



FCC CFR47 PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

GSM/WCDMA Phone + Bluetooth, DTS/UNII a/b/g/n, ANT+ & NFC

MODEL NUMBER: SM-W2015

FCC ID: A3LSMW2015

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Issue			
Rev.	Date	Revisions	Revised By
--	8/16/14	Initial Issue	P. Zhang
A	09/29/14	Added additional output power information to section 9.3	P. Zhang

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.
EUT DESCRIPTION: GSM/WCDMA Phone + Bluetooth, DTS/UNII a/b/g/n/ac, ANT+ & NFC
MODEL: SM-W2015
SERIAL NUMBER: FL-277-E (conducted) & FL-277-A (radiated)
DATE TESTED: AUGUST 6-16, 2014

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:

Tested By:



PENG ZHANG

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CONSUMER TECHNOLOGY DIVISION
PROJECT LEAD
UL Verification Services Inc.

CONSUMER TECHNOLOGY DIVISION
LAB ENGINEER
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 C63.4-2009.

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
☒ Chamber A	☐ Chamber D
☐ Chamber B	☐ Chamber E
☒ Chamber C	☐ Chamber F

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:

$$\text{Field Strength (dBuV/m)} = \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} - \text{Preamp Gain (dB)}$$

$$36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$$

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 26000 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/WCDMA Phone + Bluetooth, DTS/UNII a/b/g/n, ANT+ & NFC.

5.2. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of -1.57 dBi.

5.1. 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	16.3	42.66
2412 - 2462	802.11g	14.1	25.70
2412 - 2462	802.11n HT20	13	19.95

5.2. 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

5.3. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

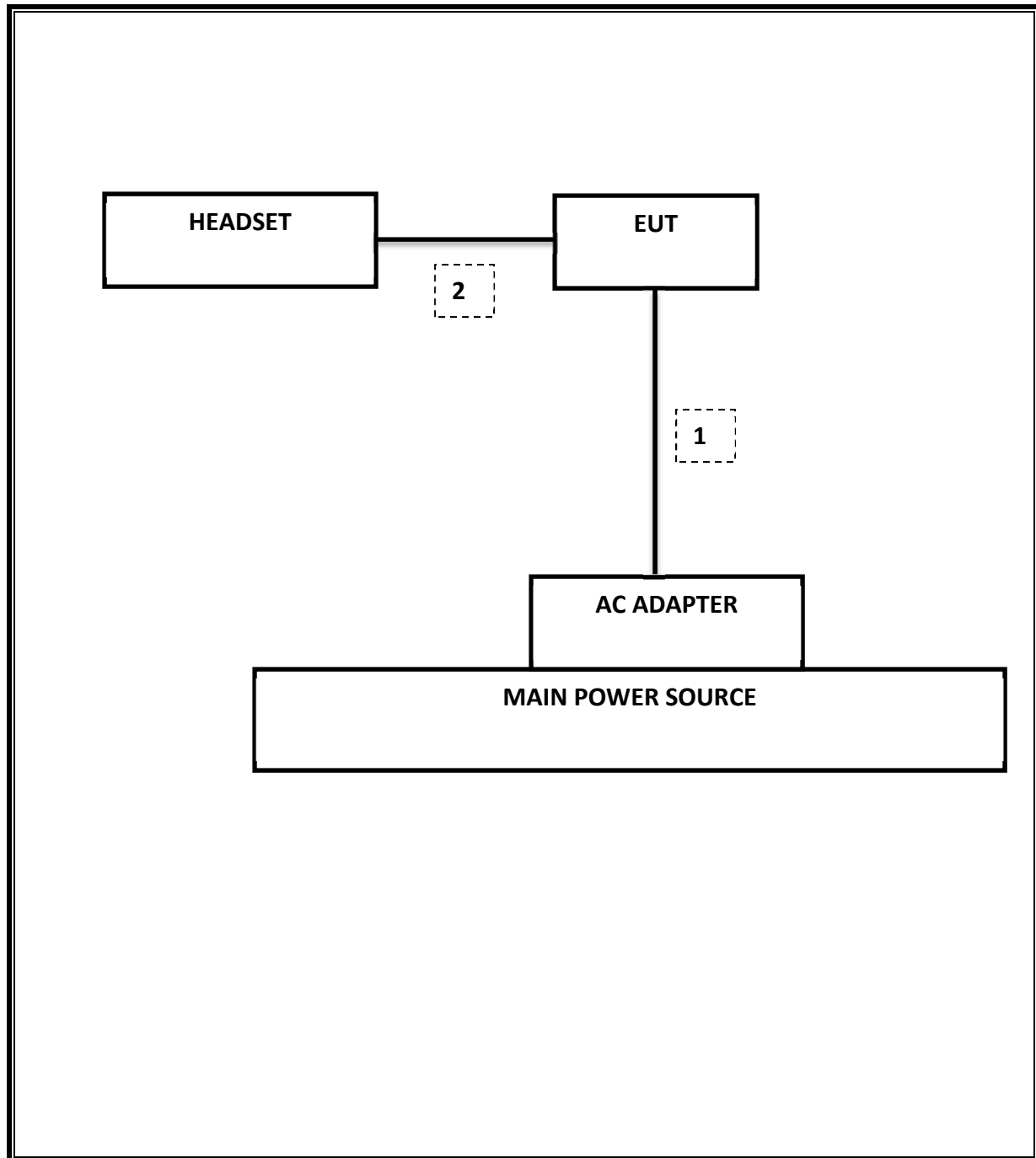
Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	SAMSUNG	ETA0U42CBC	N/A	N/A
Earphone	SAMSUNG	EHS61ASFWE	N/A	N/A

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
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/14
Spectrum Analyzer, 9KHz-40GHz	HP	8564E	C00986	04/01/15
EMI Test Receiver, 9 kHz-7 GHz	R & S	ESCI 7	1000741	08/13/15
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	08/18/14
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/14
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/14
Antenna, Horn, 1-18 GHz	ETS	3117	C01022	02/21/15
Antenna, Horn, 18- 26 GHz	ARA	MWH-1826/B	C00946	11/12/14
Antenna, Horn, 26-40 GHz	ARA	MWH-2640	C00891	06/28/15
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	T243	03/06/15
RF Preamplifier, 100KHz -> 1300MHz	HP	TBD	C00825	06/01/15
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/15
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	F00351	06/27/15
AC Power Supply, 2,500VA 45-500Hz	Elgar-Ametek	CW2501M	F00013	CNR
RF Preamplifier, 1GHz - 40GHz	Miteq	NSP4000-SP2	C00990	08/20/14
Attenuator / Switch driver	HP	11713A	F00204	CNR
Low Pass Filter 3GHz	Micro-Tronics	LPS17541	F00219	05/23/15
High Pass Filter 5GHz	Micro-Tronics	HPS17542	F00222	05/22/15
High Pass Filter 6GHz	Micro-Tronics	HPM17543	F00224	05/22/15

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	9.18MHz
2.1051, 15.247 (d)	RSS-210 A8.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass	-35.12dBm
15.247	RSS-210 A8.4	TX conducted output power	<30dBm		Pass	16.3dBm
15.247	RSS-210 A8.2	PSD	<8dBm		Pass	-14.43dBm
15.207 (a)	RSS-GEN 7.2.2	AC Power Line conducted emissions	Section 10	Radiated	Pass	28.42dBuV(AV)
15.205, 15.209	RSS-210 Clause 2.6, RSS-210 Clause 6	Radiated Spurious Emission	< 54dBuV/m		Pass	53.08dBuV/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 D01 DTS Meas Guidance v03r02: The transmitter output is connected to a spectrum analyzer with the RBW set to 100 kHz, 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	10.10	0.5
Mid	2437	9.18	0.5
High	2462	9.63	0.5
Worst		9.18	

9.1.2. 802.11g MODE IN THE 2.4 GHz BAND

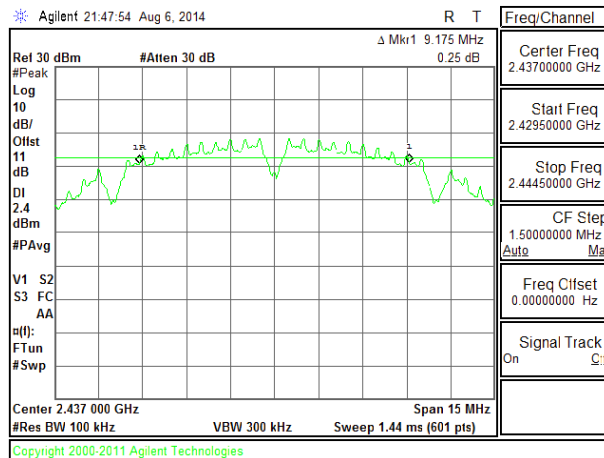
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	16.46	0.5
Mid	2437	16.50	0.5
High	2462	16.50	0.5
Worst		16.46	

9.1.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

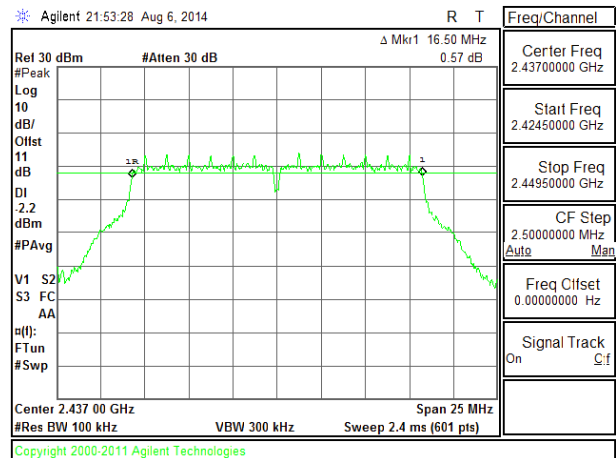
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	17.71	0.5
Mid	2437	17.71	0.5
High	2462	17.67	0.5
Worst		17.67	

9.1.4. 6 dB BANDWIDTH MID CH PLOTS

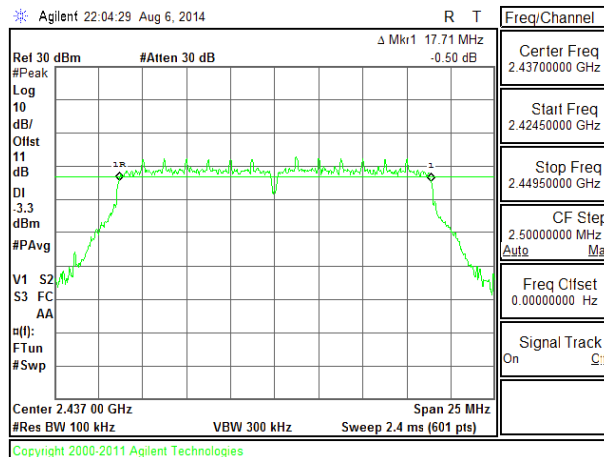
11b HT20 2.4



11g HT20 2.4



11n HT20 2.4



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	13.05
Mid	2437	13.09
High	2462	13.01
Worst		13.09

9.2.2. 802.11g MODE IN THE 2.4 GHz BAND

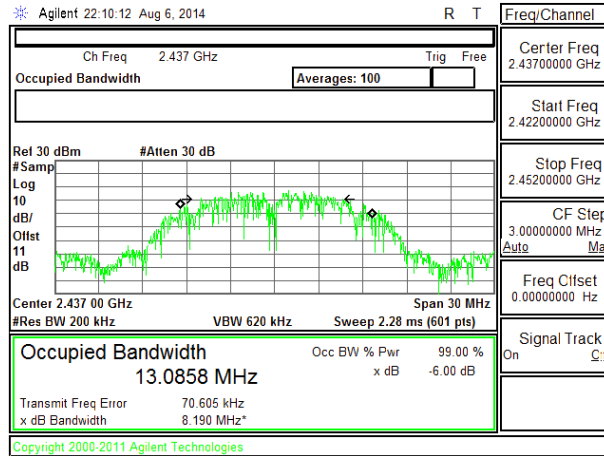
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	16.43
Mid	2437	16.38
High	2462	16.37
Worst		16.43

9.2.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

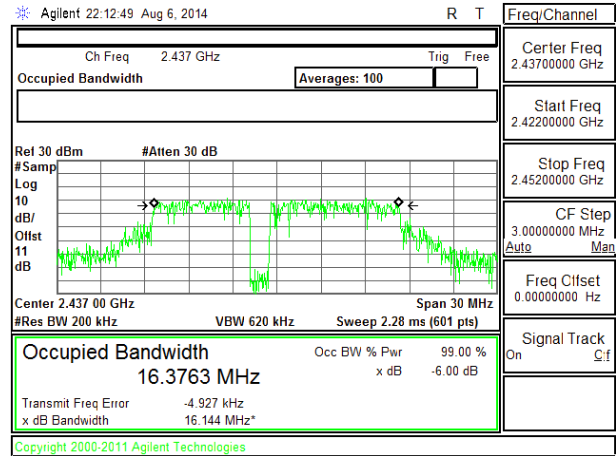
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	17.52
Mid	2437	17.53
High	2462	17.53
Worst		17.53

9.2.4. 99% BANDWIDTH MID CH PLOTS

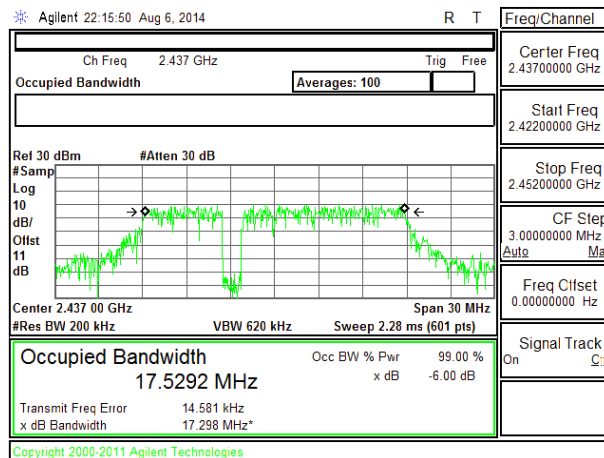
11b HT20 2.4



11g HT20 2.4



11n HT20 2.4



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.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 0.2 dB (including 10 dB pad and 0.2 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

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2412	-1.57	30.00	30	36	30.00
Mid	2437	-1.57	30.00	30	36	30.00
High	2462	-1.57	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	16.30	16.30	30.00	-13.70
Mid	2437	16.30	16.30	30.00	-13.70
High	2462	16.20	16.20	30.00	-13.80
Worst			16.30		

Note:

1. Above conducted output power is average power.
2. Power meter gated option was used so no duty cycle is added to output power result.

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	-1.57	30.00	30	36	30.00
Mid	2437	-1.57	30.00	30	36	30.00
High	2462	-1.57	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	14.10	14.10	30.00	-15.90
Mid	2437	14.10	14.10	30.00	-15.90
High	2462	13.80	13.80	30.00	-16.20
Worst			14.10		

Note:

1. Above conducted output power is average power.
2. Power meter gated option was used so no duty cycle is added to output power result.

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	-1.57	30.00	30	36	30.00
Mid	2437	-1.57	30.00	30	36	30.00
High	2462	-1.57	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	13.00	13.00	30.00	-17.00
Mid	2437	12.90	12.90	30.00	-17.10
High	2462	12.80	12.80	30.00	-17.20
Worst			13.00		

Note:

1. Above conducted output power is average power.
2. Power meter gated option was used so no duty cycle is added to output power result.

9.4. 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

9.4.1. 802.11b MODE IN THE 2.4 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-14.50	8.0	-22.5
Mid	2437	-14.43	8.0	-22.4
High	2462	-14.99	8.0	-23.0

9.4.2. 802.11g MODE IN THE 2.4 GHz BAND

PSD Results

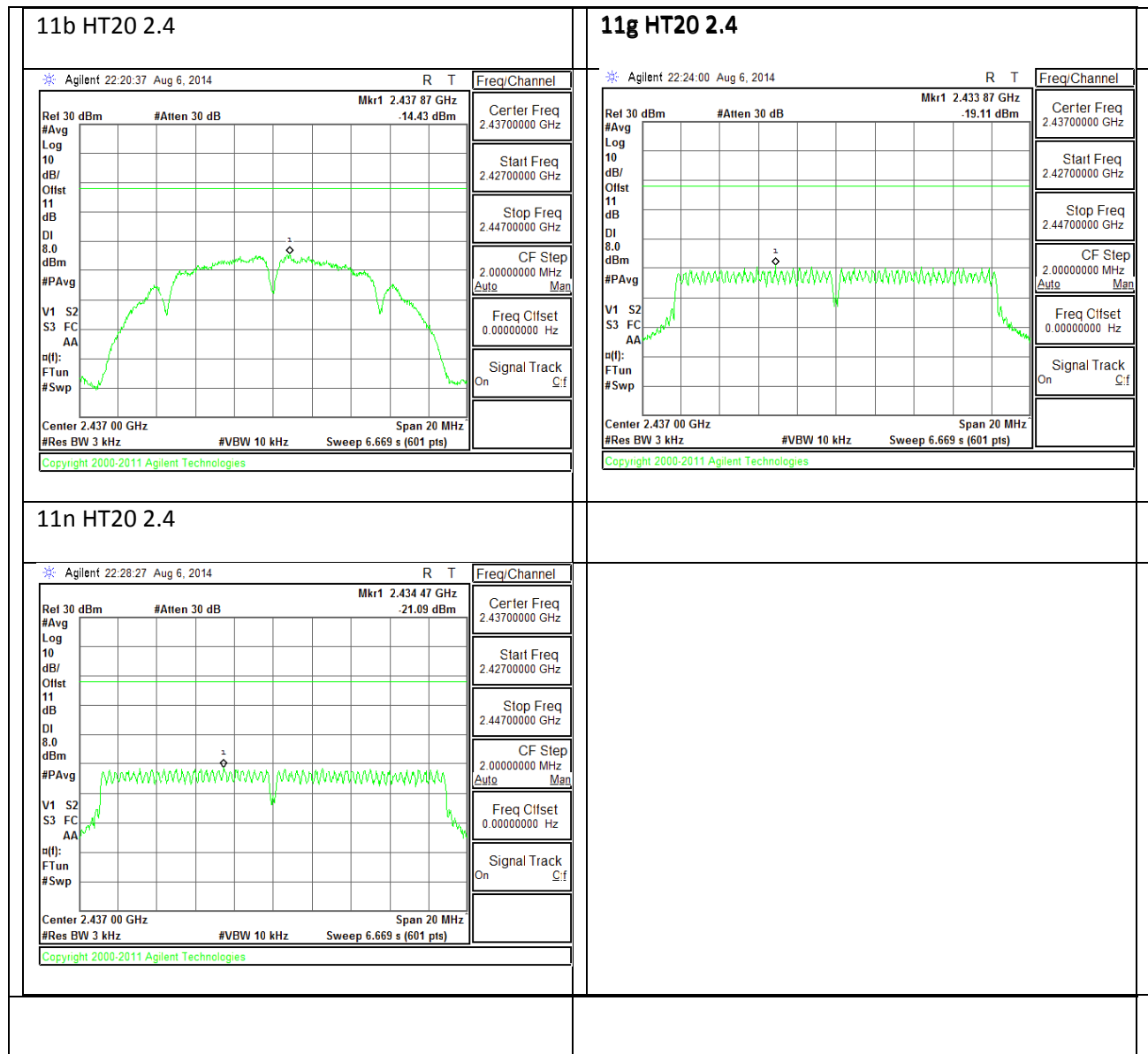
Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-19.01	8.0	-27.0
Mid	2437	-19.11	8.0	-27.1
High	2462	-18.92	8.0	-26.9

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	-21.13	8.0	-29.1
Mid	2437	-21.09	8.0	-29.1
High	2462	-21.48	8.0	-29.5

9.4.4. PSD Chain 0 MID CH PLOTS



9.5. 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.

