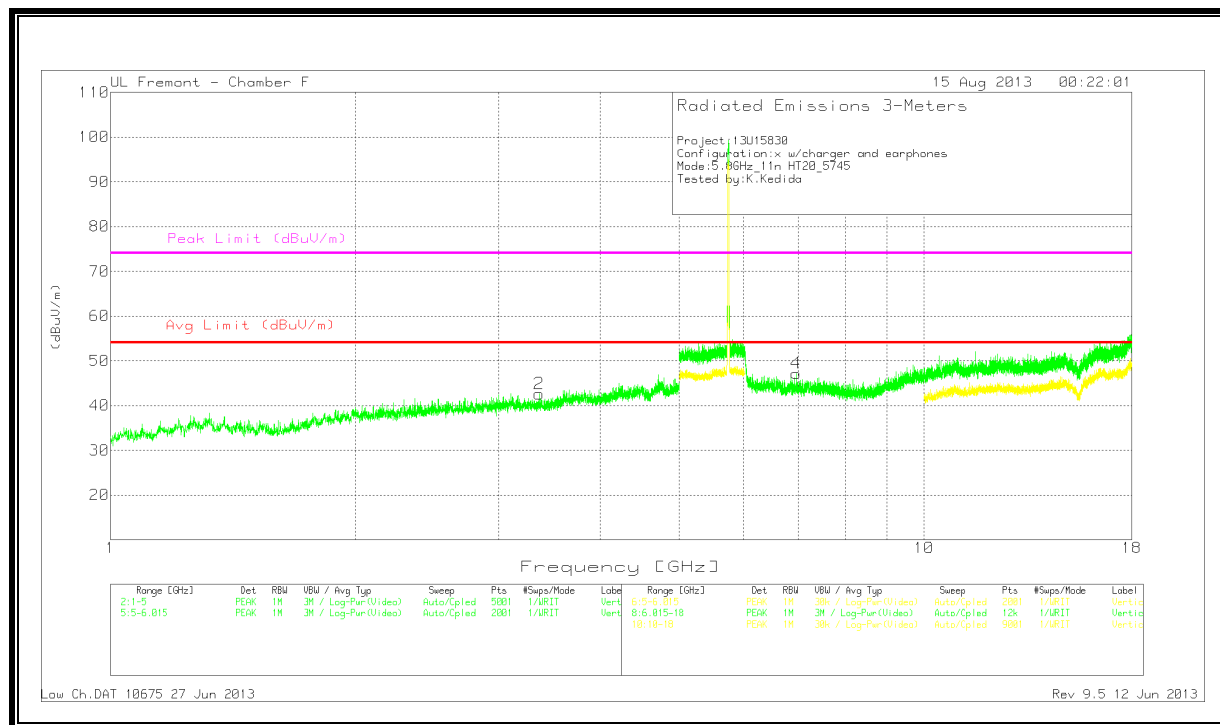
10.2.1. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.8 GHz BAND HARMONICS AND SPURIOUS EMISSIONS

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
HORIZONTAL



VERTICAL



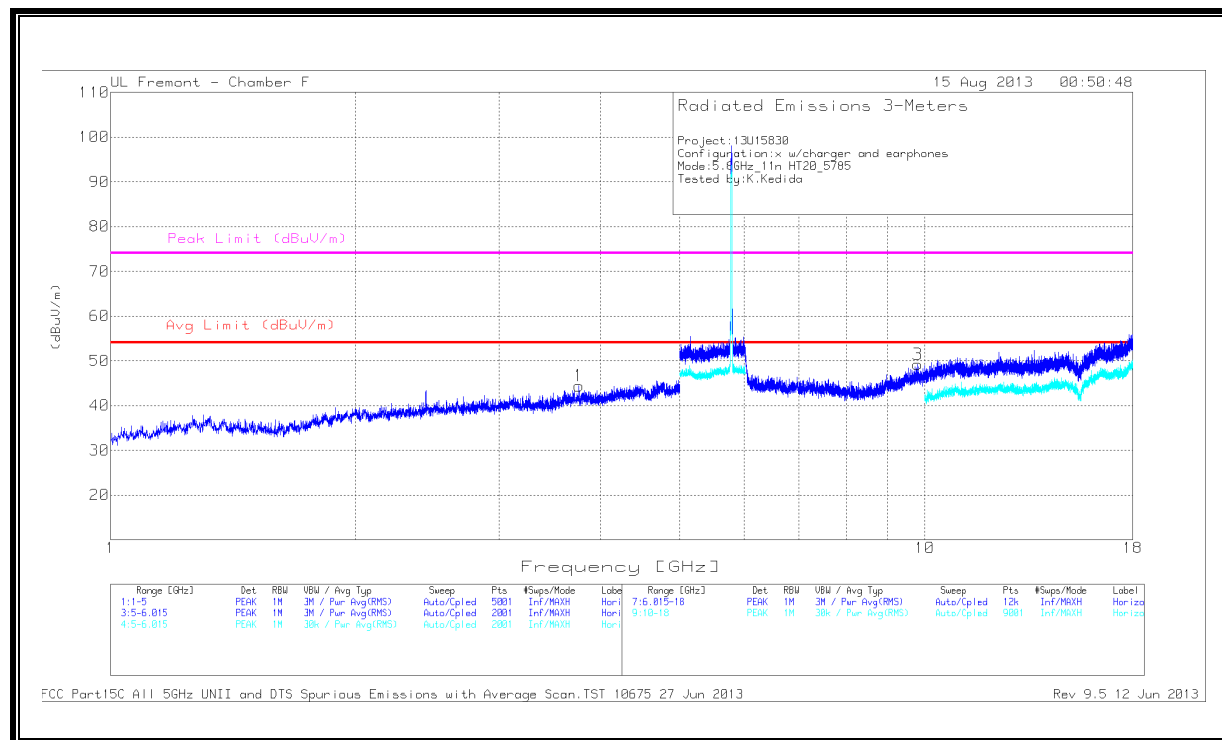
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	T345 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T186 BRF 2.4- 2.5GHz	Corrected Readingd B(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] Peak	Margin (dB)	Heig ht (cm)	Polarity
2.439	42.84	PK	32.3	-31	44.14	53.97	-9.83	74	-29.86	0-360	199	H	2.439
3.363	39.23	PK	33	-29.6	42.63	53.97	-11.34	74	-31.37	0-360	100	V	3.363
8.696	36.4	PK	36.1	-26.5	46	53.97	-7.97	74	-28	0-360	100	H	8.696
6.963	38.03	PK	35.7	-26.5	47.23	53.97	-6.74	74	-26.77	0-360	201	V	6.963

