



FCC CFR47 PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

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

MODEL NUMBER: LG-LS991, LS991, LGLS991

FCC ID: ZNFLS991

REPORT NUMBER: 15I20286-E4

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Prepared for

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LG ELECTRONICS MOBILECOMM U.S.A., INC
EUT DESCRIPTION: GSM/CDMA/WCDMA/LTE PHONE + BLUETOOTH, with DTS/UNII a/b/g/n/ac & NFC
MODEL: LG-LS991, LS991, LGLS991
SERIAL NUMBER: 1TLT3 (Conducted) and 1TLT7 (Radiated)
DATE TESTED: MARCH 10- APRIL 7, 2015

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.

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, and ANSI C63.4-2009

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
<input checked="" type="checkbox"/> Chamber A(IC: 2324B-1)	<input type="checkbox"/> Chamber D(IC: 2324B-4)
<input type="checkbox"/> Chamber B(IC: 2324B-2)	<input type="checkbox"/> Chamber E(IC: 2324B-5)
<input checked="" type="checkbox"/> Chamber C(IC: 2324B-3)	<input type="checkbox"/> Chamber F(IC: 2324B-6)
	<input checked="" type="checkbox"/> Chamber G(IC: 2324B-7)
	<input type="checkbox"/> Chamber H(IC: 2324B-8)

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

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 18000 MHz	4.94 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

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

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2412 - 2462	802.11b	16	39.81
2412 - 2462	802.11g	15	31.62
2412 - 2462	802.11n HT20	15	31.62
2413 - 2462	802.11ac HT20	12	15.85

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of -1.21 dBi.

5.4. WORST-CASE CONFIGURATION AND MODE

Radiated emission and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

The fundamental of the EUT was investigated in three orthogonal orientations X, Y, Z it was determined that X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in X orientation.

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

802.11b mode: 1 Mbps

802.11g mode: 6 Mbps

802.11n HT20mode: MCS0

802.11ac HT20mode: MCS0

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

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

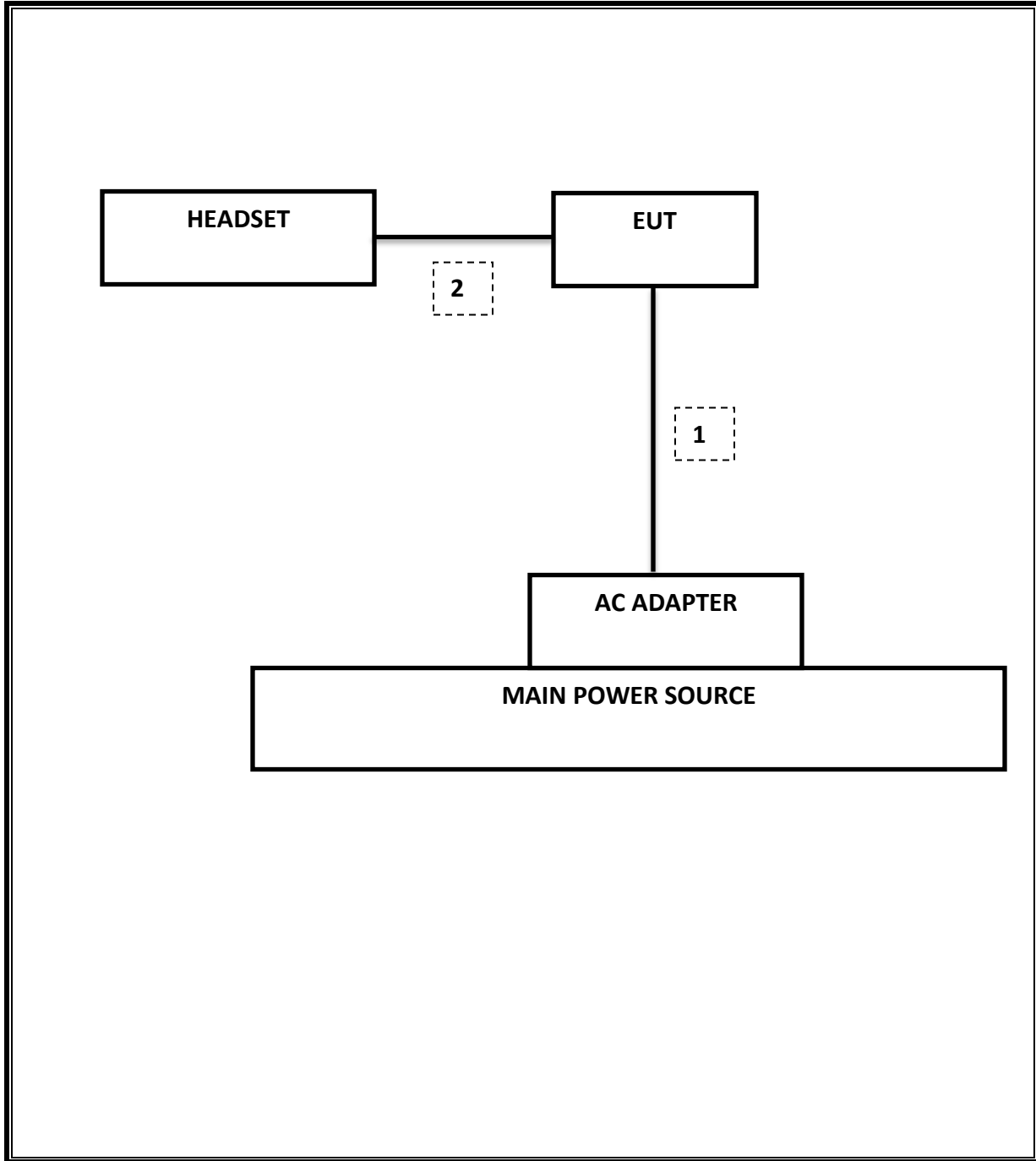
I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	Mini-USB	Shielded	1.2m	N/A
2	Audio	1	Mini-Jack	Unshielded	1m	N/A

TEST SETUP

The EUT is 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 Due
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB1	C01171	02/18/16
Antenna, Horn, 18GHz	EMCO	3115	C00783	10/25/15
Antenna, Horn, 26.5 GHz	ARA	MWH-1826/B	C00980	11/14/15
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00580	01/28/15
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01052	10/22/15
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/15
CBT Bluetooth Tester	R & S	CBT	None	07/12/15
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/15
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/15
LISN, 30 MHz	FCC	50/250-25-2	C00626	01/16/16
Reject Filter, 2.4GHz	Micro-Tronics	BRM50702	N02684	CNR
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/15
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/15

Test Software List			
Description	Manufacturer	Model	Version
Radiated Software	UL	UL EMC	Version 9.5, 07/22/14
Conducted Software	UL	UL EMC	Version 9.5, 05/17/14
CLT Software	UL	UL RF	Version 1.0, 02/02/15
Antenna Port Software	UL	UL RF	Version 2.1.1.1, 1/20/15

7. MEASUREMENT METHODS

KDB 558074 D01 DTS Meas Guidance v03r02:Measurement Procedure AVGPM-G is used for power and AVGPSD-3 is used for power spectral density.

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

Band edge emissions within Restricted Bands are measured using RMS with duty cycle factor offset method.

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	7.57 MHz
2.1051, 15.247 (d)	RSS-210 A8.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass	-31 dBm
15.247	RSS-210 A8.4	TX conducted output power	<30dBm		Pass	16 dBm
15.247	RSS-210 A8.2	PSD	<8dBm		Pass	-5.48 dBm
15.207 (a)	RSS-GEN 7.2.2	AC Power Line conducted emissions	Section 10	Radiated	Pass	46.12 dBuV (AV)
15.205, 15.209	RSS-210 Clause 2.6, RSS-210 Clause 6	Radiated Spurious Emission	< 54dBuV/m		Pass	41.72 dBuV/m

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.

TEST PROCEDURE

Reference to KDB 558074 D01 DTS Meas Guidance v03r02: 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	7.58	0.5
Mid	2437	7.61	0.5
High	2462	7.57	0.5
Worst		7.57	

9.1.2. 802.11g MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	15.06	0.5
Mid	2437	16.41	0.5
High	2462	12.53	0.5
Worst		12.53	

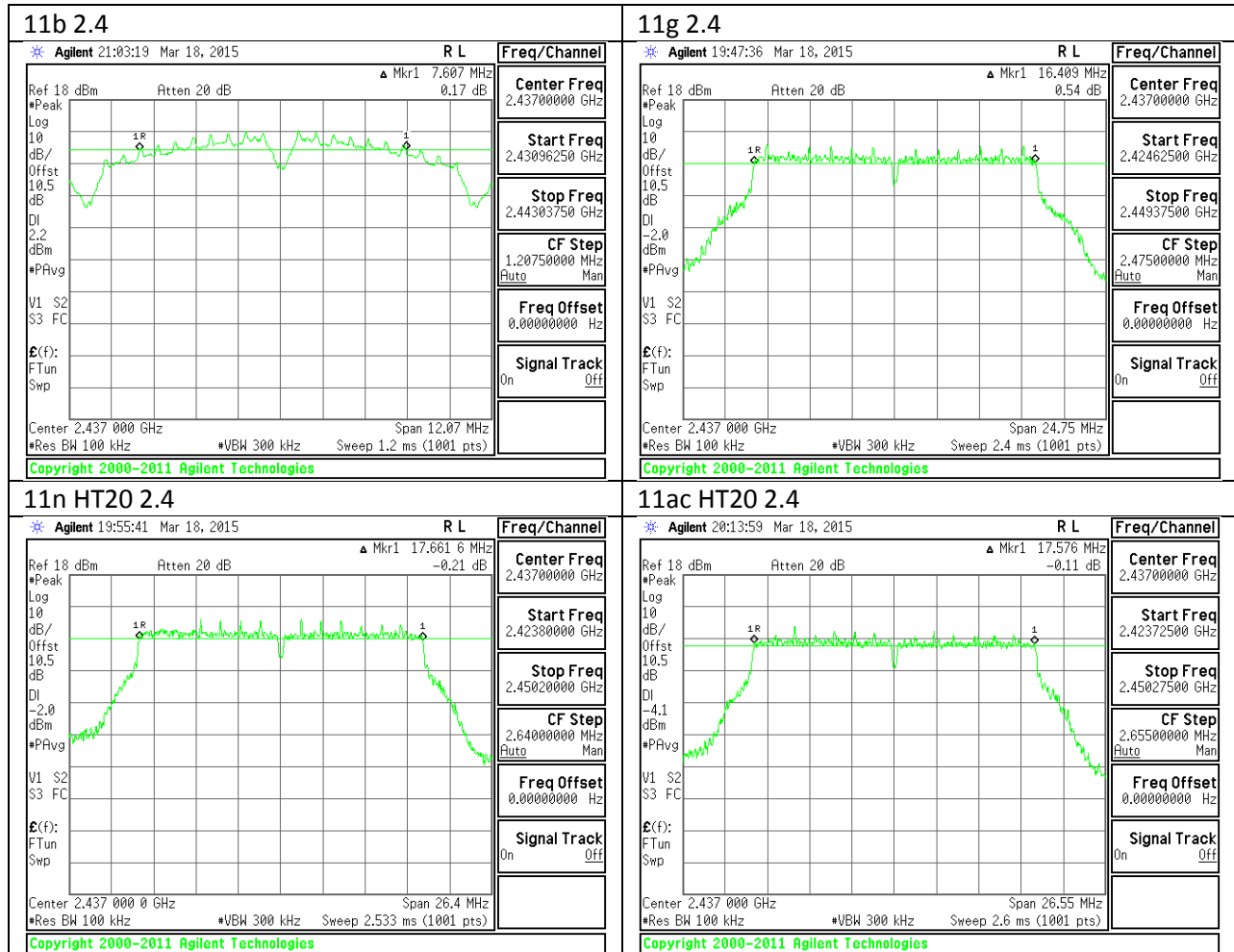
9.1.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	15.08	0.5
Mid	2437	17.66	0.5
High	2462	12.62	0.5
Worst		12.62	

9.1.3. 802.11ac HT20 MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	15.14	0.5
Mid	2437	17.58	0.5
High	2462	15.02	0.5
Worst		15.02	

9.1.4. 6 dB BANDWIDTH MID CH PLOTS



9.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

9.1.1. 802.11b MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	10.44
Mid	2437	10.44
High	2462	10.20
Worst		10.44

9.1.2. 802.11g MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	16.28
Mid	2437	16.47
High	2462	16.46
Worst		16.47

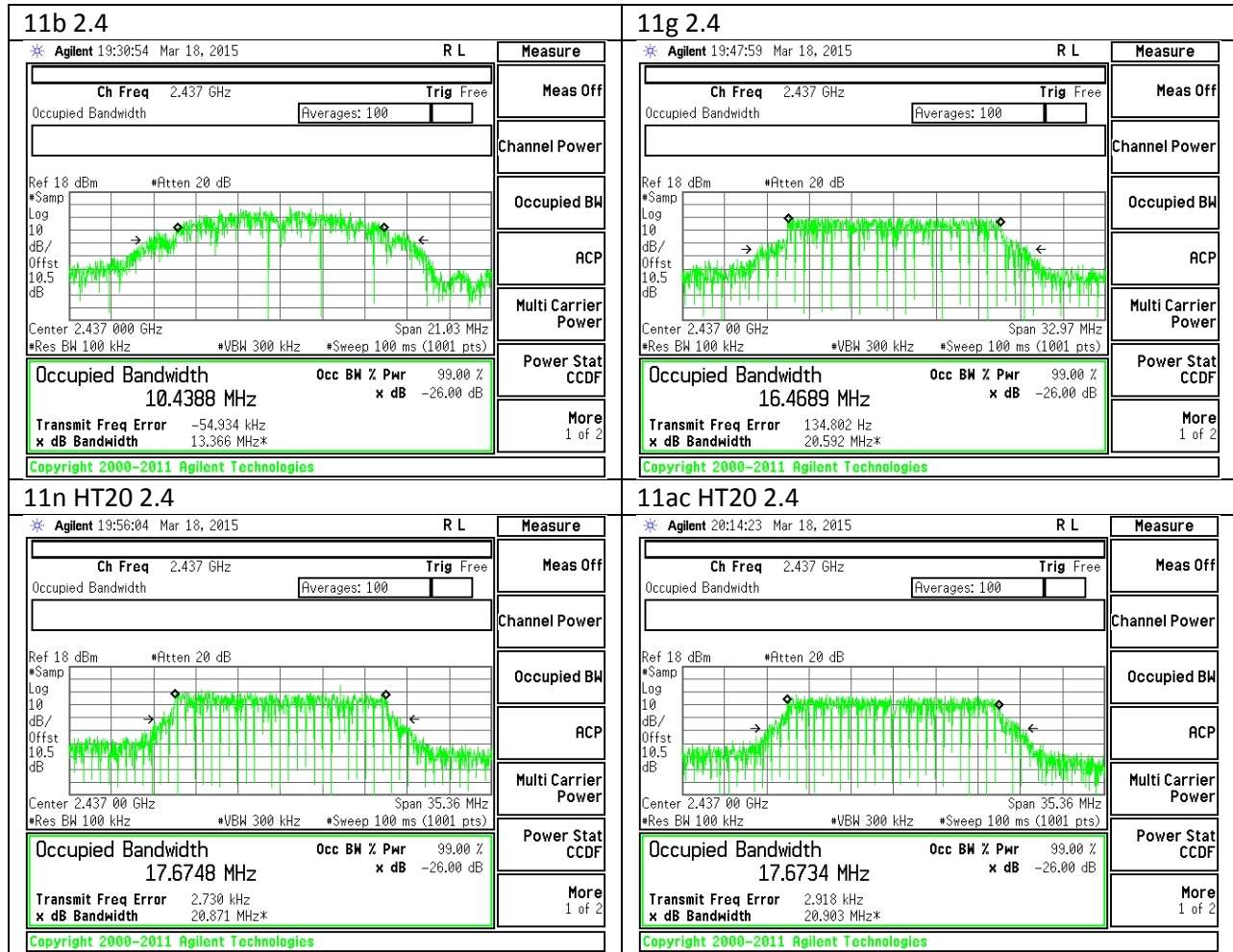
9.1.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	17.48
Mid	2437	17.65
High	2462	17.31
Worst		17.65

1.1.1. 802.11ac HT20 MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	17.47
Mid	2437	17.67
High	2462	17.30
Worst		17.67

9.2.3. 99% BANDWIDTH MID CH PLOTS



9.3. OUTPUT POWER

LIMITS

FCC §15.247

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

9.3.1. 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	-1.21	30.00	30	36	30.00
Mid	2437	-1.21	30.00	30	36	30.00
High	2462	-1.21	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	16.00	16.00	30.00	-14.00
Mid	2437	16.00	16.00	30.00	-14.00
High	2462	16.00	16.00	30.00	-14.00
Worst			16.00		

9.3.2. 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	-1.21	30.00	30	36	30.00
Mid	2437	-1.21	30.00	30	36	30.00
High	2462	-1.21	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	15.00	15.00	30.00	-15.00
Mid	2437	15.00	15.00	30.00	-15.00
High	2462	15.00	15.00	30.00	-15.00
Worst			15.00		

9.3.3. 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	-1.21	30.00	30	36	30.00
Mid	2437	-1.21	30.00	30	36	30.00
High	2462	-1.21	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	15.00	15.00	30.00	-15.00
Mid	2437	15.00	15.00	30.00	-15.00
High	2462	15.00	15.00	30.00	-15.00
Worst			15.00		

9.3.2. 802.11ac 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	-1.21	30.00	30	36	30.00
Mid	2437	-1.21	30.00	30	36	30.00
High	2462	-1.21	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	12.00	12.00	30.00	-18.00
Mid	2437	12.00	12.00	30.00	-18.00
High	2462	12.00	12.00	30.00	-18.00
Worst			12.00		

9.4. PSD

LIMITS

FCC §15.247

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

9.4.1. 802.11b MODE IN THE 2.4 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-5.79	8.0	-13.8
Mid	2437	-5.48	8.0	-13.5
High	2462	-5.48	8.0	-13.5

9.4.2. 802.11g MODE IN THE 2.4 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-8.85	8.0	-16.9
Mid	2437	-9.40	8.0	-17.4
High	2462	-9.17	8.0	-17.2

9.4.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

PSD Results

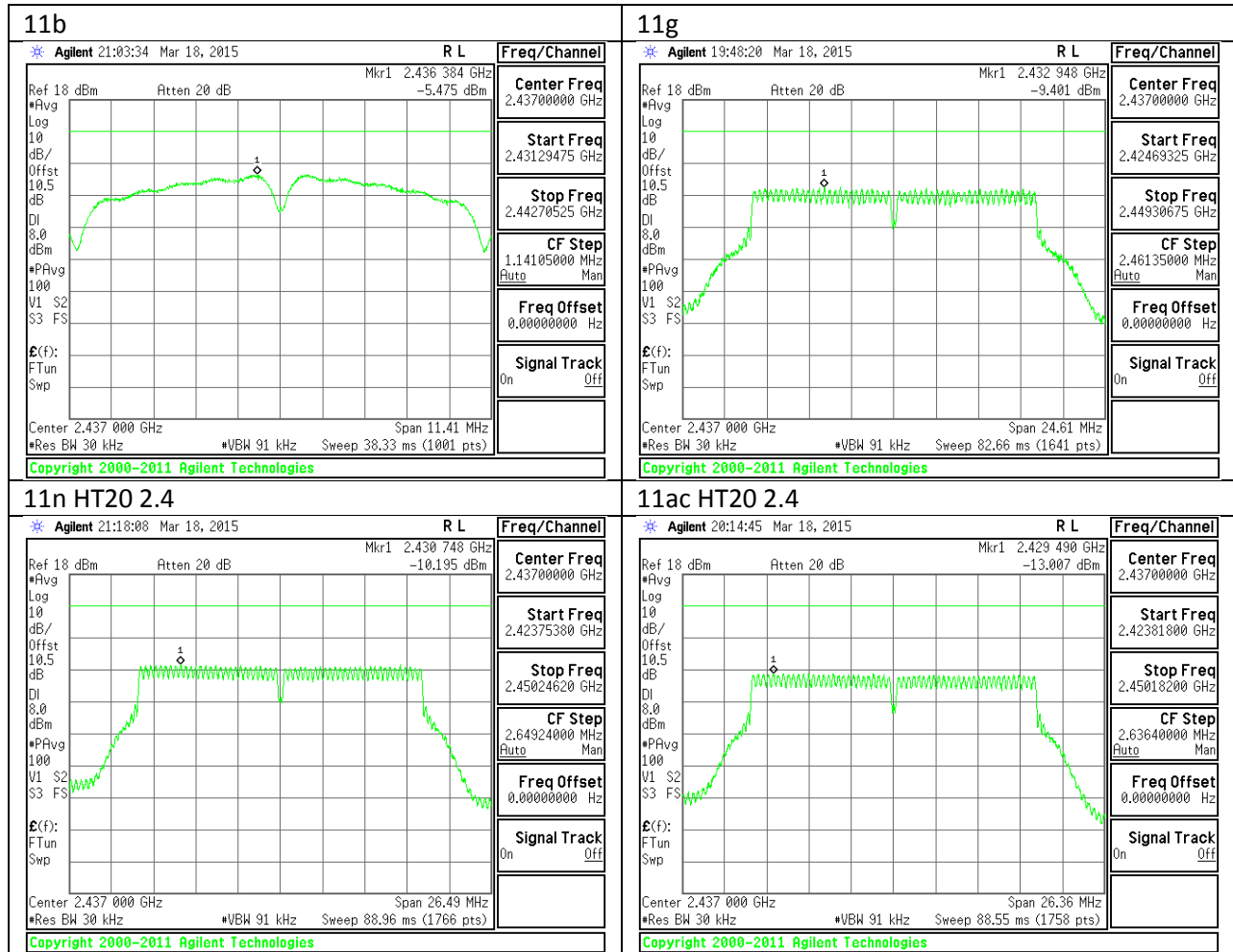
Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-9.52	8.0	-17.5
Mid	2437	-10.20	8.0	-18.2
High	2462	-9.83	8.0	-17.8

9.4.4. 802.11ac HT20 MODE IN THE 2.4 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-12.71	8.0	-20.7
Mid	2437	-13.01	8.0	-21.0
High	2462	-11.88	8.0	-19.9

9.4.4. PSD Chain 0 MID CH PLOTS



9.5. OUT-OF-BAND EMISSIONS

LIMITS

FCC §15.247 (d)

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.

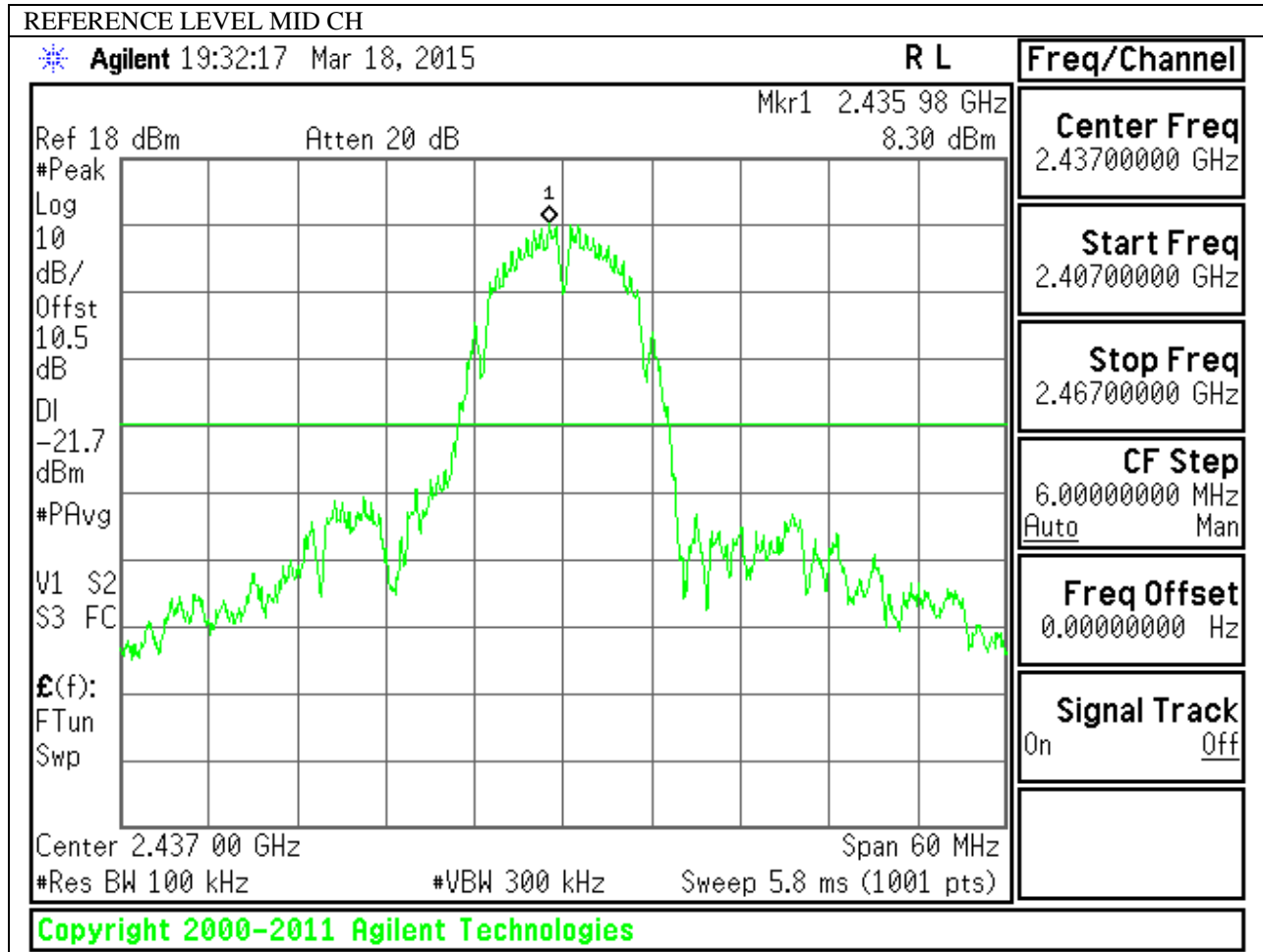
TEST PROCEDURE

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.