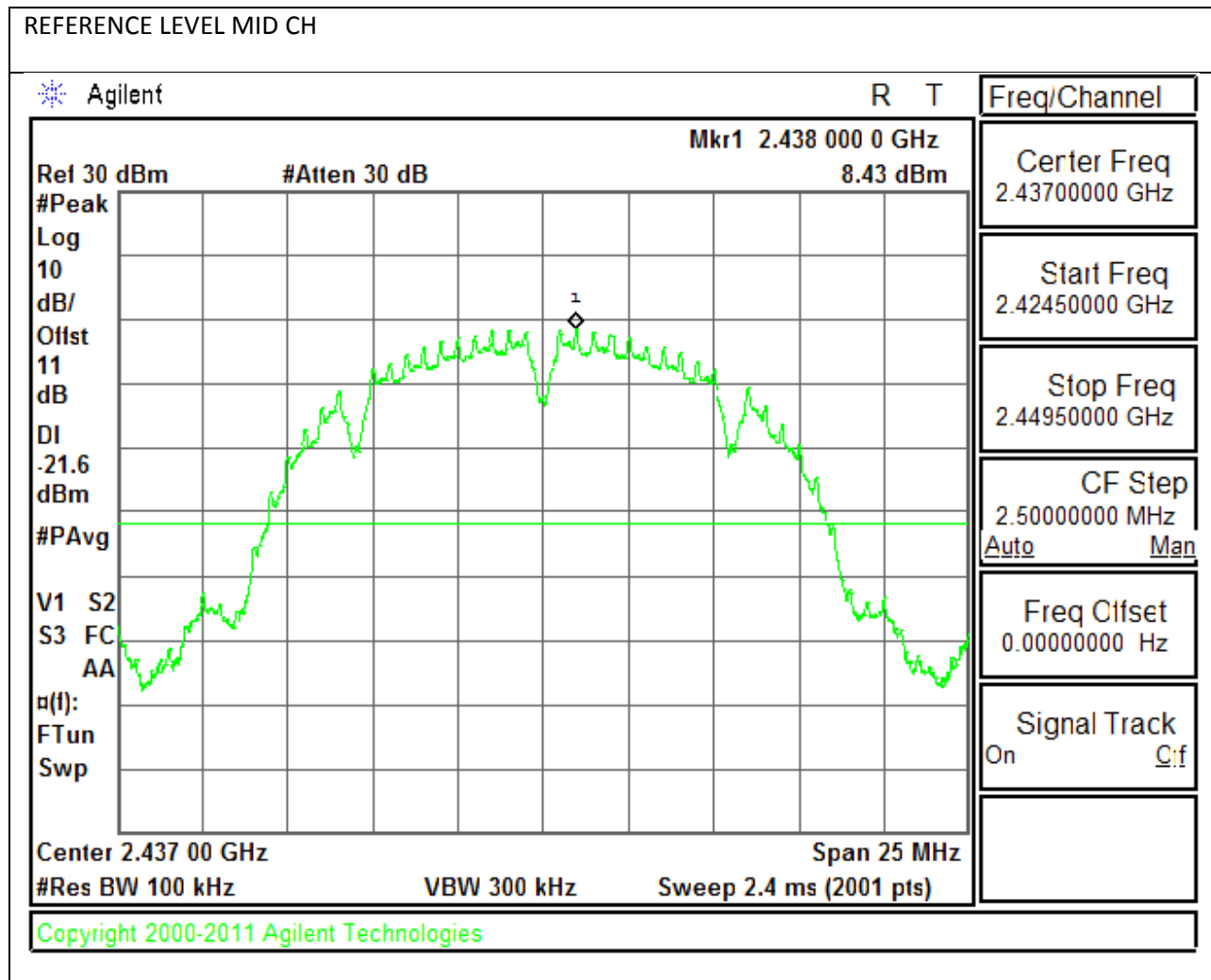
TEST PROCEDURE

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

9.5.1. 802.11b MODE IN THE 2.4 GHz BAND

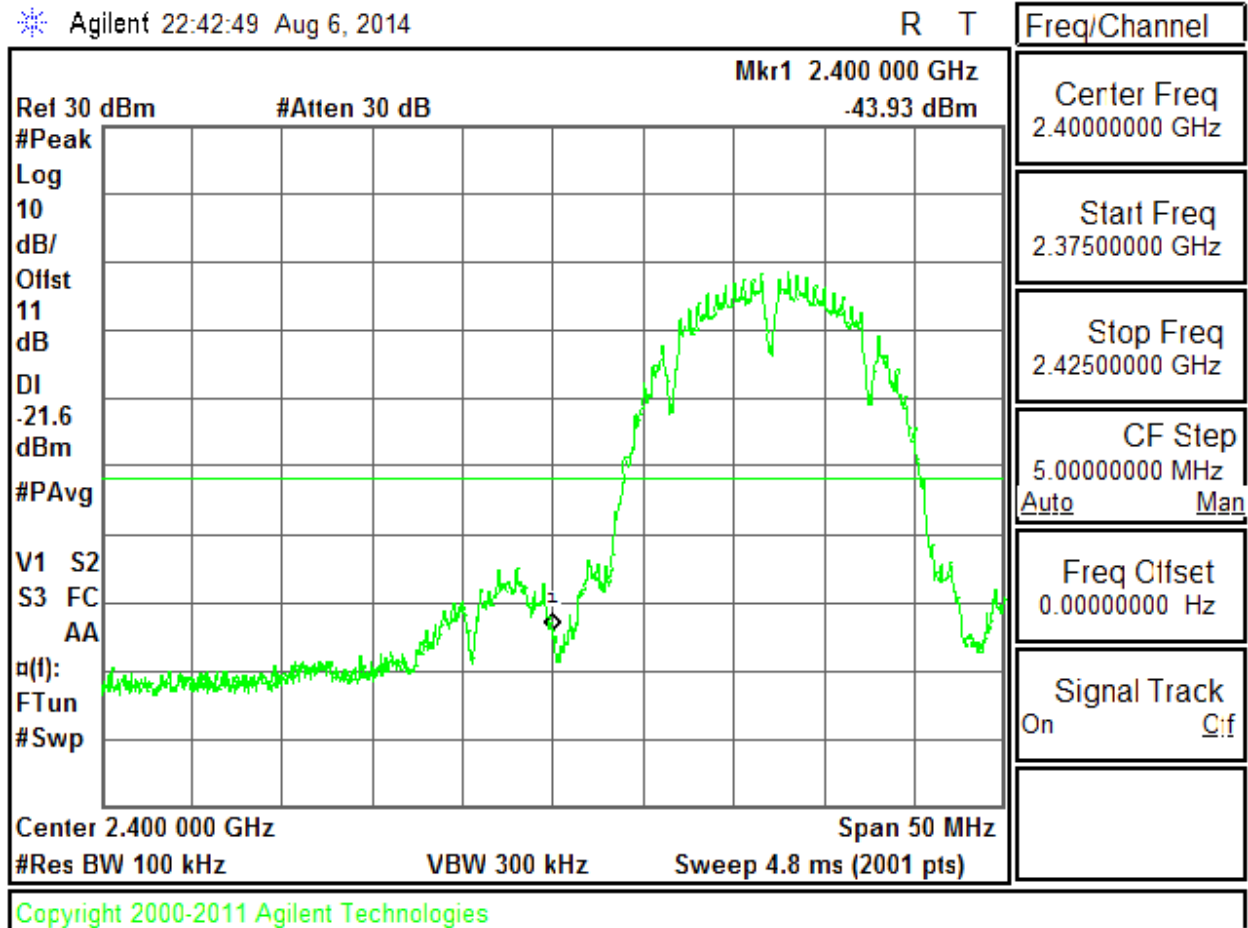
IN-BAND REFERENCE LEVEL



LOW CHANNEL BANDEDGE

AUTHORIZED BAND EDGE LOW CH

✱ Agilent 22:42:49 Aug 6, 2014

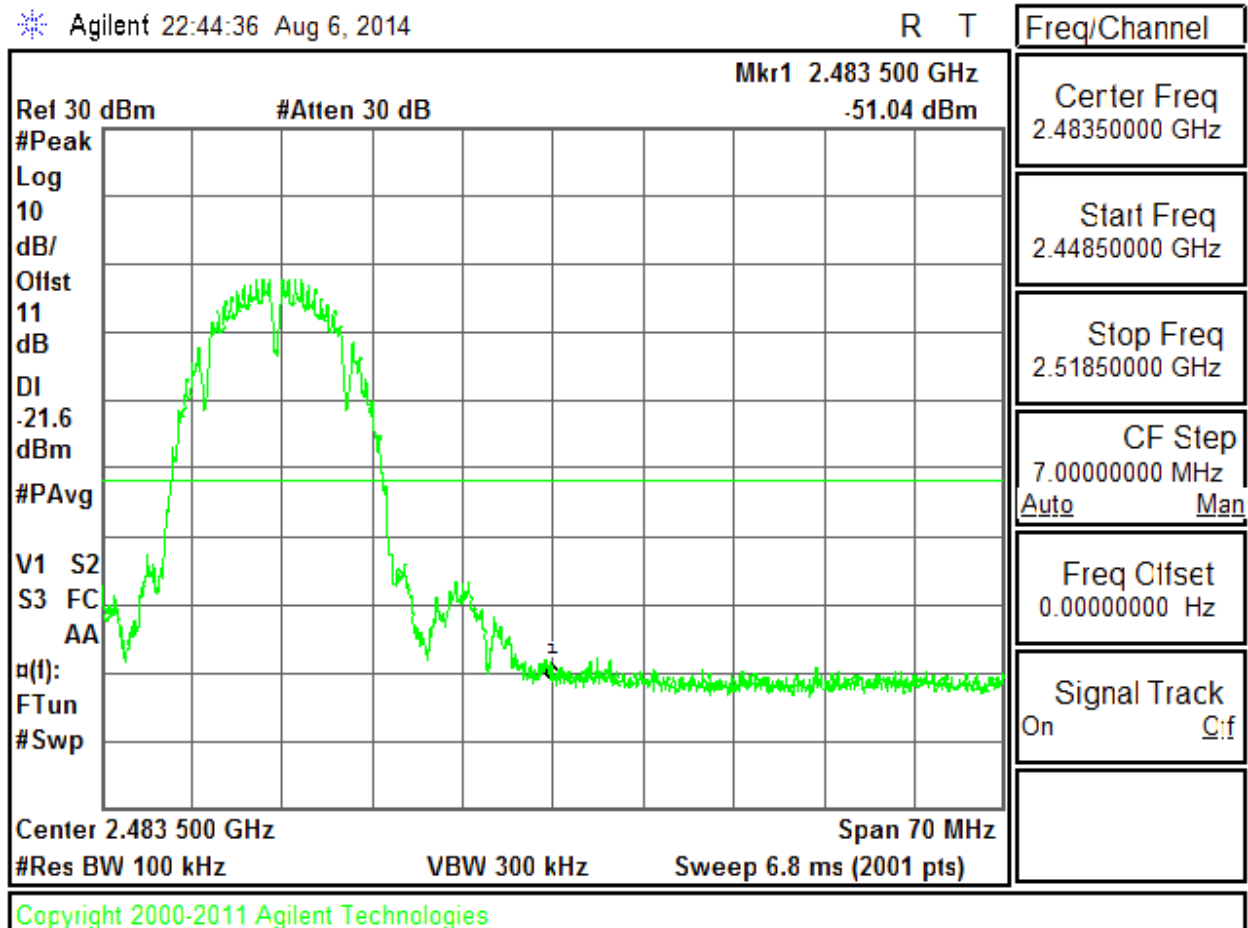


HIGH CHANNEL BANDEDGE

AUTHORIZED BAND EDGE HIGH CH

✱ Agilent 22:44:36 Aug 6, 2014

R T

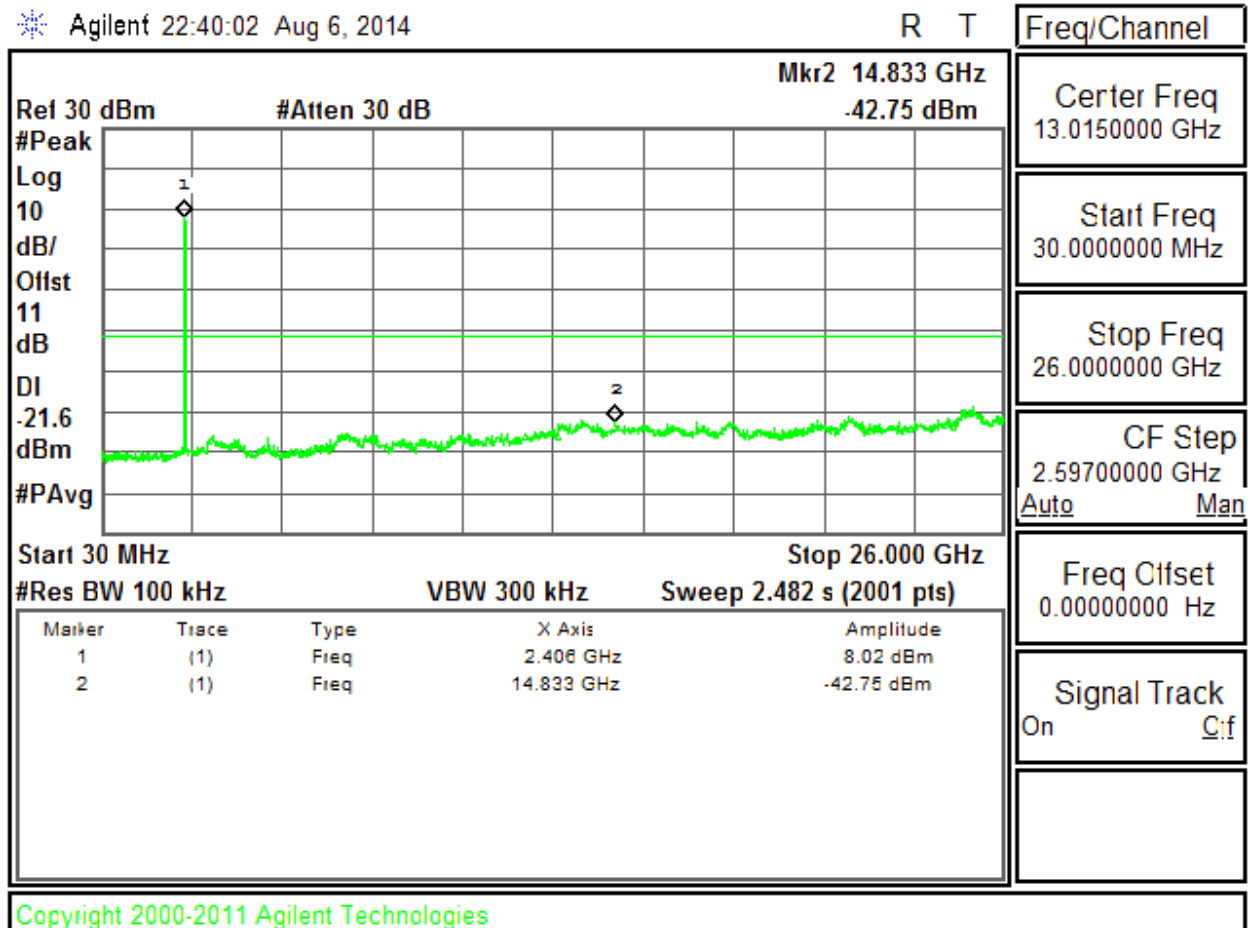


OUT-OF-BAND EMISSIONS

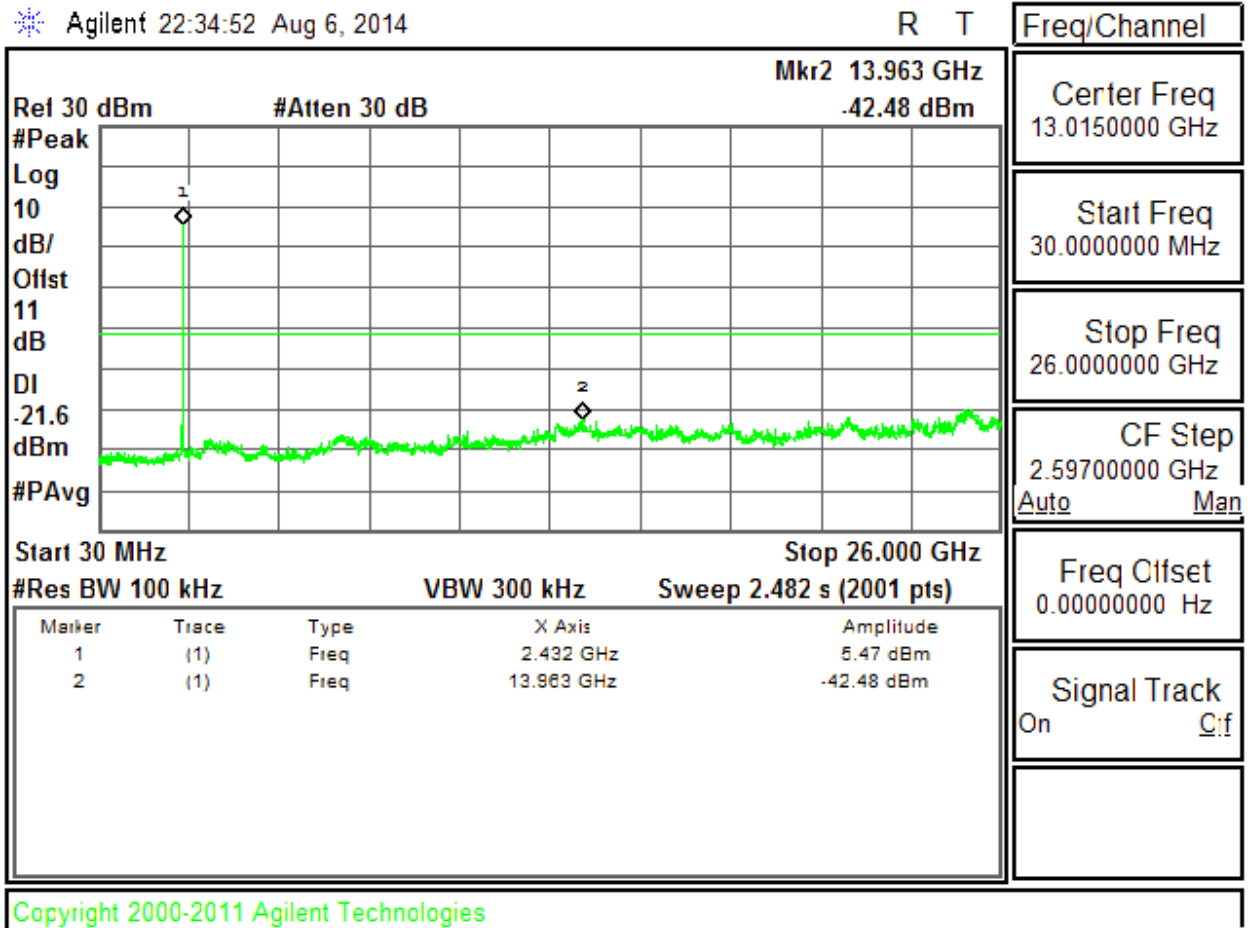