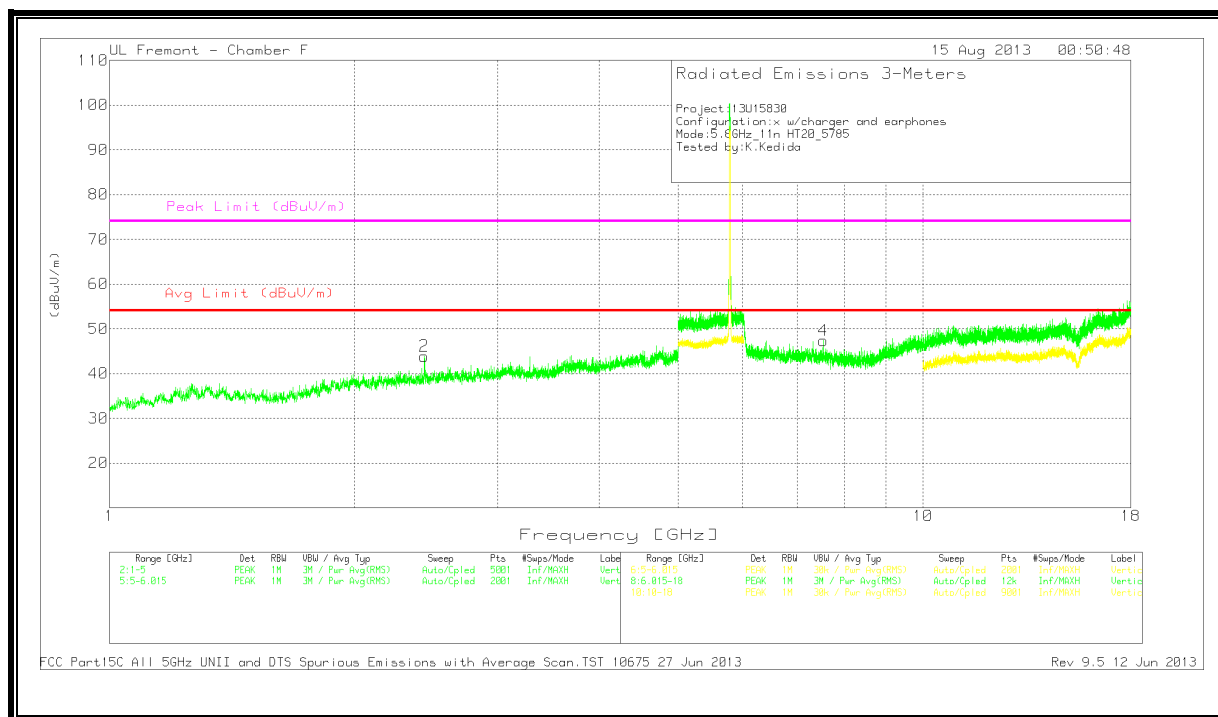
PK - Peak detector

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

MID CHANNEL
HORIZONTAL



VERTICAL



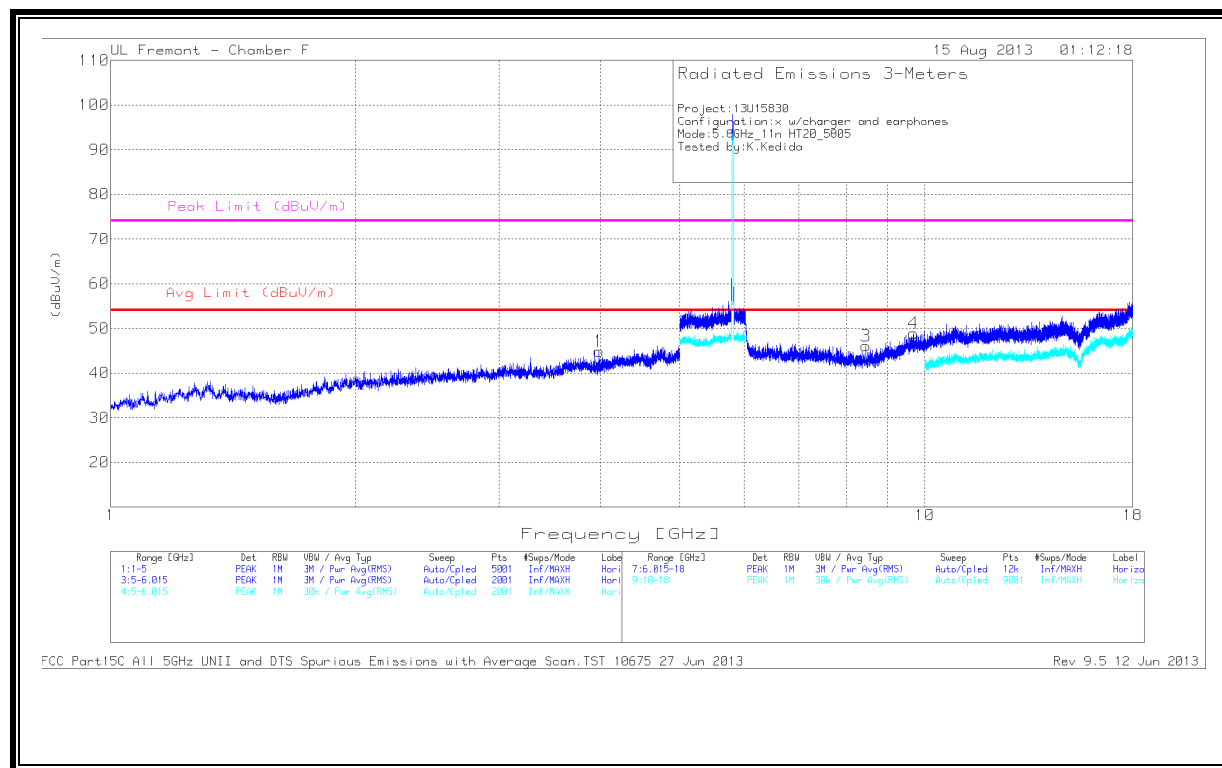
MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	T345 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T186 BRF 2.4- 2.5GHz	Corrected Reading dB(uV/m) s/meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height (cm)	Polarity
3.76	40.32	PK	33.6	-29.5	44.42	53.97	-9.55	74	-29.58	0-360	100	H	3.76
2.437	42.68	PK	32.3	-31.1	43.88	53.97	-10.09	74	-30.12	0-360	200	V	2.437
9.797	35.32	PK	37.5	-23.6	49.22	53.97	-4.75	74	-24.78	0-360	199	H	9.797
7.538	37.68	PK	35.8	-26.1	47.38	53.97	-6.59	74	-26.62	0-360	100	V	7.538