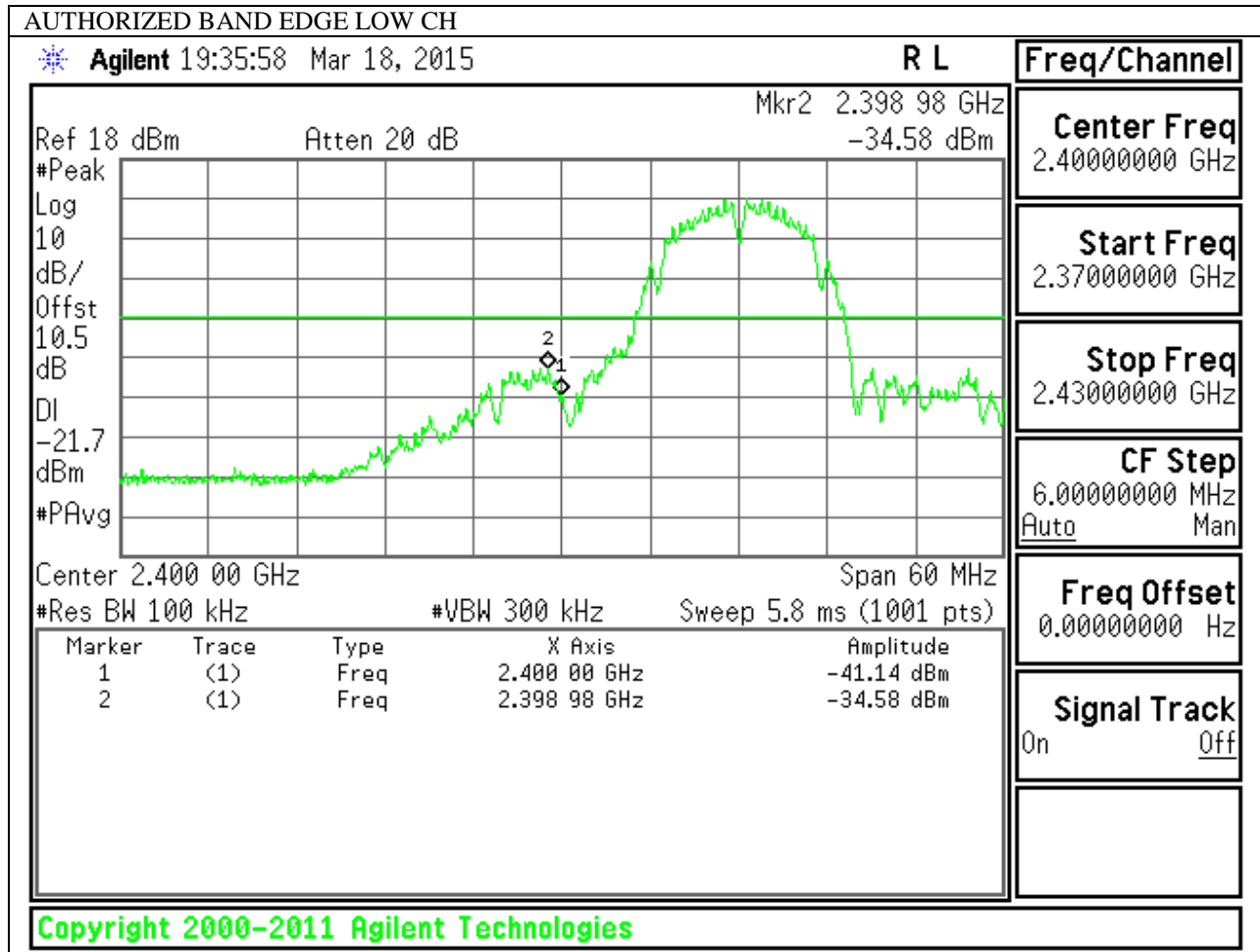
RESULTS

9.5.1. 802.11b MODE IN THE 2.4 GHz BAND

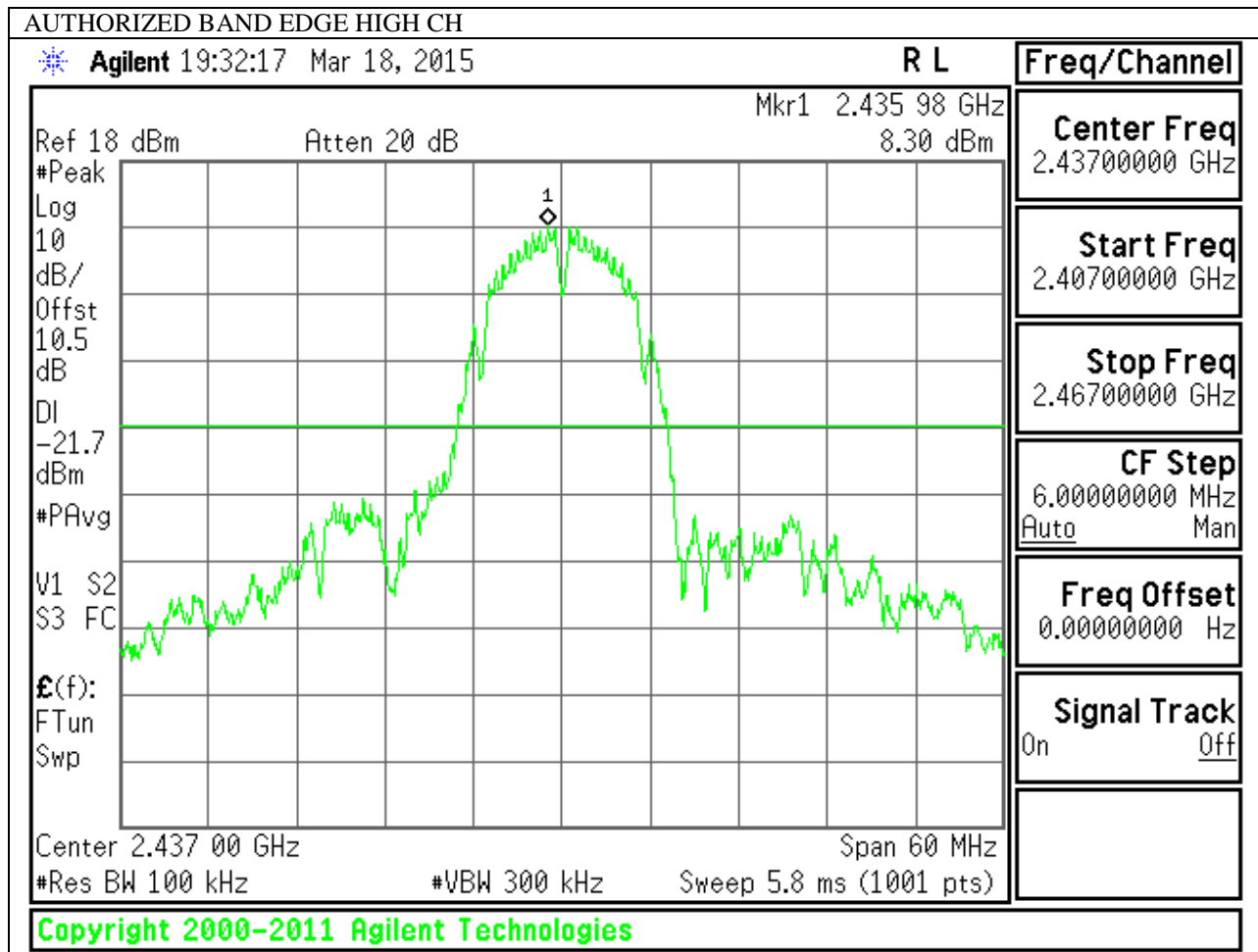
IN-BAND REFERENCE LEVEL



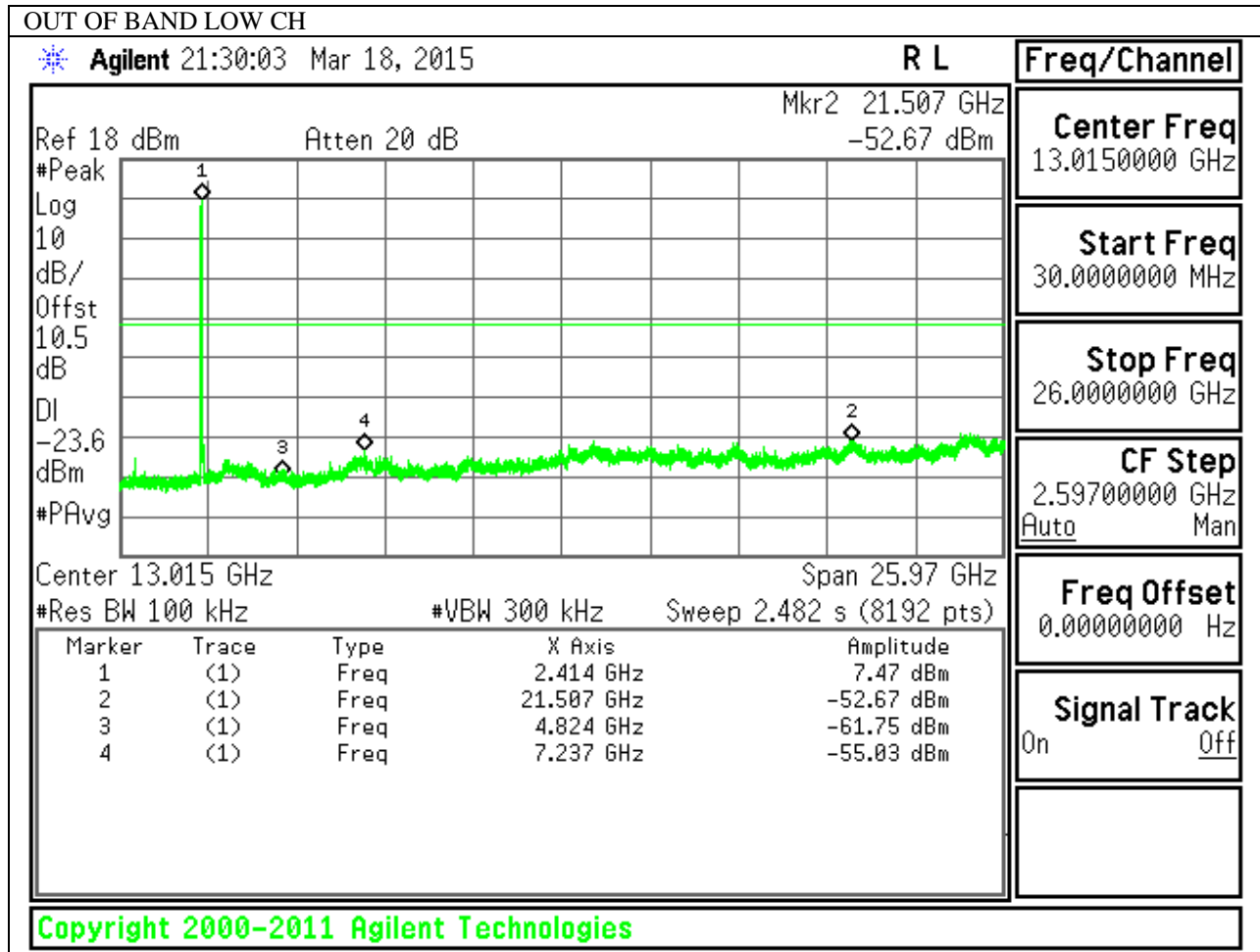
LOW CHANNEL BANDEDGE

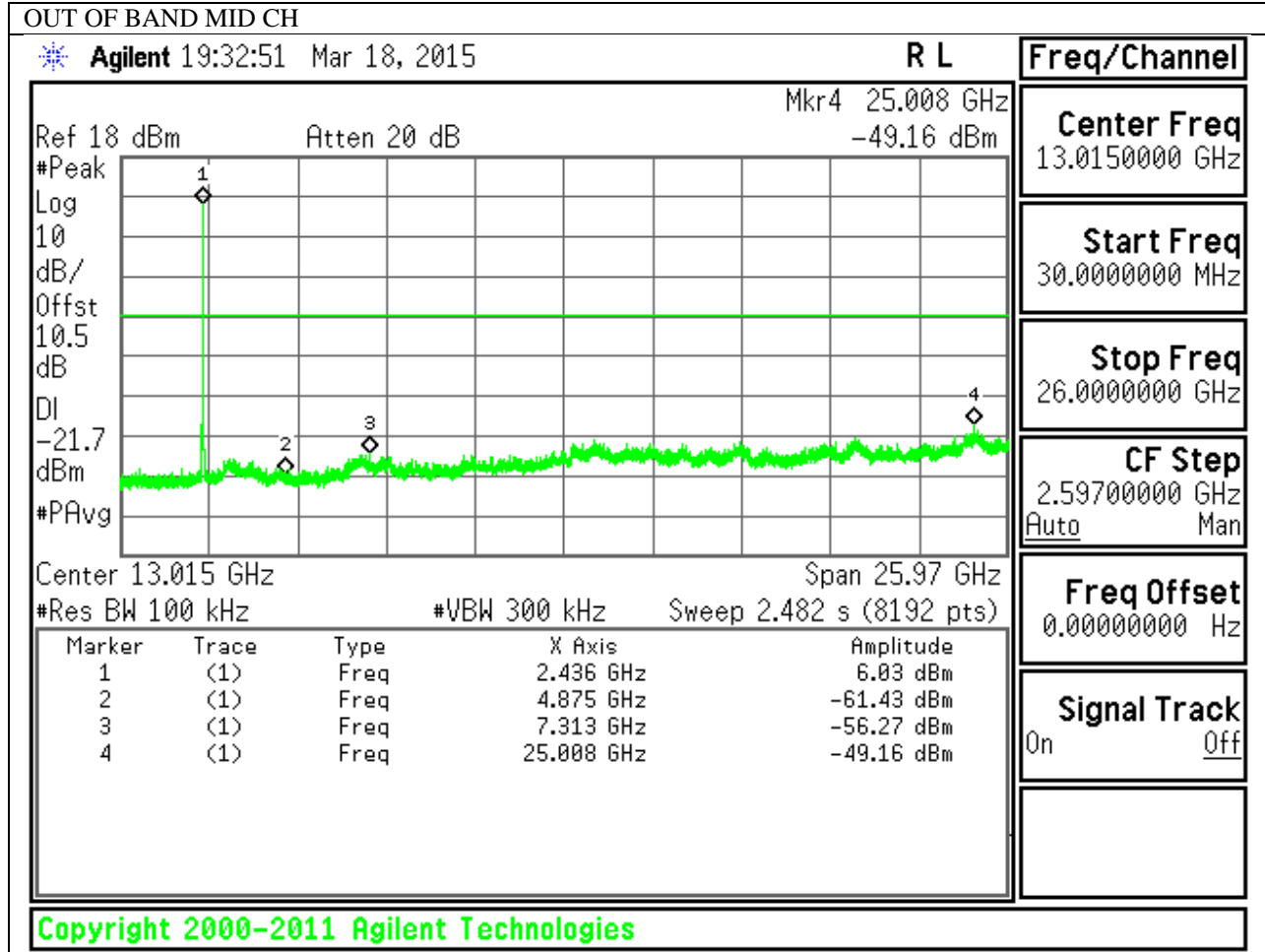


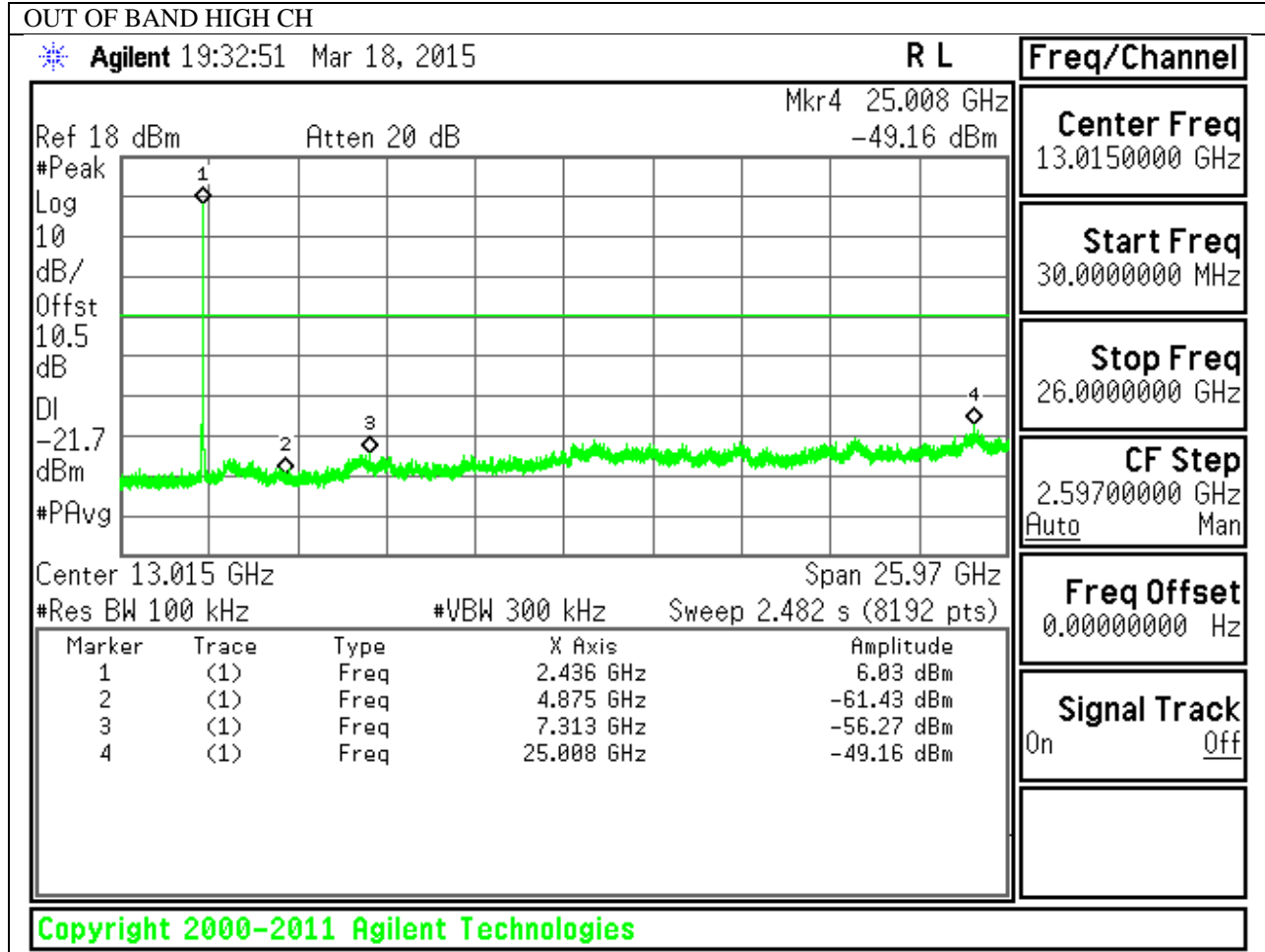
HIGH CHANNEL BANDEDGE



OUT-OF-BAND EMISSIONS

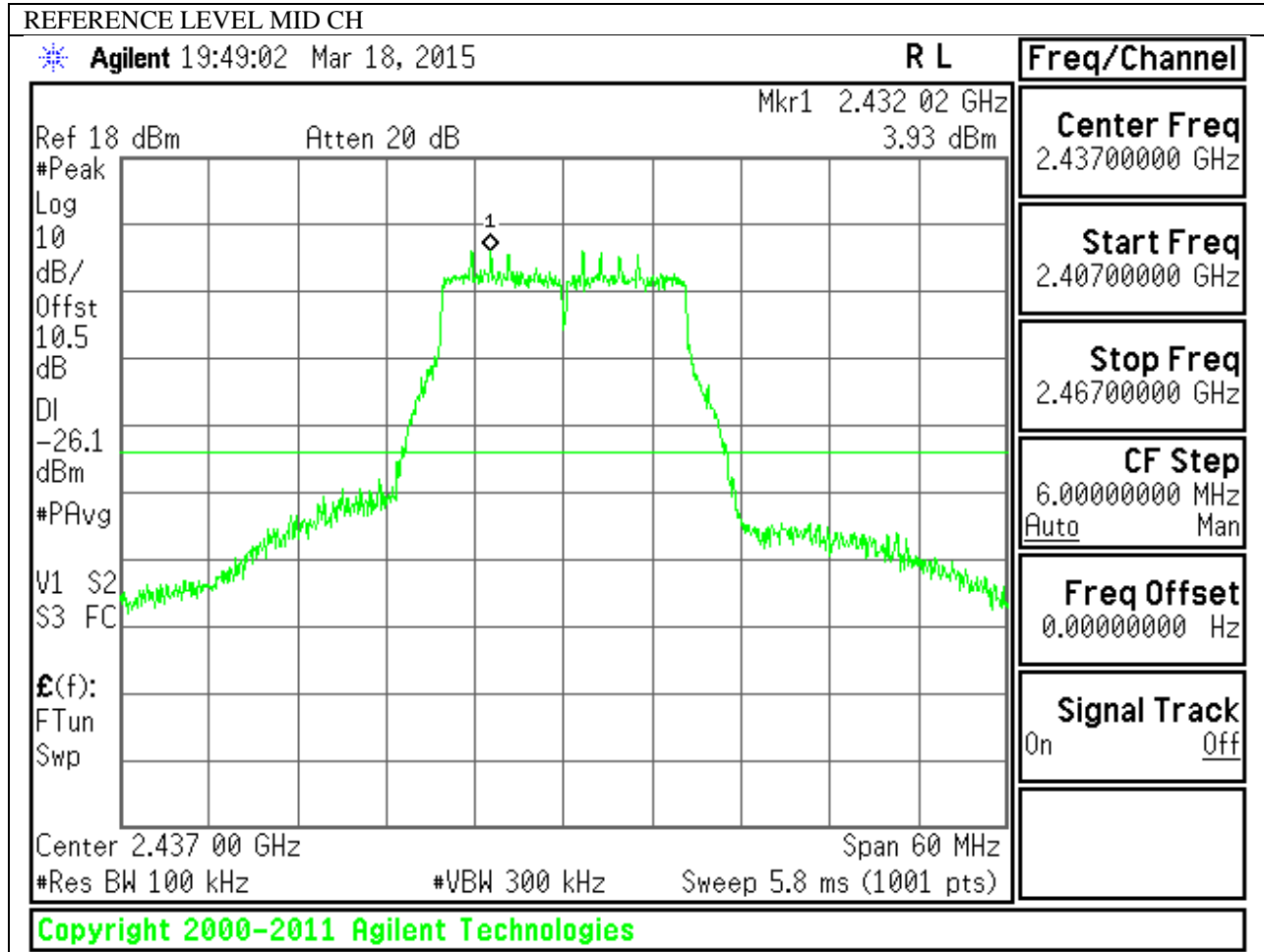




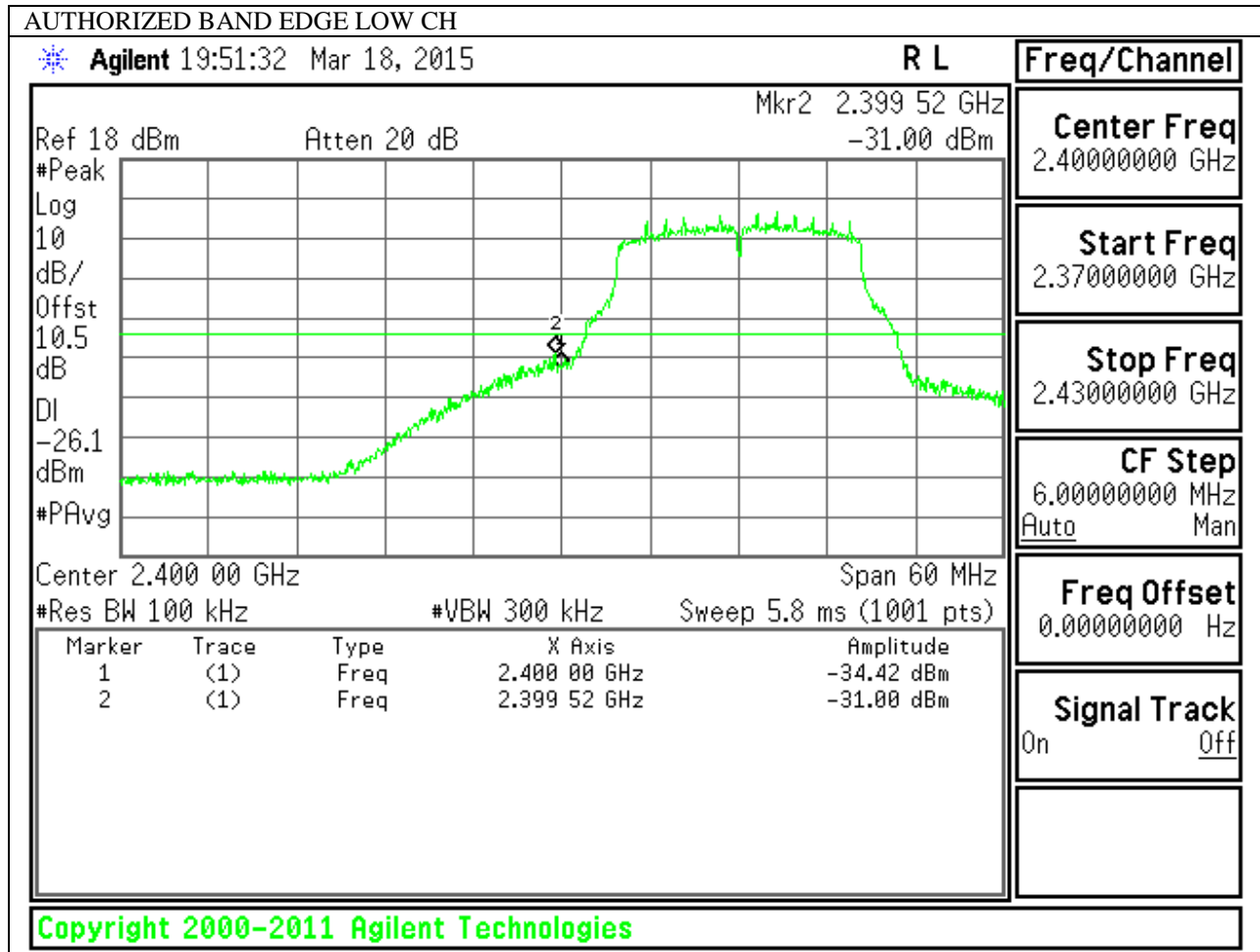


9.5.2. 802.11g MODE IN THE 2.4 GHz BAND

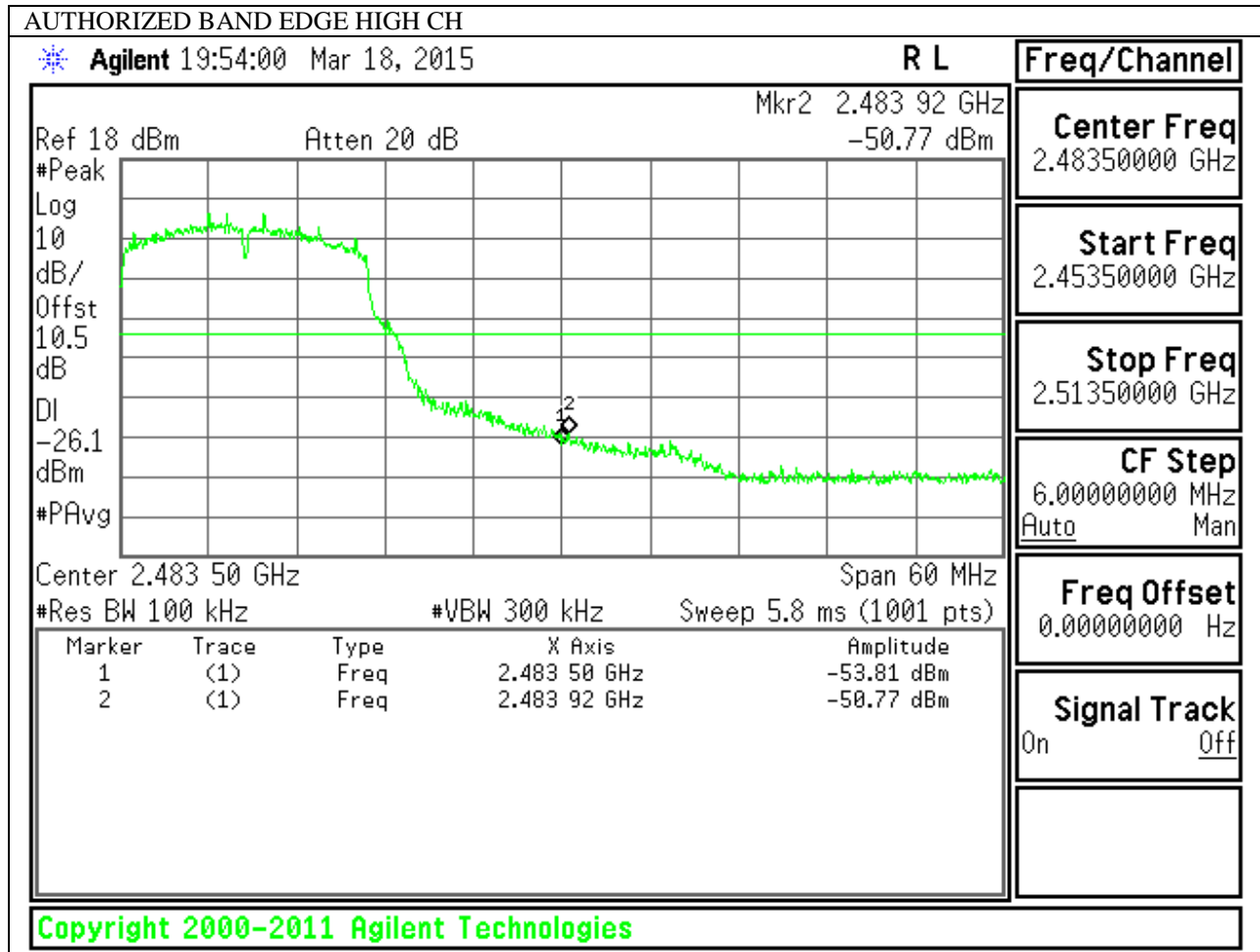
IN-BAND REFERENCE LEVEL



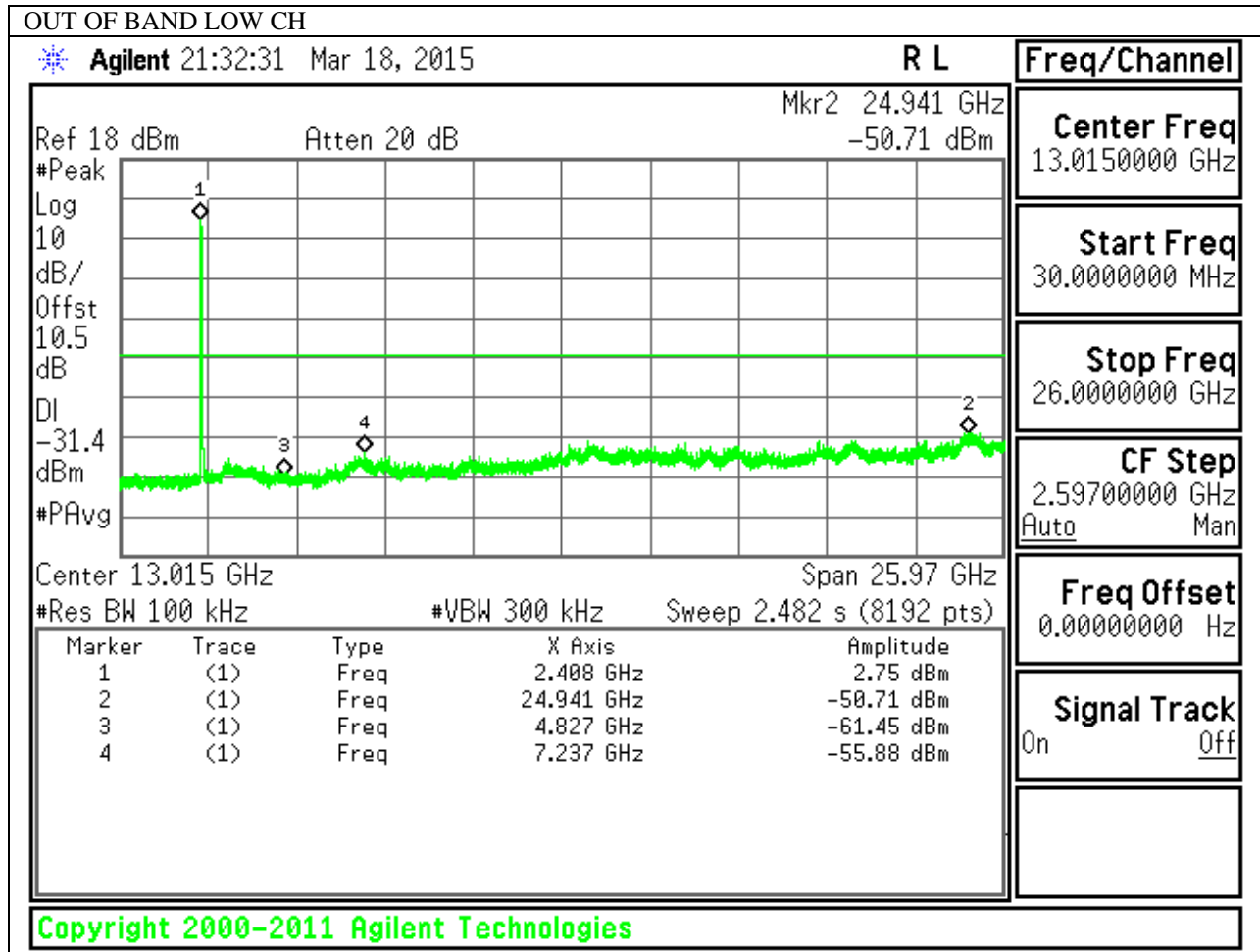
LOW CHANNEL BANDEDGE

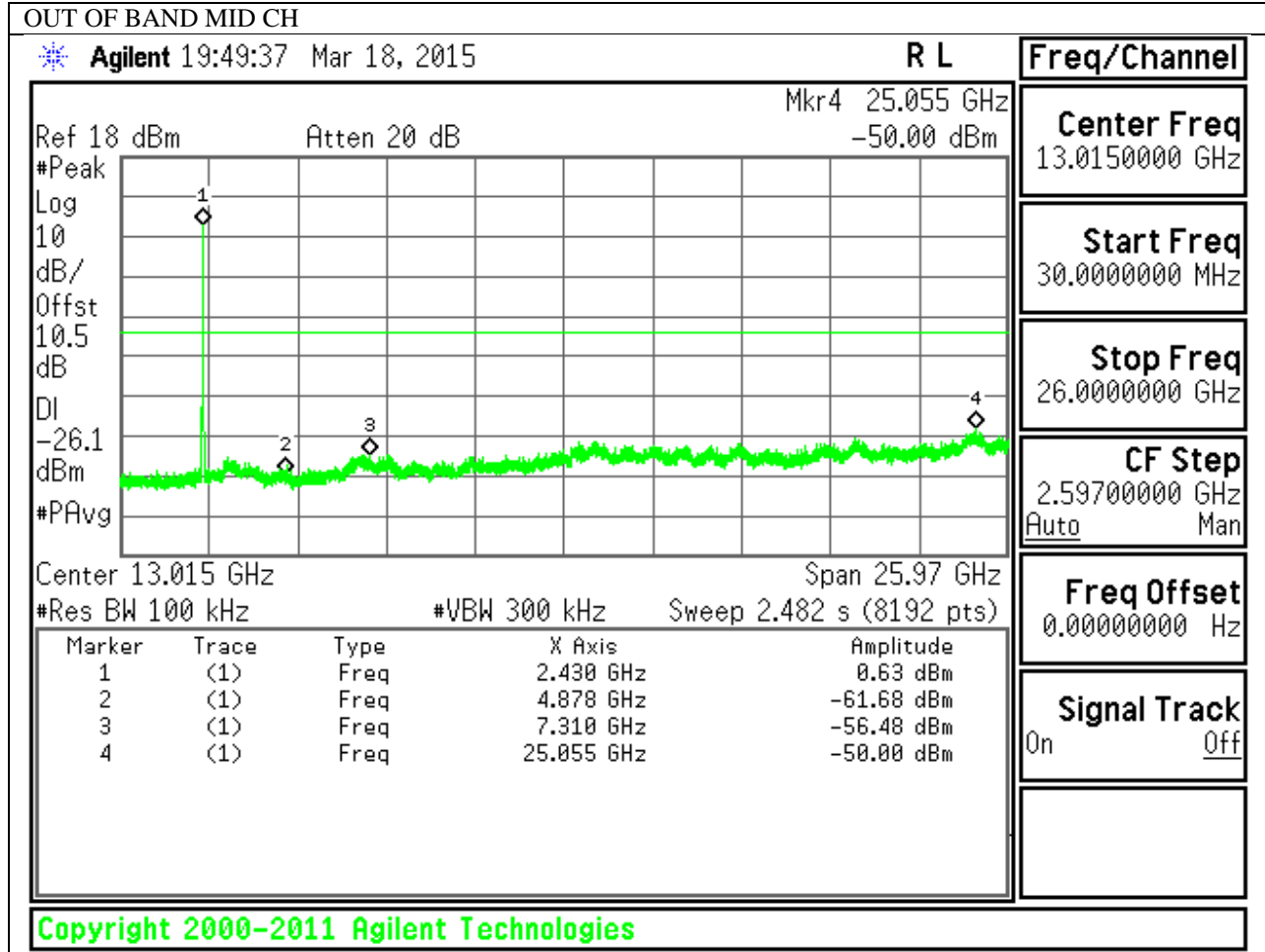


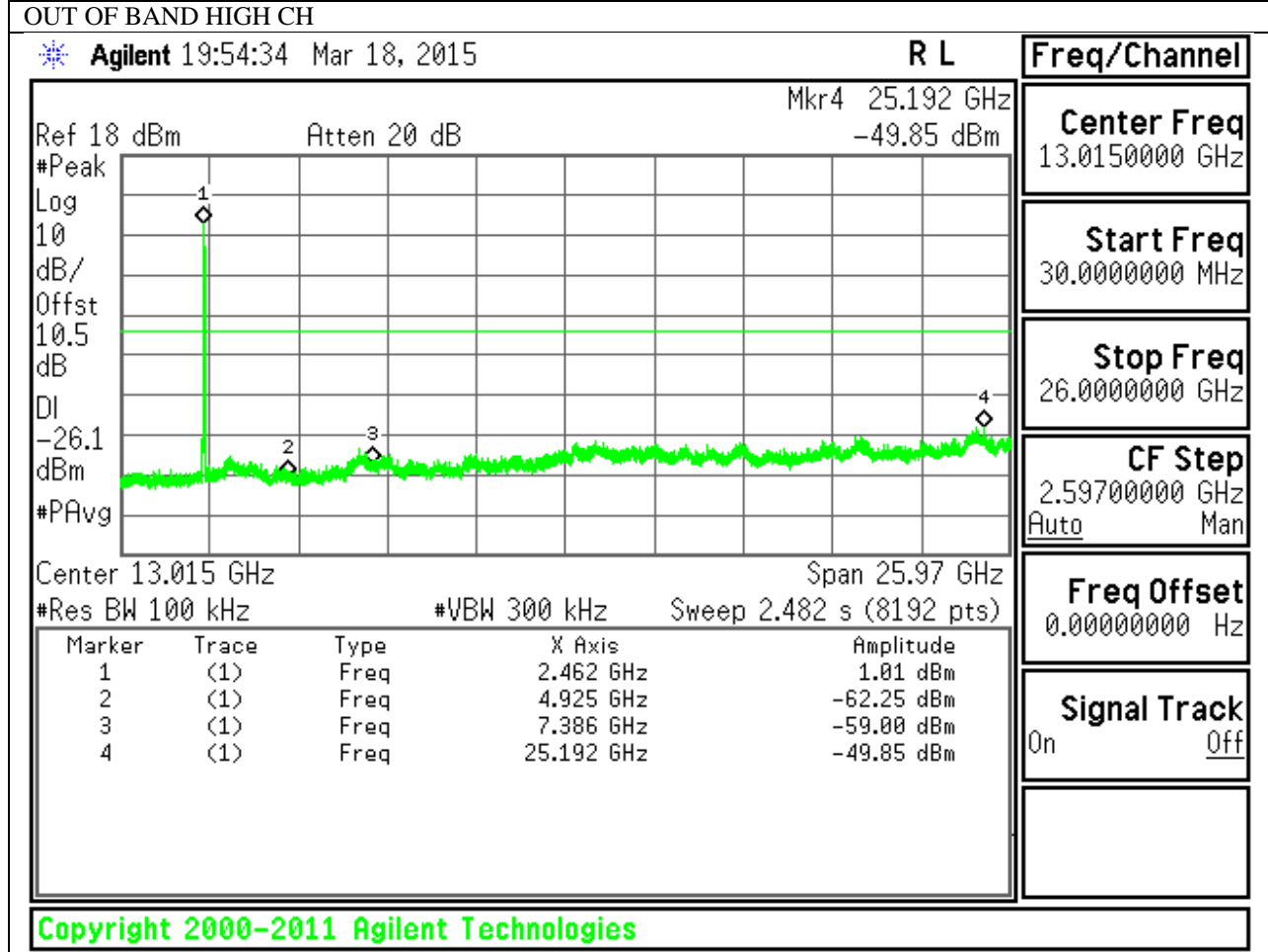
HIGH CHANNEL BANDEDGE



OUT-OF-BAND EMISSIONS

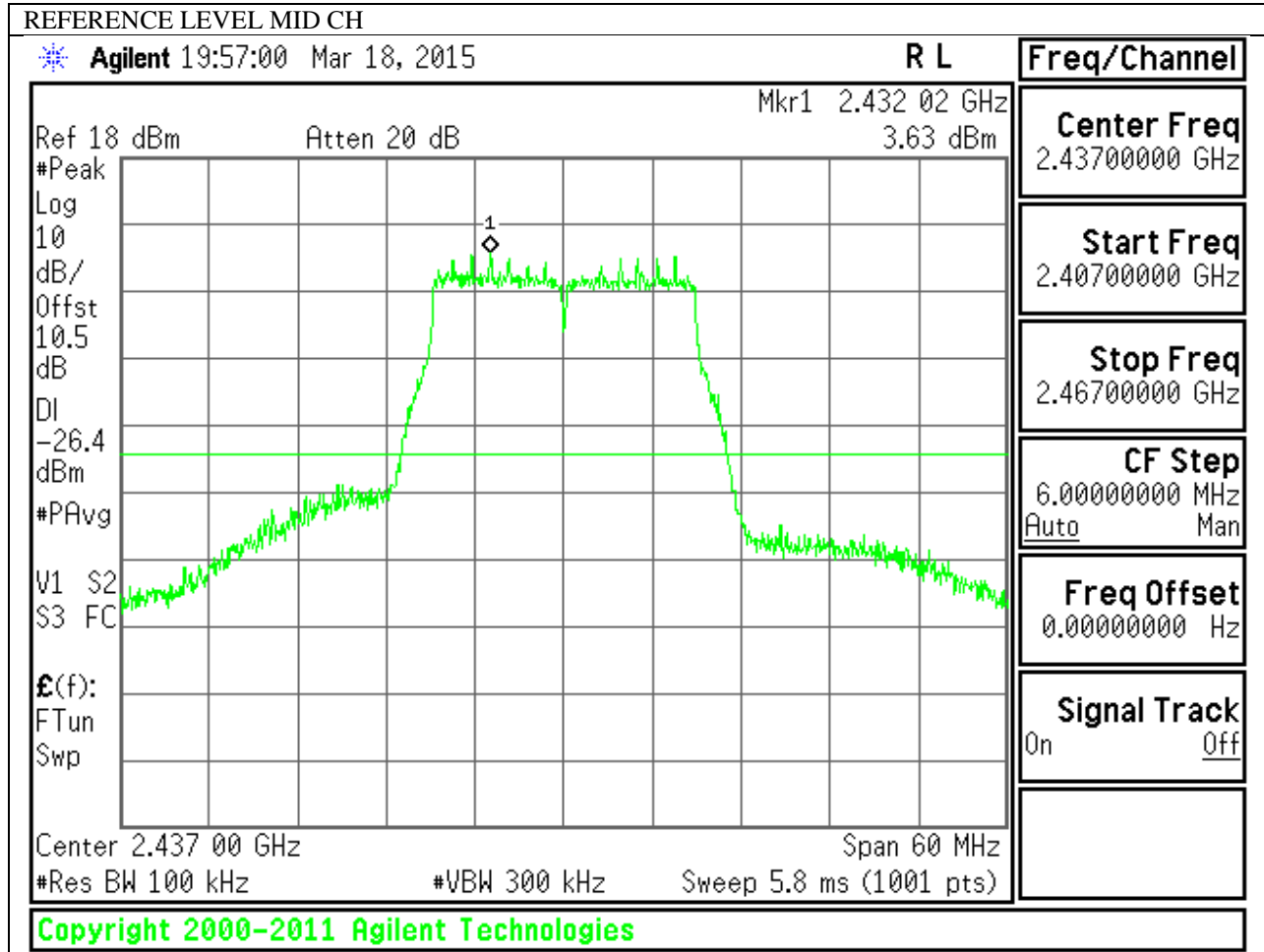




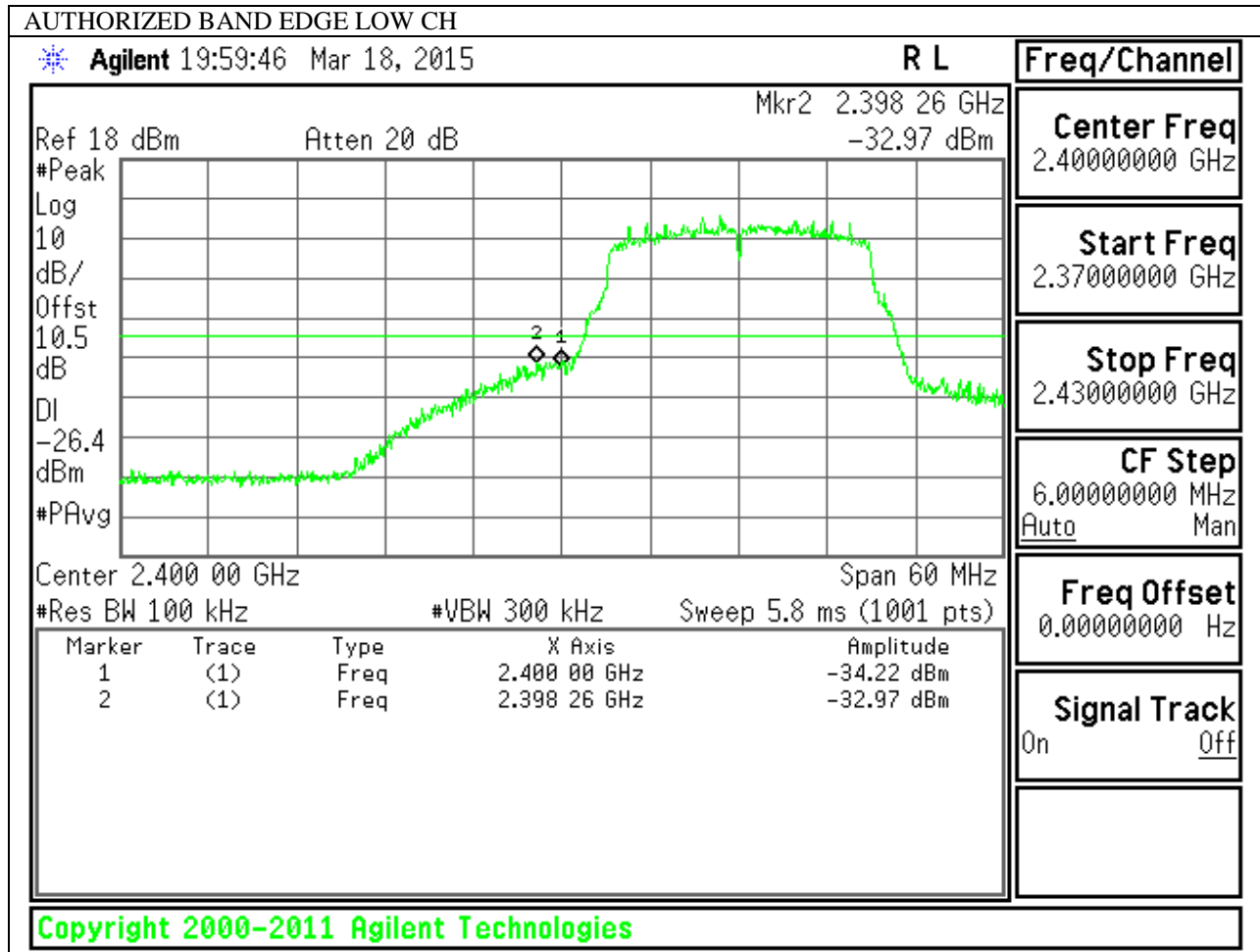


9.5.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

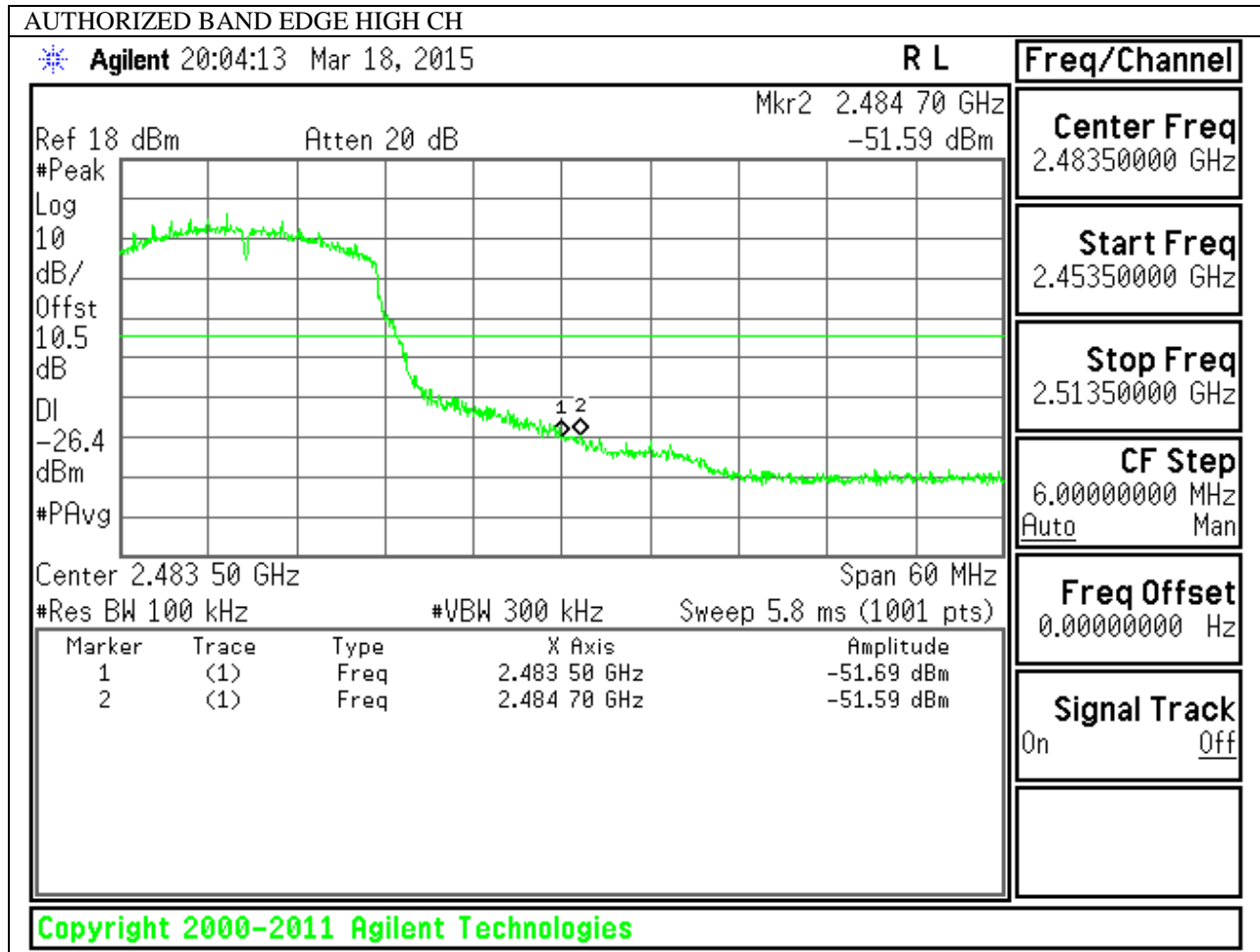
IN-BAND REFERENCE LEVEL



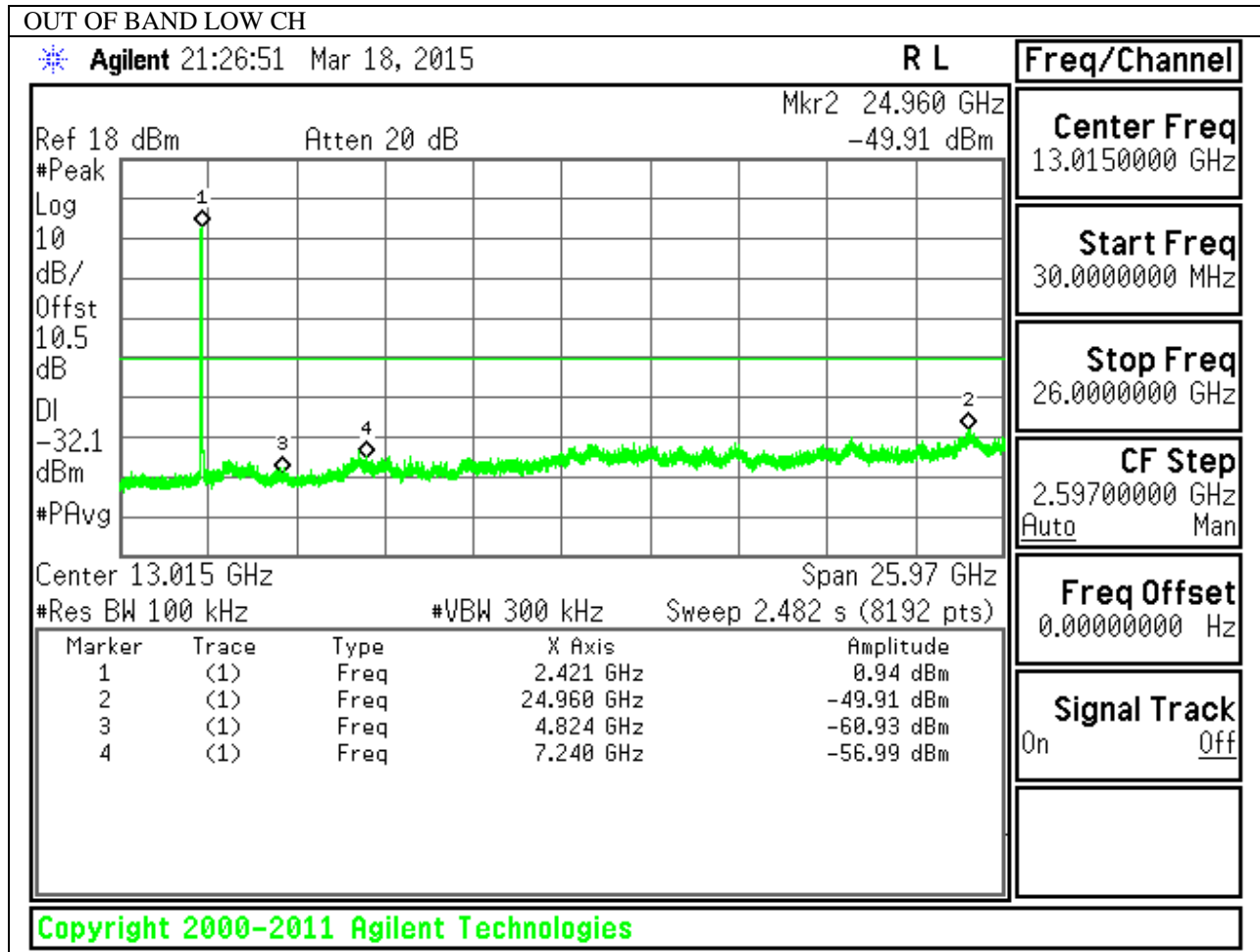
LOW CHANNEL BANDEDGE

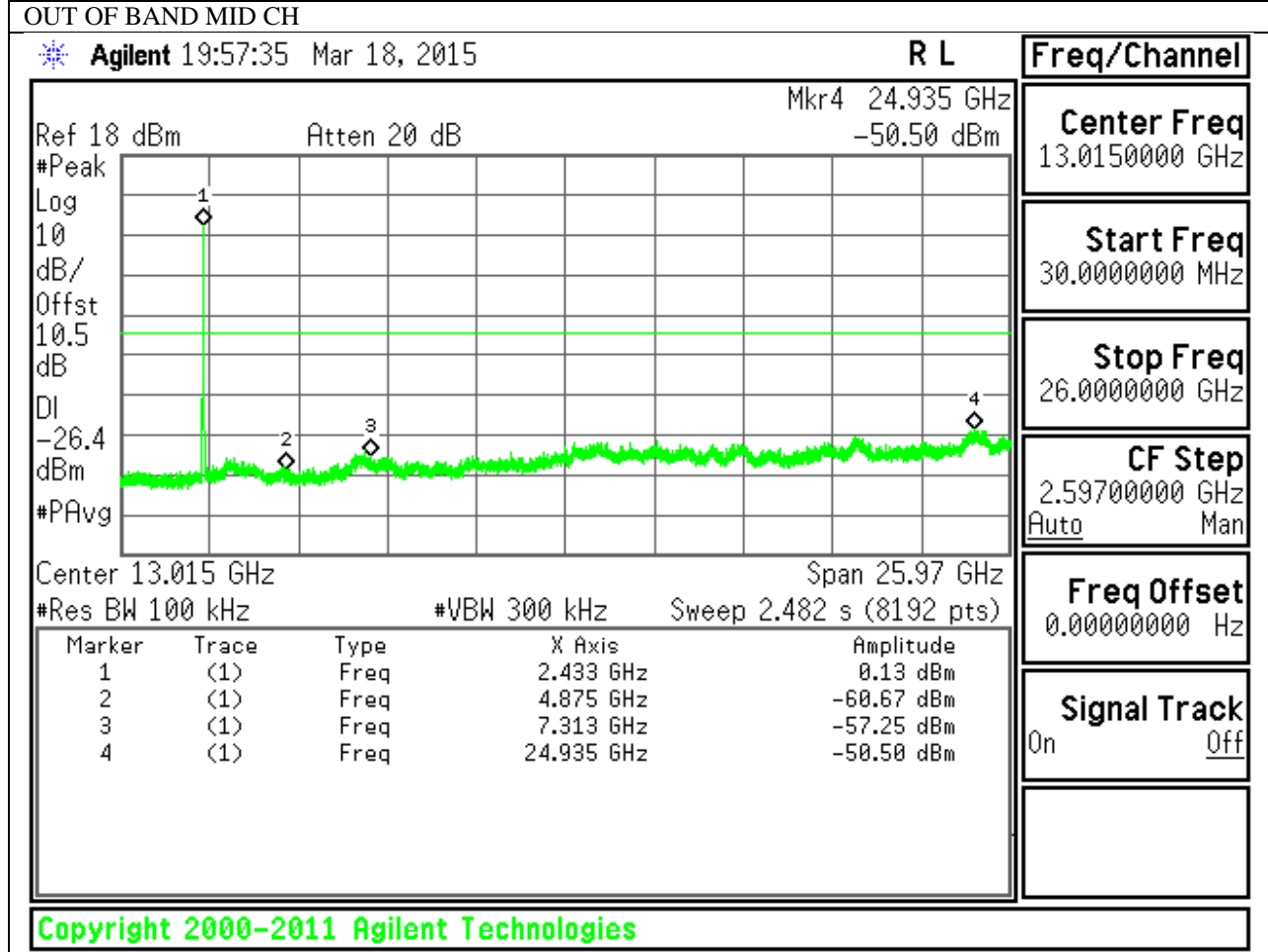


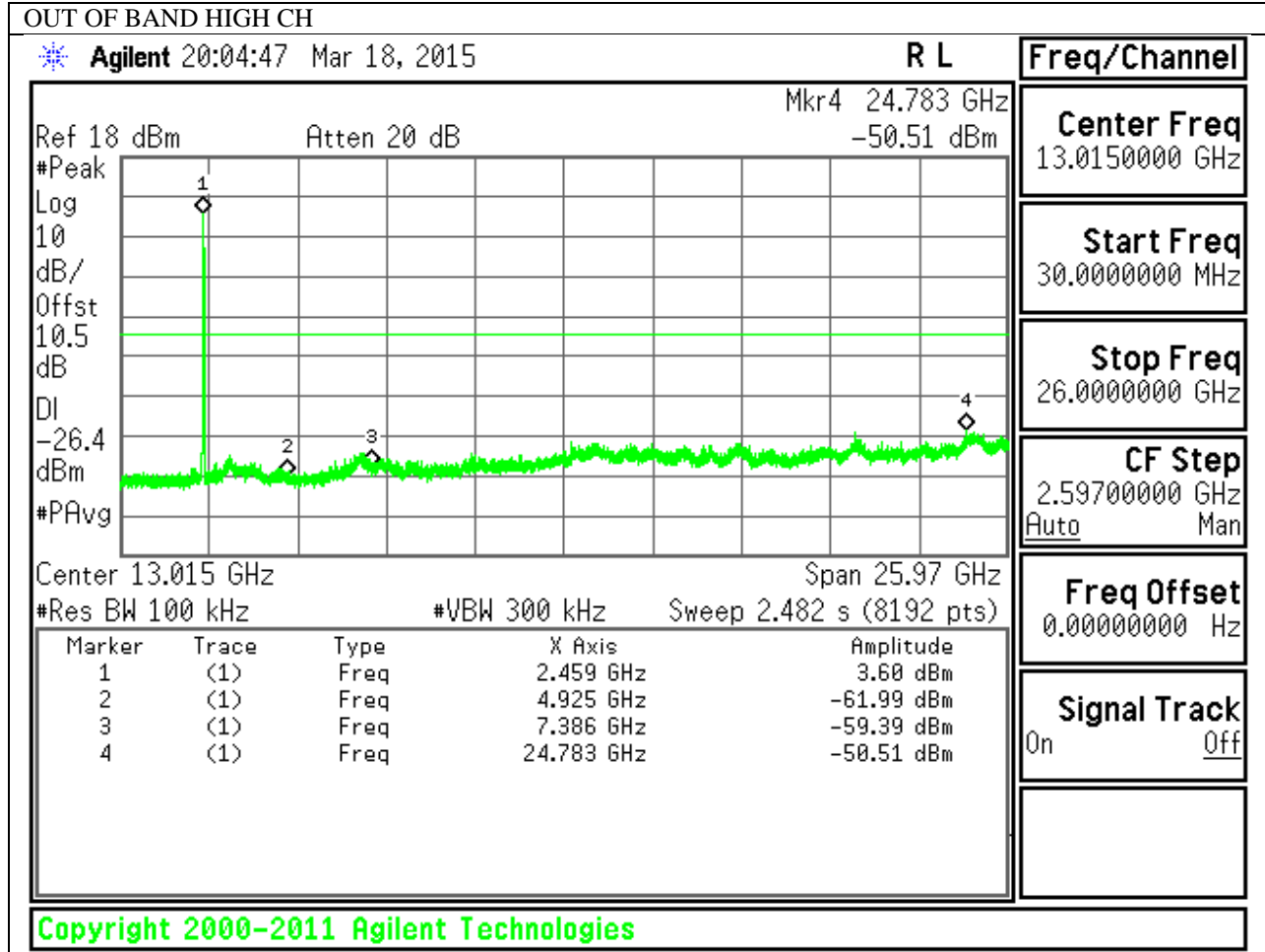
HIGH CHANNEL BANDEDGE



OUT-OF-BAND EMISSIONS

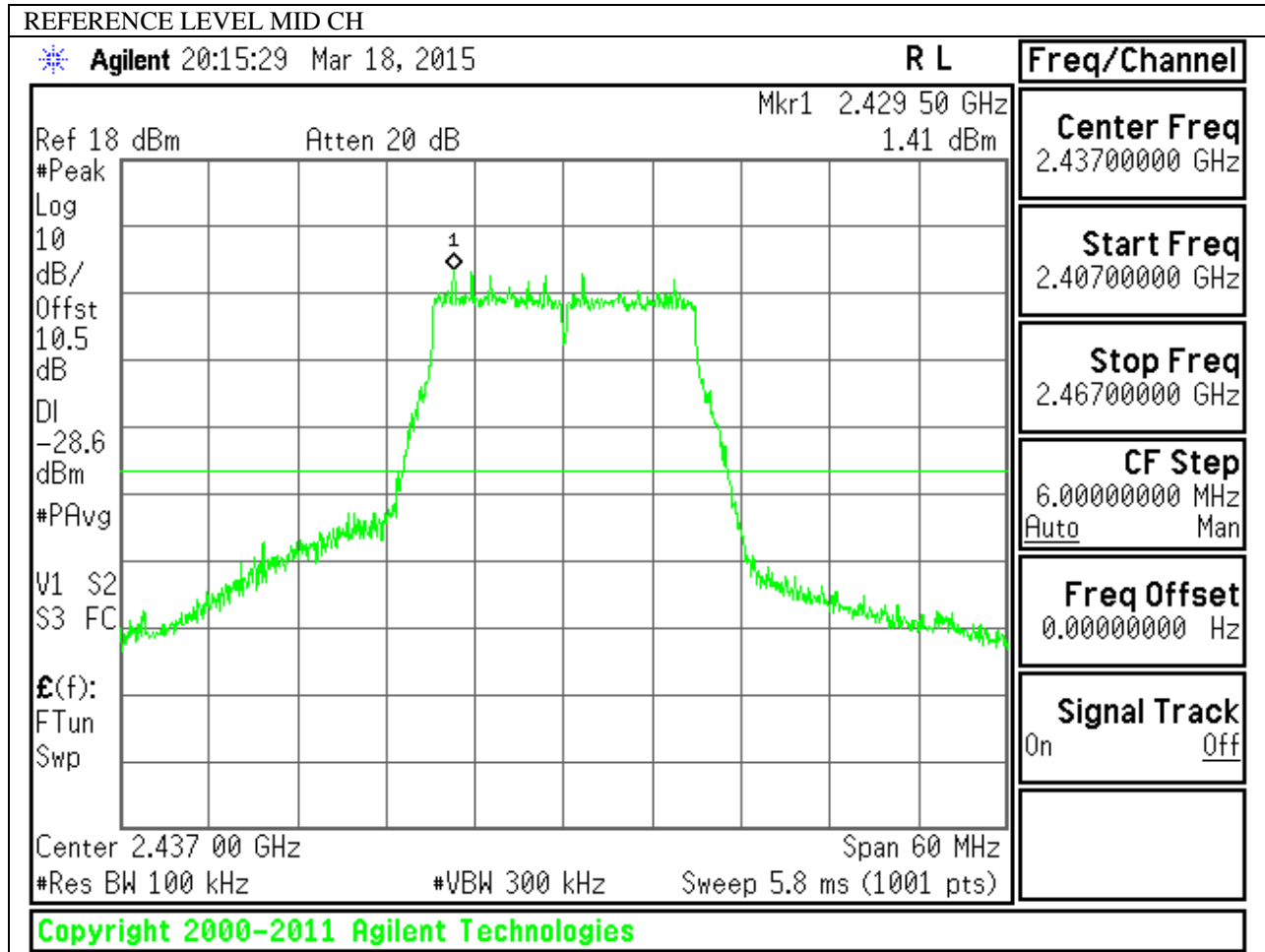




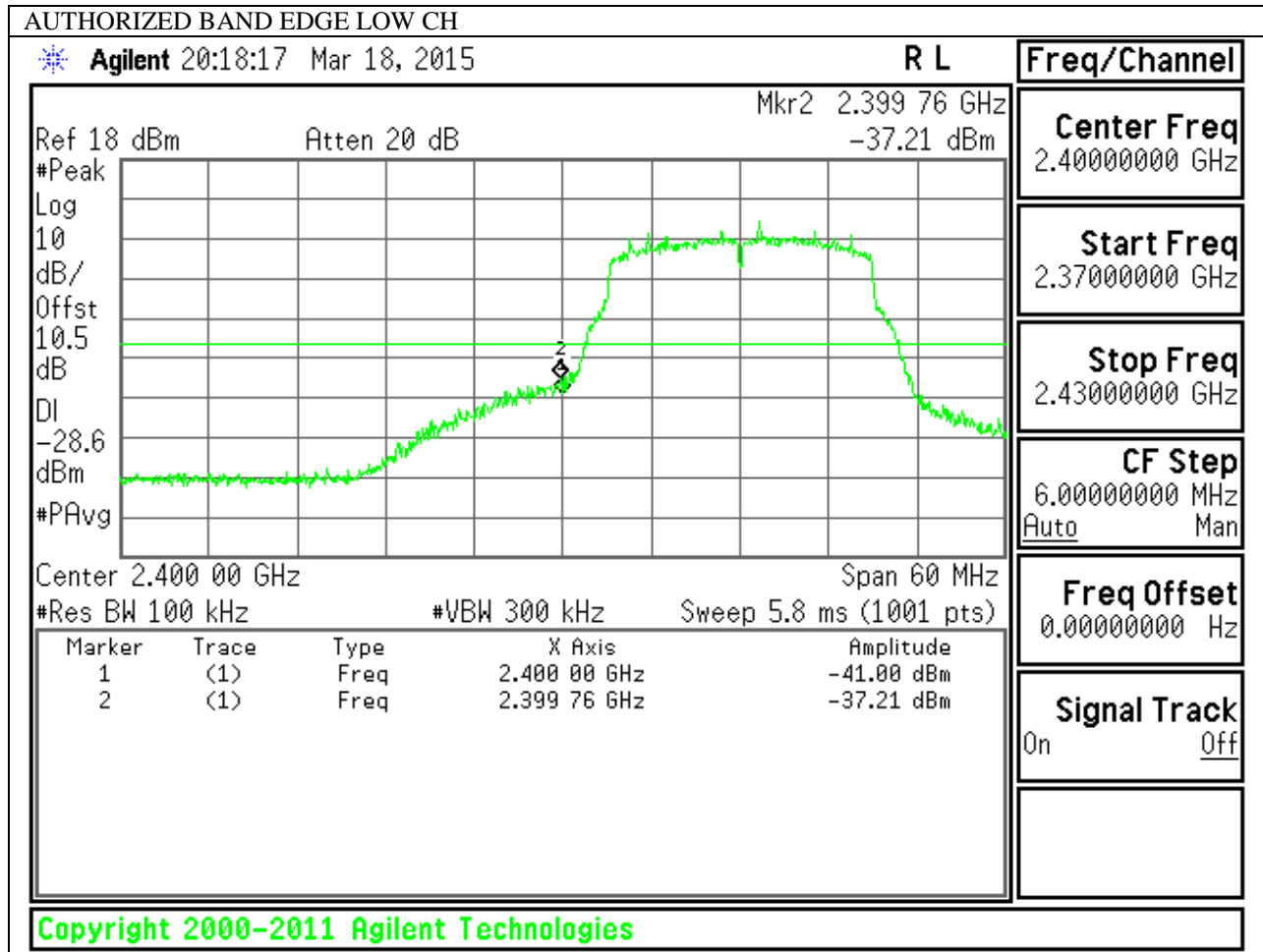


9.5.4. 802.11ac HT20 MODE IN THE 2.4 GHZ BAND

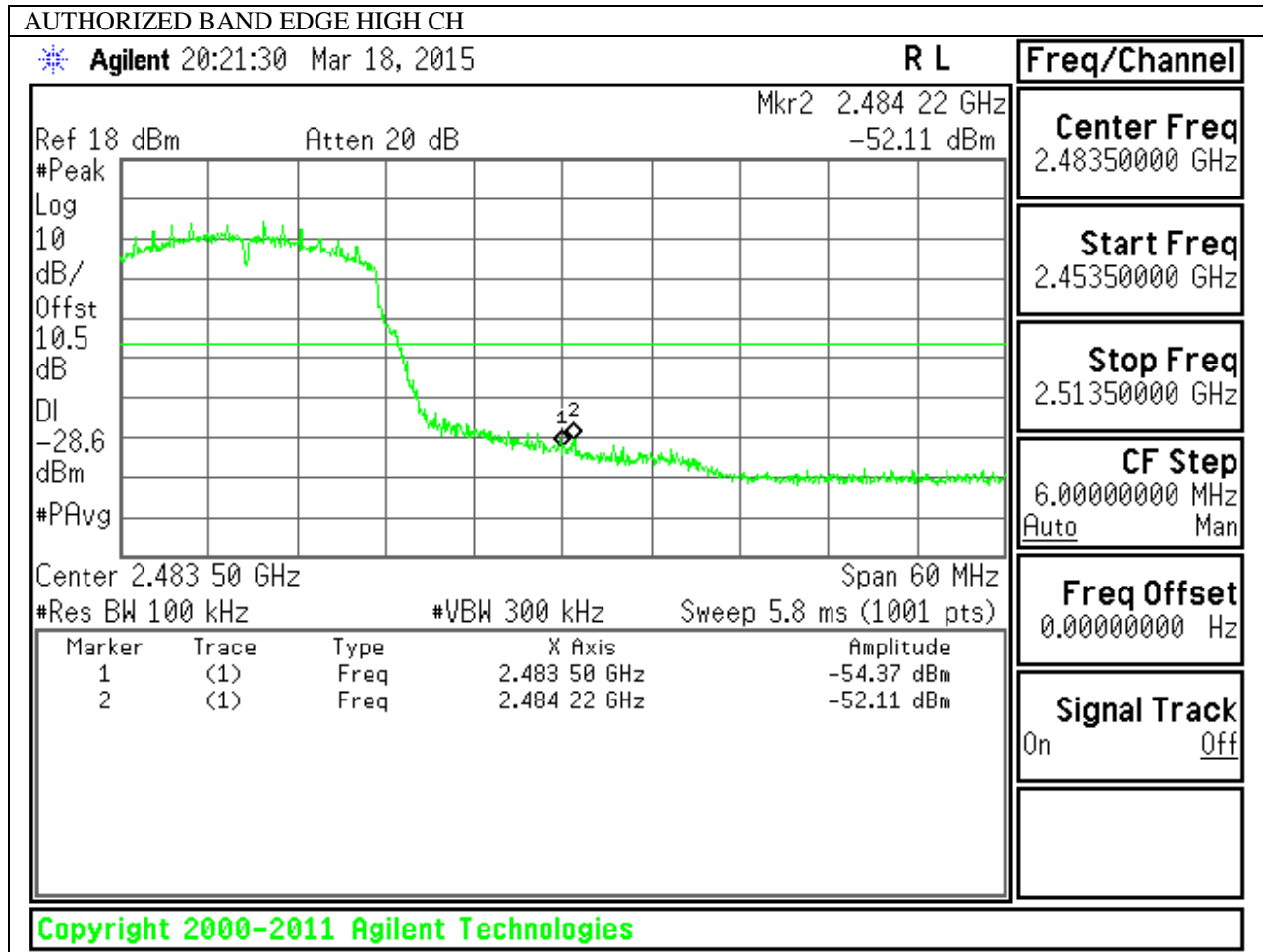
IN-BAND REFERENCE LEVEL