OUT OF BAND LOW CH

Agilent 22:40:02 Aug 6, 2014

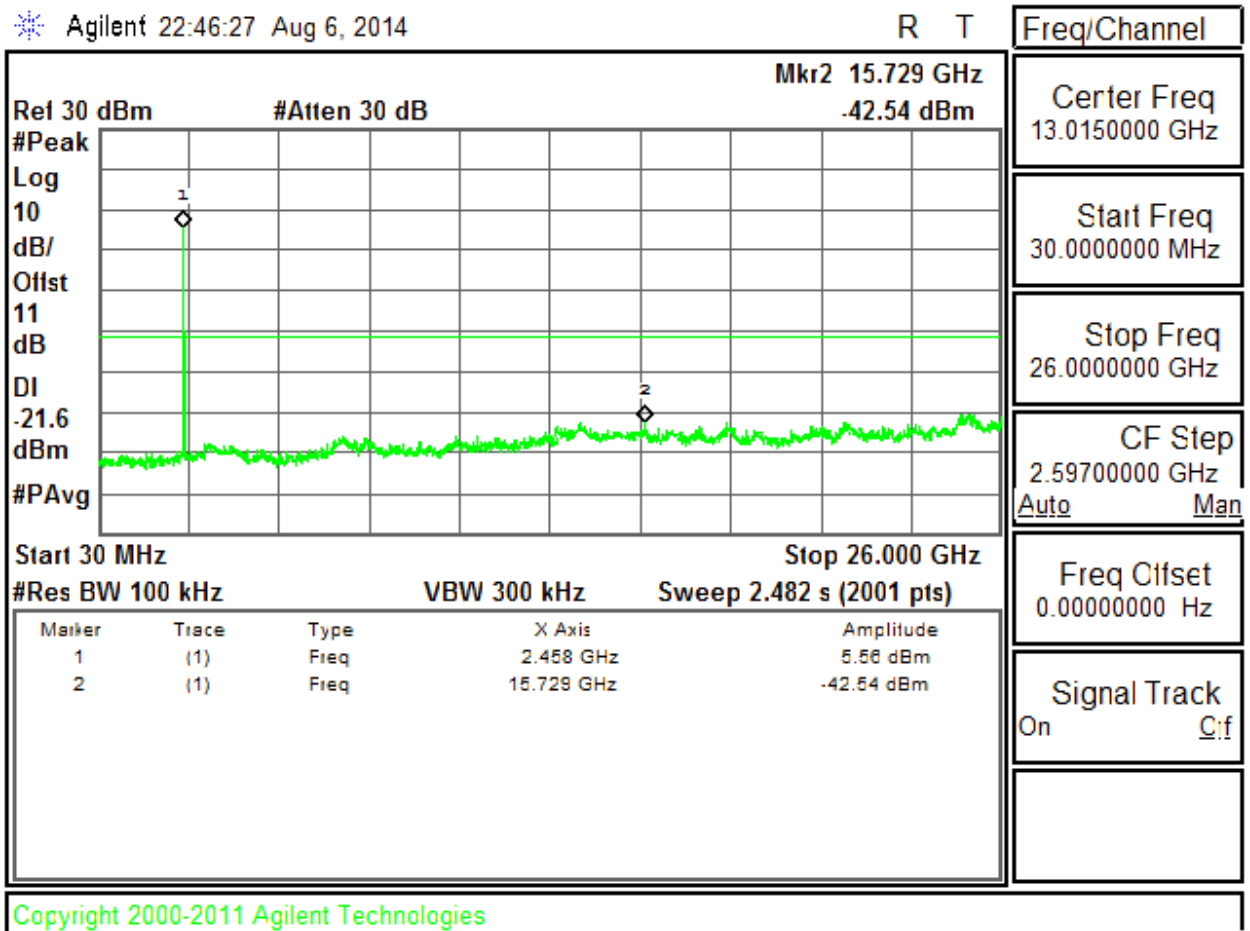
R T



OUT OF BAND MID CH



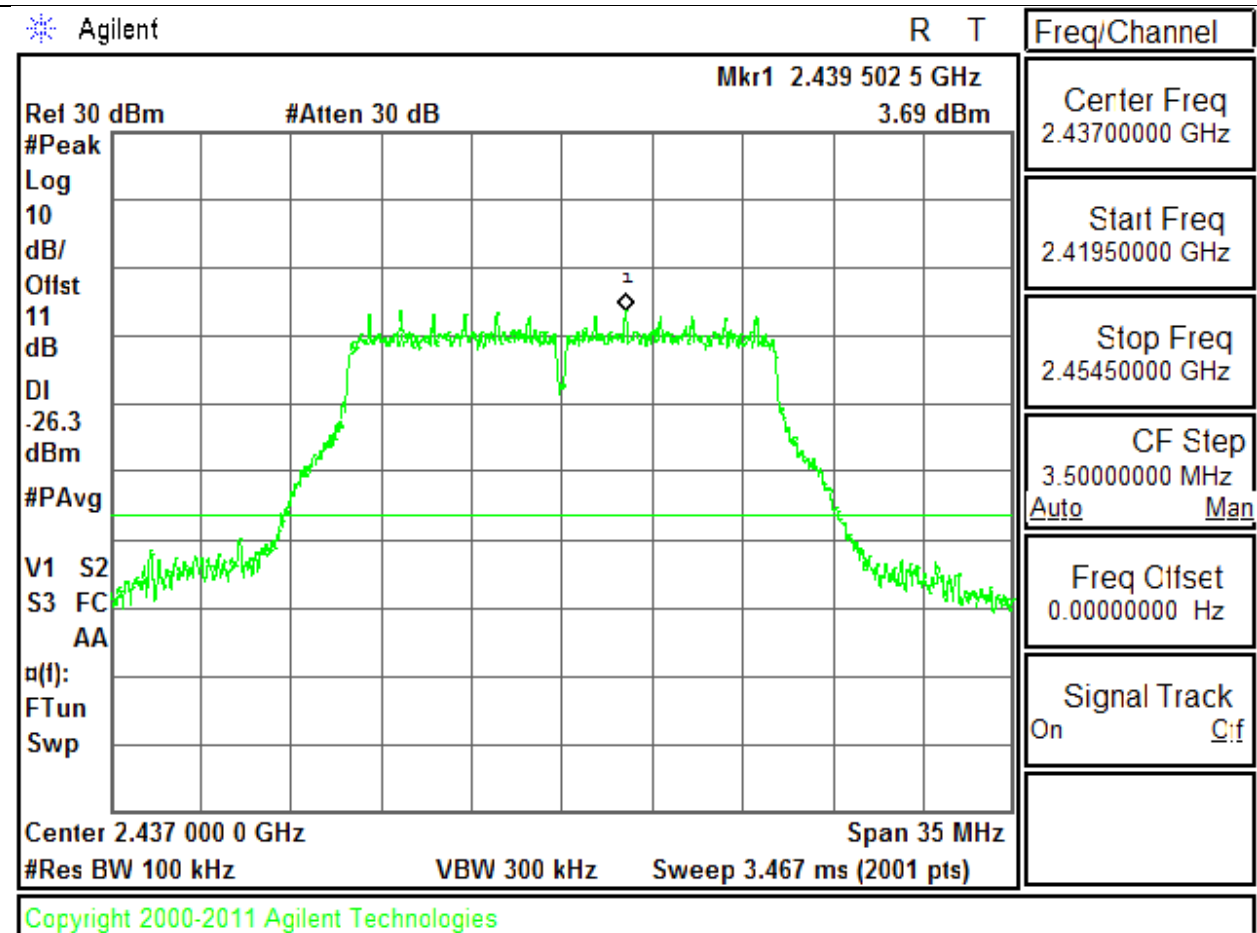
OUT OF BAND HIGH CH



9.5.2. 802.11g MODE IN THE 2.4 GHz BAND

IN-BAND REFERENCE LEVEL

REFERENCE LEVEL MID CH

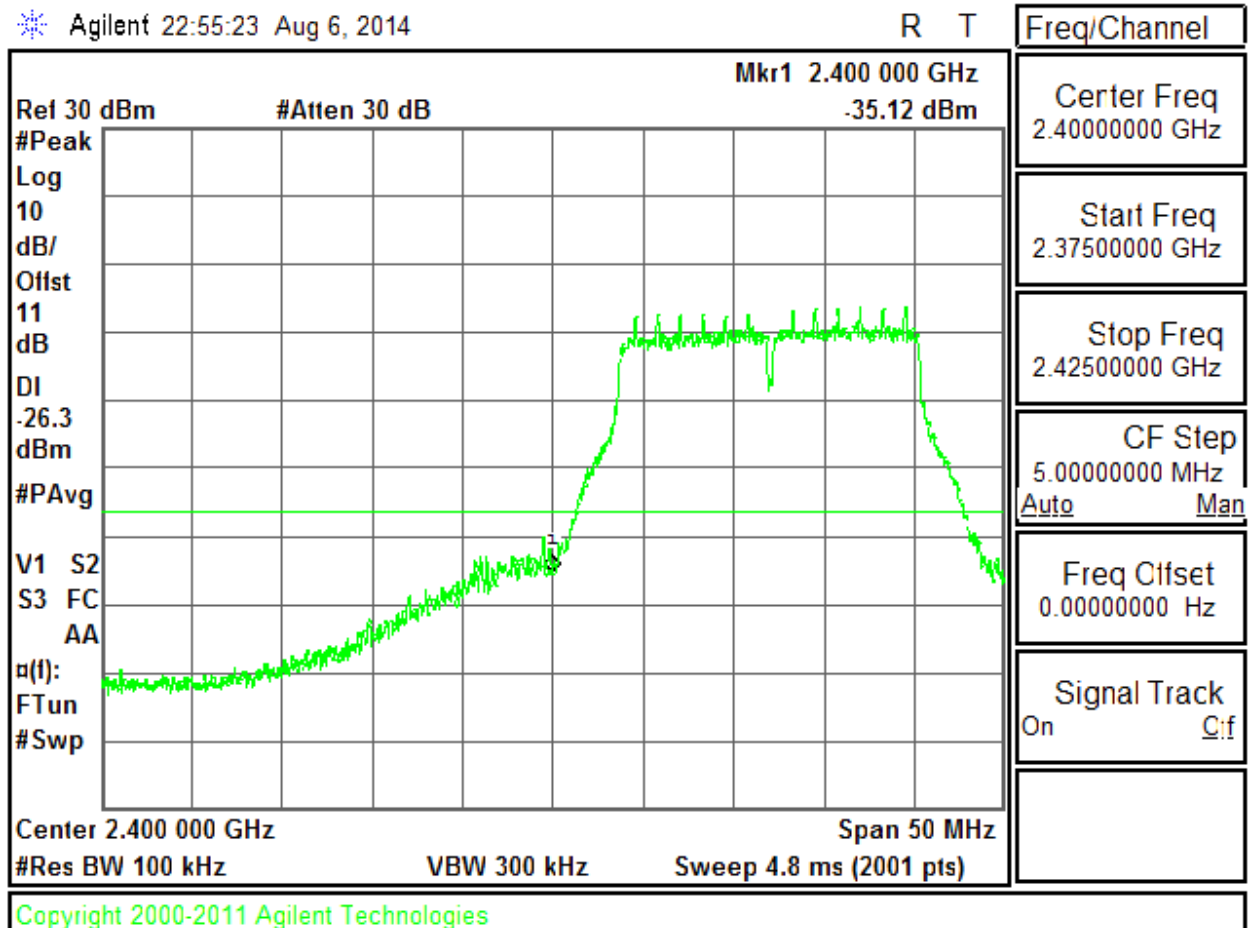


LOW CHANNEL BANDEDGE

AUTHORIZED BAND EDGE LOW CH

✱ Agilent 22:55:23 Aug 6, 2014

R T

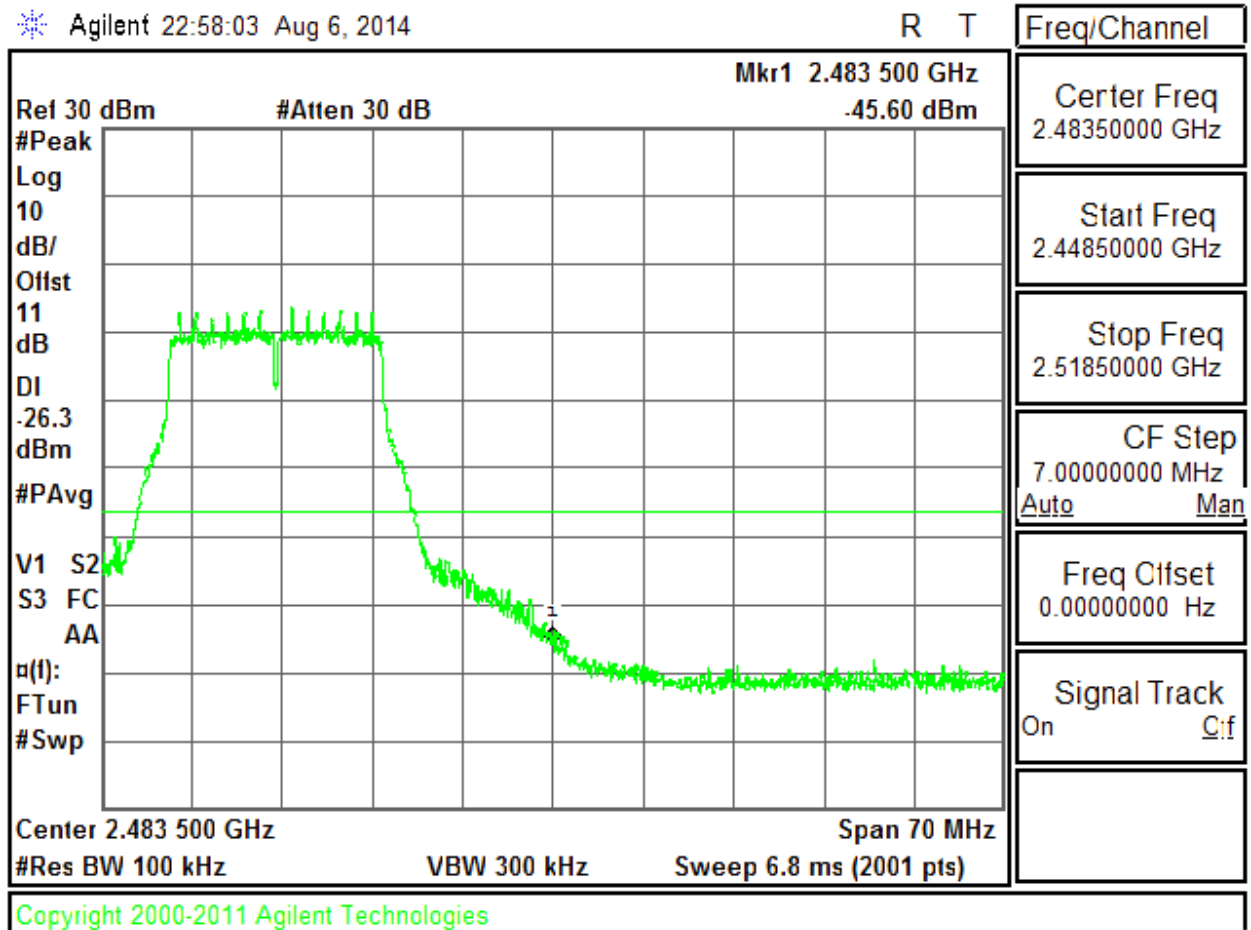


HIGH CHANNEL BANDEDGE

AUTHORIZED BAND EDGE HIGH CH