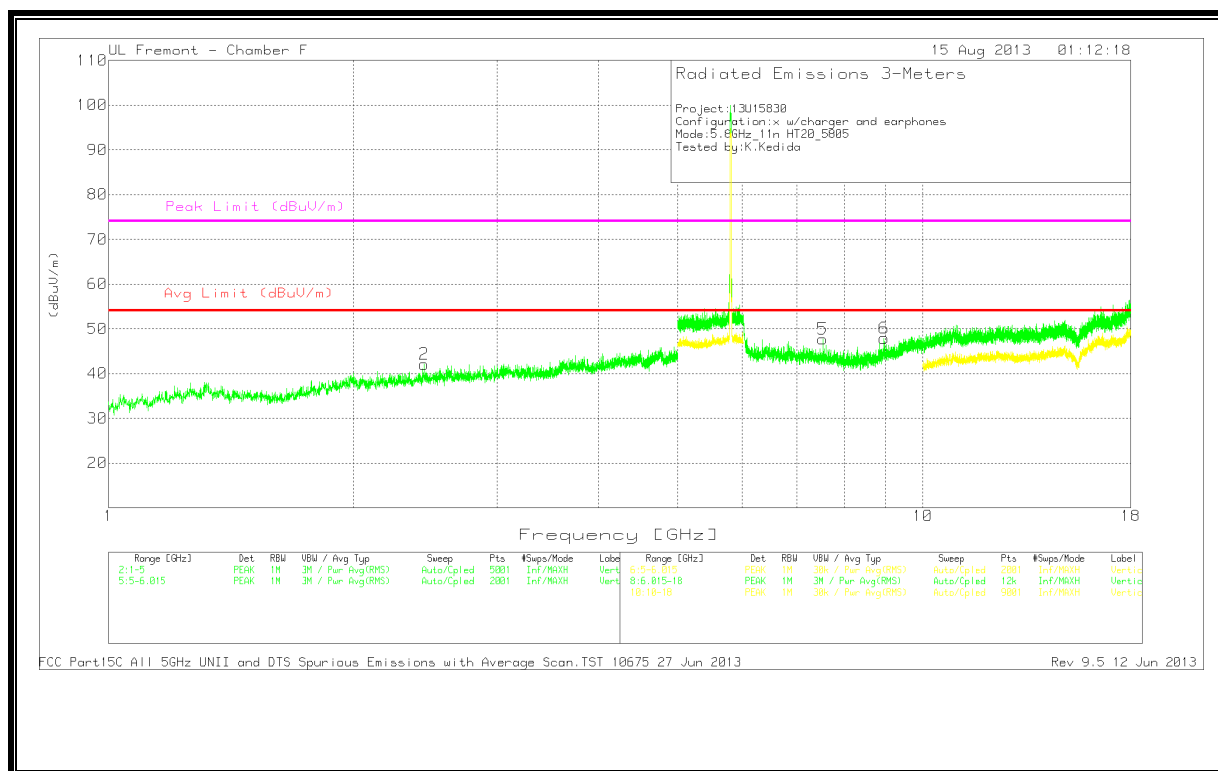
PK - Peak detector

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

HIGH CHANNEL
HORIZONTAL



VERTICAL



HIGH CHANNEL DATA

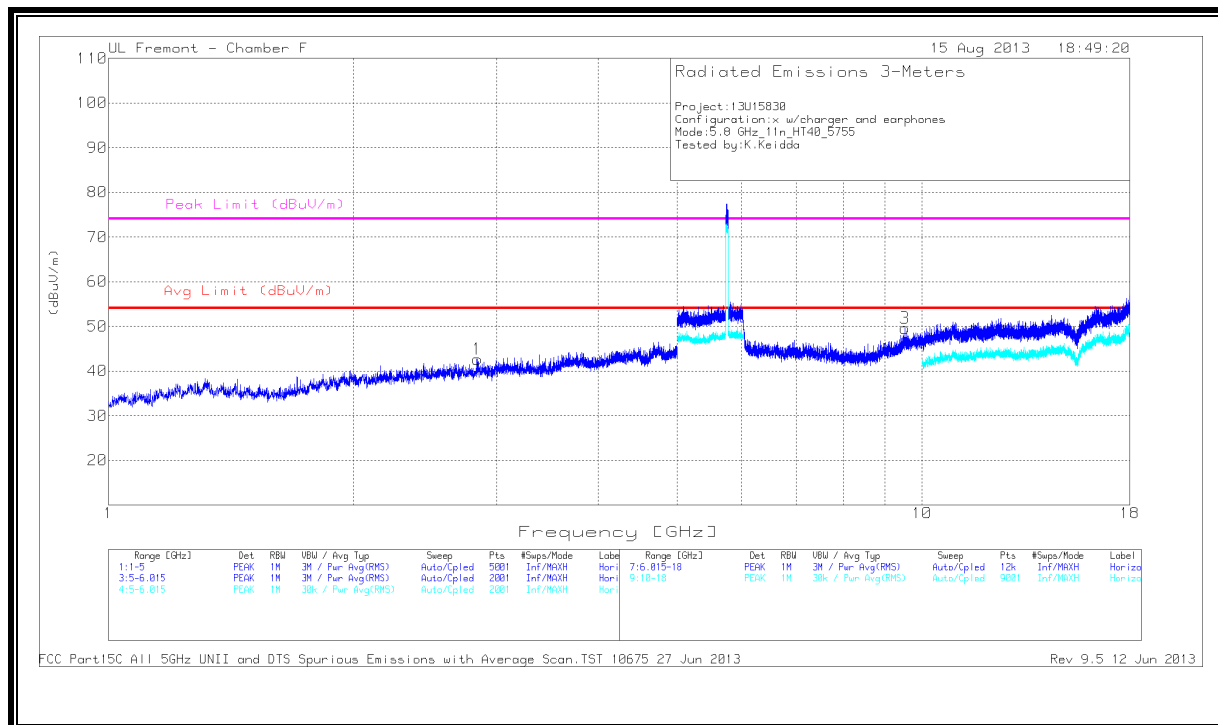
Frequency (GHz)	Meter Reading (dBuV)	Det	T345 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T186 BRF 2.4-2.5GHz	Corrected Reading dB(uVolts/meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height (cm)	Polarity
3.98	40.55	PK	33.5	-29.2	44.85	53.97	-9.12	74	-29.15	0-360	100	H	3.98
2.441	40.79	PK	32.3	-31	42.09	53.97	-11.88	74	-31.91	0-360	101	V	2.441
8.465	37.17	PK	36	-27.1	46.07	53.97	-7.9	74	-27.93	0-360	100	H	8.465
9.685	35.51	PK	37.4	-24	48.91	53.97	-5.06	74	-25.09	0-360	199	H	9.685
7.534	38.03	PK	35.8	-26.1	47.73	53.97	-6.24	74	-26.27	0-360	101	V	7.534
8.96	36.52	PK	36.3	-24.9	47.92	53.97	-6.05	74	-26.08	0-360	101	V	8.96