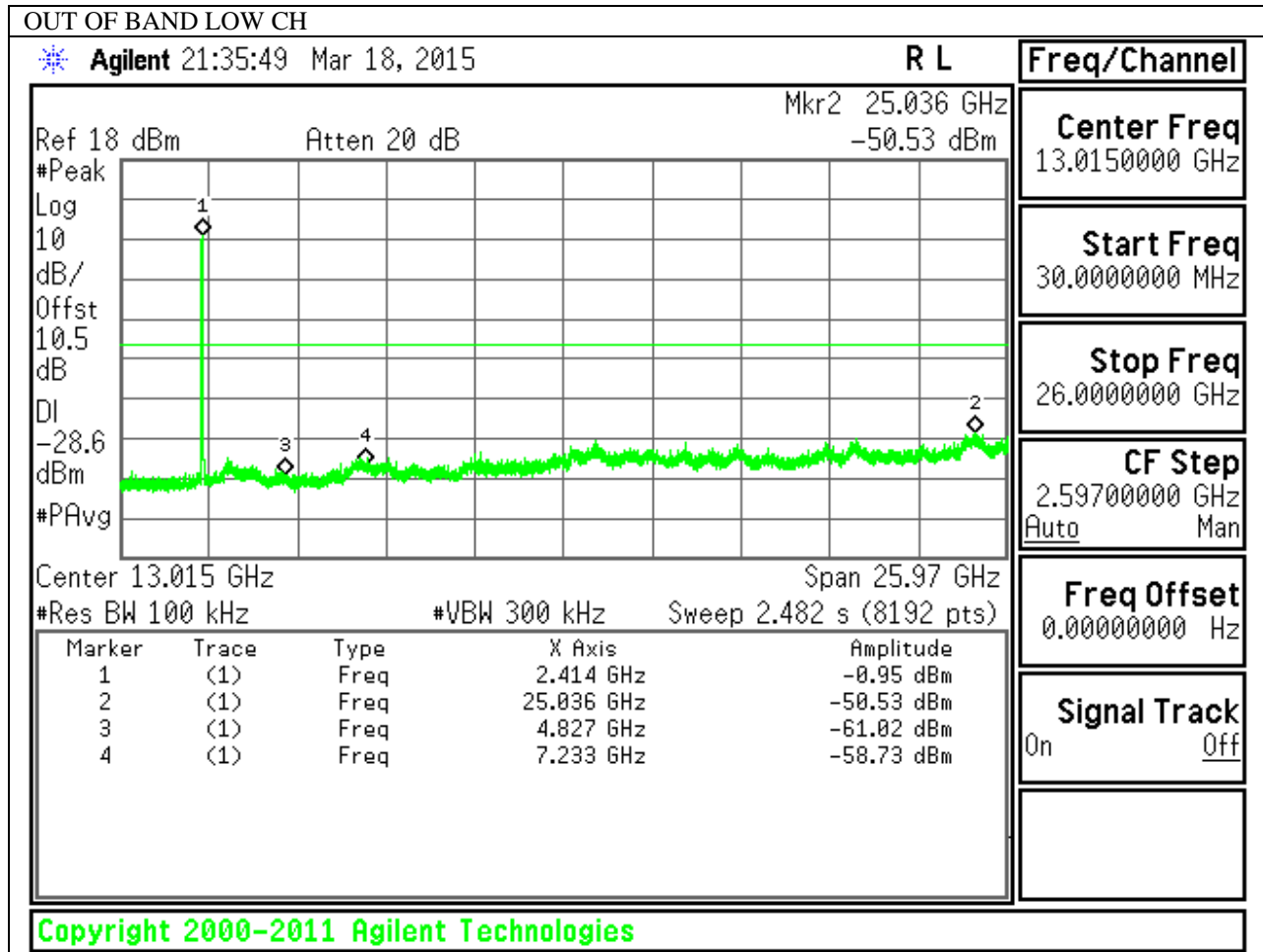
LOW CHANNEL BANDEDGE

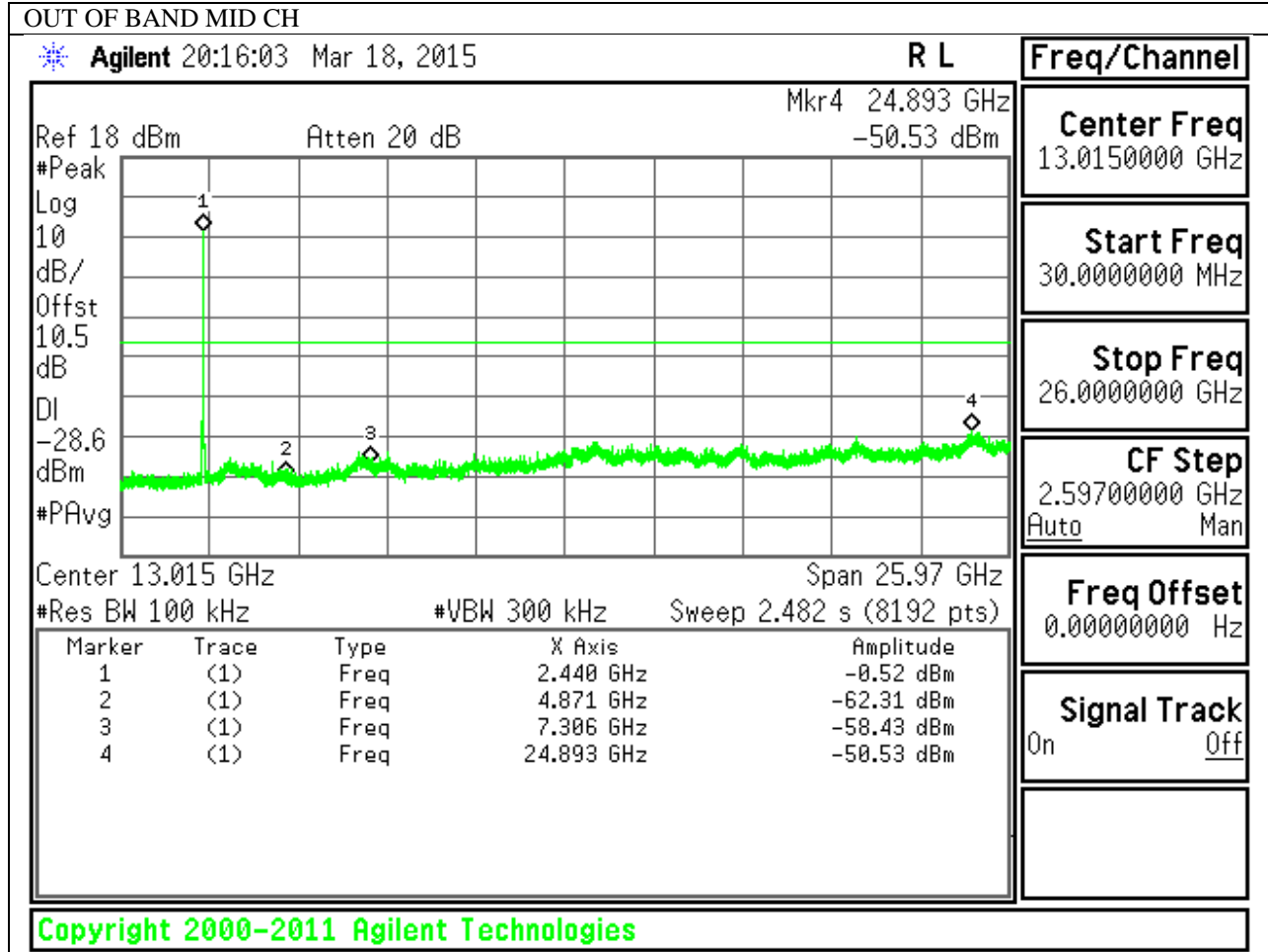


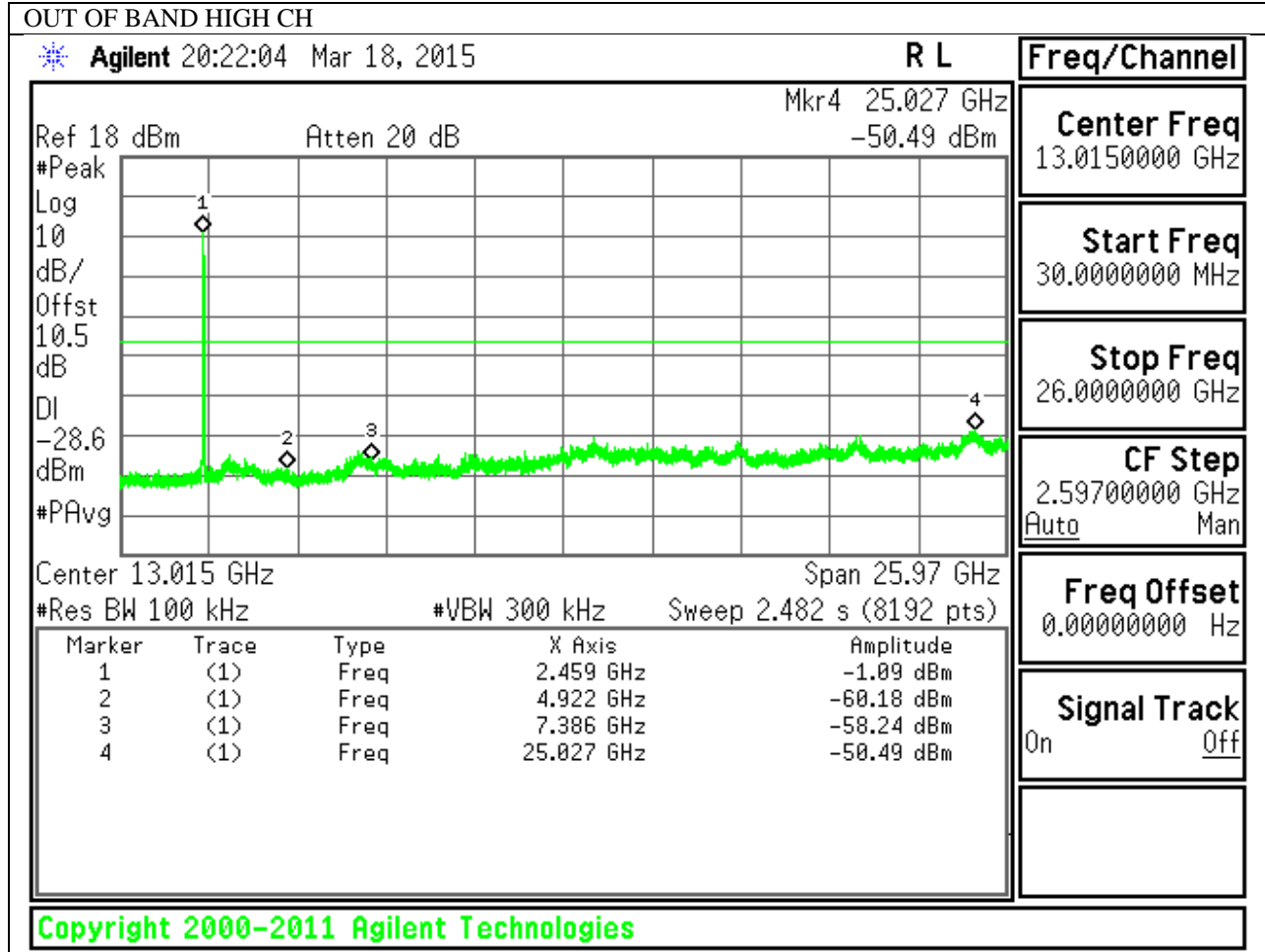
HIGH CHANNEL BANDEDGE



OUT-OF-BAND EMISSIONS







10. RADIATED TEST RESULTS

10.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

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= 10log (1/x) For this sample B mode = 0dB (duty cycle >98%); G mode = 0.3dB; N mode = 0.32dB.

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.

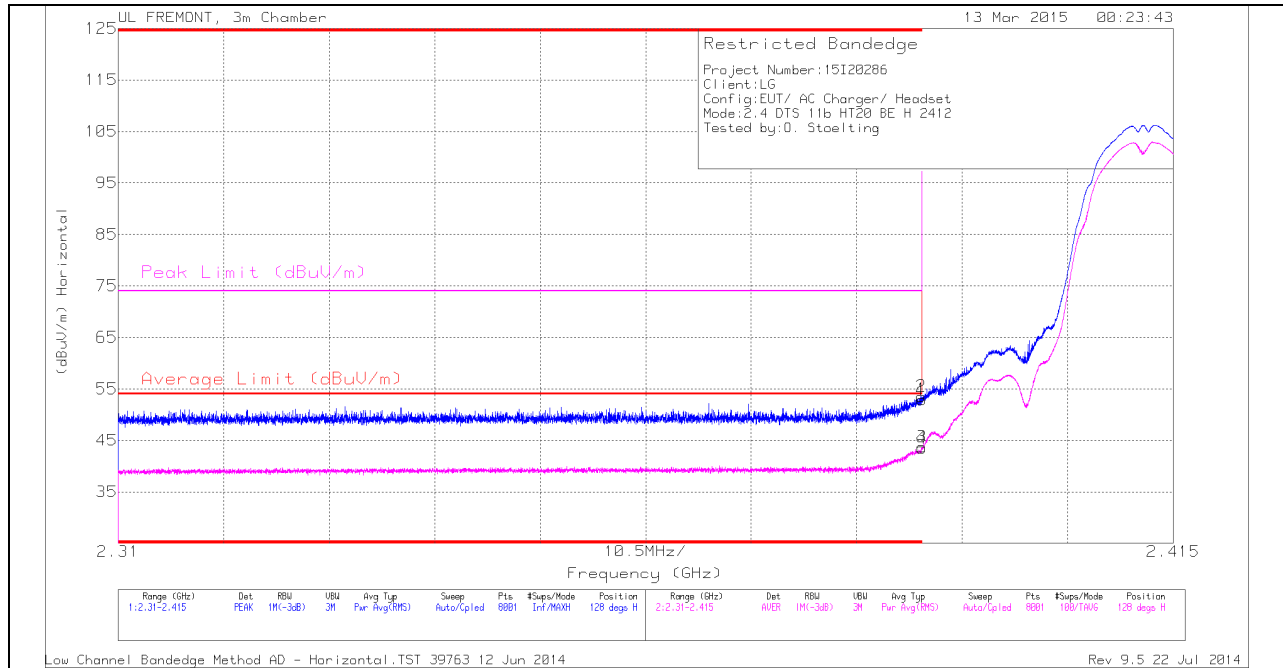
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

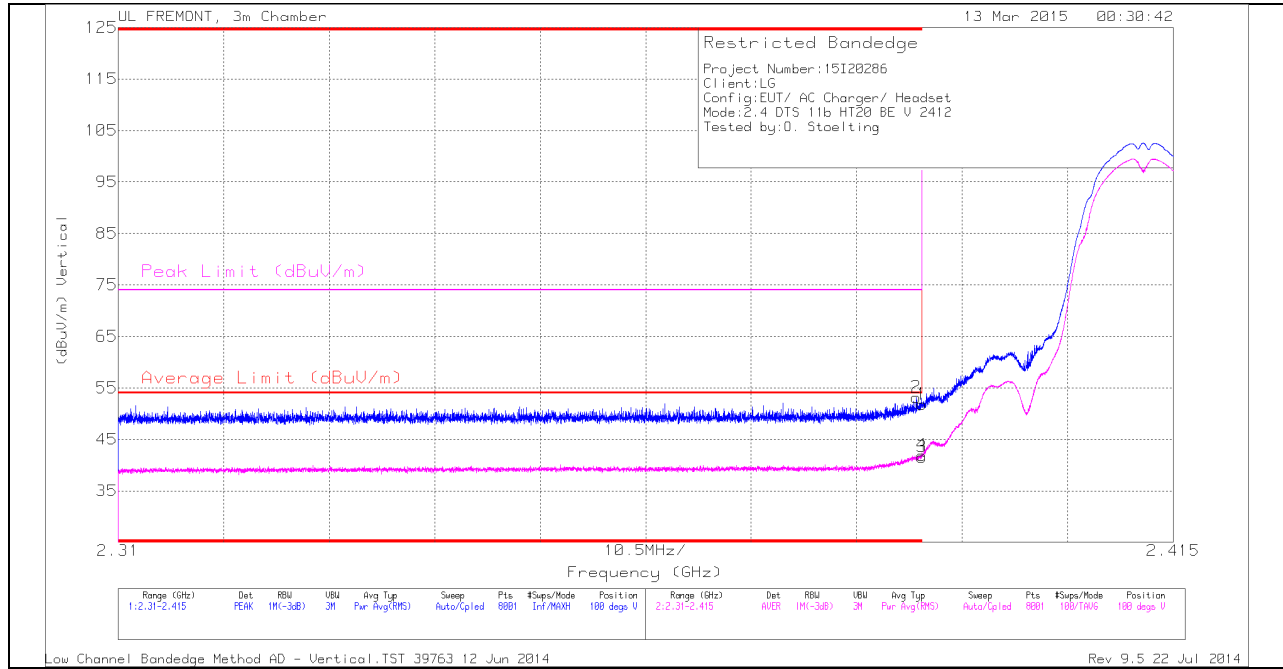
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	44.03	PK	32	-23.1	52.93	-	-	74	-21.07	128	301	H
2	* 2.39	44.62	PK	32	-23.1	53.52	-	-	74	-20.48	128	301	H
3	* 2.39	34.84	RMS	32	-23.1	43.74	54	-10.26	-	-	128	301	H
4	* 2.39	34.62	RMS	32	-23.1	43.52	54	-10.48	-	-	128	301	H

VERTICAL PEAK AND AVERAGE PLOT

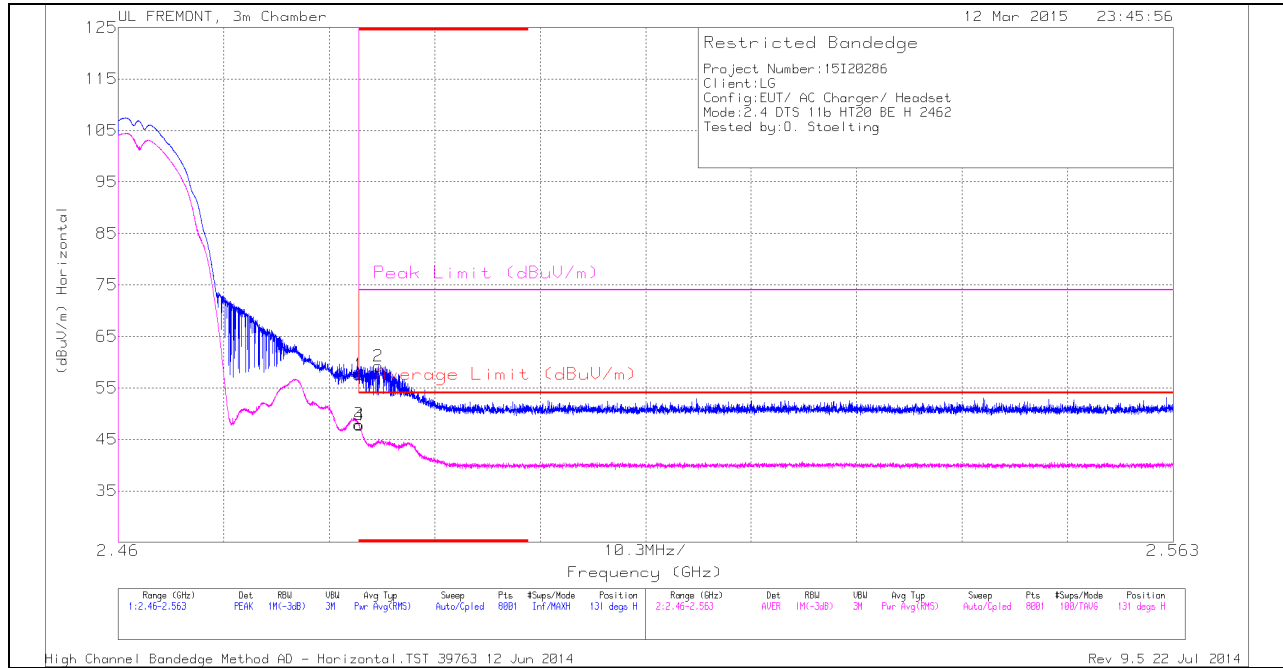


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.389	44.28	PK	32	-23.1	53.18	-	-	74	-20.82	100	304	V
1	* 2.39	42.94	PK	32	-23.1	51.84	-	-	74	-22.16	100	304	V
3	* 2.39	32.69	RMS	32	-23.1	41.59	54	-12.41	-	-	100	304	V
4	* 2.39	33.04	RMS	32	-23.1	41.94	54	-12.06	-	-	100	304	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

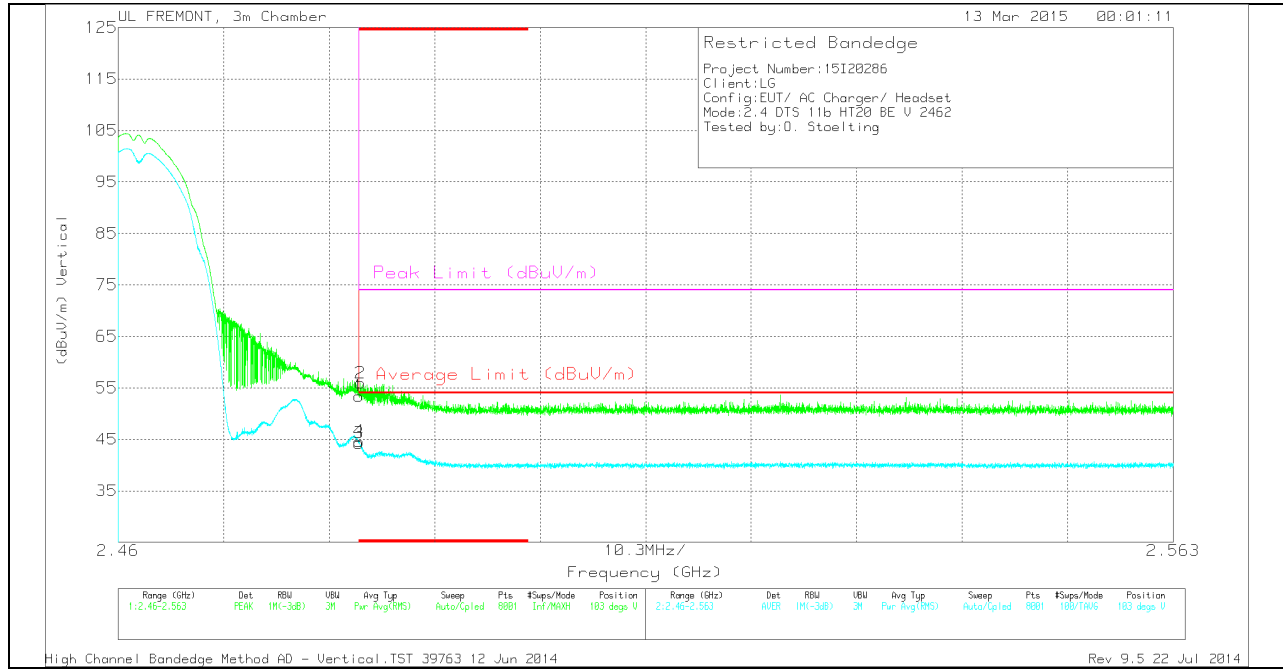