* Agilent 22:58:03 Aug 6, 2014

R T

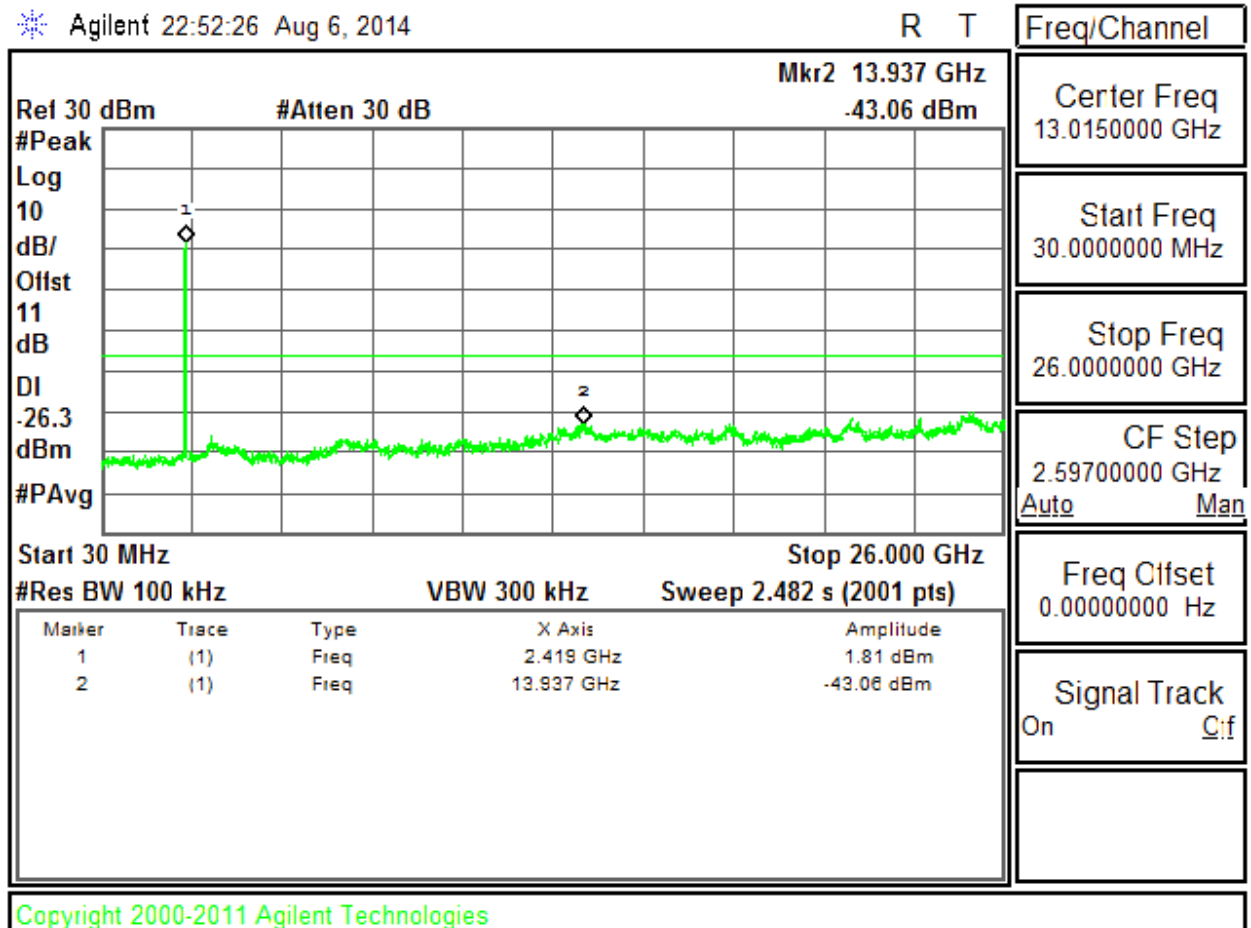


OUT-OF-BAND EMISSIONS

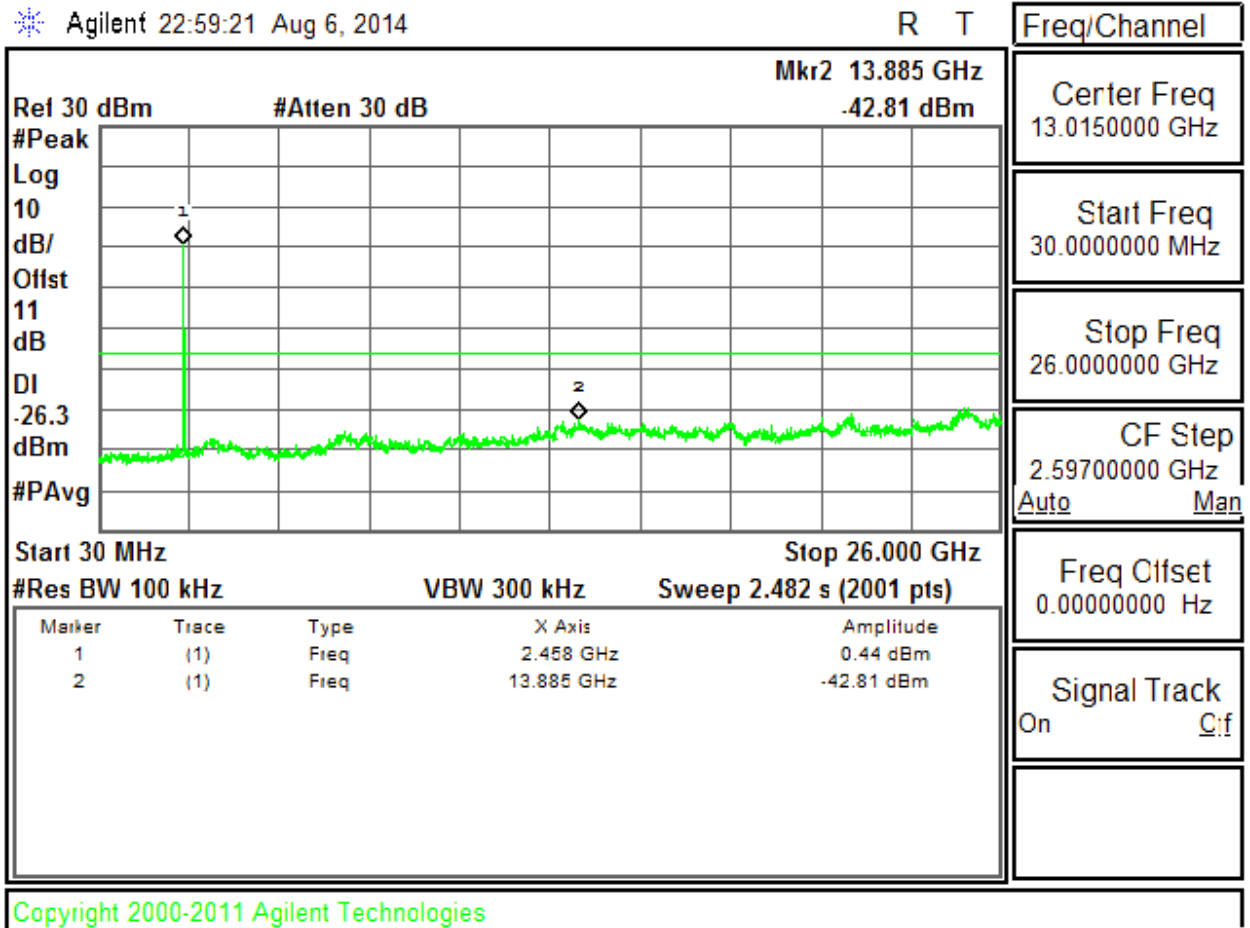
OUT OF BAND LOW CH

Agilent 22:52:26 Aug 6, 2014

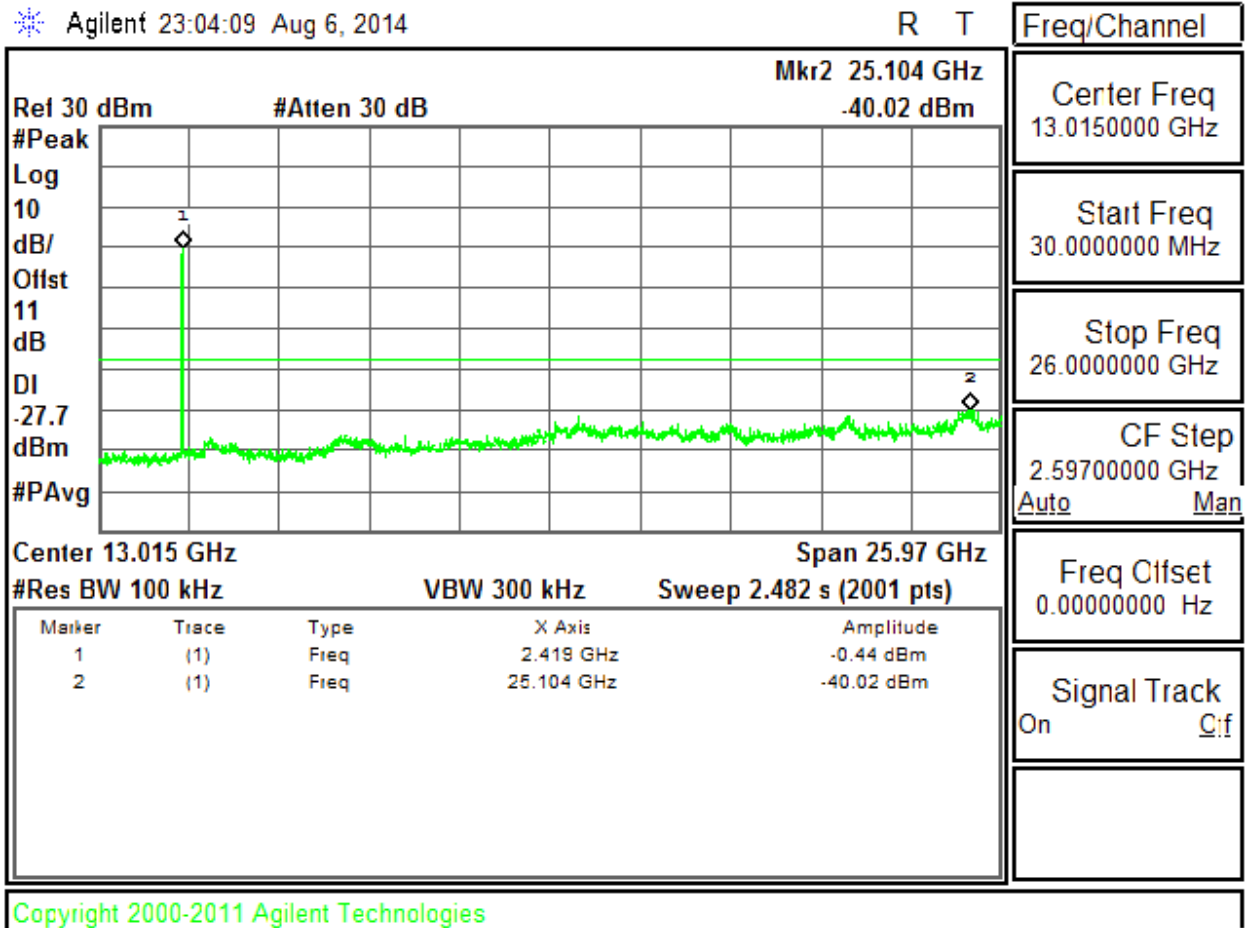
R T



OUT OF BAND MID CH

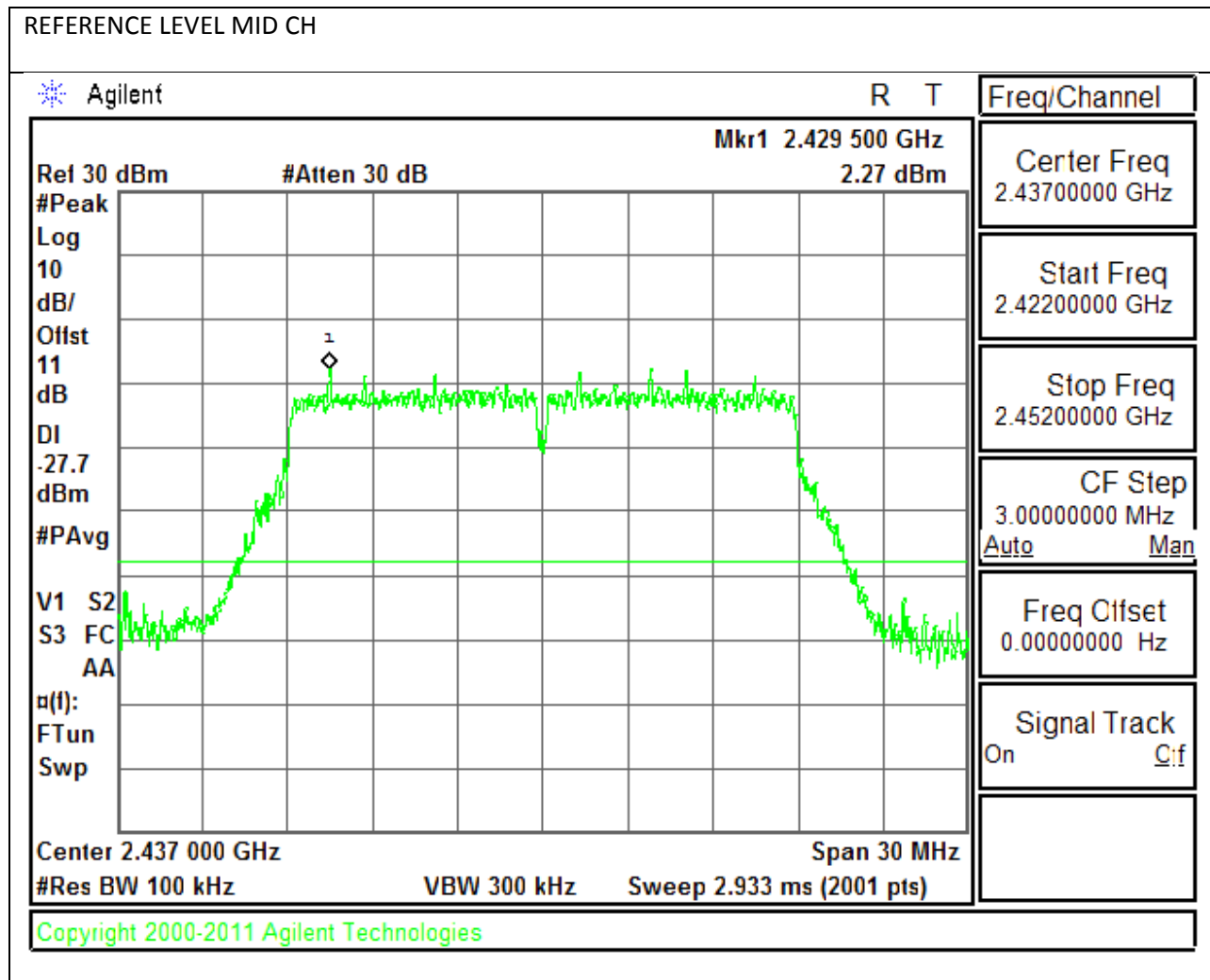


OUT OF BAND HIGH CH



9.5.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

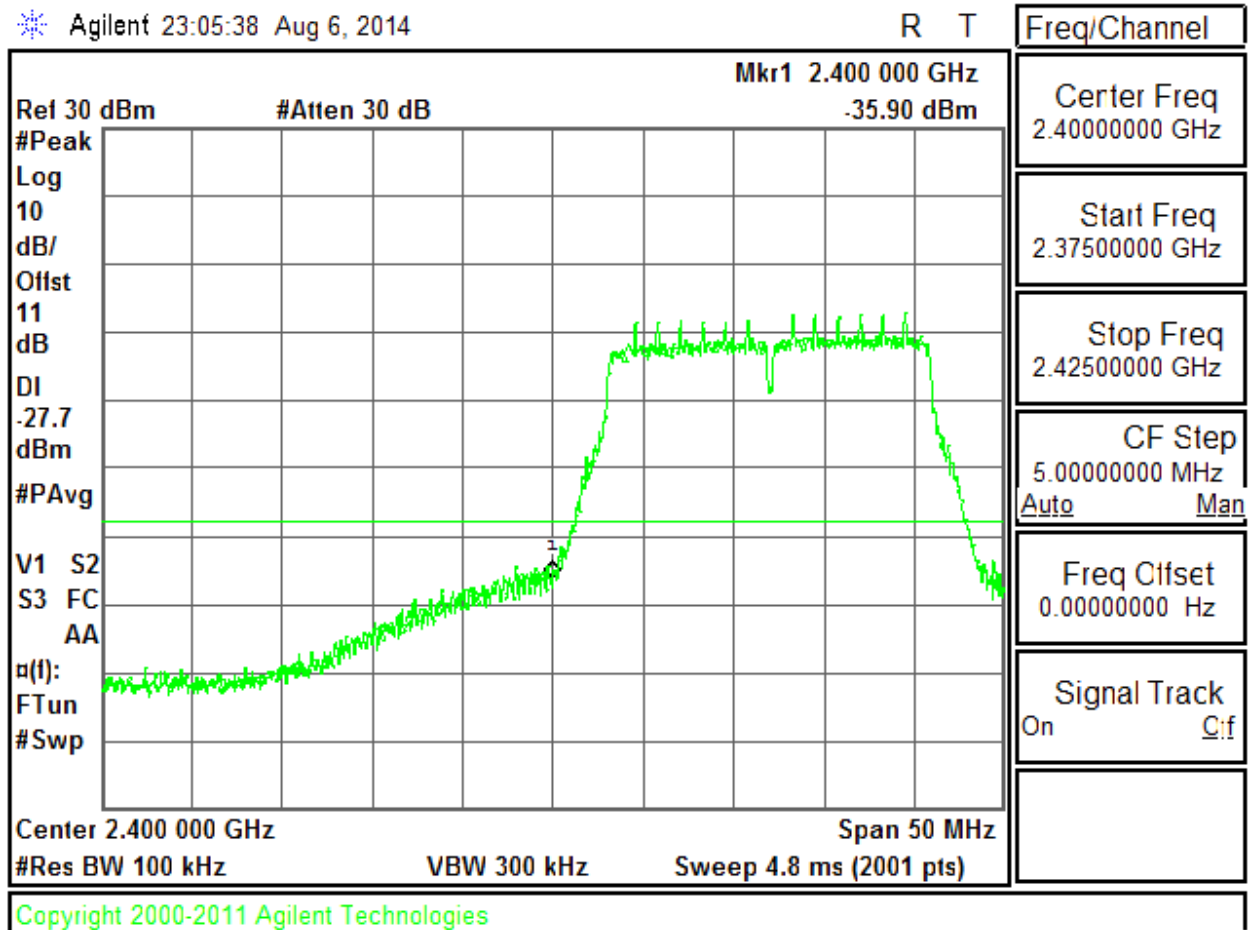
IN-BAND REFERENCE LEVEL



LOW CHANNEL BANDEDGE

AUTHORIZED BAND EDGE LOW CH

* Agilent 23:05:38 Aug 6, 2014