PK - Peak detector

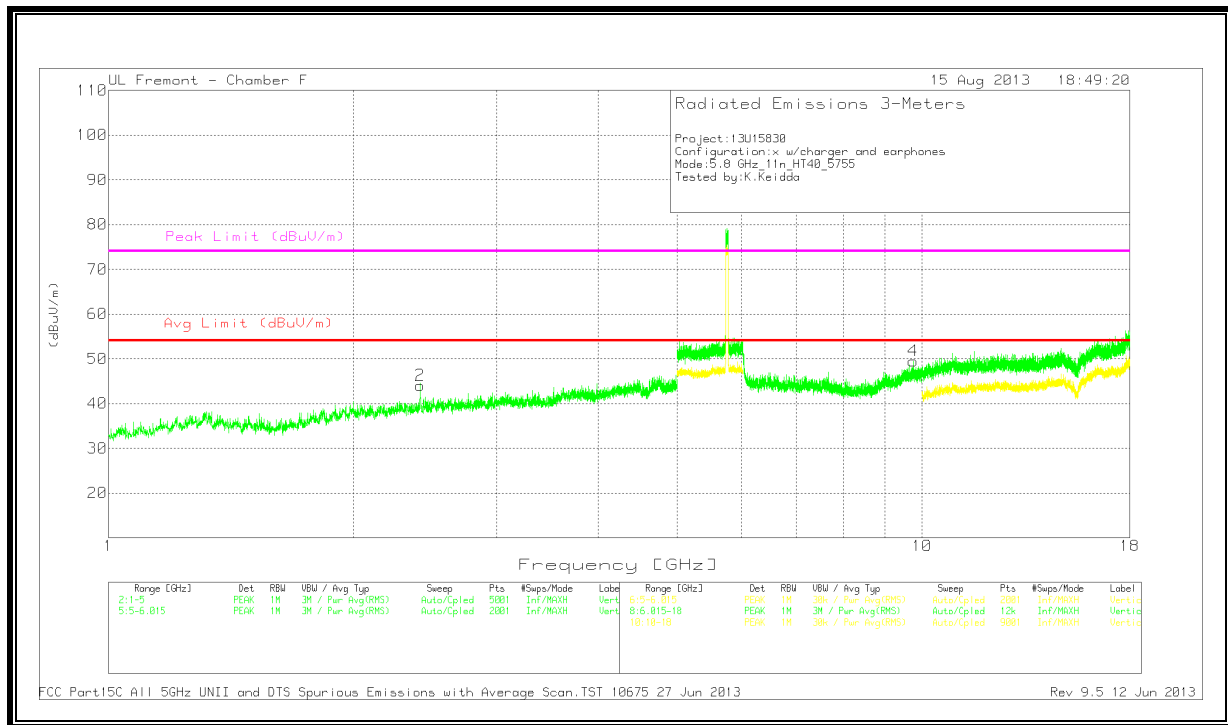
10.2.1. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.8 GHz BAND HARMONICS AND SPURIOUS EMISSIONS