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	48.05	PK	32.3	-22.8	57.55	-	-	74	-16.45	131	288	H
3	* 2.484	38.43	RMS	32.3	-22.8	47.93	54	-6.07	-	-	131	288	H
4	* 2.484	38.24	RMS	32.3	-22.8	47.74	54	-6.26	-	-	131	288	H
2	* 2.485	49.72	PK	32.3	-22.8	59.22	-	-	74	-14.78	131	288	H

VERTICAL PEAK AND AVERAGE PLOT

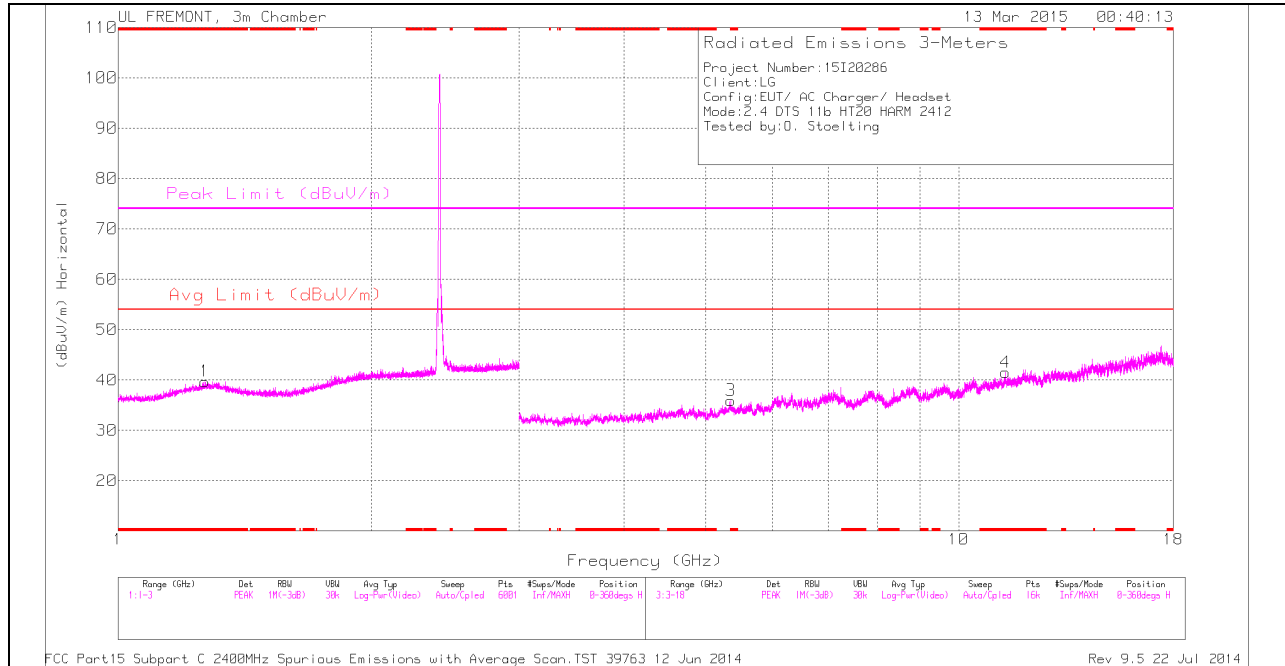


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	43.94	PK	32.3	-22.8	53.44	-	-	74	-20.56	103	292	V
2	* 2.484	46.43	PK	32.3	-22.8	55.93	-	-	74	-18.07	103	292	V
3	* 2.484	34.8	RMS	32.3	-22.8	44.3	54	-9.7	-	-	103	292	V
4	* 2.484	35.1	RMS	32.3	-22.8	44.6	54	-9.4	-	-	103	292	V

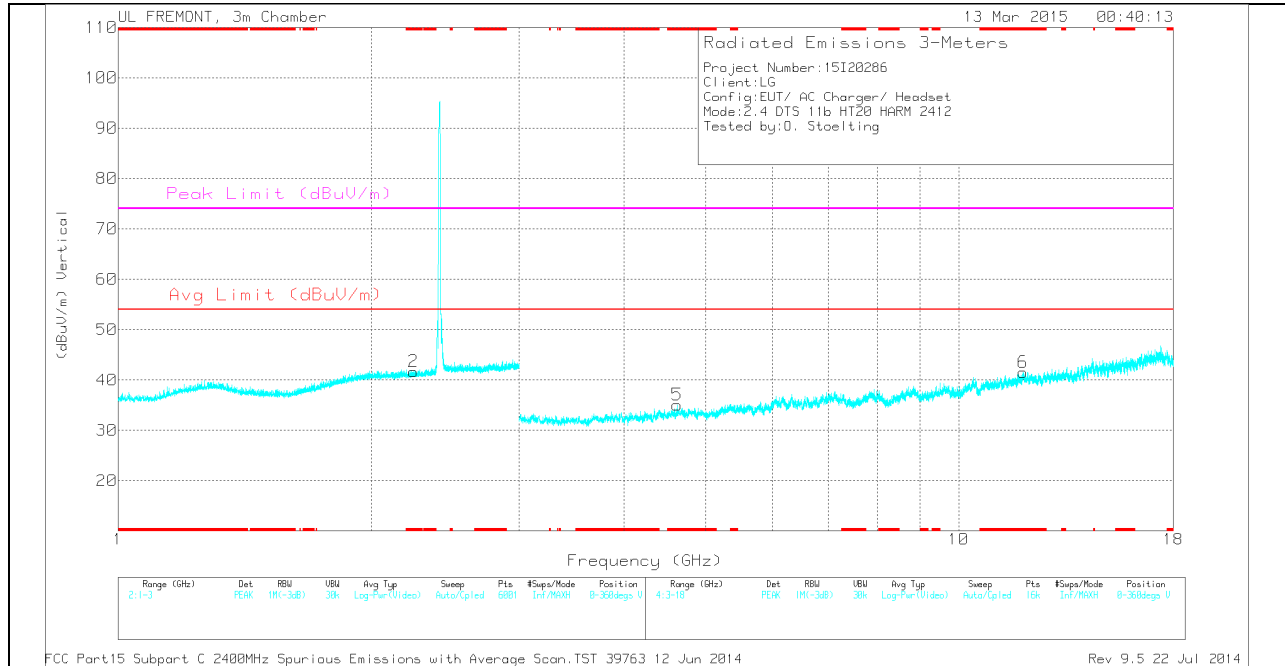
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



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

LOW CHANNEL VERTICAL



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

LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT119 (dB/m)	Amp/Cbl/Filtr/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	* 1.268	33.91	PK	29.6	-23.8	39.71	-	-	74	-34.29	0-360	100	H
4	* 11.362	29.51	PK	38.1	-26.1	41.51	-	-	74	-32.49	0-360	100	H
6	* 11.929	28.54	PK	39.1	-26.1	41.54	-	-	74	-32.46	0-360	200	V
2	* 2.247	33.19	PK	31.5	-23	41.69	-	-	74	-32.31	0-360	100	V
5	* 4.625	31.87	PK	33.9	-30.7	35.07	-	-	74	-38.93	0-360	100	V
3	* 5.354	31.43	PK	34.5	-30	35.93	-	-	74	-38.07	0-360	100	H