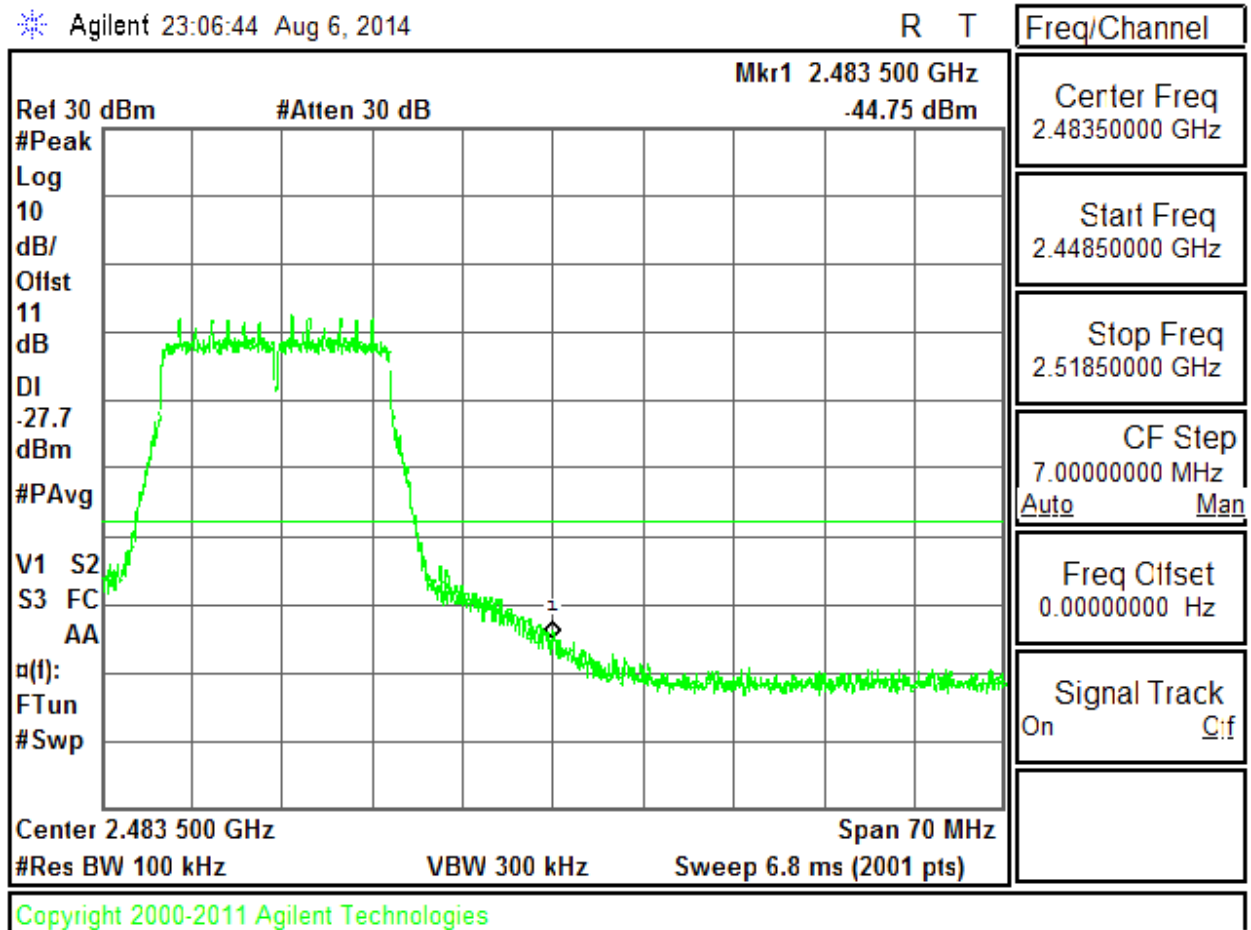


HIGH CHANNEL BANDEDGE

AUTHORIZED BAND EDGE HIGH CH

✱ Agilent 23:06:44 Aug 6, 2014

R T

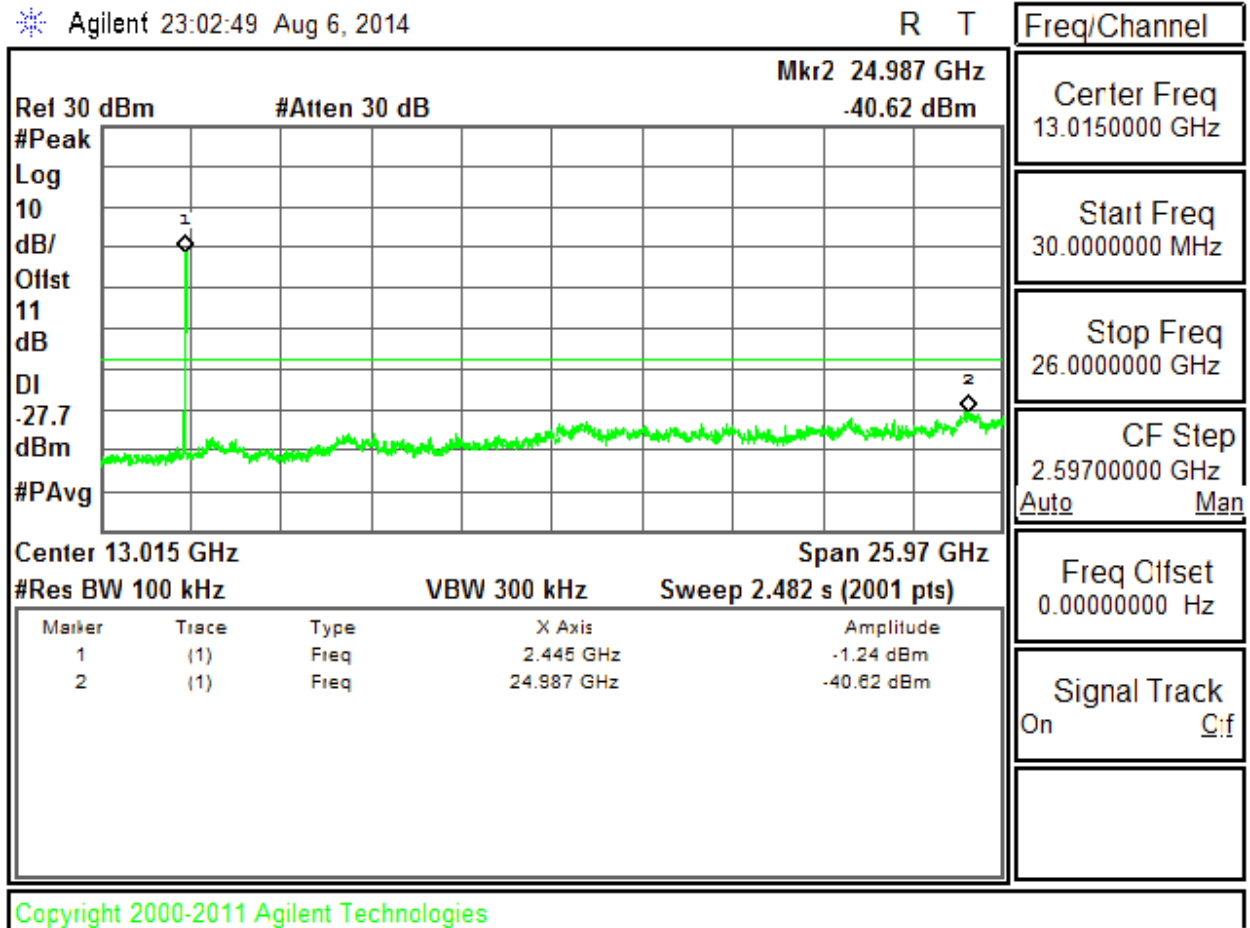


OUT-OF-BAND EMISSIONS

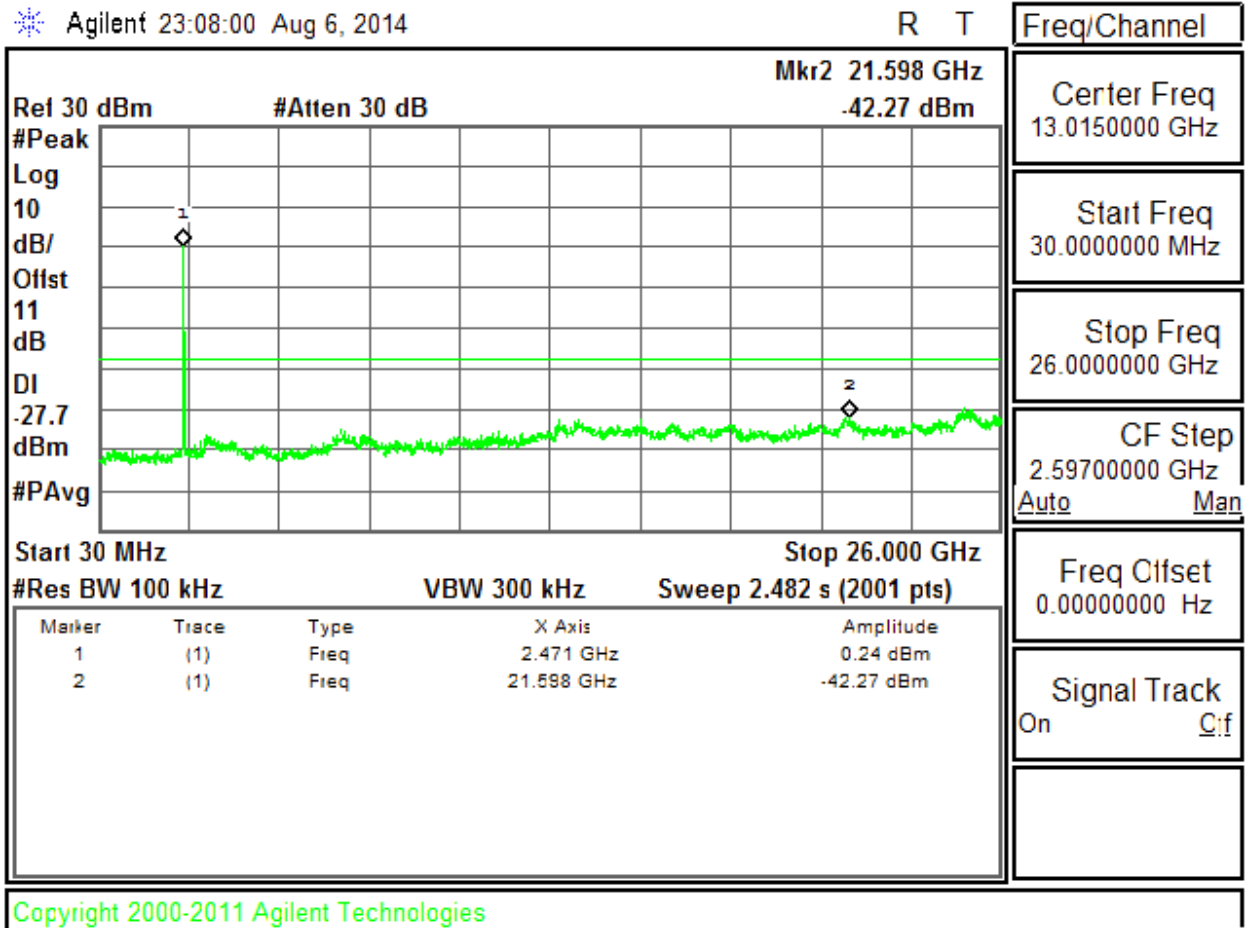
OUT OF BAND LOW CH

Agilent 23:02:49 Aug 6, 2014

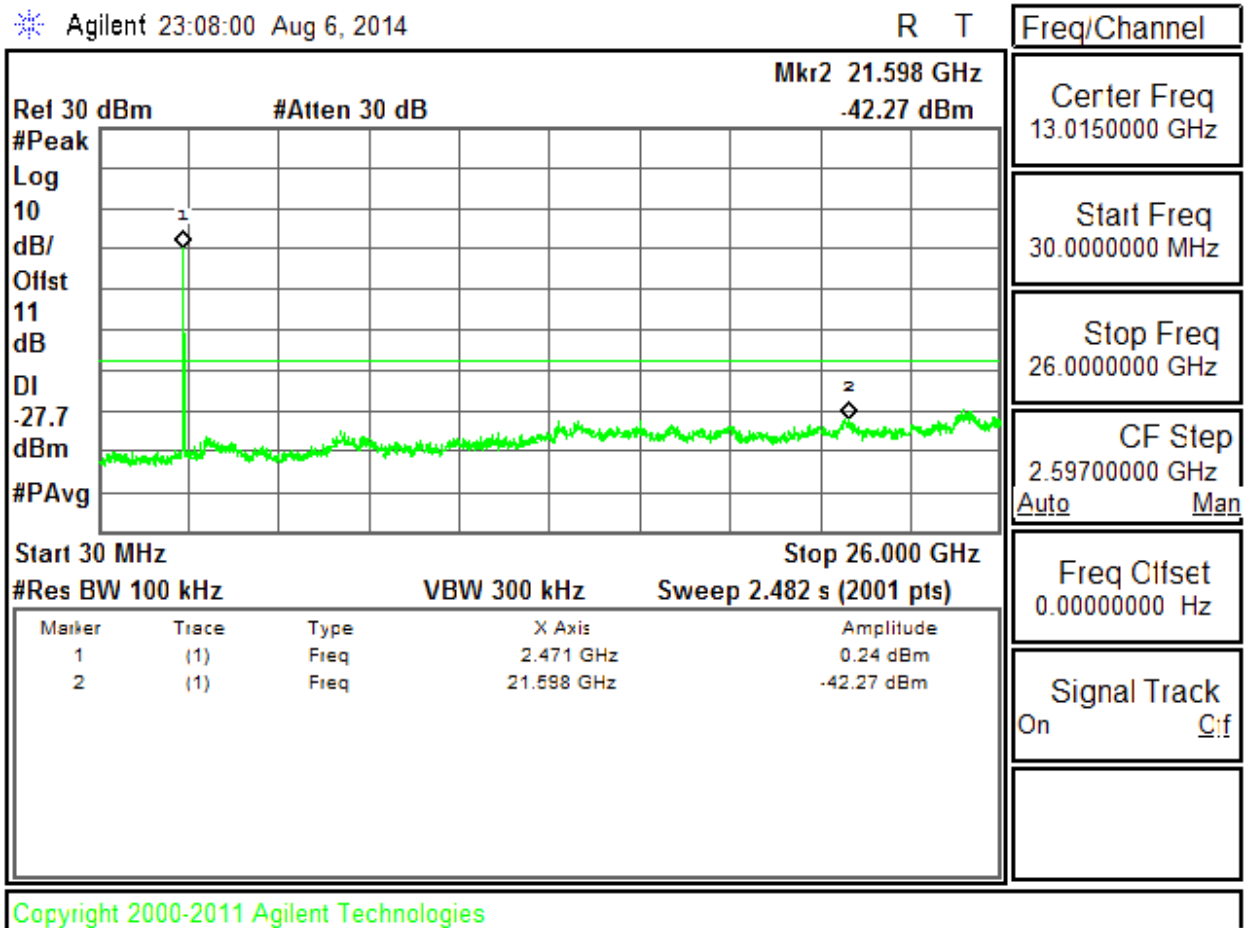
R T



OUT OF BAND MID CH



OUT OF BAND HIGH CH



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 = $10\log(1/x)$ For this sample B mode = 0dB (duty cycle >98%); G mode = 0.21dB; N mode = 0.22dB.