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
HORIZONTAL



VERTICAL



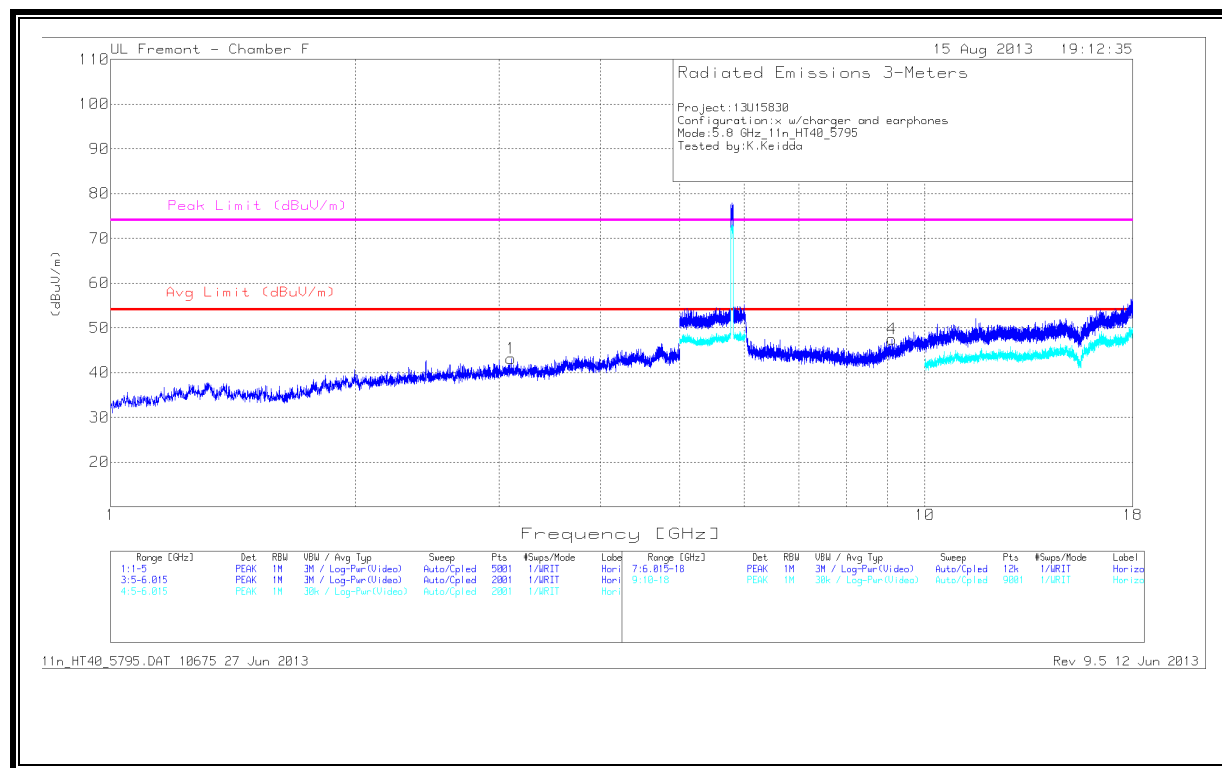
LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	T345 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T186 BRF 2.4- 2.5GHz	Corrected Readingd B(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] Peak	Margin (dB)	Heig ht (cm)	Polarity
2.841	39.65	PK	32.8	-29.8	42.65	53.97	-11.32	74	-31.35	0-360	199	H	2.841
2.416	42.67	PK	32.2	-30.8	44.07	53.97	-9.9	74	-29.93	0-360	200	V	2.416
9.523	35.49	PK	37.2	-23.1	49.59	53.97	-4.38	74	-24.41	0-360	199	H	9.523
9.753	35.24	PK	37.4	-23.1	49.54	53.97	-4.43	74	-24.46	0-360	100	V	9.753