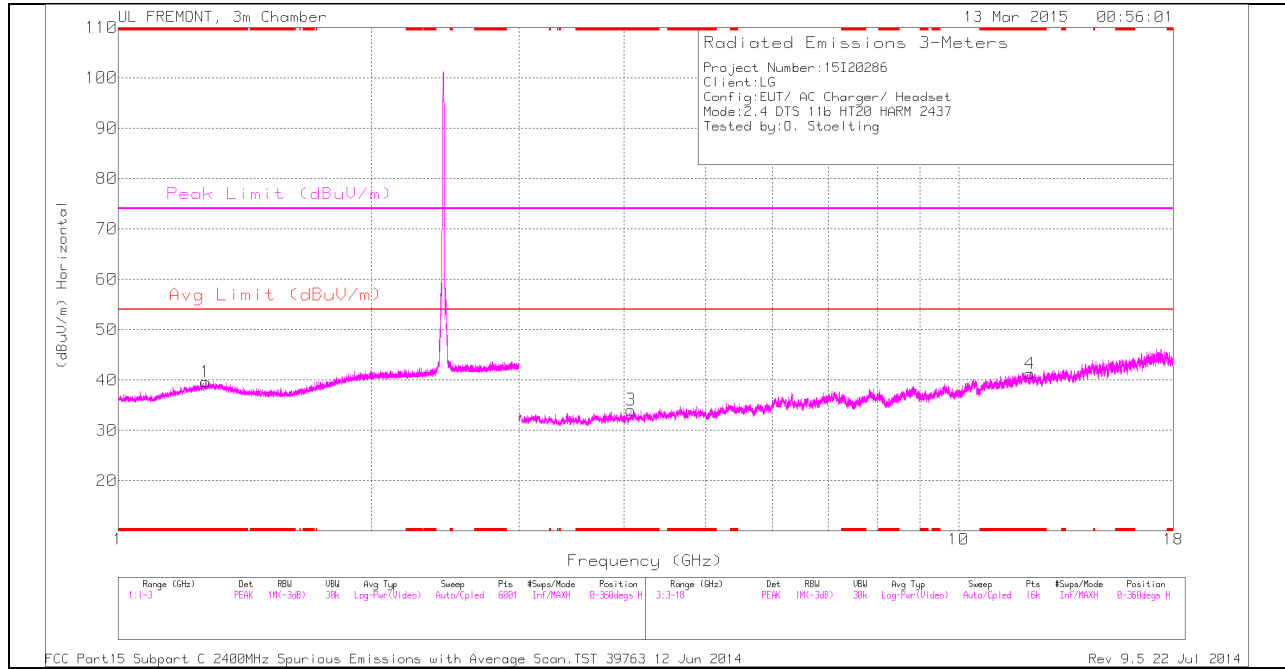
PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 2.249	42.77	PK2	31.5	-23	51.27	-	-	74	-22.73	62	397	V
* 2.249	30.71	MAV1	31.5	-23	39.21	54	-14.79	-	-	62	397	V

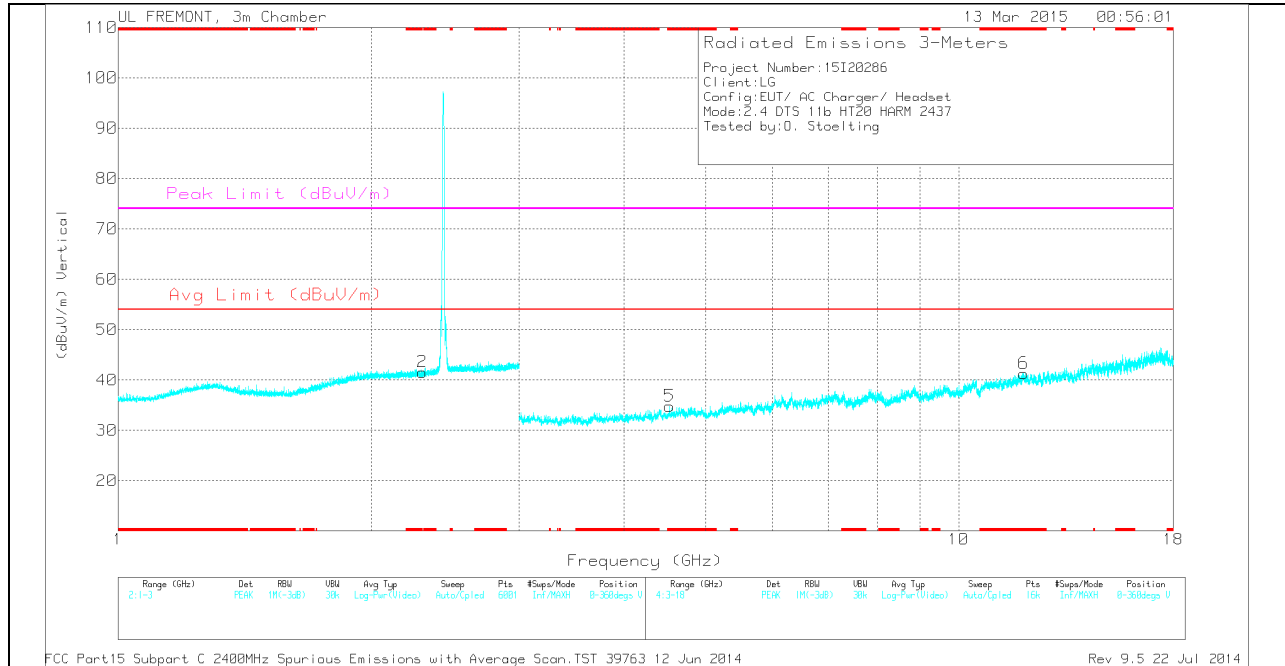
FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

MID CHANNEL HORIZONTAL



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

MID CHANNEL VERTICAL



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

MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT119 (dB/m)	Amp/Cbl/Filtr/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	* 1.272	33.83	PK	29.6	-23.8	39.63	-	-	74	-34.37	0-360	100	H
3	* 4.073	32.35	PK	33.3	-31.6	34.05	-	-	74	-39.95	0-360	200	H
4	* 12.151	28.87	PK	39	-26.6	41.27	-	-	74	-32.73	0-360	100	H
5	* 4.529	32.53	PK	33.8	-31.5	34.83	-	-	74	-39.17	0-360	200	V
6	* 11.952	28.32	PK	39.1	-26.1	41.32	-	-	74	-32.68	0-360	100	V
2	2.301	33.08	PK	31.6	-23.1	41.58	-	-	-	-	0-360	100	V

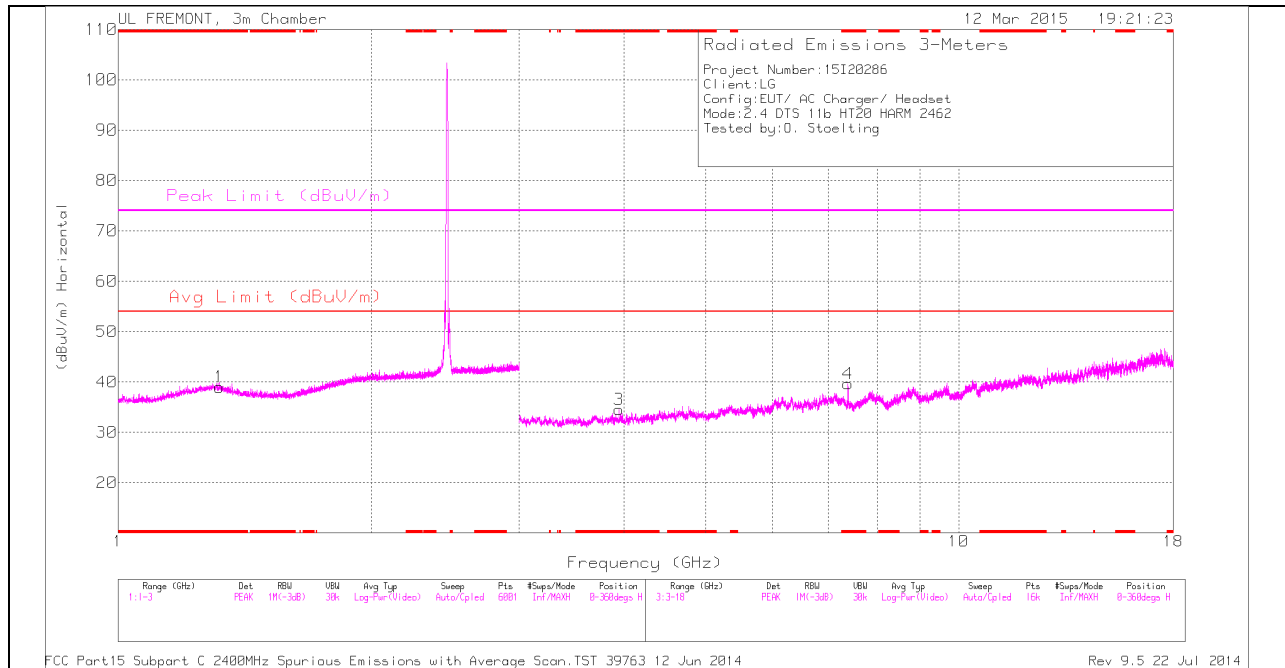
PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 11.953	37.48	PK2	39.1	-26.1	50.48	-	-	74	-23.52	37	254	V
* 11.95	25.72	MAV1	39.1	-26.1	38.72	54	-15.28	-	-	37	254	V

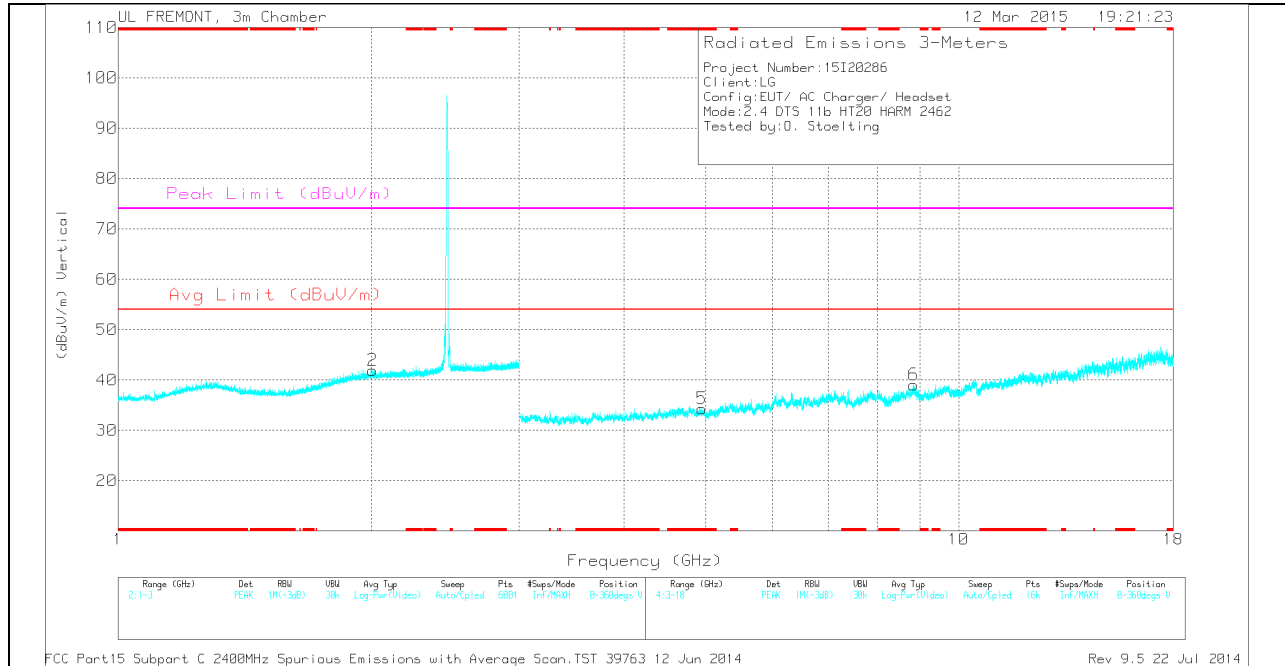
FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

HIGH CHANNEL HORIZONTAL



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

HIGH CHANNEL VERTICAL



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

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT119 (dB/m)	Amp/Cbl/Filtr/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	* 1.319	33.19	PK	29.6	-23.8	38.99	-	-	74	-35.01	0-360	200	H
3	* 3.942	32.33	PK	33.2	-31	34.53	-	-	74	-39.47	0-360	200	H
4	* 7.384	32.32	PK	35.6	-28.3	39.62	-	-	74	-34.38	0-360	100	H
5	* 4.952	31.31	PK	34	-31	34.31	-	-	74	-39.69	0-360	200	V
2	2.008	33.62	PK	31.5	-23.2	41.92	-	-	-	-	0-360	100	V
6	8.843	29.77	PK	35.9	-26.6	39.07	-	-	-	-	0-360	100	V

PK - Peak detector

RADIATED EMISSIONS

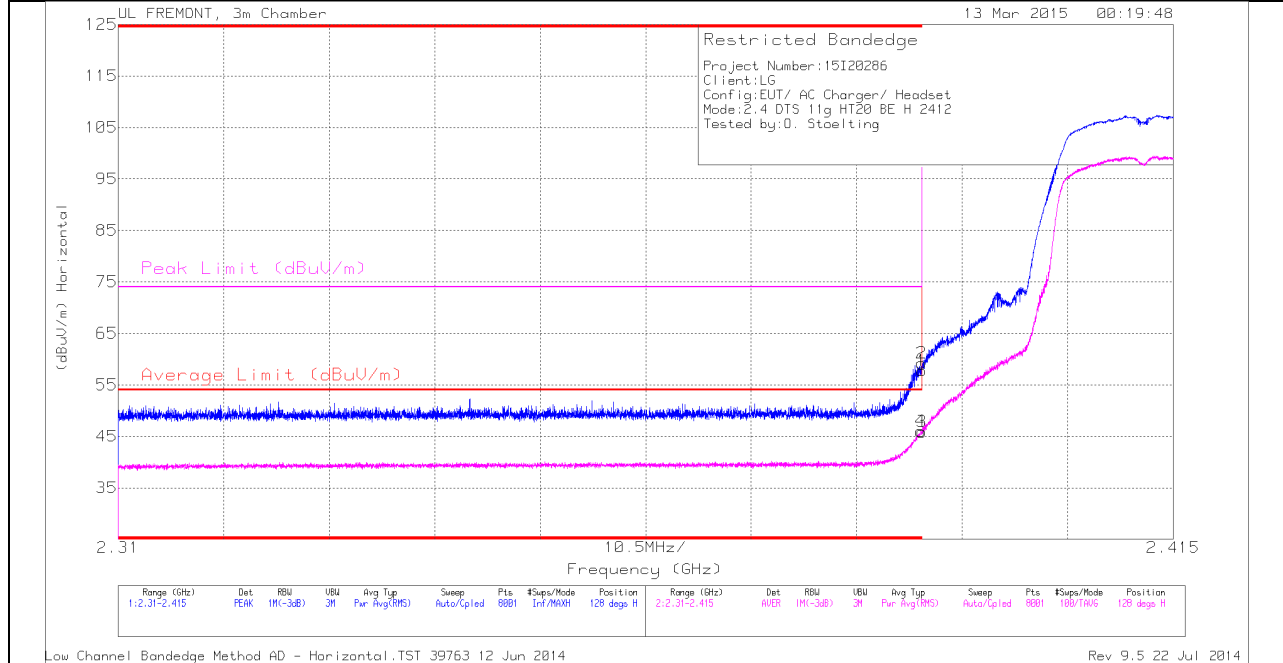
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 7.385	43.42	PK2	35.6	-28.3	50.72	-	-	74	-23.28	37	286	H
* 7.385	34.42	MAV1	35.6	-28.3	41.72	54	-12.28	-	-	37	286	H

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

RESTRICTED BANDEDGE (LOW CHANNEL)

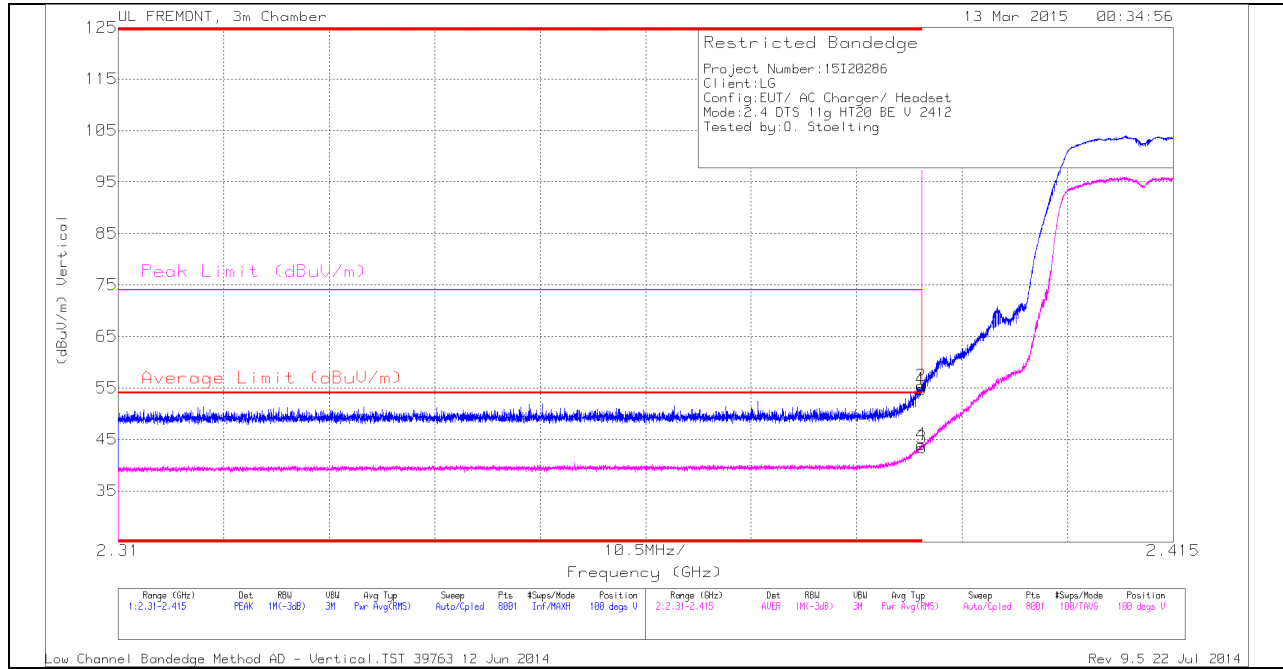
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	48.85	PK	32	-23.1	0	57.75	-	-	74	-16.25	128	301	H
2	* 2.39	50.33	PK	32	-23.1	0	59.23	-	-	74	-14.77	128	301	H
3	* 2.39	36.76	RMS	32	-23.1	.23	45.89	54	-8.11	-	-	128	301	H
4	* 2.39	36.87	RMS	32	-23.1	.23	46	54	-8	-	-	128	301	H

VERTICAL PEAK AND AVERAGE PLOT

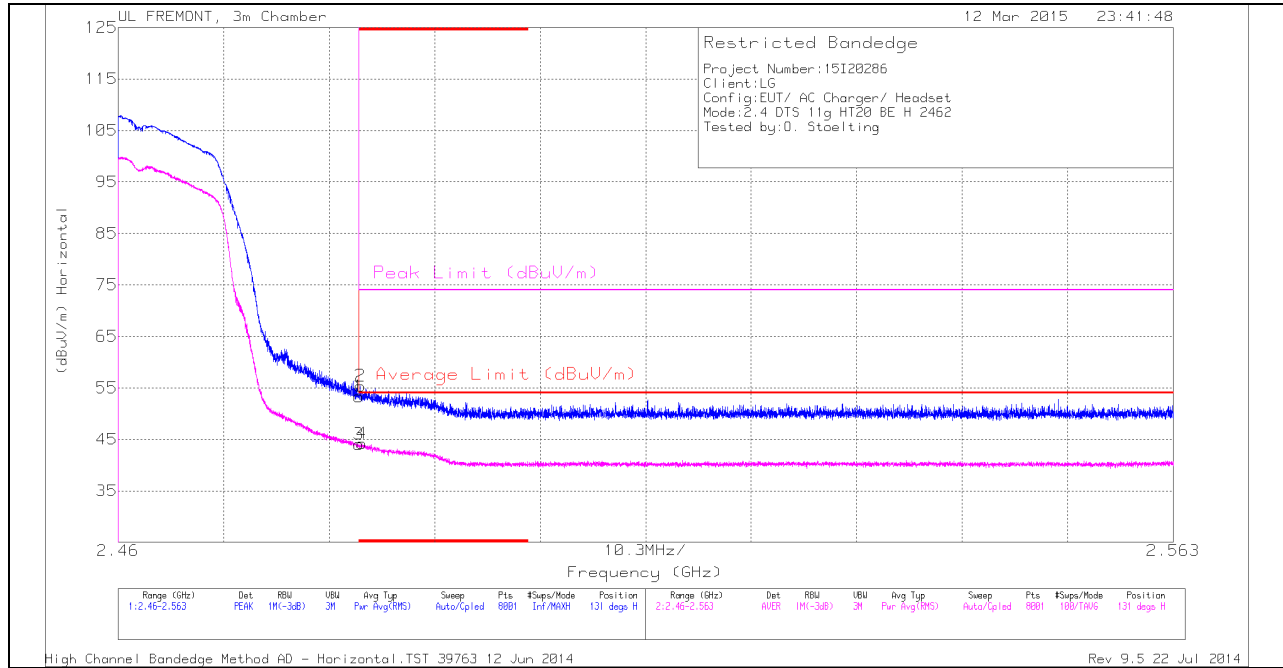


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Fitter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	45.91	PK	32	-23.1	0	54.81	-	-	74	-19.19	100	304	V
2	* 2.39	46.52	PK	32	-23.1	0	55.42	-	-	74	-18.58	100	304	V
3	* 2.39	34.27	RMS	32	-23.1	.23	43.4	54	-10.6	-	-	100	304	V
4	* 2.39	34.86	RMS	32	-23.1	.23	43.99	54	-10.01	-	-	100	304	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

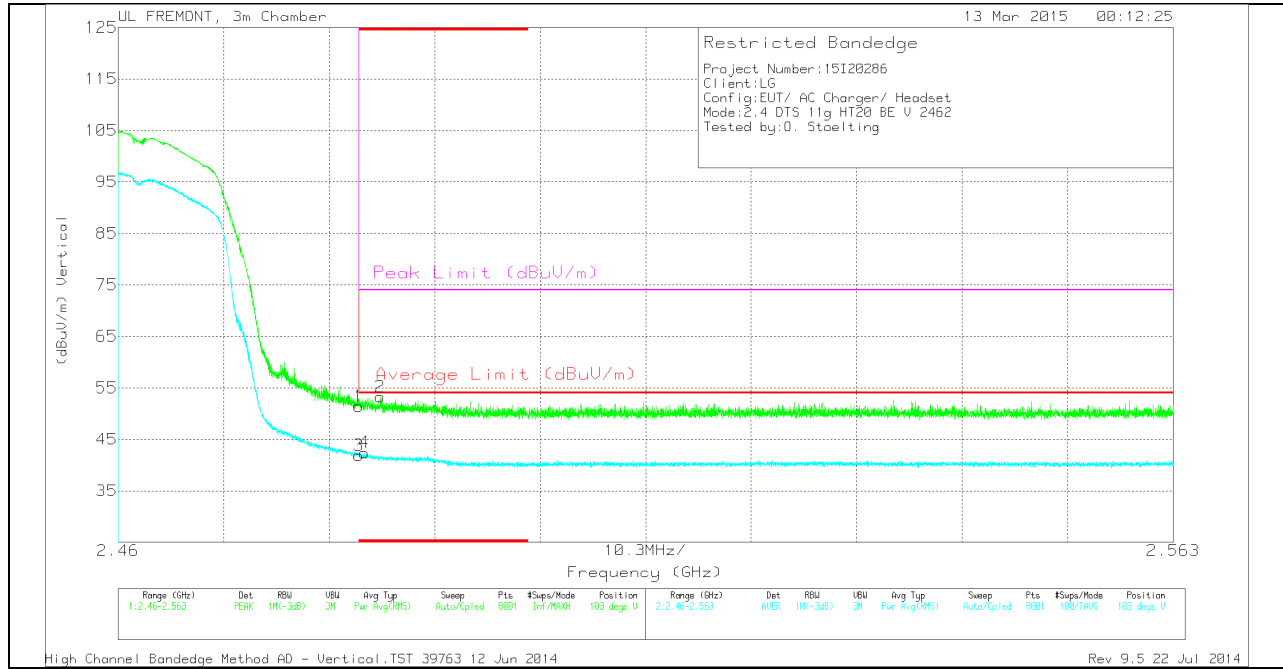
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	43.83	PK	32.3	-22.8	0	53.33	-	-	74	-20.67	131	288	H
2	* 2.484	45.88	PK	32.3	-22.8	0	55.38	-	-	74	-18.62	131	288	H
3	* 2.484	34.32	RMS	32.3	-22.8	.23	44.05	54	-9.95	-	-	131	288	H
4	* 2.484	34.47	RMS	32.3	-22.8	.23	44.2	54	-9.8	-	-	131	288	H

VERTICAL PEAK AND AVERAGE PLOT

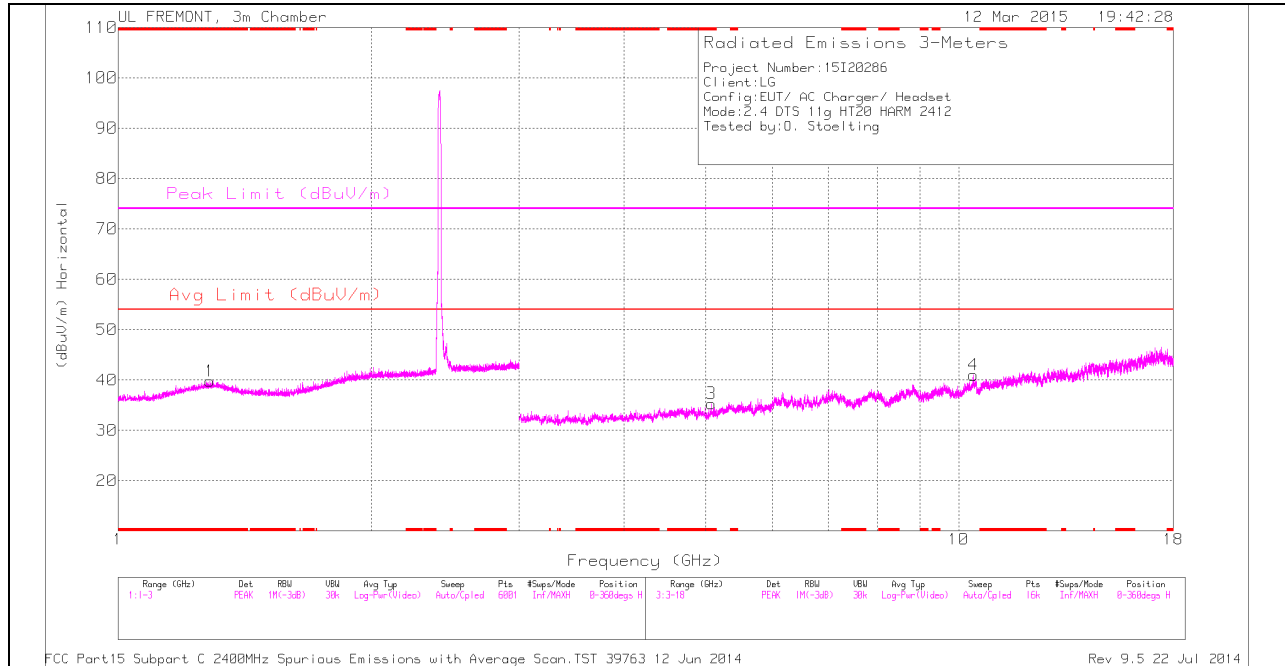


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Fitter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	41.93	PK	32.3	-22.8	0	51.43	-	-	74	-22.57	103	292	V
3	* 2.484	32.14	RMS	32.3	-22.8	.23	41.87	54	-12.13	-	-	103	292	V
4	* 2.484	32.7	RMS	32.3	-22.8	.23	42.43	54	-11.57	-	-	103	292	V
2	* 2.486	43.75	PK	32.3	-22.8	0	53.25	-	-	74	-20.75	103	292	V

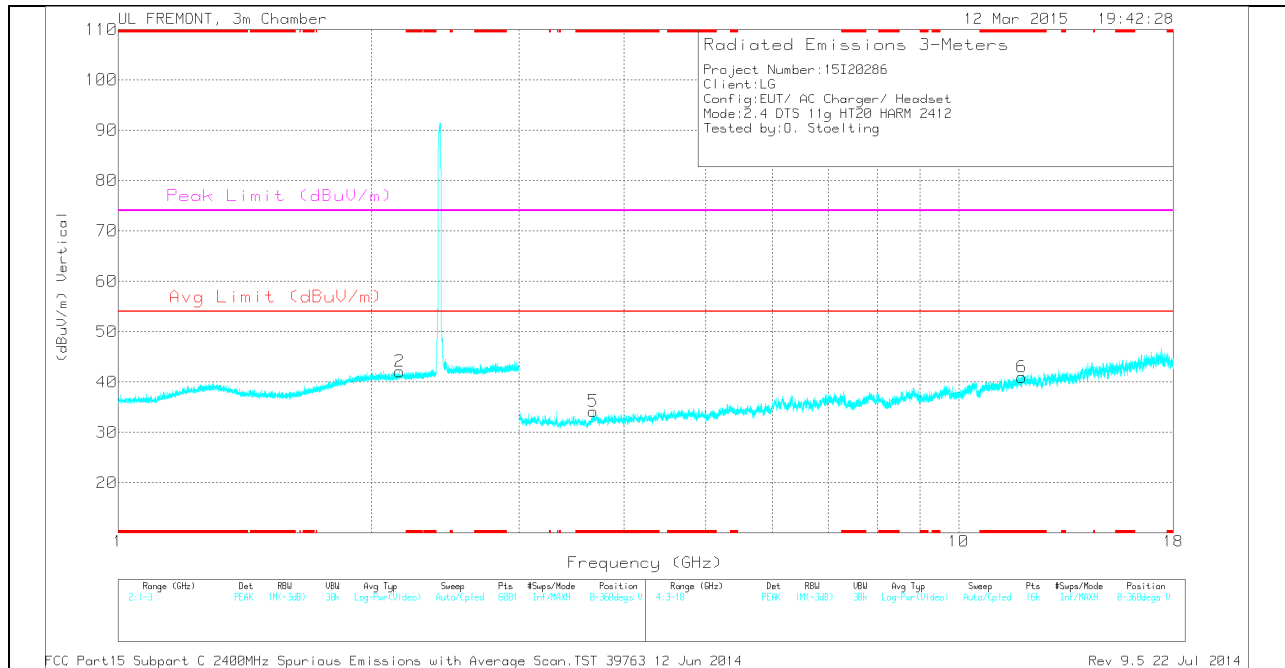
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



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

LOW CHANNEL VERTICAL



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

LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.286	33.65	PK	29.8	-23.7	0	39.75	-	-	74	-34.25	0-360	200	H
3	* 5.078	31.1	PK	34.1	-29.9	0	35.3	-	-	74	-38.7	0-360	200	H
5	* 3.674	31.89	PK	33	-30.7	0	34.19	-	-	74	-39.81	0-360	100	V
6	* 11.883	28.27	PK	39.1	-26.4	0	40.97	-	-	74	-33.03	0-360	100	V
2	2.161	33.61	PK	31.5	-23	0	42.11	-	-	-	-	0-360	100	V
4	10.414	28.79	PK	37.3	-25.1	0	40.99	-	-	-	-	0-360	100	H