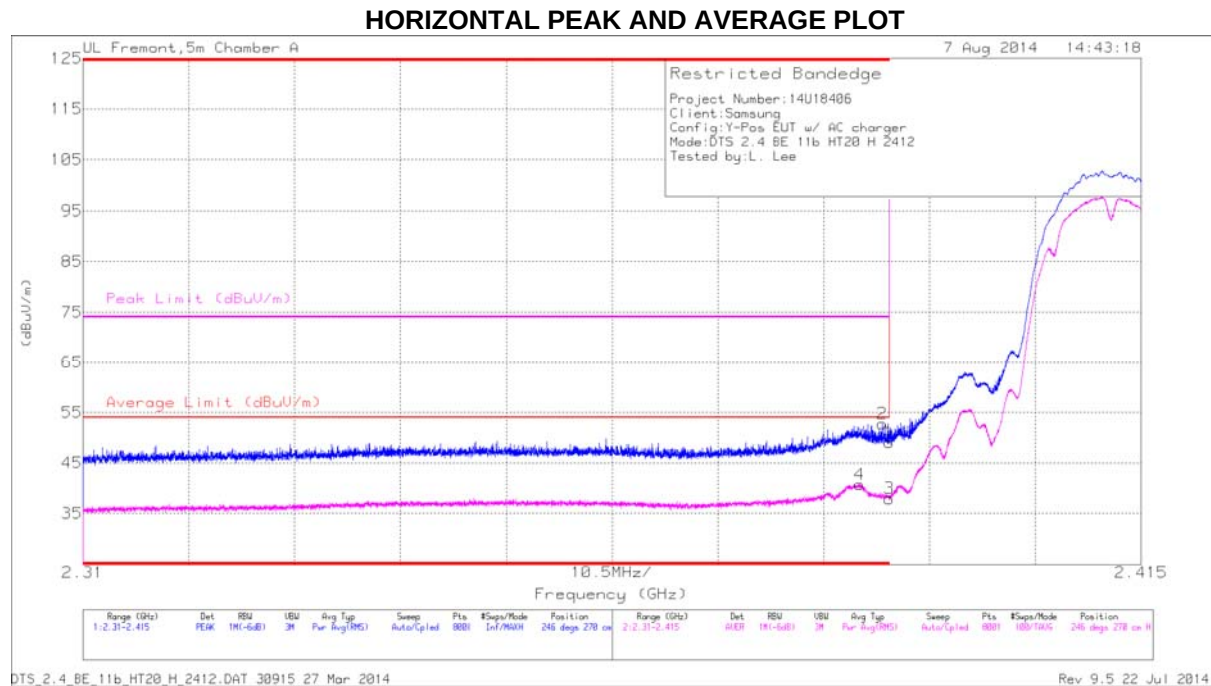
The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

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 DATA

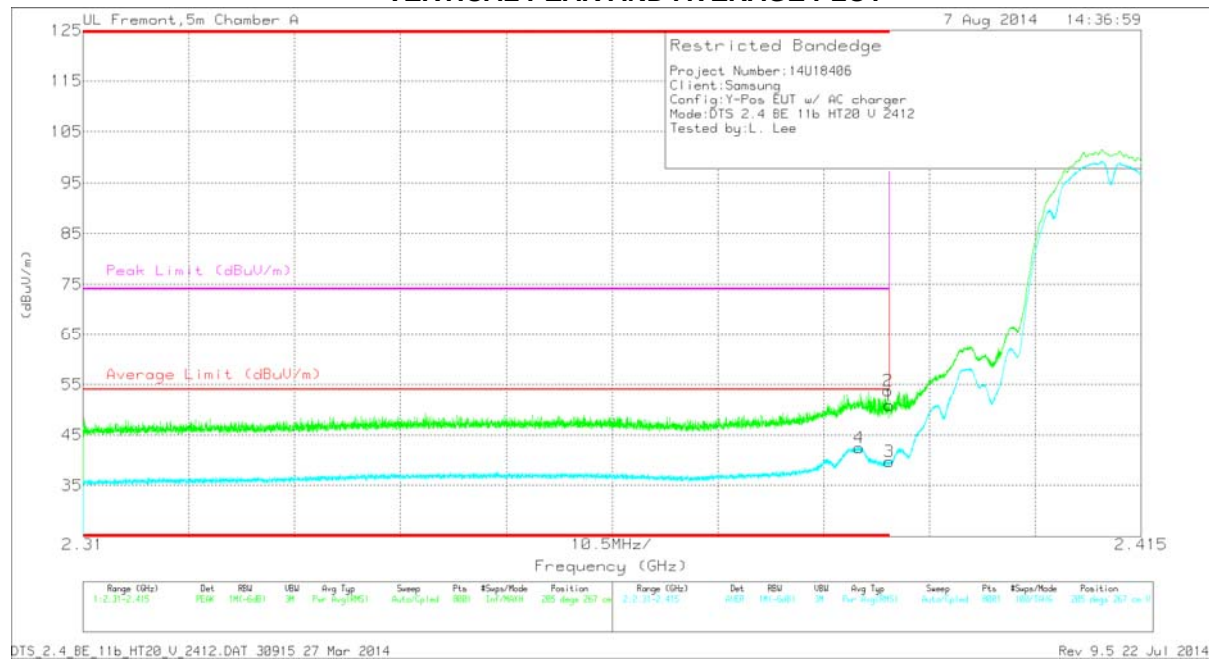
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT136 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	41.22	PK	32.2	-24.4	0	49.02	-	-	74	-24.98	246	270	H
2	* 2.389	44.92	PK	32.2	-24.3	0	52.82	-	-	74	-21.18	246	270	H
3	* 2.39	30.09	RMS	32.2	-24.4	0	37.94	54	-16.06	-	-	246	270	H
4	* 2.387	32.63	RMS	32.2	-24.1	0	40.78	54	-13.22	-	-	246	270	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

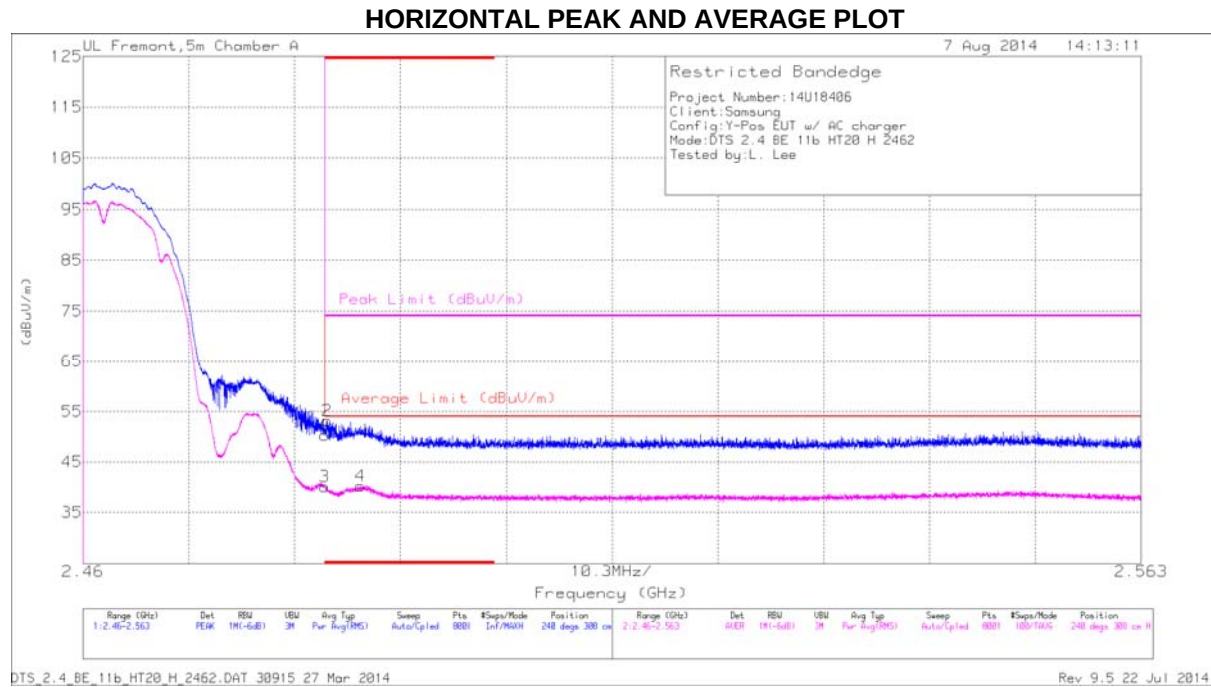
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT136 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	43.12	PK	32.2	-24.4	0	50.92	-	-	74	-23.08	205	267	V
2	* 2.39	45.98	PK	32.2	-24.4	0	53.78	-	-	74	-20.22	205	267	V
3	* 2.39	31.92	RMS	32.2	-24.4	0	39.77	54	-14.23	-	-	205	267	V
4	* 2.387	34.35	RMS	32.2	-24.1	0	42.5	54	-11.5	-	-	205	267	V

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

PK - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT136 (dB/m)	Amp/Cbl/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
1	* 2.484	41.1	PK	32.7	-23.5	0	50.3	-	-	74	-23.7	240	308	H
2	* 2.484	43.97	PK	32.7	-23.5	0	53.17	-	-	74	-20.83	240	308	H
3	* 2.484	30.86	RMS	32.7	-23.5	0	40.11	54	-13.89	-	-	240	308	H
4	* 2.487	30.8	RMS	32.8	-23.4	0	40.25	54	-13.75	-	-	240	308	H

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

PK - Peak detector

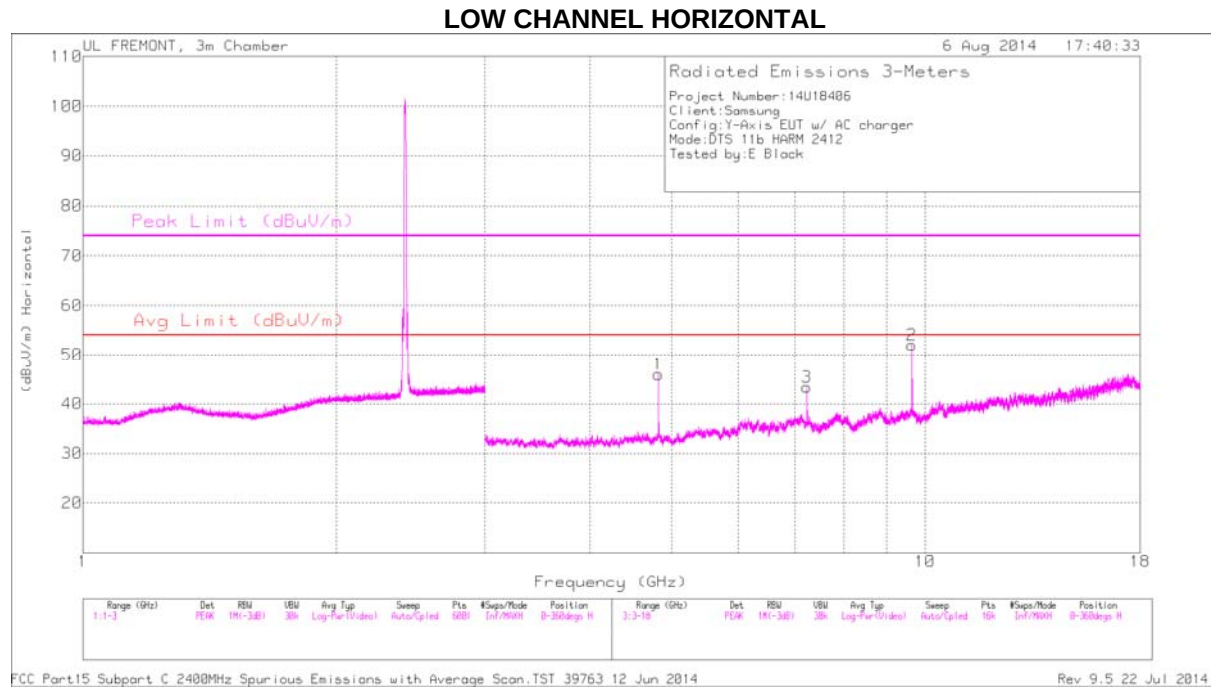
RMS - RMS detection



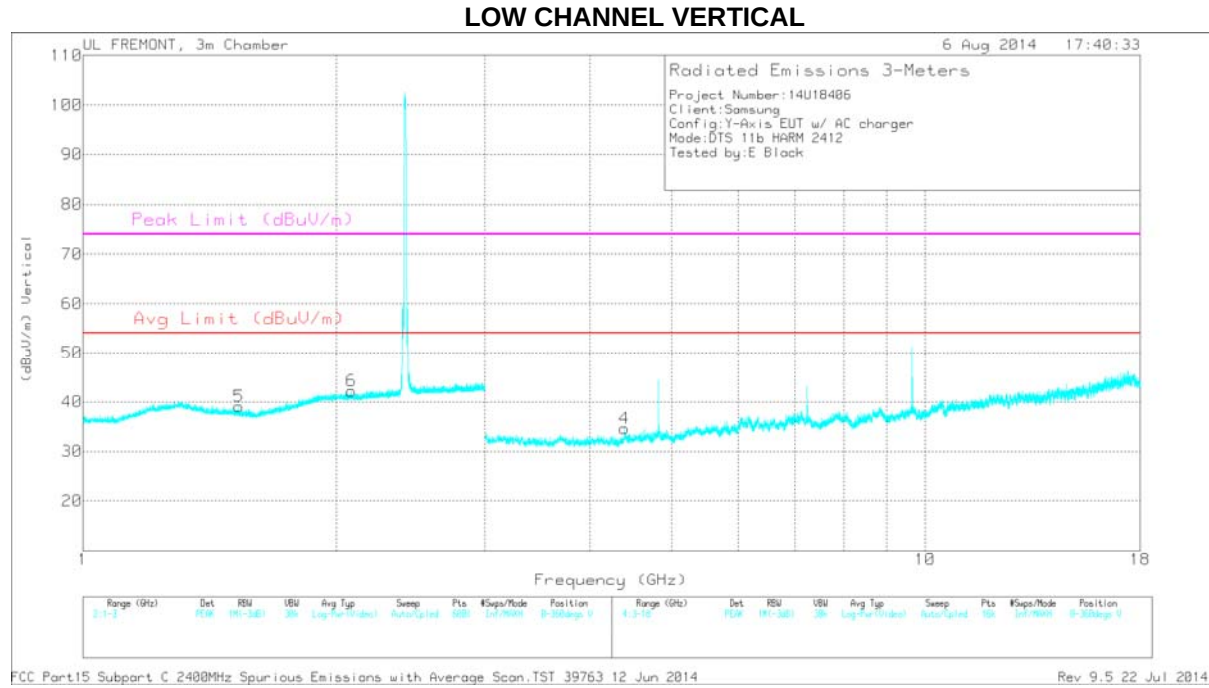
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cb/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	40.53	PK	32.7	-23.5	0	49.73	-	-	74	-24.27	204	167	V
2	* 2.484	43.23	PK	32.7	-23.5	0	52.43	-	-	74	-21.57	204	167	V
3	* 2.484	31.05	RMS	32.7	-23.5	0	40.3	54	-13.7	-	-	204	167	V
4	* 2.487	31.17	RMS	32.8	-23.4	0	40.62	54	-13.38	-	-	204	167	V

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS



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



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/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
5	1.532	34.19	PK	28.4	-23.5	0	39.09	-	-	74	-34.91	0-360	200	V
6	2.083	33.69	PK	31.5	-23	0	42.19	-	-	-	-	0-360	200	V
4	4.396	30.89	PK	33.7	-30	0	34.59	-	-	74	-39.41	0-360	100	V
1	4.824	42.2	PK	34	-30.2	0	46	-	-	74	-28	0-360	200	H
3	7.237	37.44	PK	35.6	-29.7	0	43.34	-	-	-	-	0-360	200	H
2	9.647	40.86	PK	36.8	-25.6	0	52.06	-	-	-	-	0-360	100	H

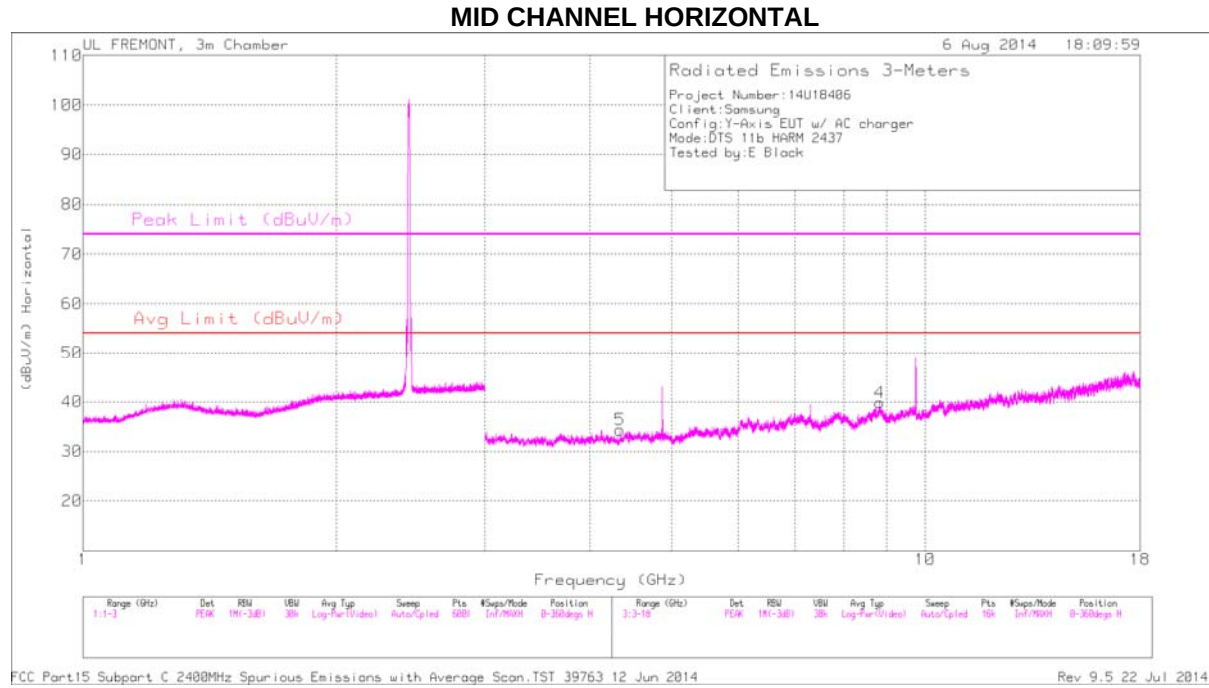
PK - Peak detector

Radiated Emissions

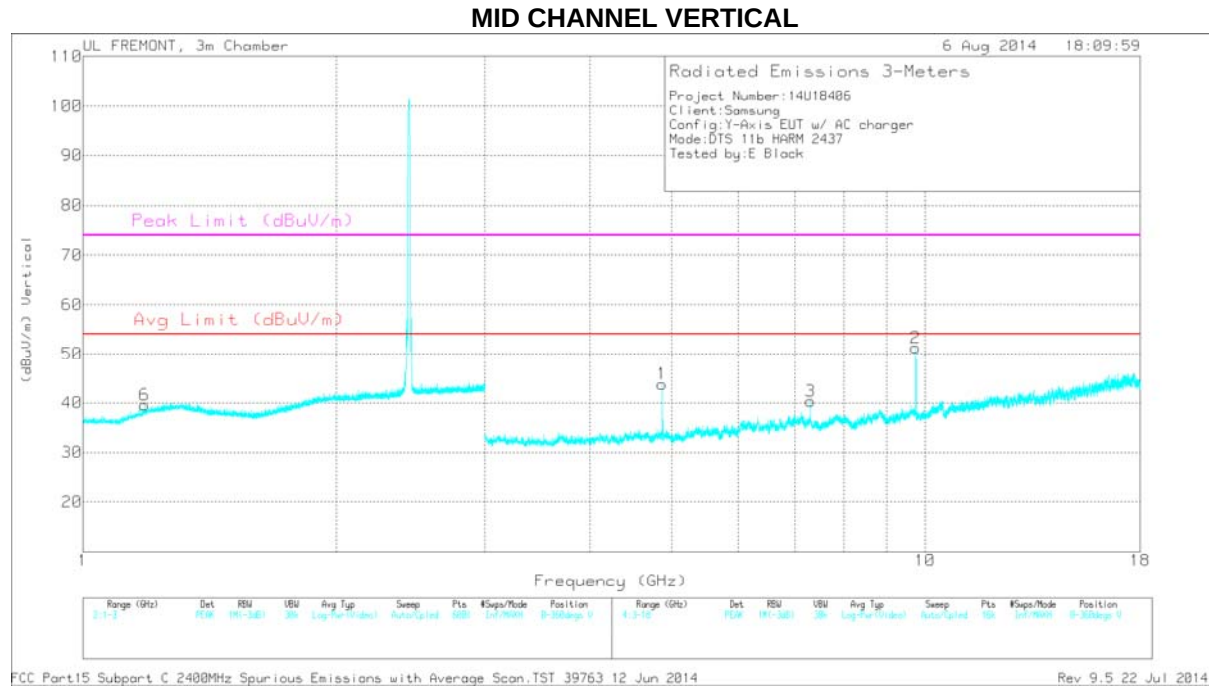
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4.824	49.17	PK2	34	-30.3	0	52.87	-	-	74	-21.13	292	291	H
4.824	45.27	MAV1	34	-30.3	0	48.97	54	-5.03	-	-	292	291	H
9.648	45.5	PK2	36.8	-25.6	0	56.7	-	-	-	-	355	145	H
9.648	41.88	MAV1	36.8	-25.6	0	53.08	-	-	-	-	355	145	H

PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average



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



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
6	1.184	34.54	PK	28.9	-23.8	0	39.64	-	-	74	-34.36	0-360	200	V
5	4.341	30.62	PK	33.6	-29.9	0	34.32	-	-	74	-39.68	0-360	100	H
1	4.874	39.94	PK	34	-30.1	0	43.84	-	-	74	-30.16	0-360	100	V
3	7.309	33.36	PK	35.6	-28.6	0	40.36	-	-	74	-33.64	0-360	200	V
4	8.836	30.31	PK	36	-26.5	0	39.81	-	-	-	-	0-360	100	H
2	9.748	40.01	PK	36.9	-25.7	0	51.21	-	-	-	-	0-360	200	V

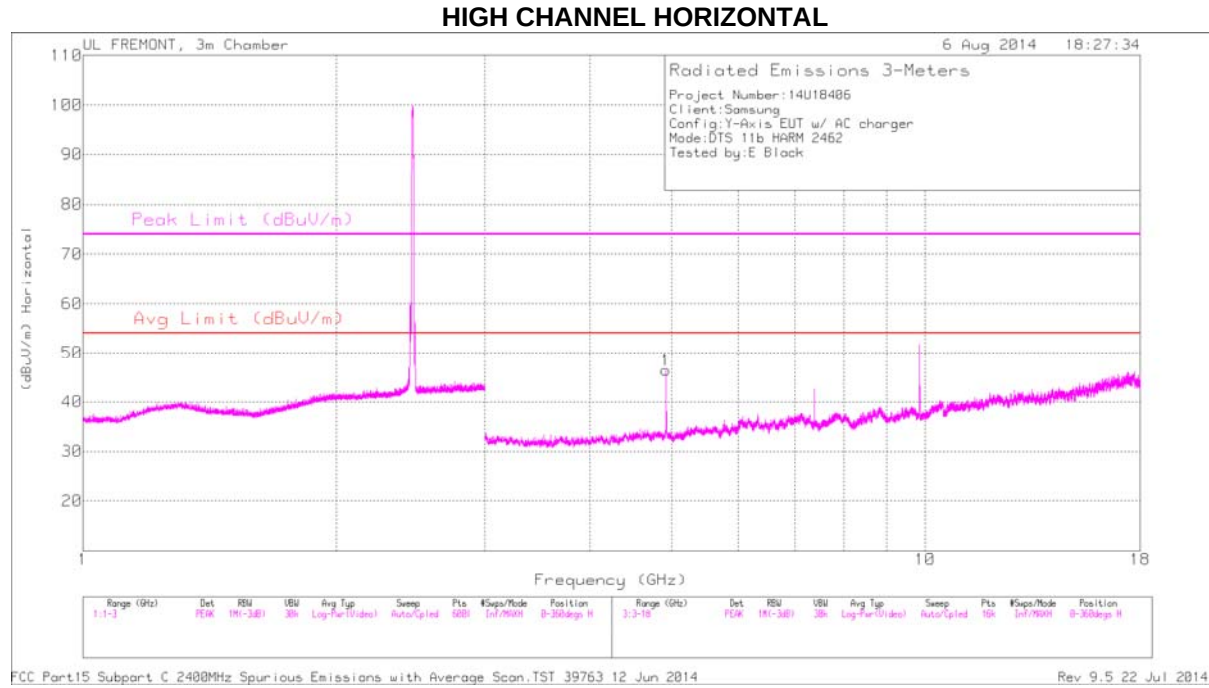
PK - Peak detector

Radiated Emissions

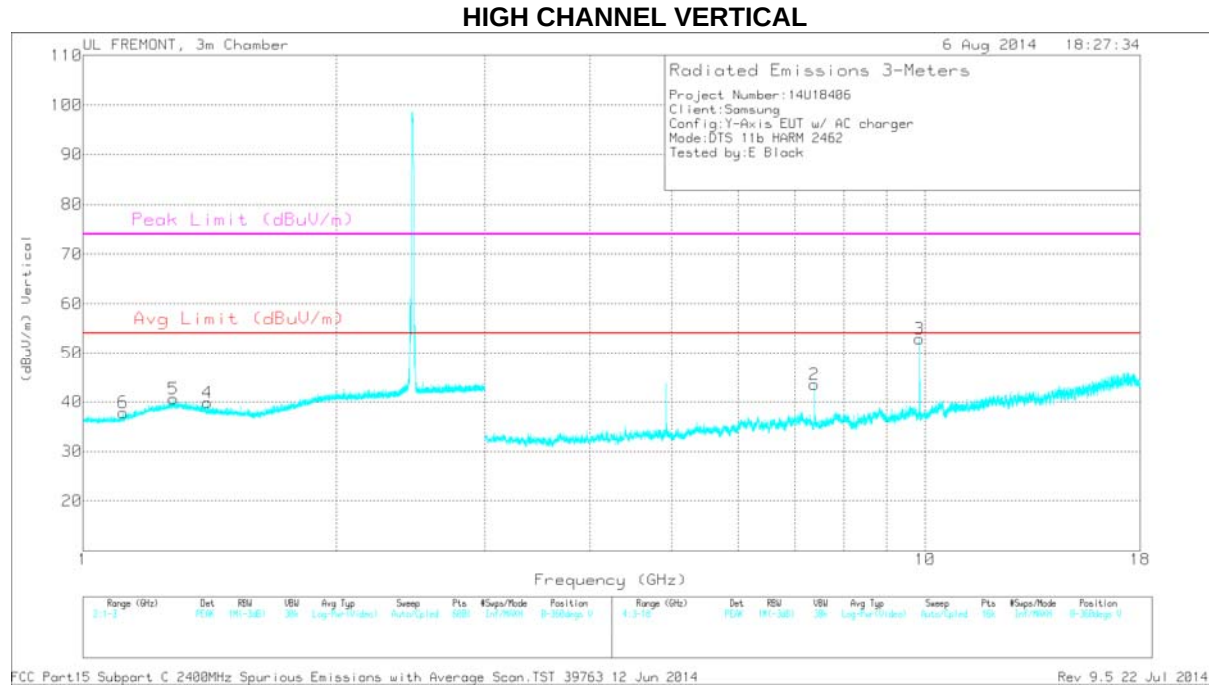
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
9.748	43.31	PK2	36.9	-25.7	0	54.51	-	-	-	-	332	188	V
9.748	38.83	MAV1	36.9	-25.7	0	50.03	-	-	-	-	332	188	V

PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average



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



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
6	1.115	34.17	PK	27.5	-23.8	0	37.87	-	-	74	-36.13	0-360	200	V
5	1.28	34.4	PK	30	-23.8	0	40.6	-	-	74	-33.4	0-360	100	V
4	1.406	34.41	PK	29.1	-23.7	0	39.81	-	-	74	-34.19	0-360	200	V
1	4.924	42.83	PK	34	-30.4	0	46.43	-	-	74	-27.57	0-360	100	H
2	7.385	36.13	PK	35.7	-28.3	0	43.53	-	-	74	-30.47	0-360	200	V
3	9.848	41.95	PK	36.9	-25.9	0	52.95	-	-	-	-	0-360	200	V

PK - Peak detector

Radiated Emissions

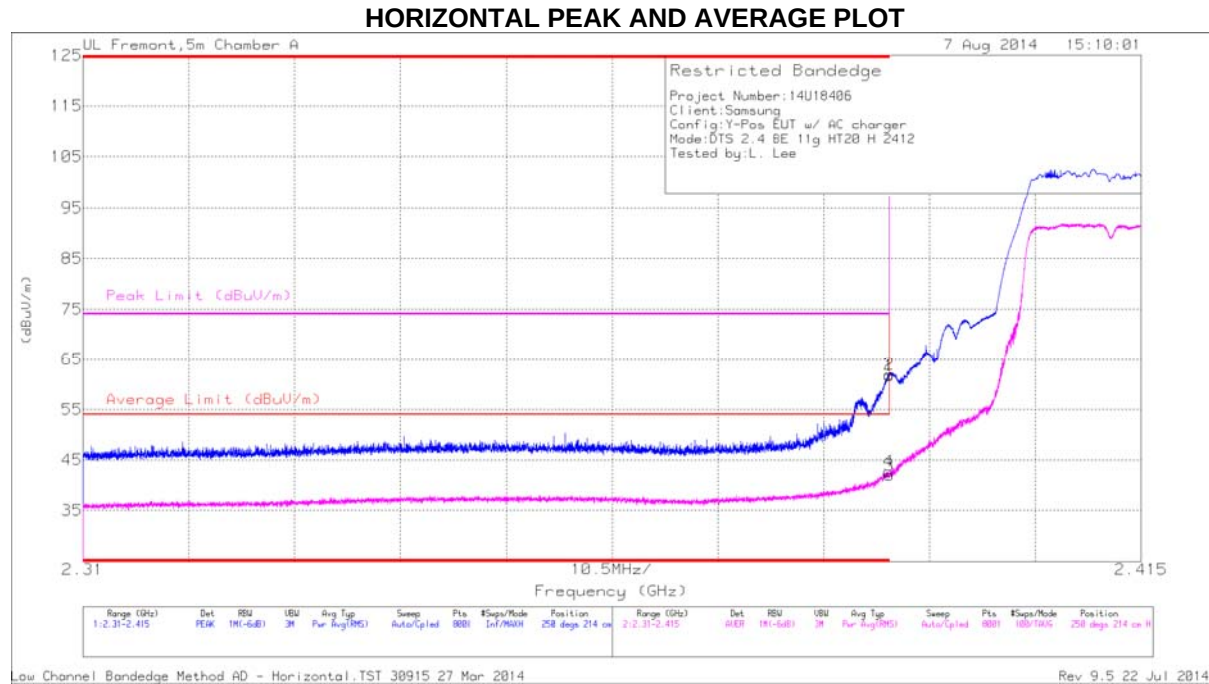
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
9.848	45.43	PK2	36.9	-25.9	0	56.43	-	-	-	-	334	228	V
9.848	41.66	MAV1	36.9	-25.9	0	52.66	-	-	-	-	334	228	V

PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

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

RESTRICTED BANDEDGE (LOW CHANNEL)



HORIZONTAL DATA

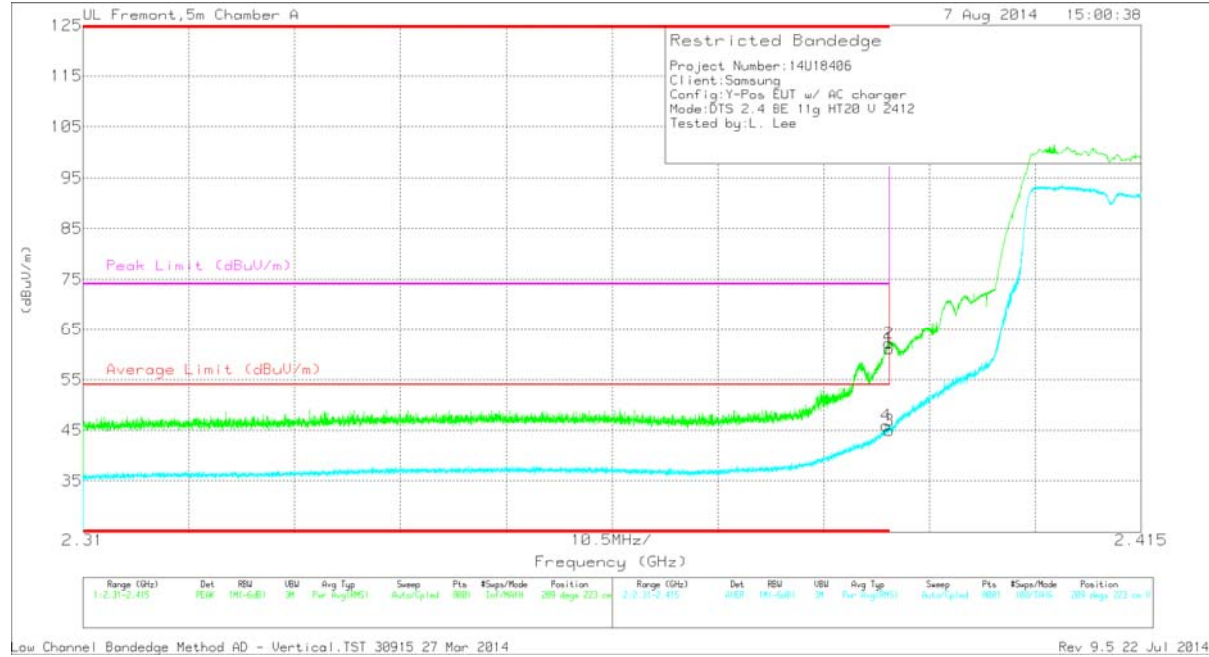
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	53.88	PK	32.2	-24.4	0	61.68	-	-	74	-12.32	250	214	H
2	* 2.39	54.13	PK	32.2	-24.4	0	61.93	-	-	74	-12.07	250	214	H
3	* 2.39	33.96	RMS	32.2	-24.4	.21	41.97	54	-12.03	-	-	250	214	H
4	* 2.39	34.73	RMS	32.2	-24.4	.21	42.74	54	-11.26	-	-	250	214	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

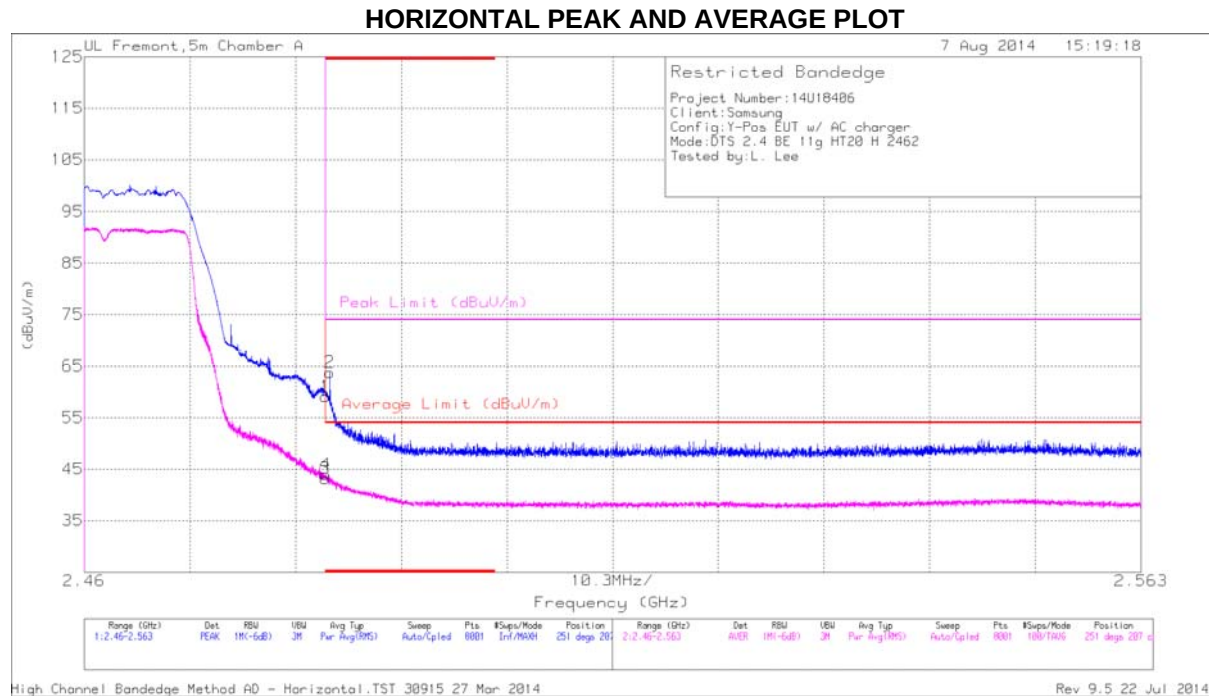
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fitter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	53.25	PK	32.2	-24.4	0	61.05	-	-	74	-12.95	209	223	V
2	* 2.39	54.36	PK	32.2	-24.4	0	62.16	-	-	74	-11.84	209	223	V
3	* 2.39	36.9	RMS	32.2	-24.4	.21	44.91	54	-9.09	-	-	209	223	V
4	* 2.39	37.91	RMS	32.2	-24.4	.21	45.92	54	-8.08	-	-	209	223	V