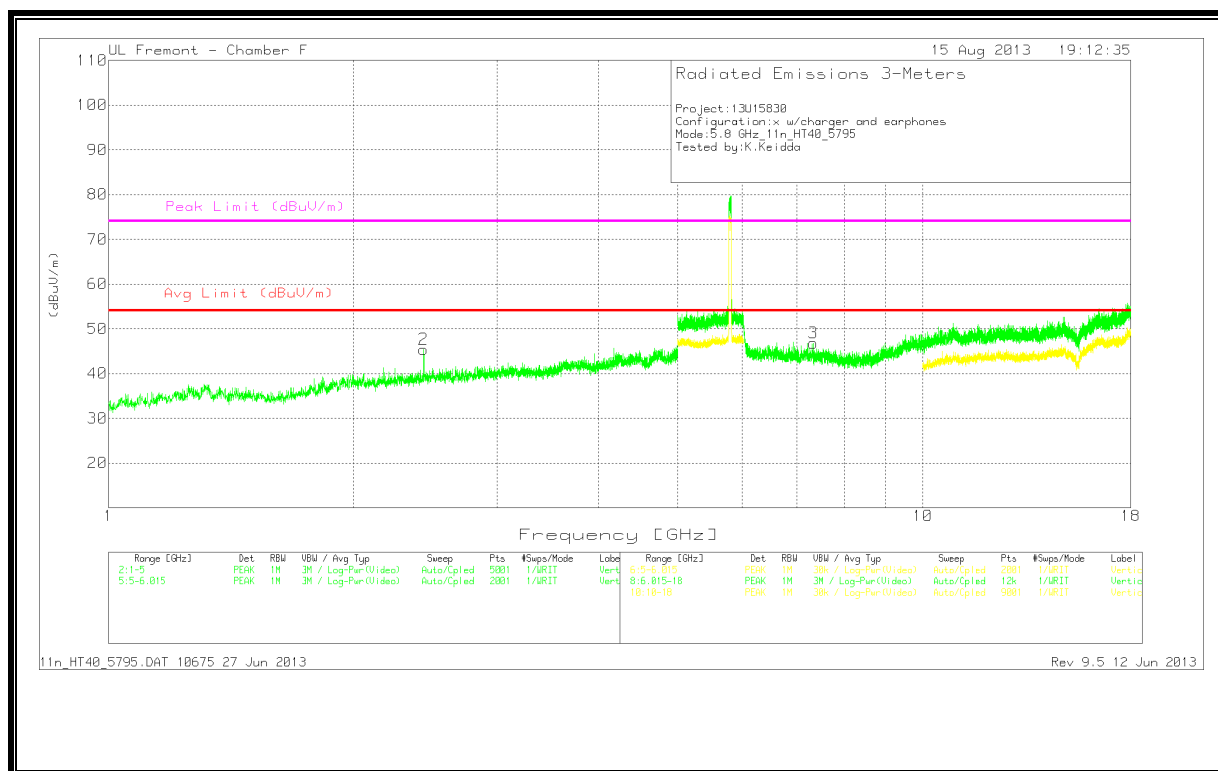
PK - Peak detector

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

HIGH CHANNEL
HORIZONTAL



VERTICAL



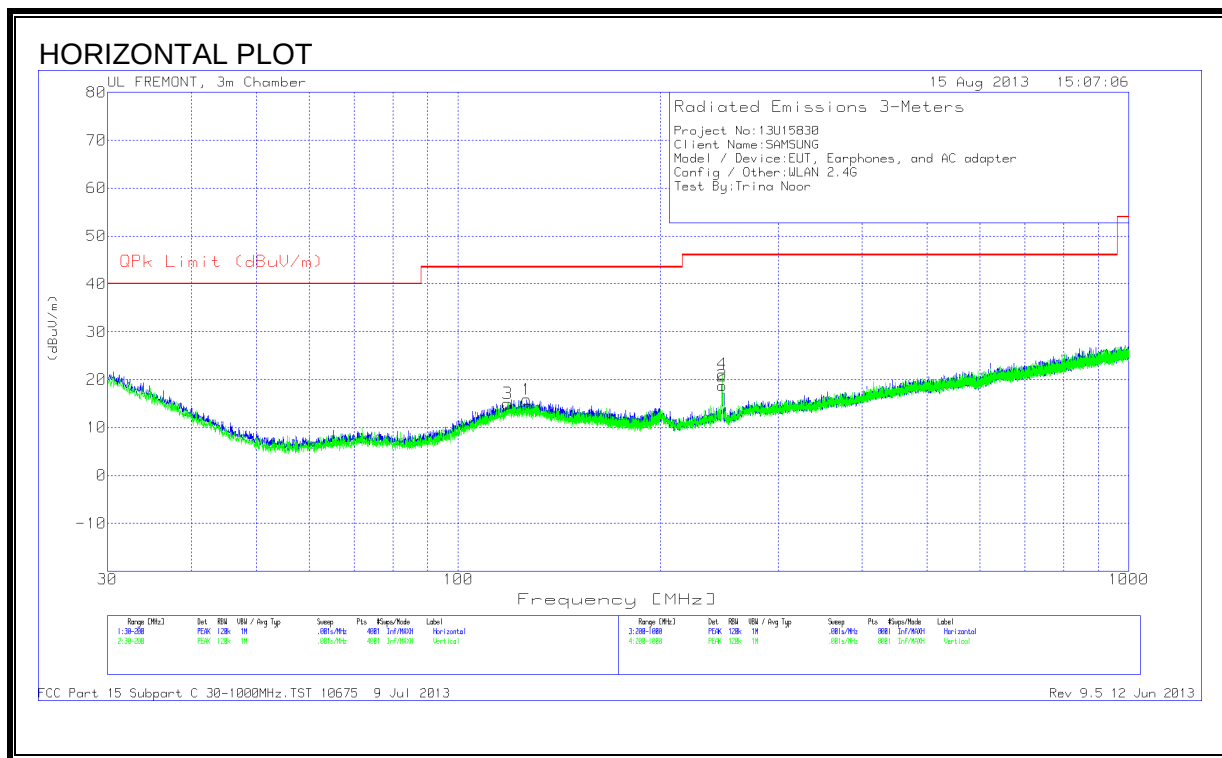
HIGH CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	T345 Ant Factor [dB/m]	T145 Preamp Gain [dB]	Cable Factor [dB]	T186 BRF 2.4-2.5GHz	Corrected Reading dB(uVolts/meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height (cm)	Polarity
3.103	39.46	PK	33.3	-29.6	43.16	53.97	-10.81	74	-30.84	0-360	100	H	3.103
2.437	44.2	PK	32.3	-31.1	45.4	53.97	-8.57	74	-28.6	0-360	201	V	2.437
9.112	36.01	PK	36.4	-24.9	47.51	53.97	-6.46	74	-26.49	0-360	100	H	9.112
7.334	37.73	PK	35.7	-26.6	46.83	53.97	-7.14	74	-27.17	0-360	101	V	7.334

PK - Peak detector

10.3. WORST-CASE BELOW 1 GHz

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



Below 1G Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF (dB/m)	Amp/ Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)
1	126.5175	28.37	PK	14.1	-26.6	15.87	43.52	-27.65
3	118.4425	27.81	PK	13.8	-26.6	15.01	43.52	-28.51
2	247.6	32.65	PK	11.5	-25.4	18.75	46.02	-27.27
4	247.6	35.05	PK	11.5	-25.4	21.15	46.02	-24.87