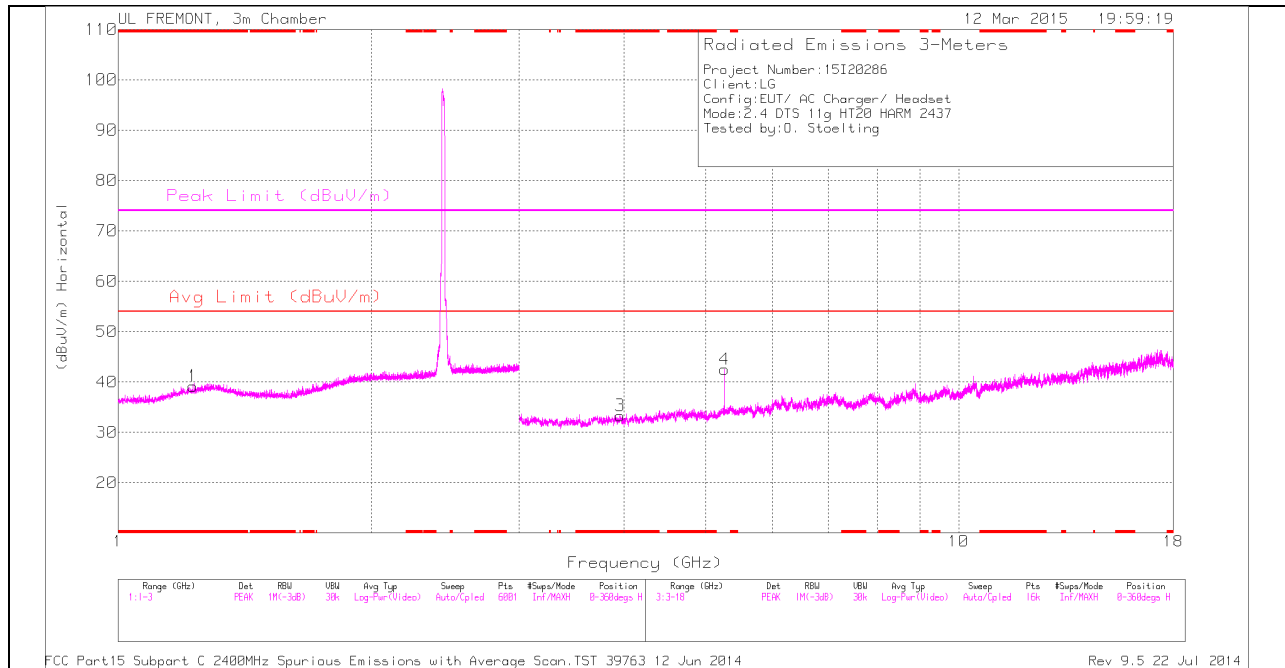
PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 11.883	37.32	PK2	39.1	-26.4	0	50.02	-	-	74	-23.98	115	367	V
* 11.881	25.26	MAv1	39.1	-26.4	.23	38.19	54	-15.81	-	-	115	367	V

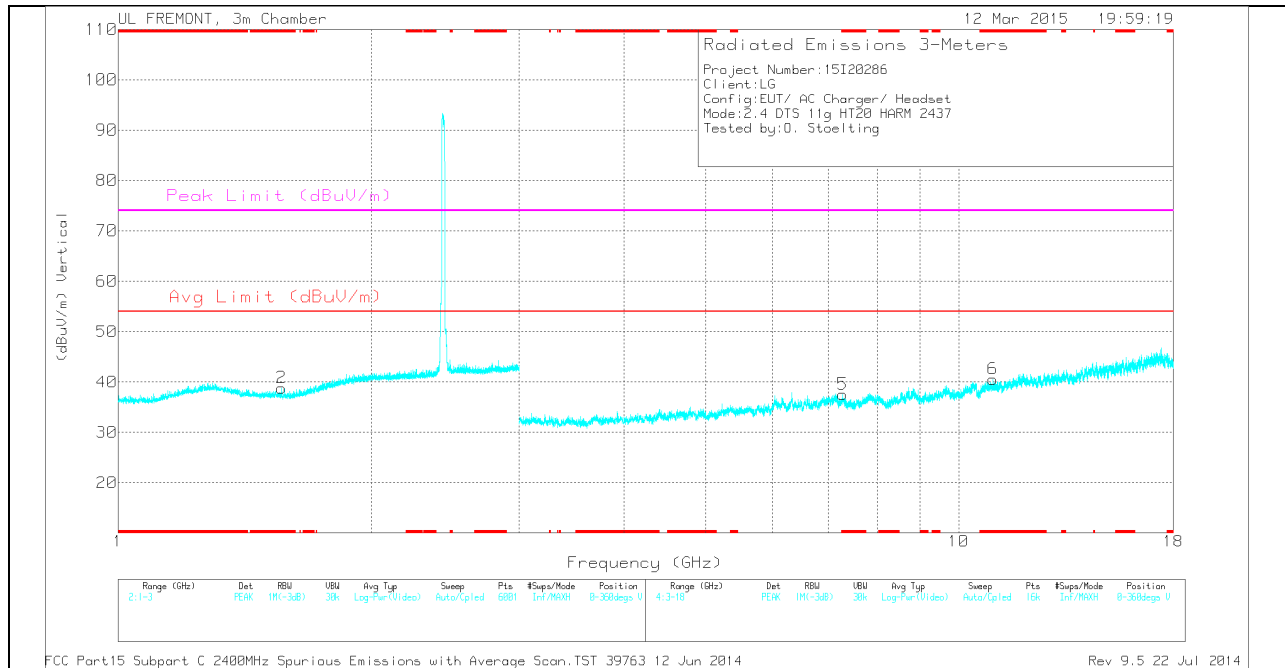
FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

MID CHANNEL HORIZONTAL



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

MID CHANNEL VERTICAL



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

MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.228	33.77	PK	29.2	-23.8	0	39.17	-	-	74	-34.83	0-360	200	H
2	* 1.564	34.24	PK	28	-23.4	0	38.84	-	-	74	-35.16	0-360	200	V
3	* 3.956	31.13	PK	33.2	-31	0	33.33	-	-	74	-40.67	0-360	100	H
5	* 7.277	31.26	PK	35.6	-29.3	0	37.56	-	-	74	-36.44	0-360	200	V
6	* 10.983	27.89	PK	37.9	-25.2	0	40.59	-	-	74	-33.41	0-360	100	V
4	5.268	38.7	PK	34.4	-30.6	0	42.5	-	-	-	-	0-360	100	H

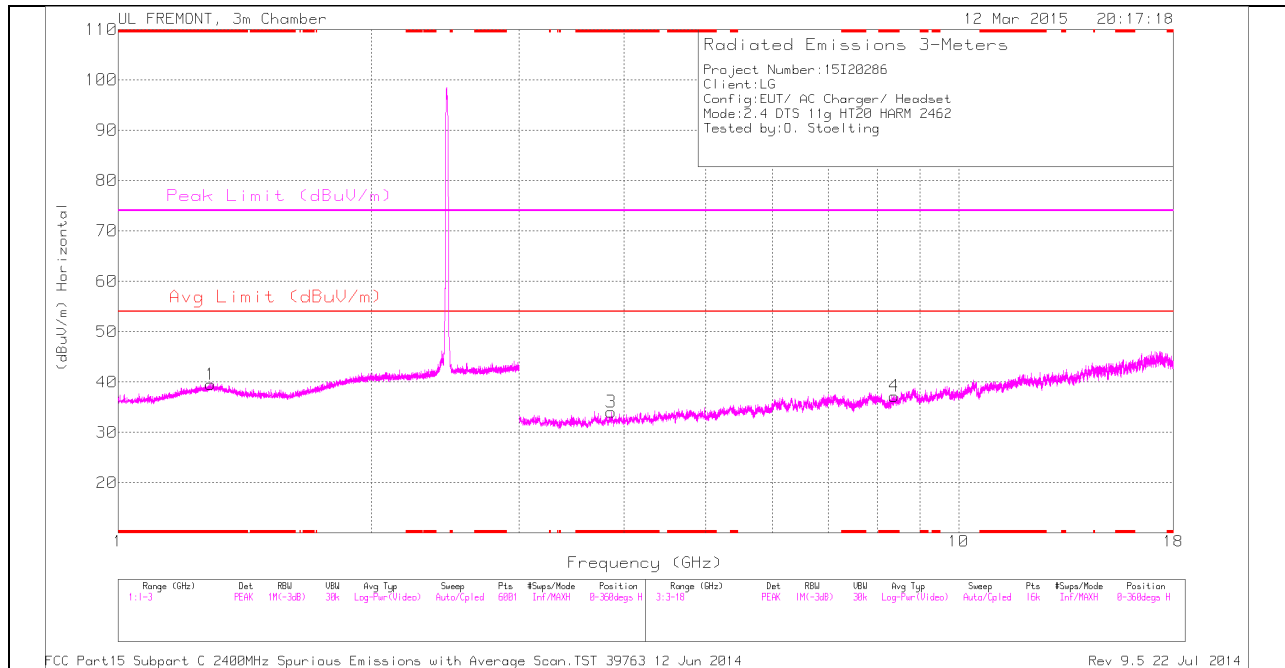
PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 10.981	37.29	PK2	37.9	-25.2	0	49.99	-	-	74	-24.01	249	399	V
* 10.981	24.58	MAV1	37.9	-25.2	.23	37.51	54	-16.49	-	-	249	399	V
* 10.981	36.62	PK2	37.9	-25.2	0	49.32	-	-	74	-24.68	249	399	V
* 10.982	24.6	MAV1	37.9	-25.2	.23	37.53	54	-16.47	-	-	249	399	V

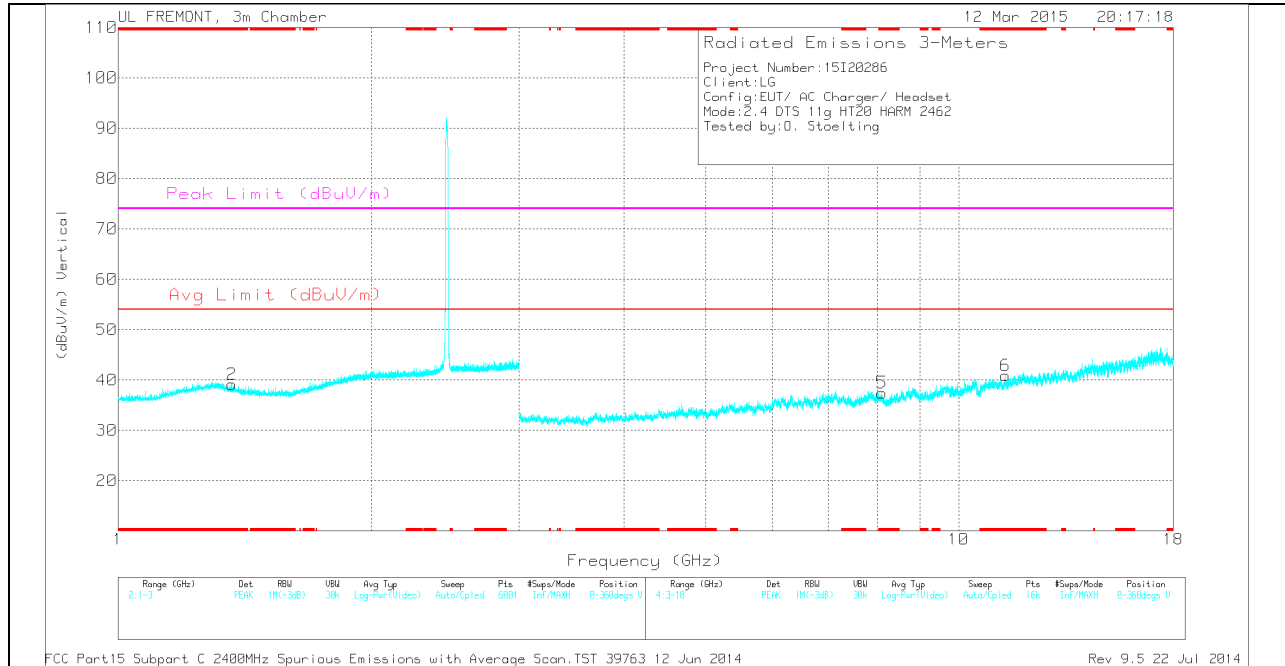
FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

HIGH CHANNEL HORIZONTAL



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

HIGH CHANNEL VERTICAL



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

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.288	33.43	PK	29.8	-23.7	0	39.53	-	-	74	-34.47	0-360	100	H
2	* 1.366	33.86	PK	29.1	-23.8	0	39.16	-	-	74	-34.84	0-360	100	V
3	* 3.86	32.15	PK	33.1	-31.2	0	34.05	-	-	74	-39.95	0-360	100	H
4	* 8.379	28.3	PK	35.8	-26.9	0	37.2	-	-	74	-36.8	0-360	200	H
5	* 8.103	29.34	PK	35.7	-27.6	0	37.44	-	-	74	-36.56	0-360	100	V
6	* 11.361	28.79	PK	38.1	-26	0	40.89	-	-	74	-33.11	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

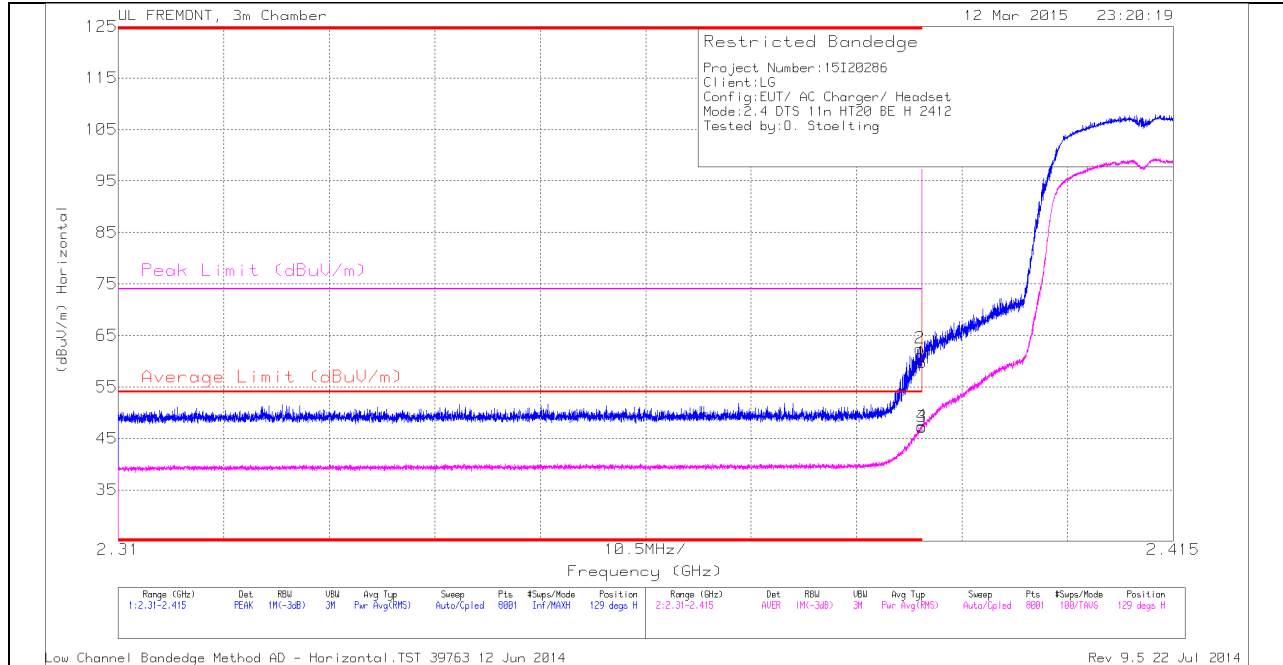
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 11.362	37.76	PK2	38.1	-26.1	0	49.76	-	-	74	-24.24	352	156	V
* 11.363	25.89	MAV1	38.1	-26.1	.23	38.12	54	-15.88	-	-	352	156	V

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

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

RESTRICTED BANDEDGE (LOW CHANNEL)

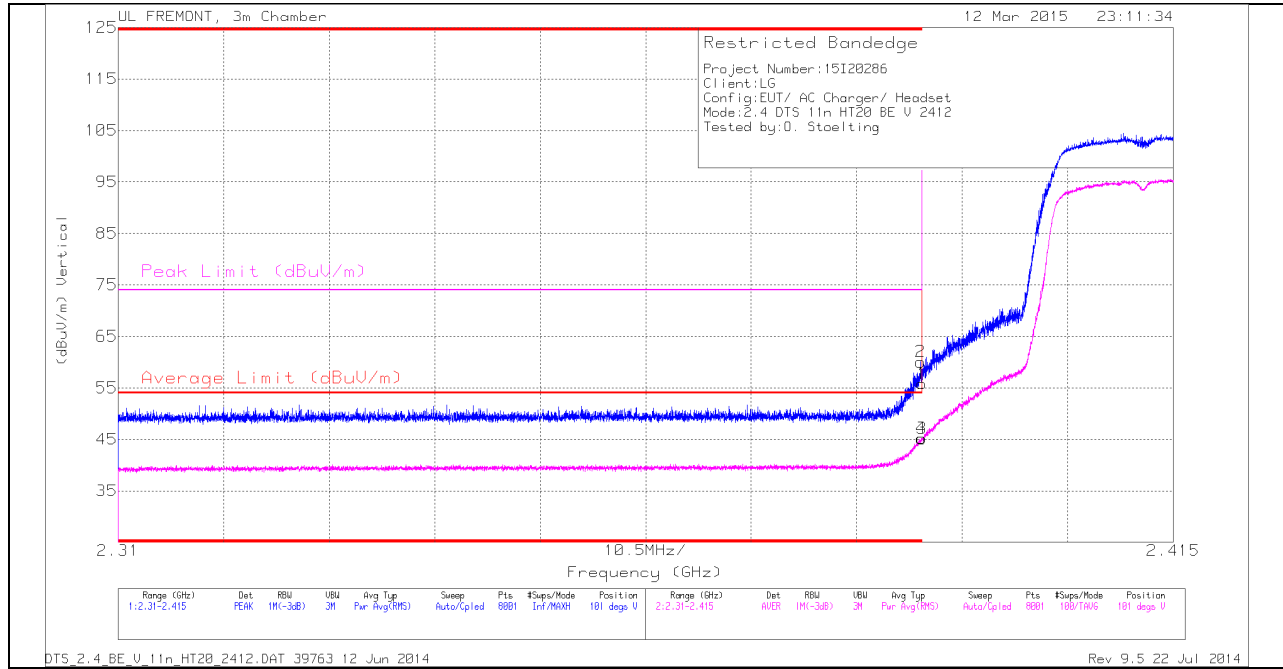
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	50.84	PK	32	-23.1	0	59.74	-	-	74	-14.26	129	300	H
2	* 2.39	53.58	PK	32	-23.1	0	62.48	-	-	74	-11.52	129	300	H
3	* 2.39	38.08	RMS	32	-23.1	.25	47.23	54	-6.77	-	-	129	300	H
4	* 2.39	38.26	RMS	32	-23.1	.25	47.41	54	-6.59	-	-	129	300	H

VERTICAL PEAK AND AVERAGE PLOT

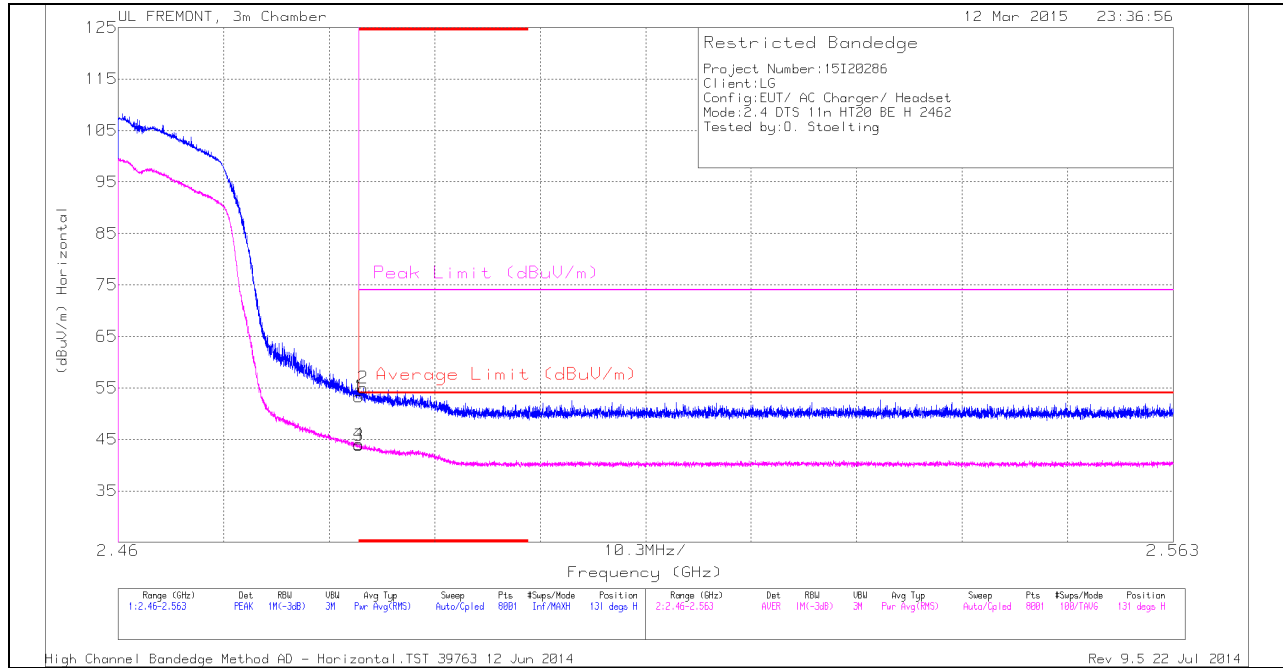


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fitter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	46.92	PK	32	-23.1	0	55.82	-	-	74	-18.18	101	310	V
2	* 2.39	51.16	PK	32	-23.1	0	60.06	-	-	74	-13.94	101	310	V
3	* 2.39	36.01	RMS	32	-23.1	.25	45.16	54	-8.84	-	-	101	310	V
4	* 2.39	36.03	RMS	32	-23.1	.25	45.18	54	-8.82	-	-	101	310	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

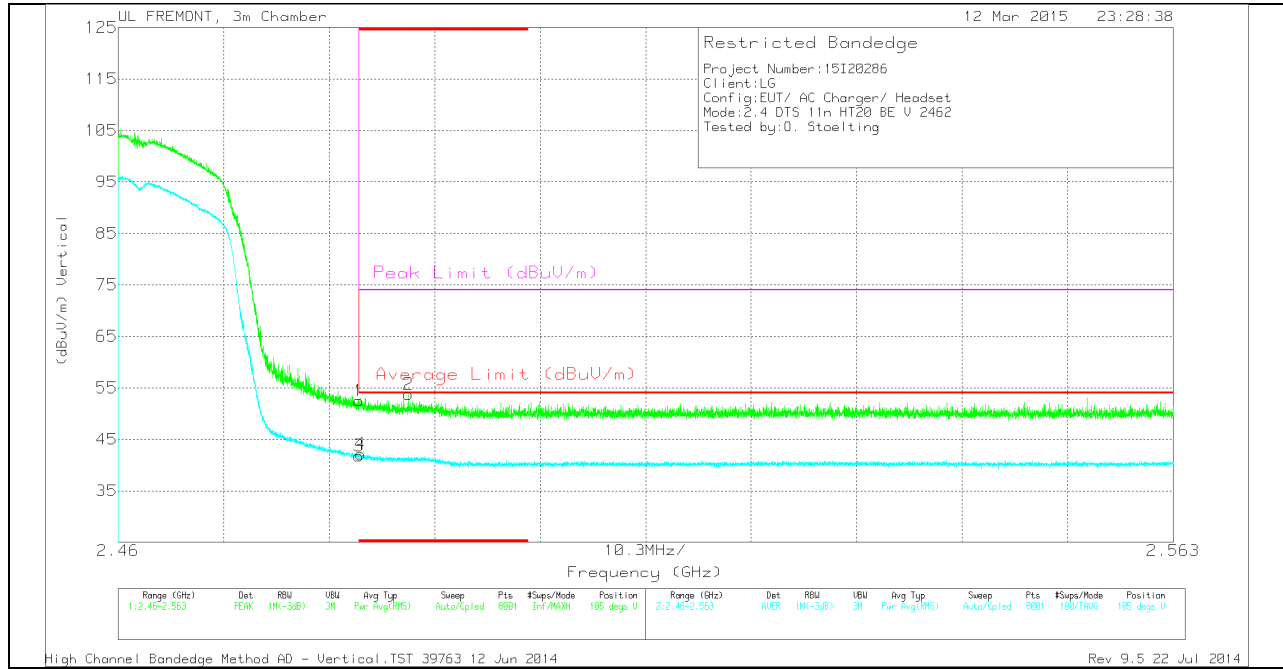
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	43.81	PK	32.3	-22.8	0	53.31	-	-	74	-20.69	131	288	H
2	* 2.484	45.49	PK	32.3	-22.8	0	54.99	-	-	74	-19.01	131	288	H
3	* 2.484	34.1	RMS	32.3	-22.8	.25	43.85	54	-10.15	-	-	131	288	H
4	* 2.484	34.3	RMS	32.3	-22.8	.25	44.05	54	-9.95	-	-	131	288	H

VERTICAL PEAK AND AVERAGE PLOT

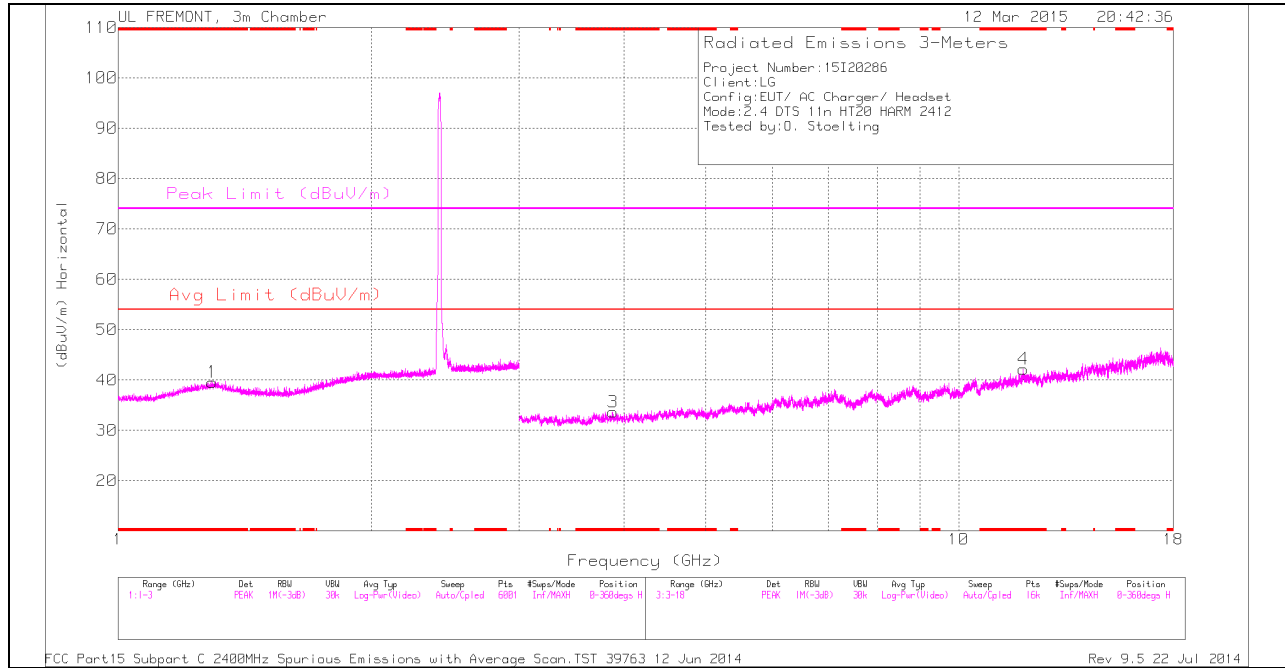


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Fitter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	43	PK	32.3	-22.8	0	52.5	-	-	74	-21.5	105	293	V
3	* 2.484	32.05	RMS	32.3	-22.8	.25	41.8	54	-12.2	-	-	105	293	V
4	* 2.484	32.43	RMS	32.3	-22.8	.25	42.18	54	-11.82	-	-	105	293	V
2	* 2.488	44.27	PK	32.3	-22.8	0	53.77	-	-	74	-20.23	105	293	V

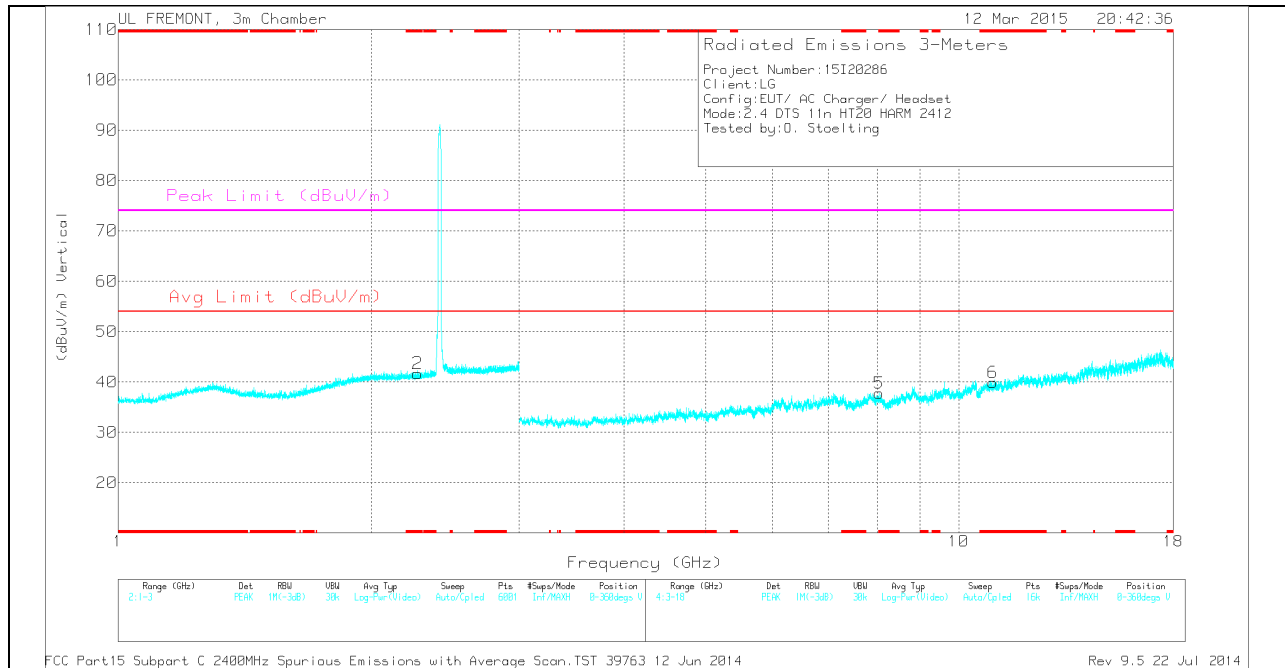
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



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

LOW CHANNEL VERTICAL



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

LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.294	33.55	PK	29.8	-23.8	0	39.55	-	-	74	-34.45	0-360	200	H
2	* 2.271	33.07	PK	31.6	-23	0	41.67	-	-	74	-32.33	0-360	200	V
3	* 3.879	31.75	PK	33.2	-31.3	0	33.65	-	-	74	-40.35	0-360	100	H
4	* 11.937	29.18	PK	39.1	-26.1	0	42.18	-	-	74	-31.82	0-360	200	H
5	* 8.044	30.19	PK	35.7	-28.1	0	37.79	-	-	74	-36.21	0-360	200	V
6	* 10.985	27.3	PK	37.9	-25.3	0	39.9	-	-	74	-34.1	0-360	200	V

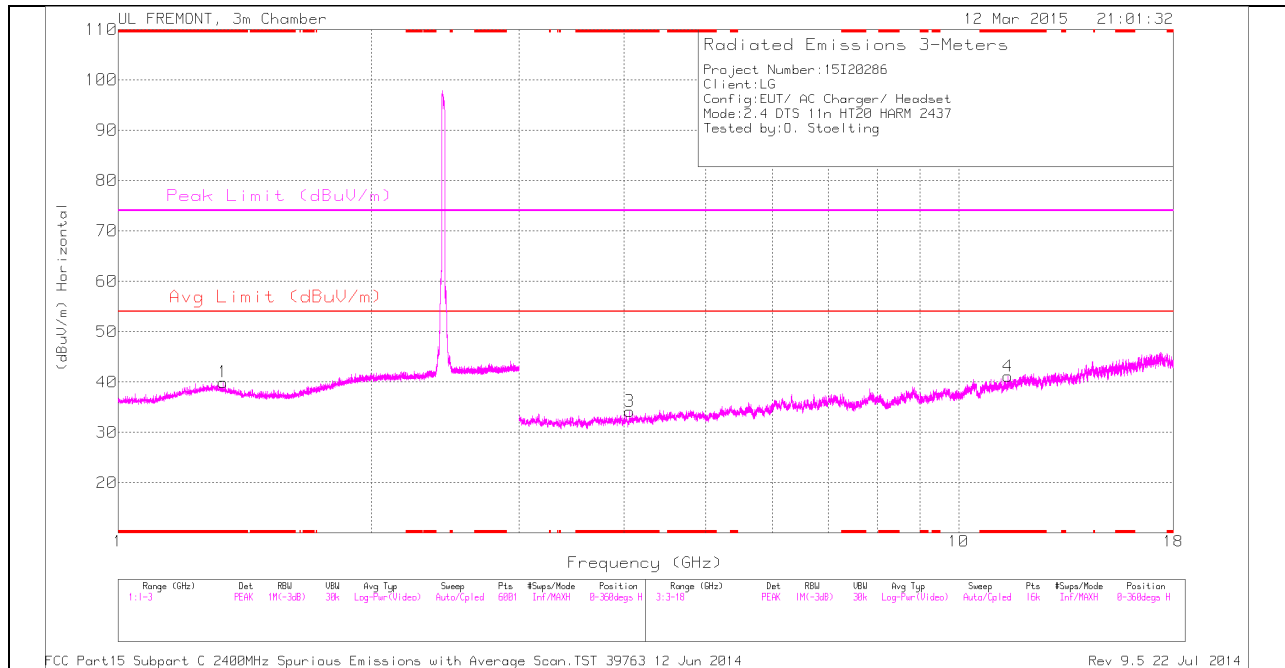
PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 11.937	38.59	PK2	39.1	-26.1	0	51.59	-	-	74	-22.41	281	117	H
* 11.936	26.07	MAv1	39.1	-26.1	.25	39.32	54	-14.68	-	-	281	117	H