11. AC POWER LINE CONDUCTED EMISSIONS

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

6 WORST EMISSIONS

Line-L1 .15 - 30MHz

Trace Markers

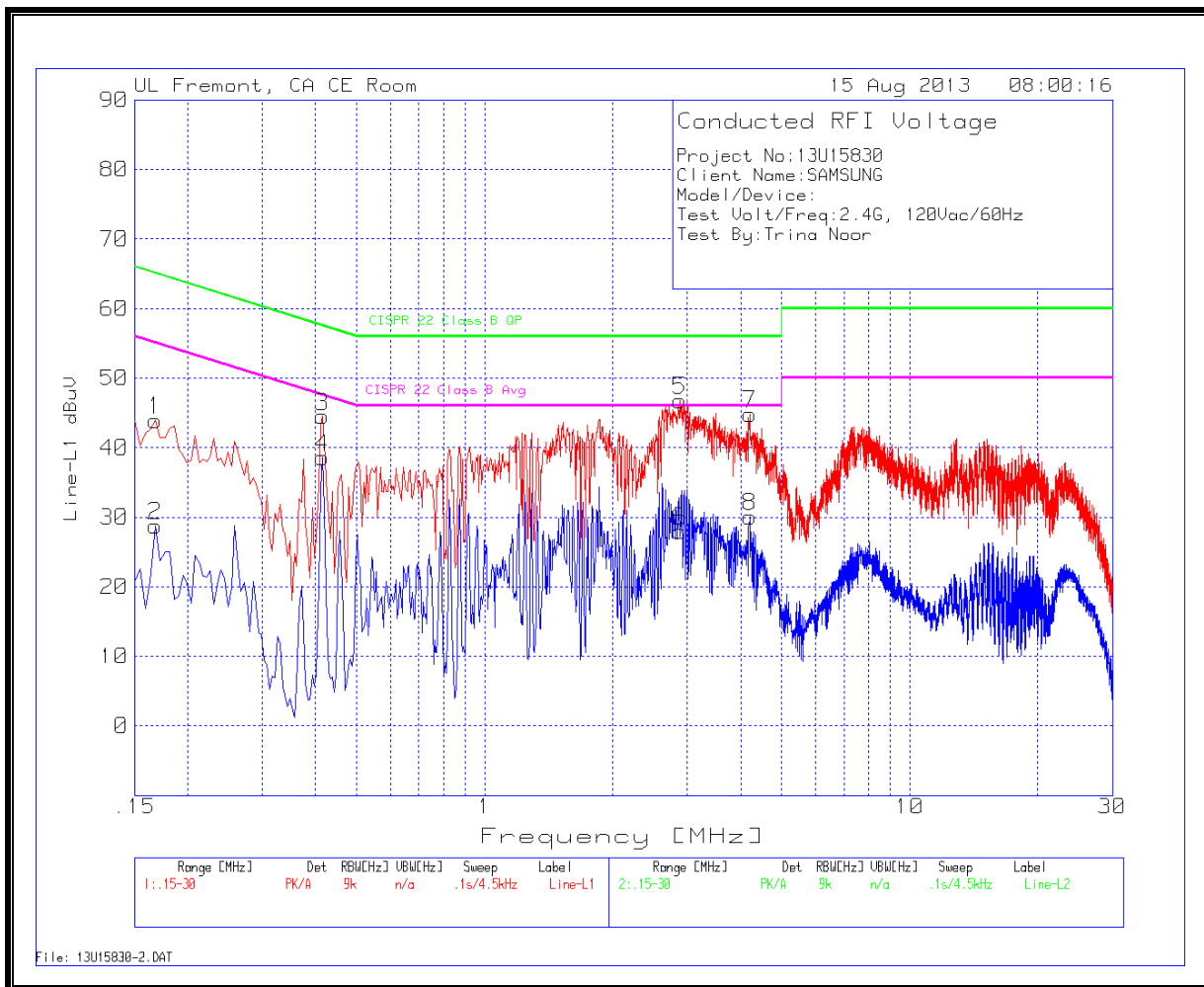
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
1	.168	43.82	PK	.1	0	43.92	65.1	-21.18	-	-
2	.168	28.67	Av	.1	0	28.77	-	-	55.1	-26.33
3	.4155	44.4	PK	.1	0	44.5	57.5	-13	-	-
4	.4155	38.45	Av	.1	0	38.55	-	-	47.5	-8.95
5	2.8815	46.54	PK	.1	.1	46.74	56	-9.26	-	-
6	2.8815	27.84	Av	.1	.1	28.04	-	-	46	-17.96
7	4.2045	44.67	PK	.1	.1	44.87	56	-11.13	-	-
8	4.2045	29.82	Av	.1	.1	30.02	-	-	46	-15.98

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	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
9	.2085	41.04	PK	.1	0	41.14	63.3	-22.16	-	-
10	.2085	22.99	Av	.1	0	23.09	-	-	53.3	-30.21
11	.4155	43.31	PK	.1	0	43.41	57.5	-14.09	-	-
12	.4155	32.19	Av	.1	0	32.29	-	-	47.5	-15.21
13	1.239	42.71	PK	.1	.1	42.91	56	-13.09	-	-
14	1.239	30.12	Av	.1	.1	30.32	-	-	46	-15.68
15	2.6745	45.31	PK	.1	.1	45.51	56	-10.49	-	-
16	2.6745	24.48	Av	.1	.1	24.68	-	-	46	-21.32

LINE 1 RESULTS



LINE 2 RESULTS