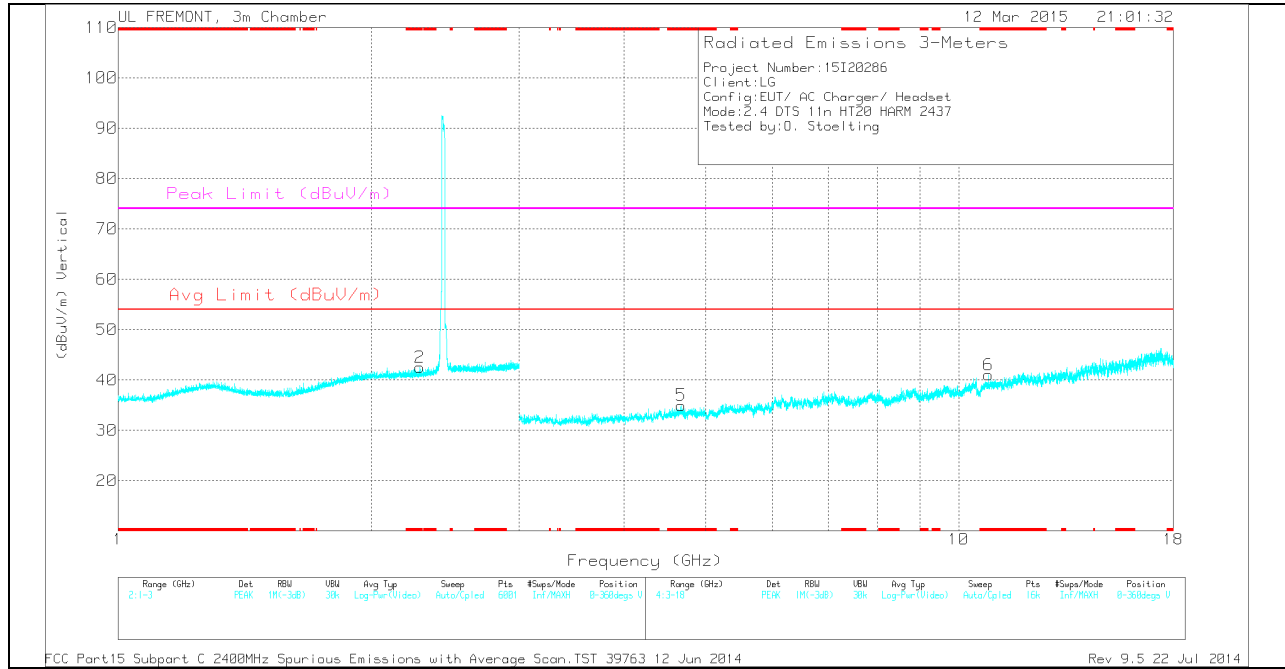
FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

MID CHANNEL HORIZONTAL



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

MID CHANNEL VERTICAL



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

MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.333	34.26	PK	29.5	-23.8	0	39.96	-	-	74	-34.04	0-360	100	H
2	* 2.286	33.8	PK	31.6	-22.9	0	42.5	-	-	74	-31.5	0-360	100	V
3	* 4.059	32.27	PK	33.3	-31.4	0	34.17	-	-	74	-39.83	0-360	200	H
4	* 11.447	28.14	PK	38.3	-25.3	0	41.14	-	-	74	-32.86	0-360	100	H
5	* 4.677	31.65	PK	34	-30.7	0	34.95	-	-	74	-39.05	0-360	200	V
6	* 10.845	28.91	PK	37.9	-25.8	0	41.01	-	-	74	-32.99	0-360	200	V

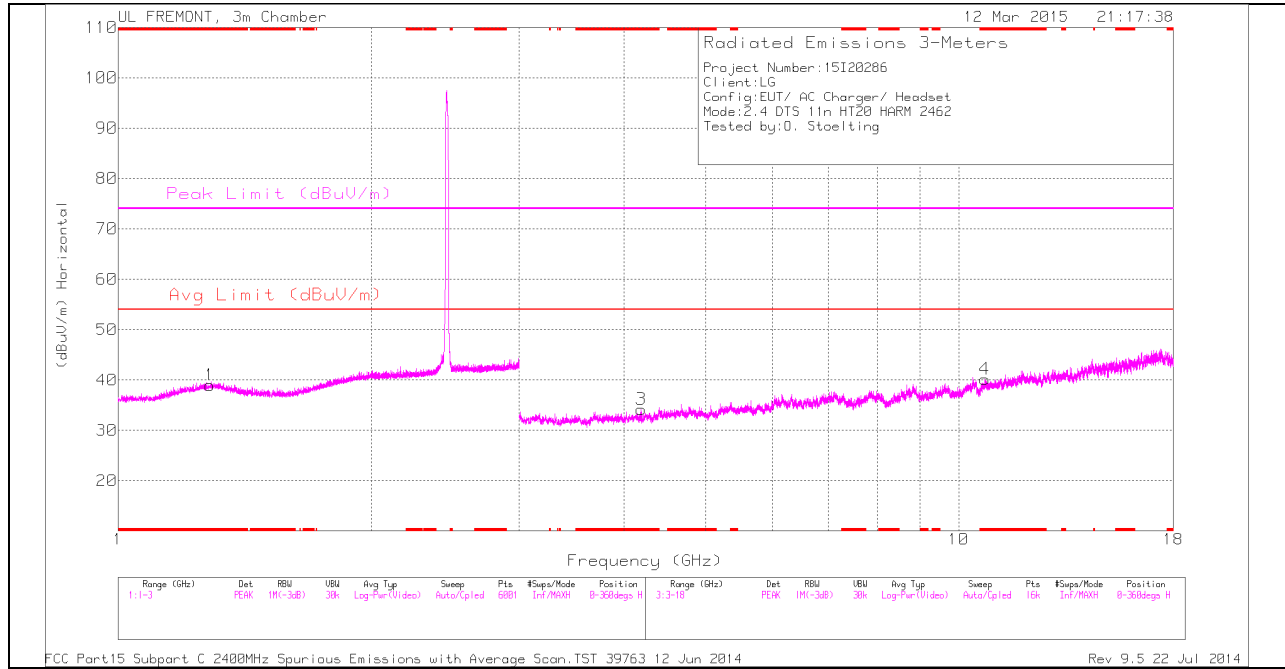
PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 2.285	42.92	PK2	31.6	-23	0	51.52	-	-	74	-22.48	192	335	V
* 2.284	30.55	MAv1	31.6	-23	.25	39.4	54	-14.6	-	-	192	335	V

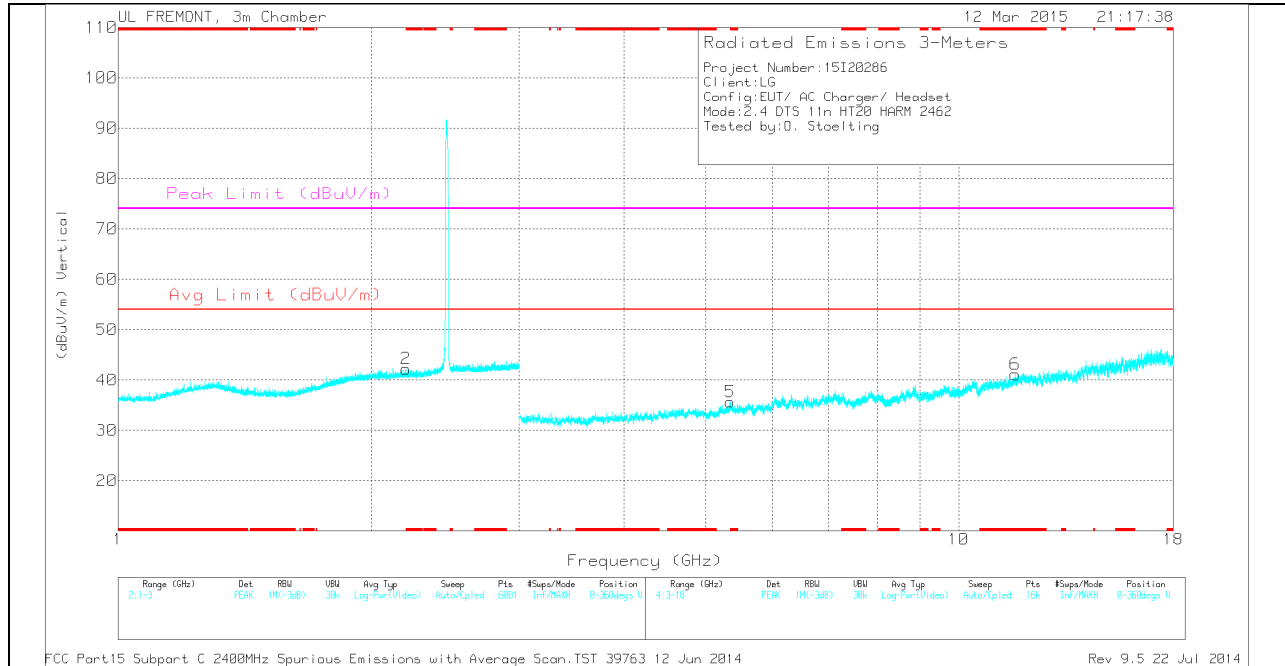
FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

HIGH CHANNEL HORIZONTAL



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

HIGH CHANNEL VERTICAL



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

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.286	32.87	PK	29.8	-23.7	0	38.97	-	-	74	-35.03	0-360	200	H
3	* 4.191	31.51	PK	33.3	-30.6	0	34.21	-	-	74	-39.79	0-360	200	H
4	* 10.746	27.39	PK	37.8	-25	0	40.19	-	-	74	-33.81	0-360	200	H
5	* 5.351	31.06	PK	34.5	-29.9	0	35.66	-	-	74	-38.34	0-360	100	V
6	* 11.673	28.4	PK	38.8	-26.1	0	41.1	-	-	74	-32.9	0-360	200	V
2	2.2	33.82	PK	31.4	-23	0	42.22	-	-	-	-	0-360	200	V

PK - Peak detector

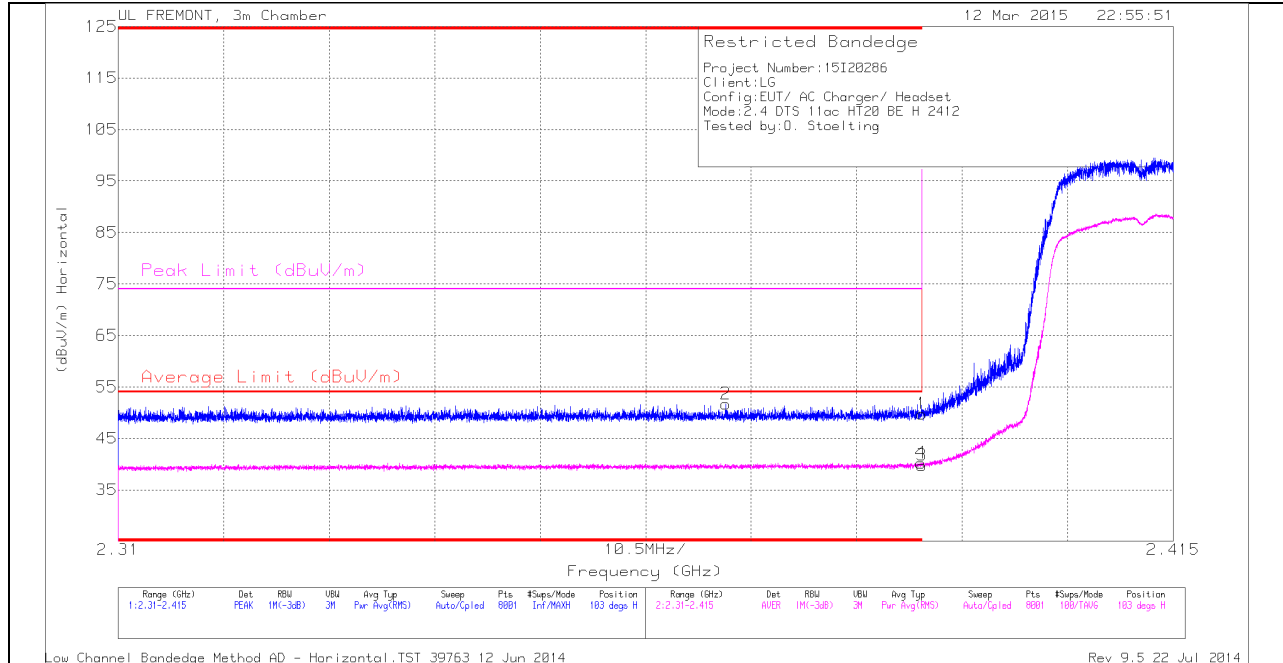
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 11.673	37.52	PK2	38.8	-26	0	50.32	-	-	74	-23.68	271	223	V
* 11.672	25.61	MAv1	38.8	-26.1	.25	38.56	54	-15.44	-	-	271	223	V

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10.2.4 TX ABOVE 1 GHz 802.11ac HT20 MODE IN THE 2.4 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

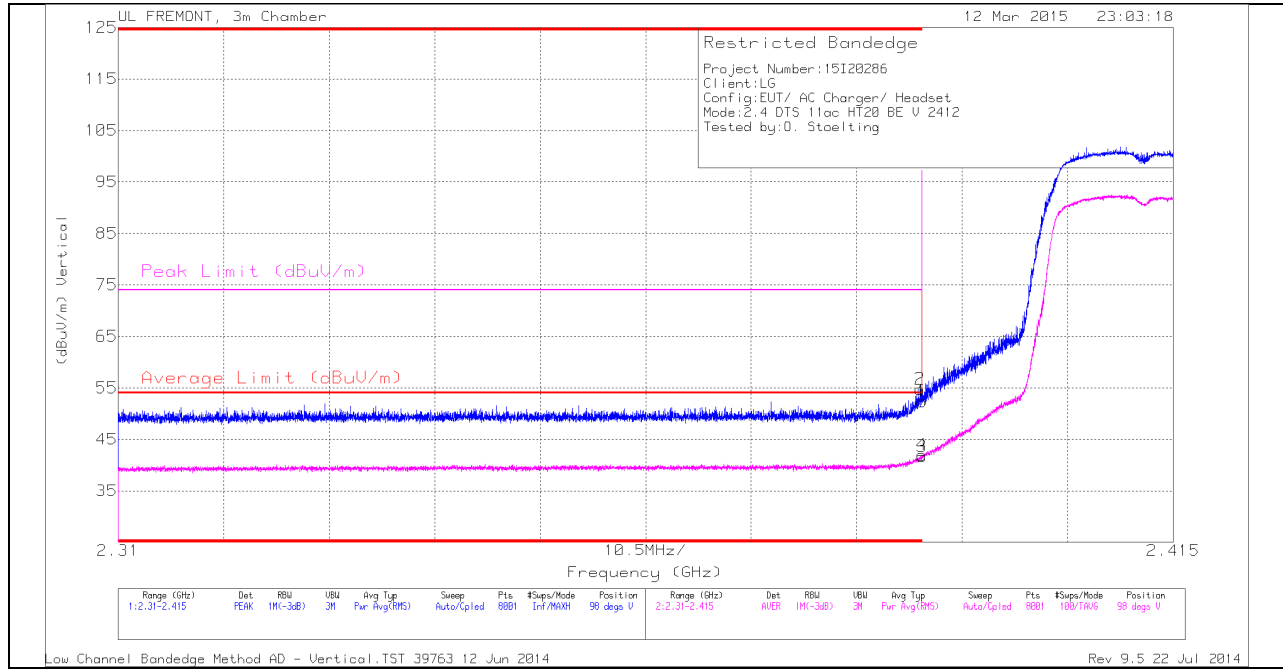
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.37	42.8	PK	31.9	-23	0	51.7	-	-	74	-22.3	103	293	H
1	* 2.39	40.87	PK	32	-23.1	0	49.77	-	-	74	-24.23	103	293	H
3	* 2.39	30.61	RMS	32	-23.1	.24	39.75	54	-14.25	-	-	103	293	H
4	* 2.39	31.09	RMS	32	-23.1	.24	40.23	54	-13.77	-	-	103	293	H

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	43.45	PK	32	-23.1	0	52.35	-	-	74	-21.65	98	303	V
2	* 2.39	45.87	PK	32	-23.1	0	54.77	-	-	74	-19.23	98	303	V
3	* 2.39	32.54	RMS	32	-23.1	.24	41.68	54	-12.32	-	-	98	303	V
4	* 2.39	32.84	RMS	32	-23.1	.24	41.98	54	-12.02	-	-	98	303	V

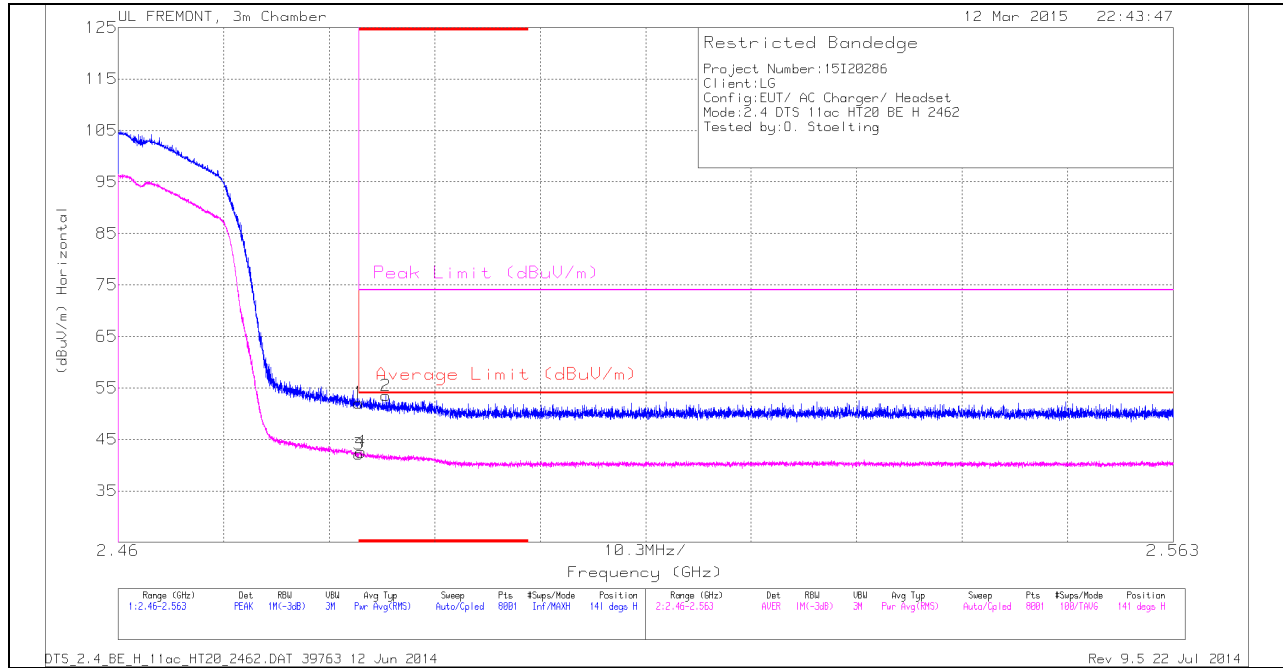
* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

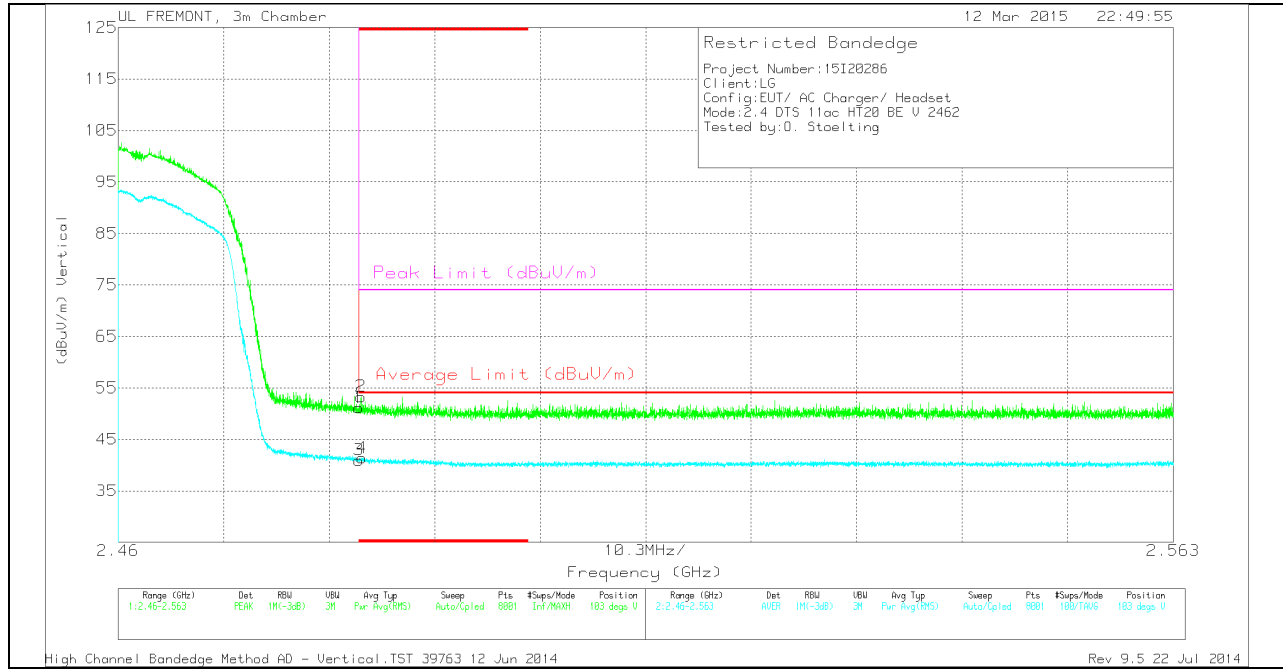
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	42.56	PK	32.3	-22.8	0	52.06	-	-	74	-21.94	141	289	H
3	* 2.484	32.41	RMS	32.3	-22.8	.24	42.15	54	-11.85	-	-	141	289	H
4	* 2.484	32.85	RMS	32.3	-22.8	.24	42.59	54	-11.41	-	-	141	289	H
2	* 2.486	44	PK	32.3	-22.8	0	53.5	-	-	74	-20.5	141	289	H

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Fitter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	41.67	PK	32.3	-22.8	0	51.17	-	-	74	-22.83	103	293	V
2	* 2.484	43.82	PK	32.3	-22.8	0	53.32	-	-	74	-20.68	103	293	V
3	* 2.484	31.24	RMS	32.3	-22.8	.24	40.98	54	-13.02	-	-	103	293	V
4	* 2.484	31.67	RMS	32.3	-22.8	.24	41.41	54	-12.59	-	-	103	293	V

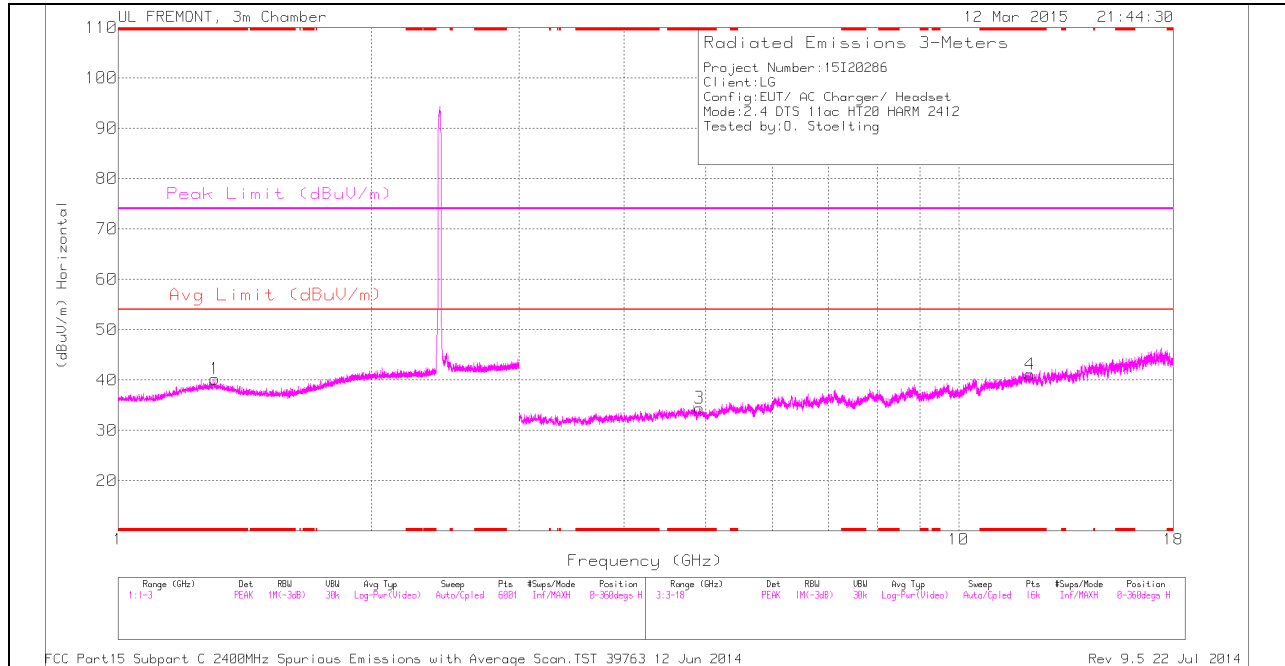
* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

RMS - RMS detection

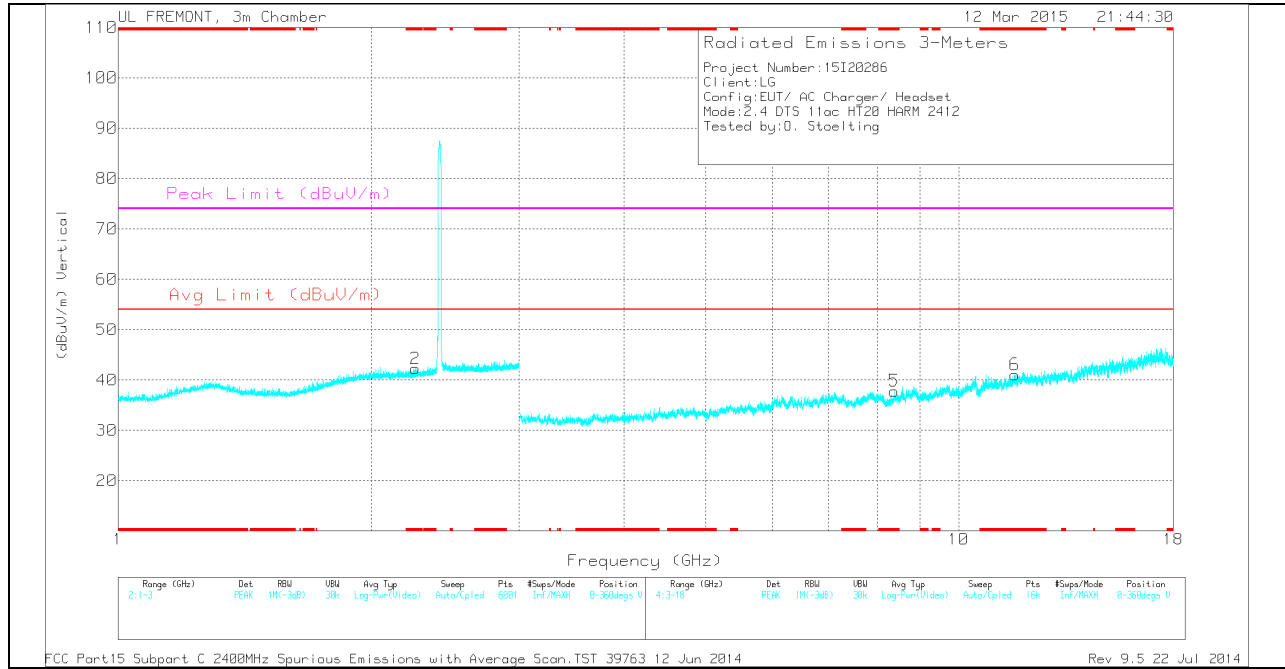
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



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

LOW CHANNEL VERTICAL



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

LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Ftr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.304	34.24	PK	29.8	-23.8	0	40.24	-	-	74	-33.76	0-360	100	H
2	* 2.258	33.77	PK	31.5	-23	0	42.27	-	-	74	-31.73	0-360	100	V
3	* 4.918	30.64	PK	34	-30.2	0	34.44	-	-	74	-39.56	0-360	200	H
4	* 12.162	28.7	PK	39	-26.6	0	41.1	-	-	74	-32.9	0-360	200	H
5	* 8.385	28.83	PK	35.8	-26.8	0	37.83	-	-	74	-36.17	0-360	100	V
6	* 11.669	28.45	PK	38.7	-26.1	0	41.05	-	-	74	-32.95	0-360	200	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

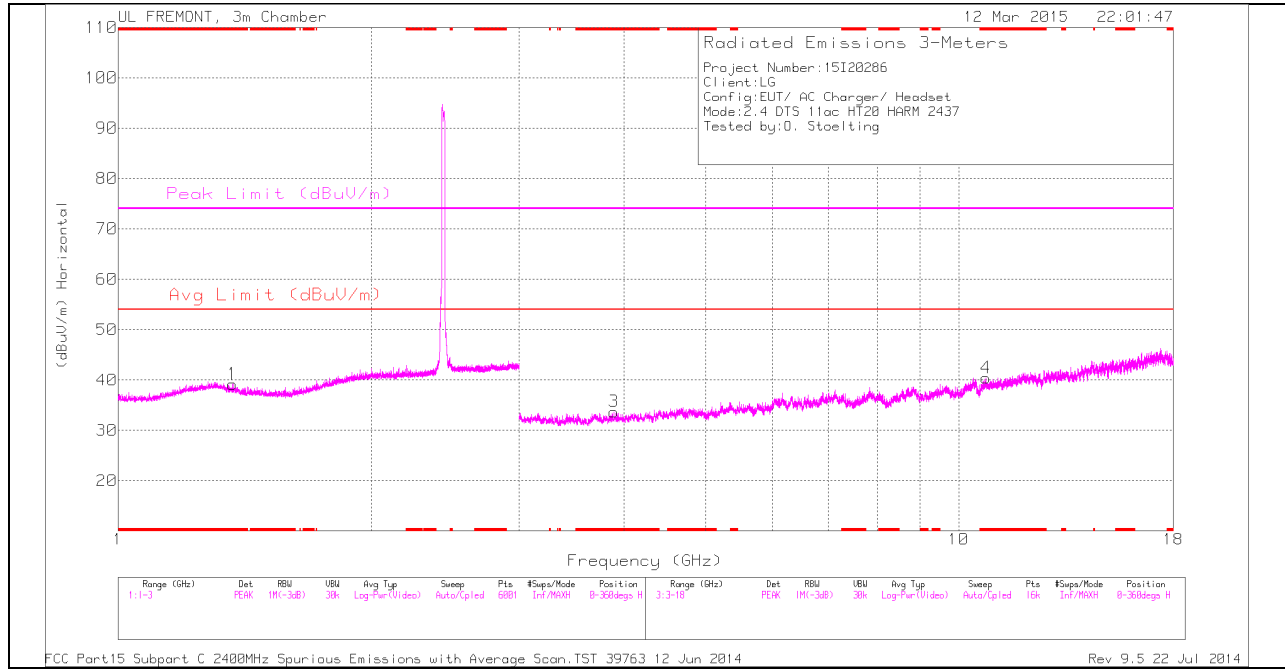
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Ftr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 2.26	42.88	PK2	31.5	-23	0	51.38	-	-	74	-22.62	26	395	V
* 2.26	30.67	MAV1	31.5	-23	.24	39.41	54	-14.59	-	-	26	395	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK2 - KDB558074 Method: Maximum Peak

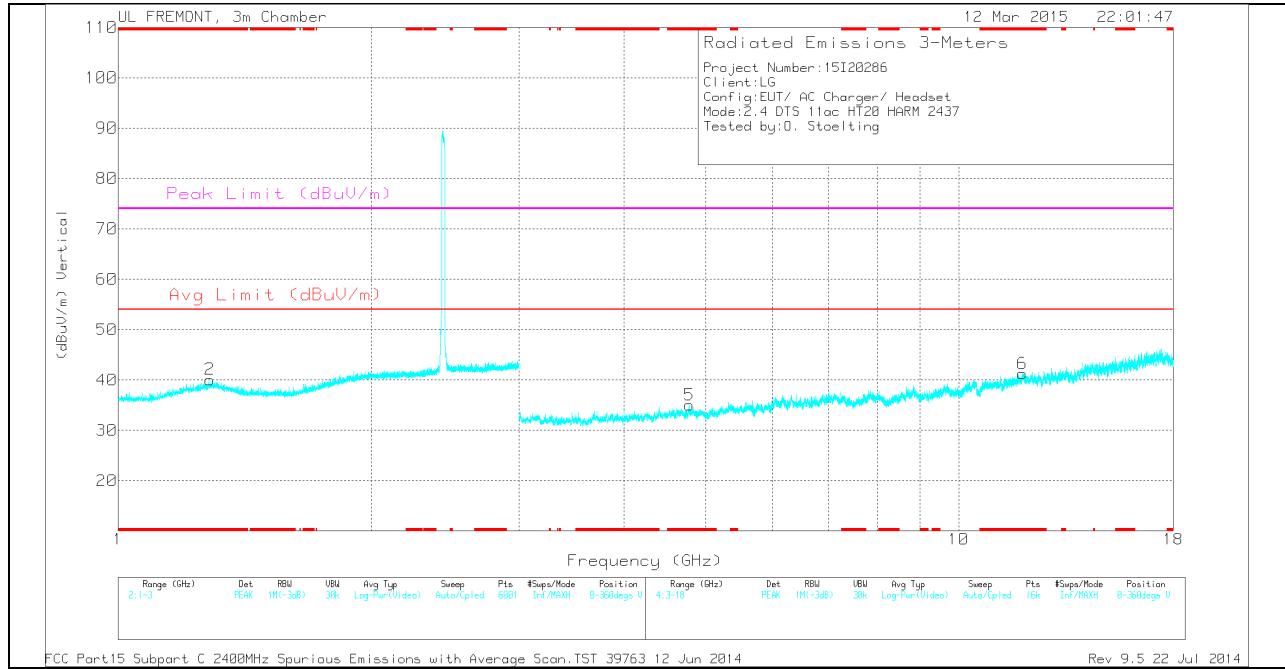
MAV1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL HORIZONTAL



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

MID CHANNEL VERTICAL



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

MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.368	33.99	PK	29	-23.8	0	39.19	-	-	74	-34.81	0-360	100	H
2	* 1.286	33.99	PK	29.8	-23.7	0	40.09	-	-	74	-33.91	0-360	100	V
3	* 3.889	31.72	PK	33.2	-31.2	0	33.72	-	-	74	-40.28	0-360	200	H
4	* 10.783	27.93	PK	37.9	-25.4	0	40.43	-	-	74	-33.57	0-360	200	H
5	* 4.781	31.53	PK	34	-30.5	0	35.03	-	-	74	-38.97	0-360	100	V
6	* 11.914	28.48	PK	39.1	-26.3	0	41.28	-	-	74	-32.72	0-360	200	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.
 PK - Peak detector

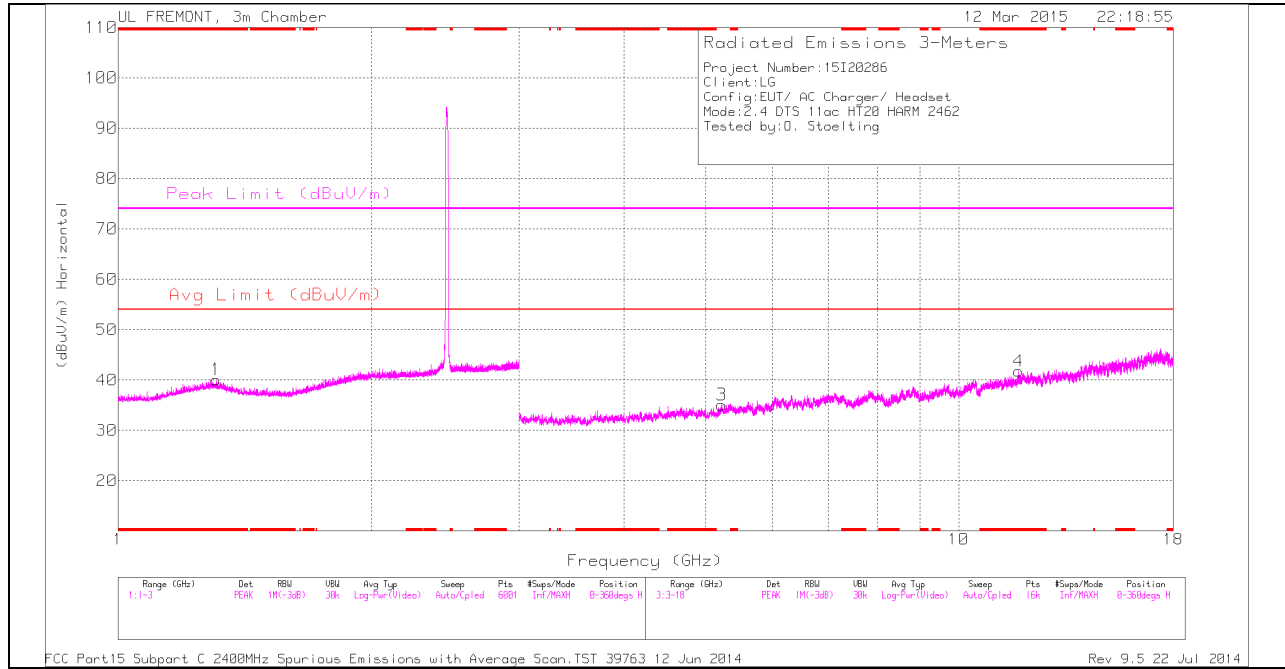
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 11.913	38.27	PK2	39.1	-26.4	0	50.97	-	-	74	-23.03	353	126	V
* 11.916	25.99	MAv1	39.1	-26.3	.24	39.03	54	-14.97	-	-	353	126	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.
 PK2 - KDB558074 Method: Maximum Peak
 MAv1 - KDB558074 Option 1 Maximum RMS Average

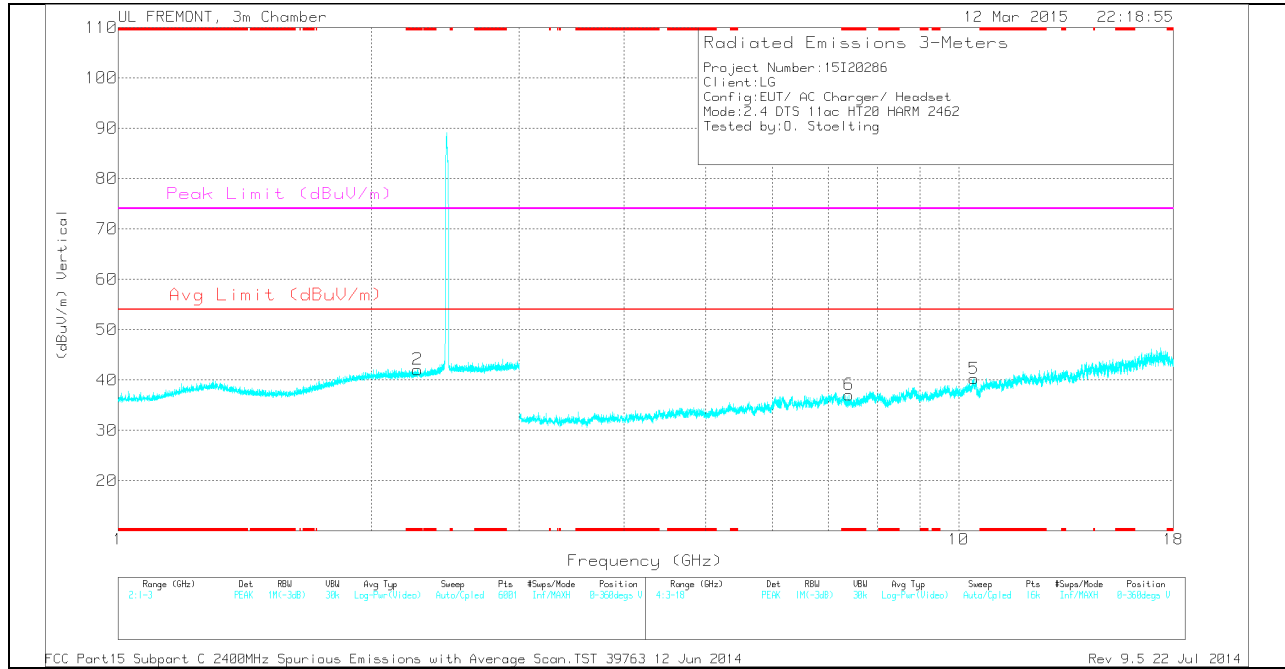
FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

HIGH CHANNEL HORIZONTAL



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

HIGH CHANNEL VERTICAL



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

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.309	34.08	PK	29.8	-23.8	0	40.08	-	-	74	-33.92	0-360	100	H
2	* 2.271	33.49	PK	31.6	-23	0	42.09	-	-	74	-31.91	0-360	200	V
4	* 11.779	28.76	PK	39	-26	0	41.76	-	-	74	-32.24	0-360	200	H
6	* 7.402	29.99	PK	35.6	-28.5	0	37.09	-	-	74	-36.91	0-360	200	V
3	5.225	31.77	PK	34.3	-31	0	35.07	-	-	-	-	0-360	200	H
5	10.426	28.19	PK	37.3	-25.2	0	40.29	-	-	-	-	0-360	200	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 2.27	43.08	PK2	31.6	-23	0	51.68	-	-	74	-22.32	76	358	V
* 2.272	30.65	MAV1	31.6	-23	.24	39.49	54	-14.51	-	-	76	358	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

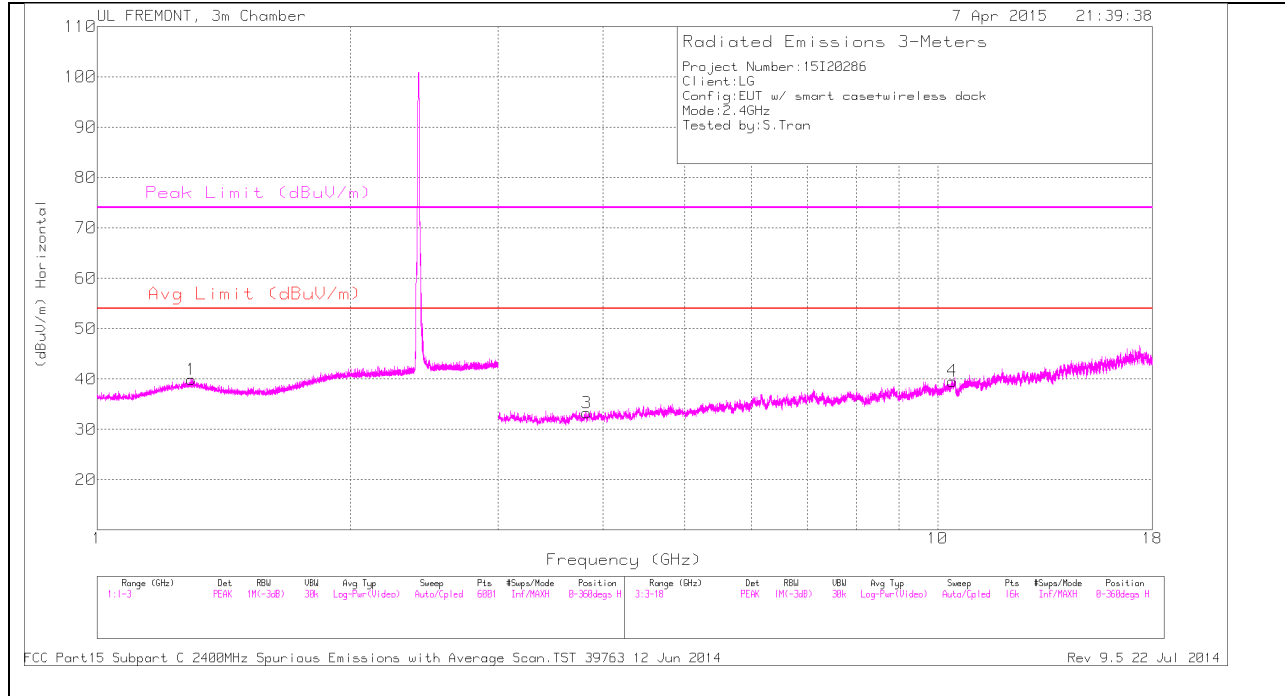
FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

10.3. ADDITIONAL TESTS (PHONE WITH SMART COVER)

10.3.1. TX ABOVE 1 GHz 802.11b MODE IN THE 2.4 GHz BAND (Worst case)

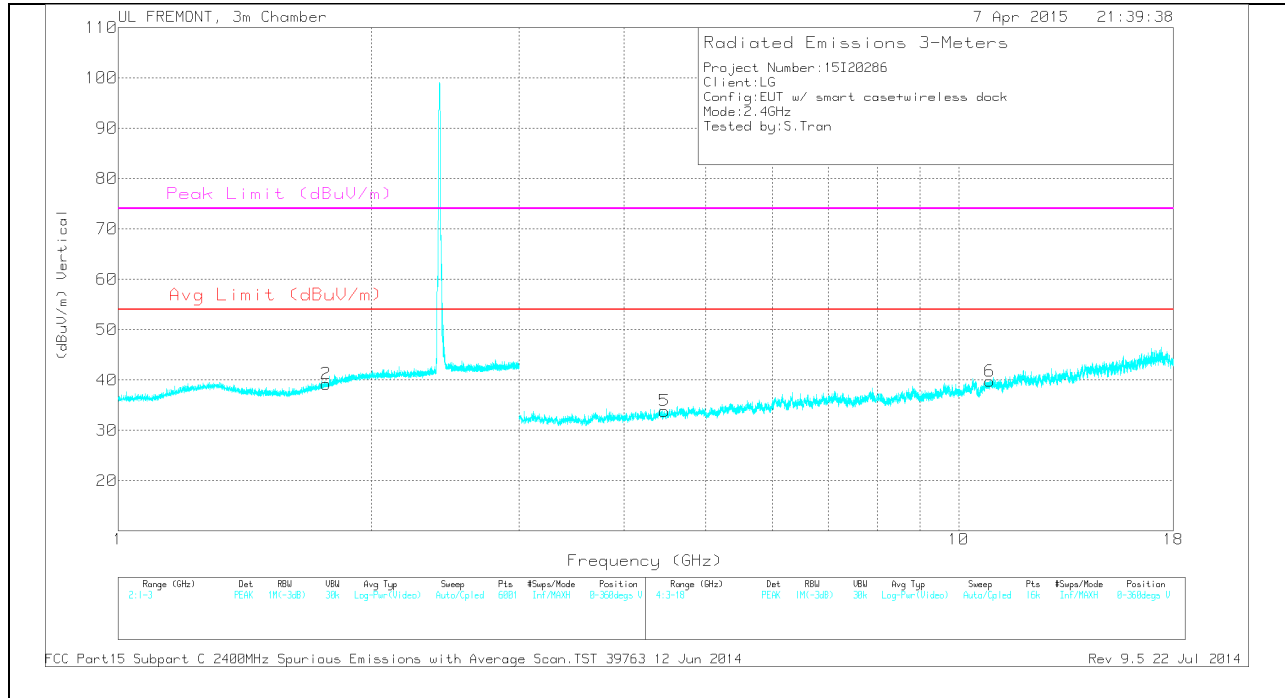
HARMONICS AND SPURIOUS EMISSIONS

MID CHANNEL HORIZONTAL



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

MID CHANNEL VERTICAL



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

MID CHANNEL DATA

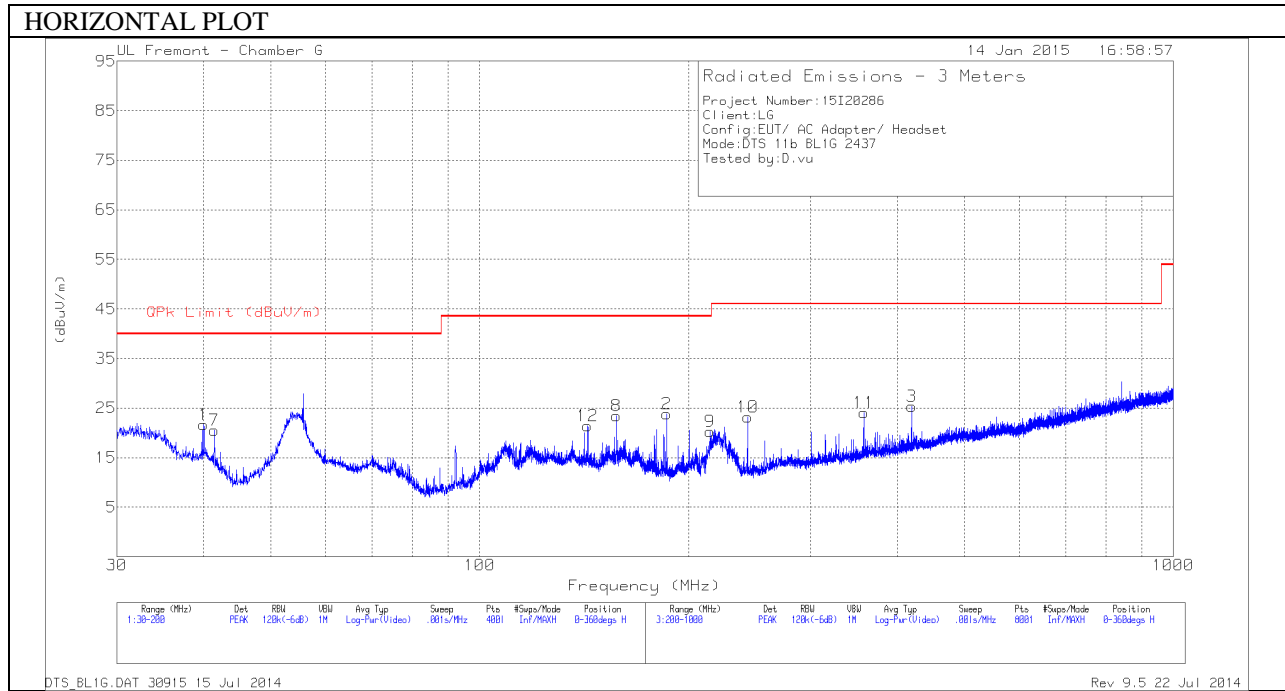
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/F ltr/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	1.294	33.9	PK	29.8	-23.8	39.9	-	-	74	-34.1	0-360	100	H
2	1.769	32.74	PK	29.8	-23.3	39.24	-	-	-	-	0-360	100	V
3	3.823	31.36	PK	33.1	-31.2	33.26	-	-	74	-40.74	0-360	200	H
5	4.467	31.25	PK	33.7	-31.1	33.85	-	-	-	-	0-360	200	V
4	10.409	27.27	PK	37.3	-25	39.57	-	-	-	-	0-360	100	H
6	10.893	27.79	PK	37.8	-25.8	39.79	-	-	74	-34.21	0-360	100	V

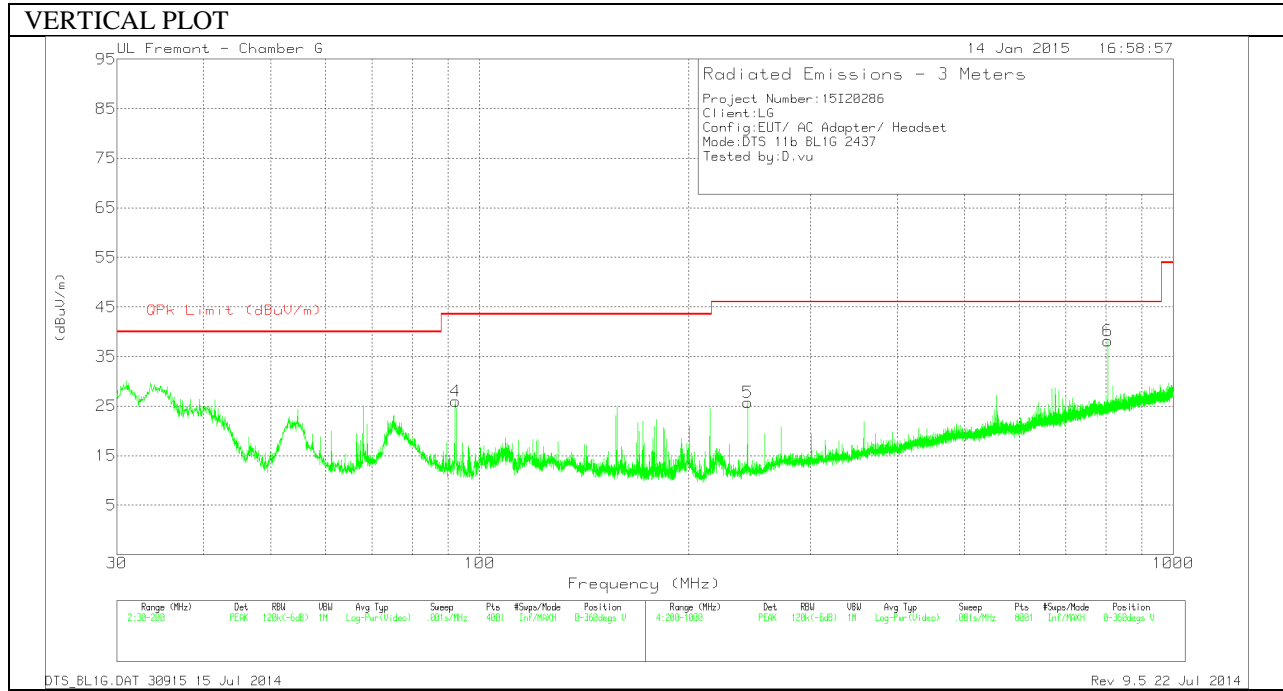
PK - Peak detector

10.4. TRANSMITTER 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

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T243 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
10	* 243.4	37.97	PK	11.6	-26.4	23.17	46.02	-22.85	0-360	300	H
5	* 243.4	40.49	PK	11.6	-26.4	25.69	46.02	-20.33	0-360	200	V
1	40.03	36.35	PK	14	-28.7	21.65	40	-18.35	0-360	400	H
7	41.475	36.08	PK	13	-28.6	20.48	40	-19.52	0-360	200	H
4	93.505	45.87	PK	8.2	-28.1	25.97	43.52	-17.55	0-360	101	V
12	165.15	36.03	PK	12.9	-27.5	21.43	43.52	-22.09	0-360	200	H
8	186.5	38.54	PK	12.3	-27.4	23.44	43.52	-20.08	0-360	200	H
2	186.145	39.51	PK	11.3	-27	23.81	43.52	-19.71	0-360	400	H
9	214.8	36.46	PK	10.6	-26.8	20.26	43.52	-23.26	0-360	101	H
11	316.9	35.03	PK	14.8	-25.8	24.03	46.02	-21.99	0-360	300	H
3	426.4	35.03	PK	16.2	-25.9	25.33	46.02	-20.69	0-360	200	H
6	810.1	40.31	PK	21.5	-23.7	38.11	46.02	-7.91	0-360	101	V

11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

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 2009.

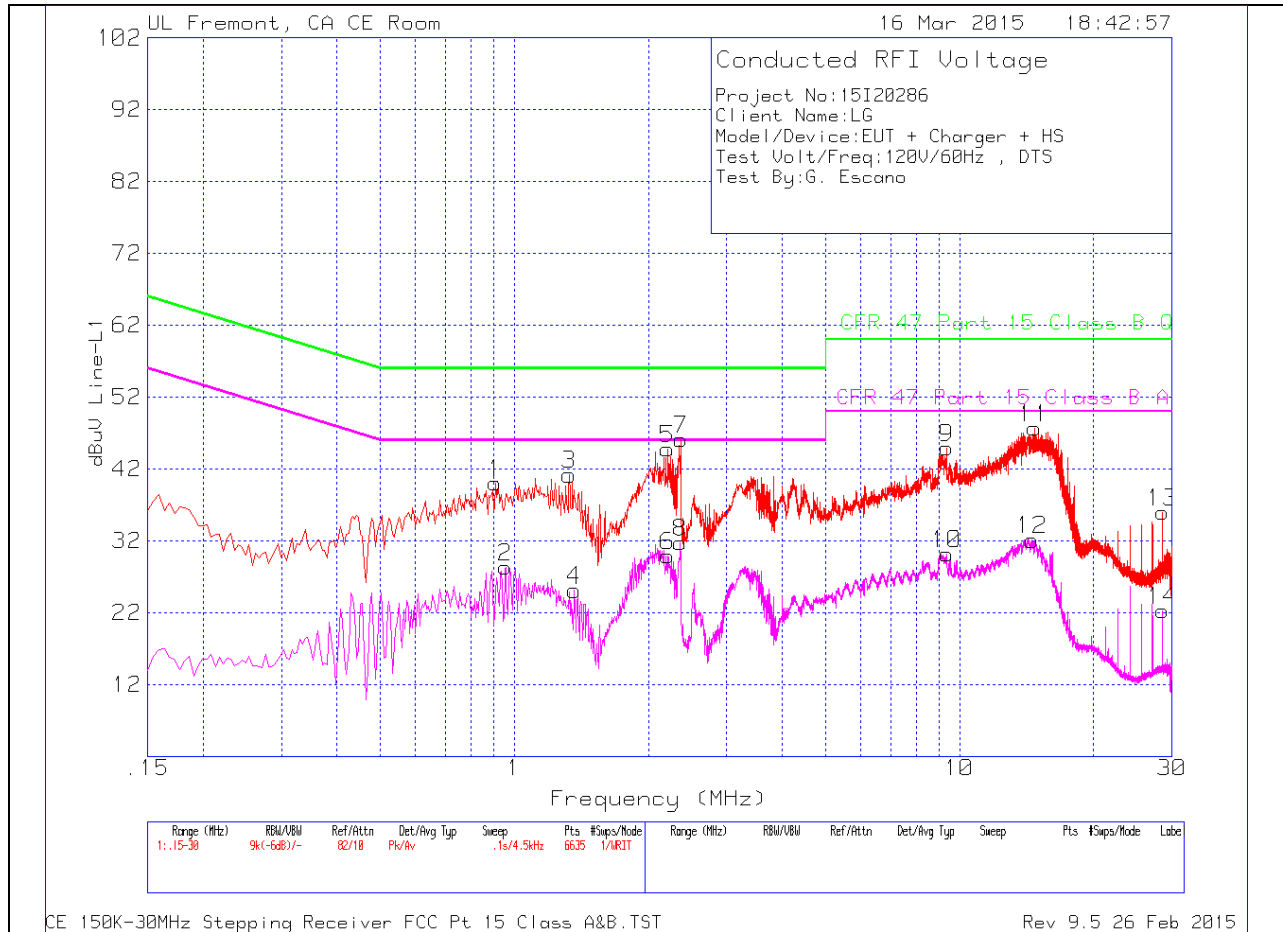
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

6 WORST EMISSIONS

LINE 1 PLOT



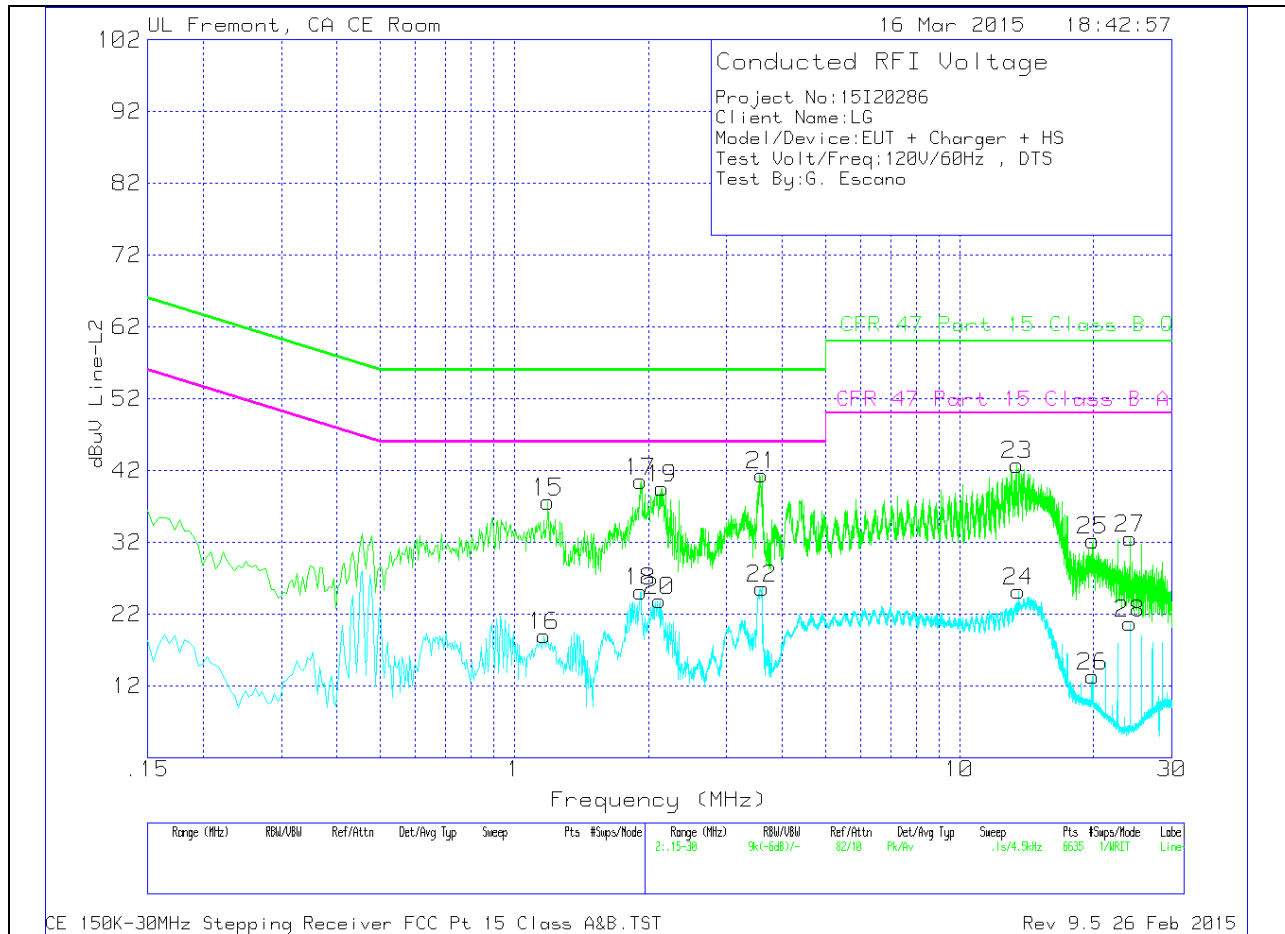
LINE 1 RESULTS

Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
1	.906	39.79	Pk	.3	0	40.09	56	-15.91	-	-
2	.9555	27.96	Av	.3	.1	28.36	-	-	46	-17.64
3	1.329	40.93	Pk	.2	.1	41.23	56	-14.77	-	-
4	1.365	24.85	Av	.2	.1	25.15	-	-	46	-20.85
5	2.211	44.5	Pk	.2	.1	44.8	56	-11.2	-	-
6	2.211	29.64	Av	.2	.1	29.94	-	-	46	-16.06
7	2.3685	45.83	Pk	.2	.1	46.13	56	-9.87	-	-
8	2.3595	31.46	Av	.2	.1	31.76	-	-	46	-14.24
9	9.3615	44.55	Pk	.2	.2	44.95	60	-15.05	-	-
10	9.3615	29.78	Av	.2	.2	30.18	-	-	50	-19.82
11	14.7345	47.33	Pk	.2	.2	47.73	60	-12.27	-	-
12	14.5455	31.75	Av	.2	.2	32.15	-	-	50	-17.85
13	28.572	35.41	Pk	.3	.3	36.01	60	-23.99	-	-
14	28.5675	21.71	Av	.3	.3	22.31	-	-	50	-27.69

Pk - Peak detector
 Av - Average detection

LINE 2 PLOT



LINE 2 RESULTS

Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
15	1.1895	37.25	Pk	.3	.1	37.65	56	-18.35	-	-
16	1.167	18.59	Av	.3	.1	18.99	-	-	46	-27.01
17	1.923	40.22	Pk	.2	.1	40.52	56	-15.48	-	-
18	1.923	24.86	Av	.2	.1	25.16	-	-	46	-20.84
19	2.148	39.24	Pk	.2	.1	39.54	56	-16.46	-	-
20	2.121	23.59	Av	.2	.1	23.89	-	-	46	-22.11
21	3.597	41.11	Pk	.2	.1	41.41	56	-14.59	-	-
22	3.6015	25.33	Av	.2	.1	25.63	-	-	46	-20.37
23	13.461	42.4	Pk	.2	.2	42.8	60	-17.2	-	-
24	13.56	24.8	Av	.2	.2	25.2	-	-	50	-24.8
25	19.932	31.77	Pk	.3	.2	32.27	60	-27.73	-	-
26	19.932	12.83	Av	.3	.2	13.33	-	-	50	-36.67
27	24.18	31.96	Pk	.3	.3	32.56	60	-27.44	-	-
28	24.1755	20.12	Av	.3	.3	20.72	-	-	50	-29.28

Pk - Peak detector
 Av - Average detection