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

PK - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)



HORIZONTAL DATA

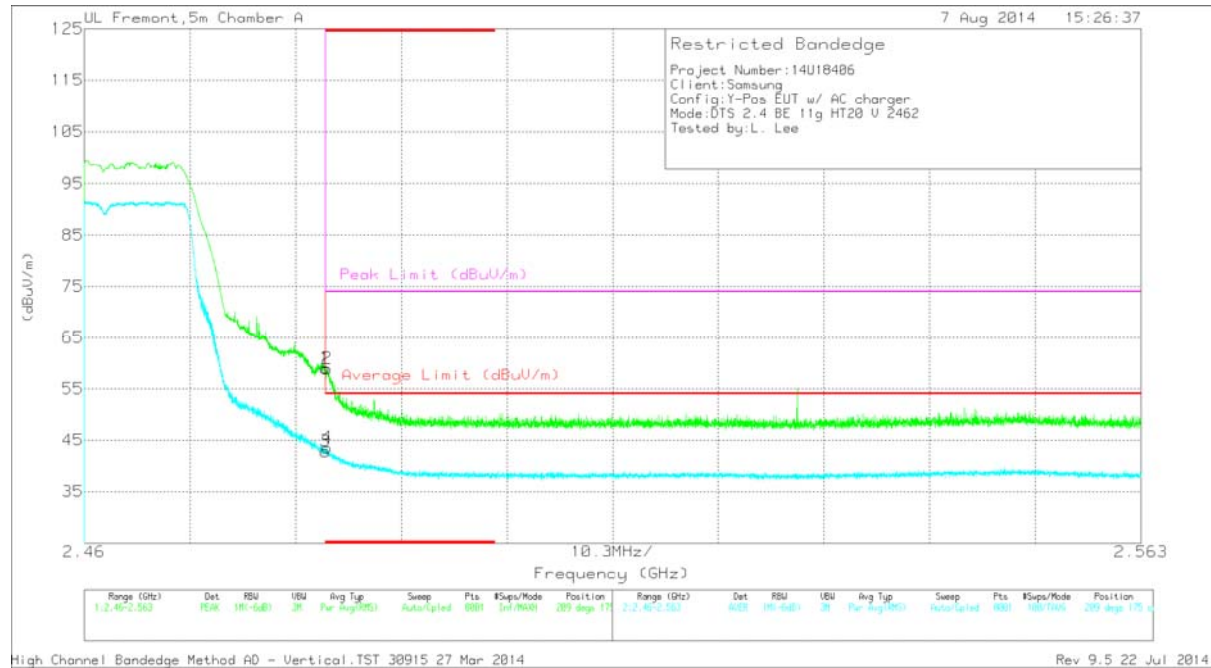
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT136 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	49.9	PK	32.7	-23.5	0	59.1	-	-	74	-14.9	251	207	H
2	* 2.484	54.58	PK	32.7	-23.5	0	63.78	-	-	74	-10.22	251	207	H
3	* 2.484	33.79	RMS	32.7	-23.5	.21	43.2	54	-10.8	-	-	251	207	H
4	* 2.484	34.55	RMS	32.7	-23.5	.21	43.96	54	-10.04	-	-	251	207	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

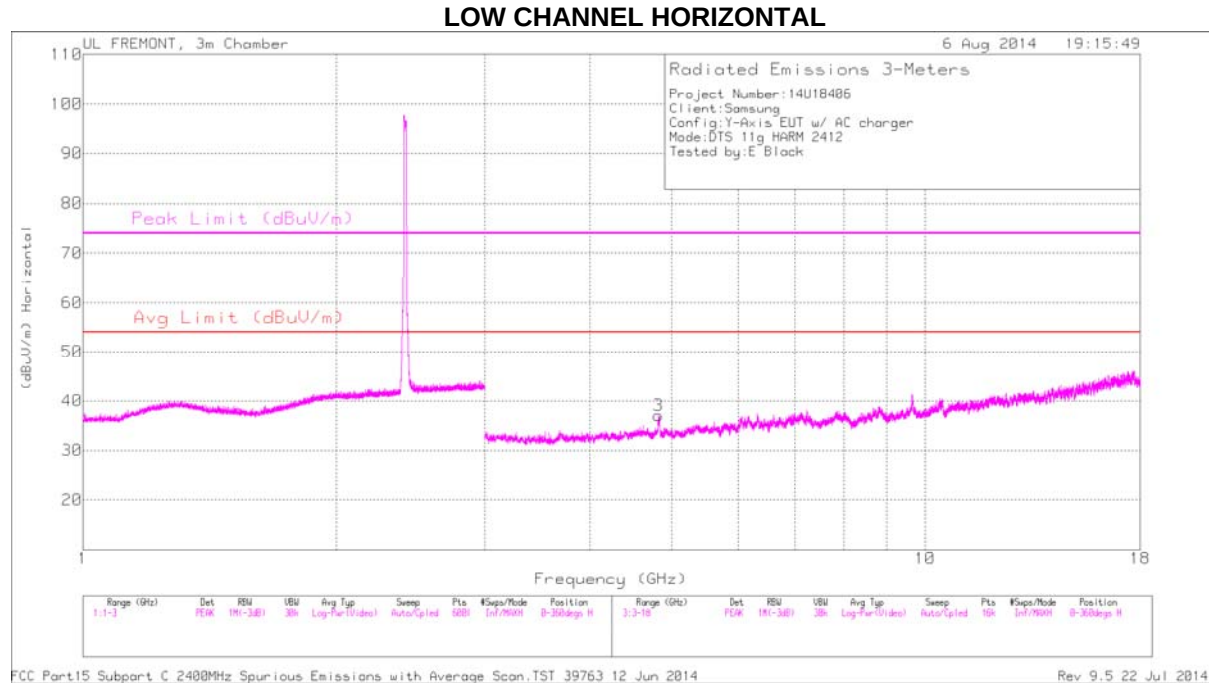
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	49.77	PK	32.7	-23.5	0	58.97	-	-	74	-15.03	209	175	V
2	* 2.484	49.72	PK	32.7	-23.5	0	58.92	-	-	74	-15.08	209	175	V
3	* 2.484	33.42	RMS	32.7	-23.5	.21	42.83	54	-11.17	-	-	209	175	V
4	* 2.484	34.11	RMS	32.7	-23.5	.21	43.52	54	-10.48	-	-	209	175	V

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

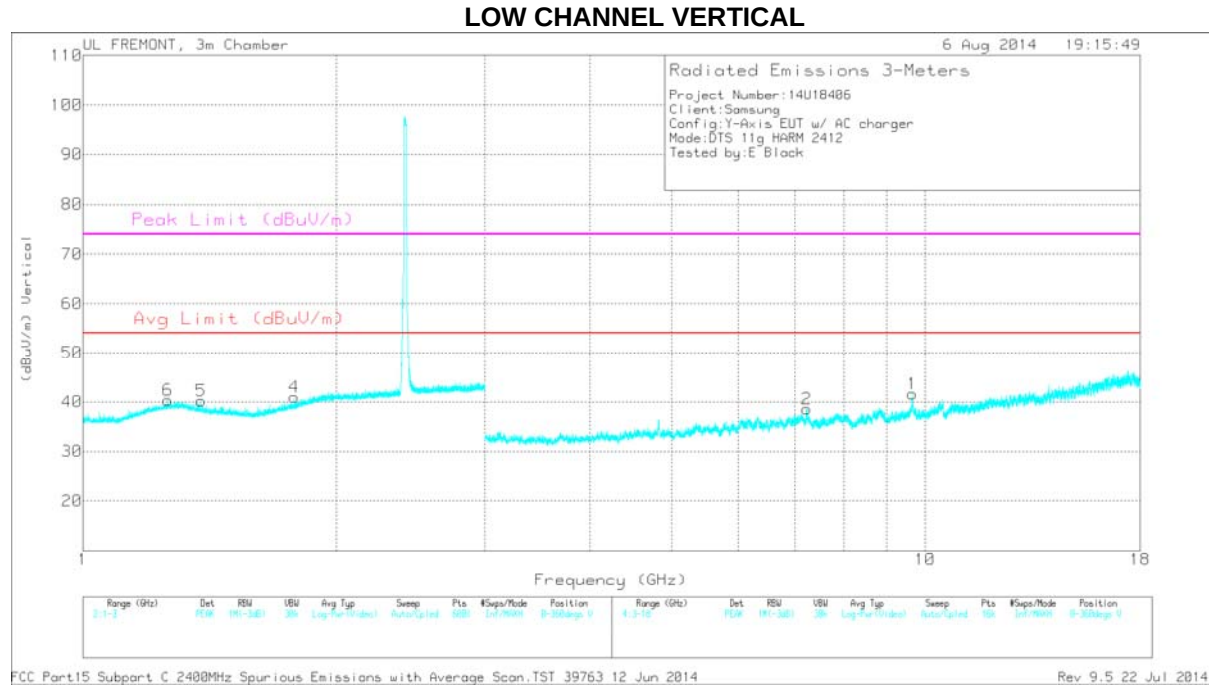
PK - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS



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



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

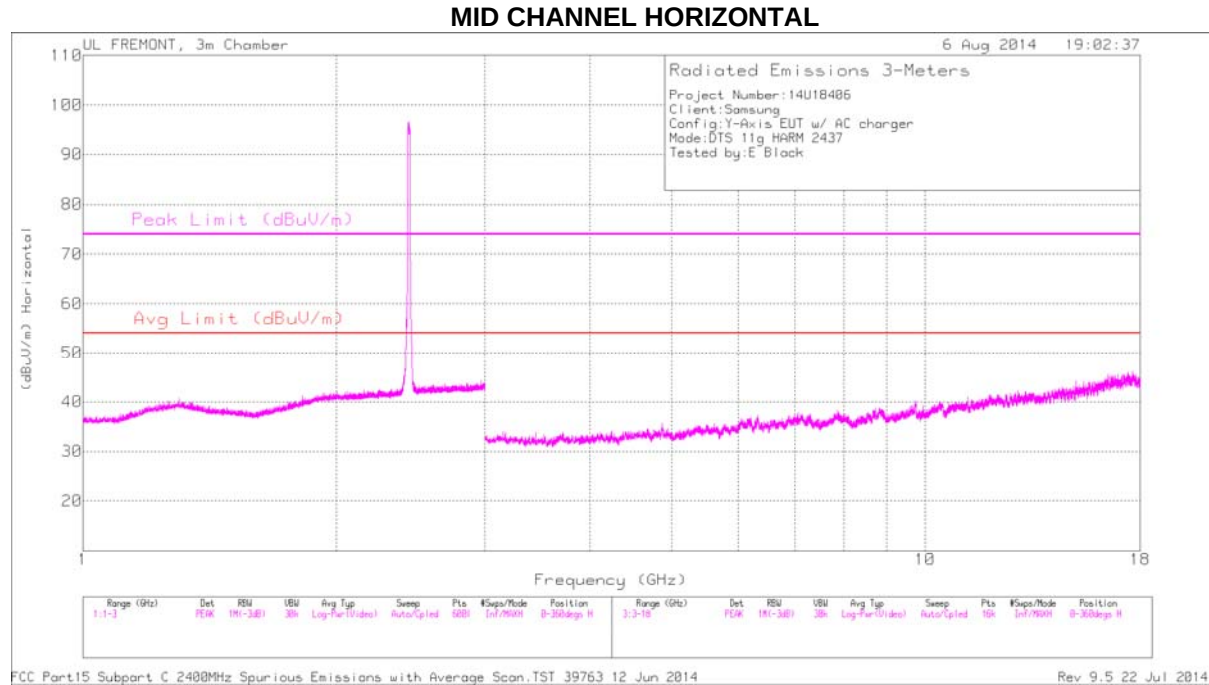
TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/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
6	1.262	34.19	PK	29.9	-23.8	0	40.29	-	-	74	-33.71	0-360	200	V
5	1.381	34.72	PK	29.3	-23.8	0	40.22	-	-	74	-33.78	0-360	100	V
4	1.783	34.43	PK	30	-23.4	0	41.03	-	-	-	-	0-360	200	V
3	4.822	33.34	PK	34	-30.3	0	37.04	-	-	74	-36.96	0-360	200	H
2	7.237	32.7	PK	35.6	-29.7	0	38.6	-	-	-	-	0-360	200	V
1	9.654	30.44	PK	36.8	-25.6	0	41.64	-	-	-	-	0-360	200	V

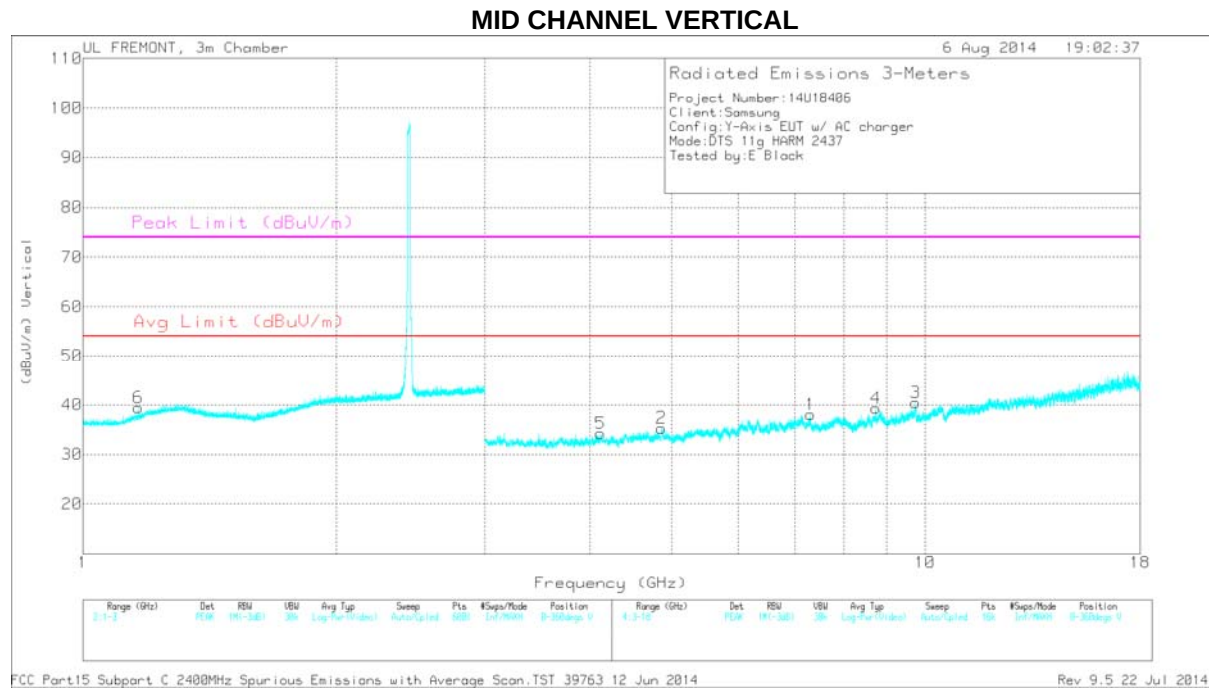
PK - Peak detector

FCC Part15 Subpart C 2400MHz Spurious Emissions with Average Scan.TST 39763 12 Jun 2014

Rev 9.5 22 Jul 2014



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



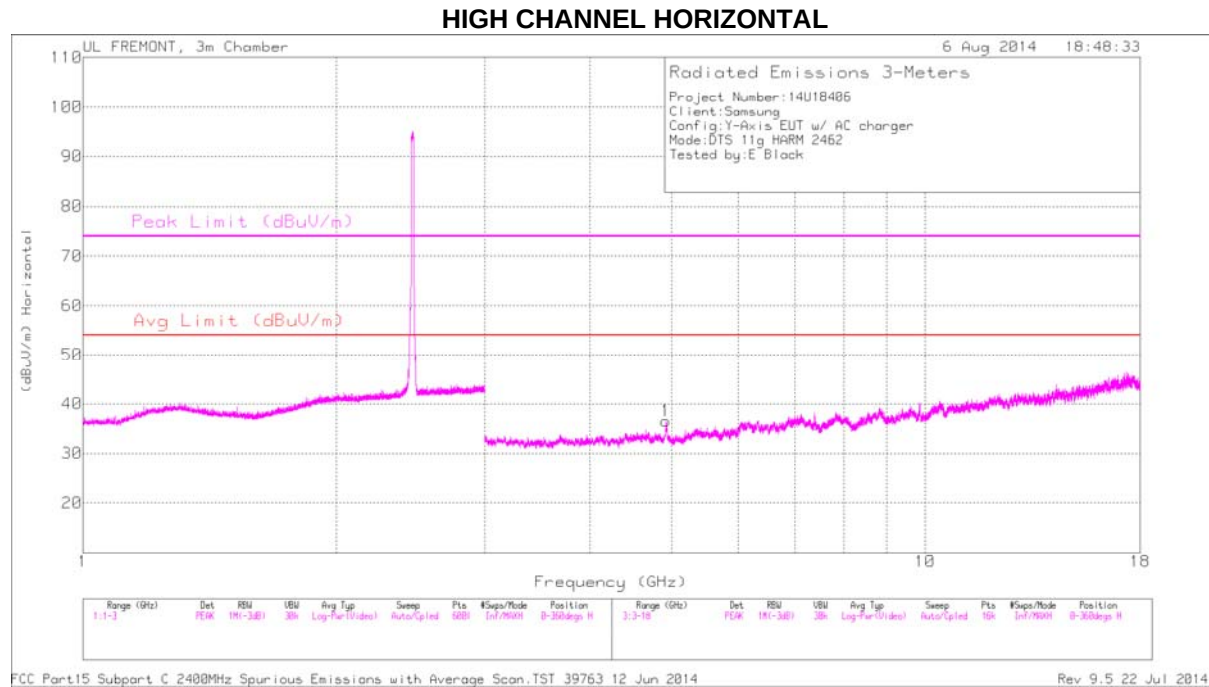
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

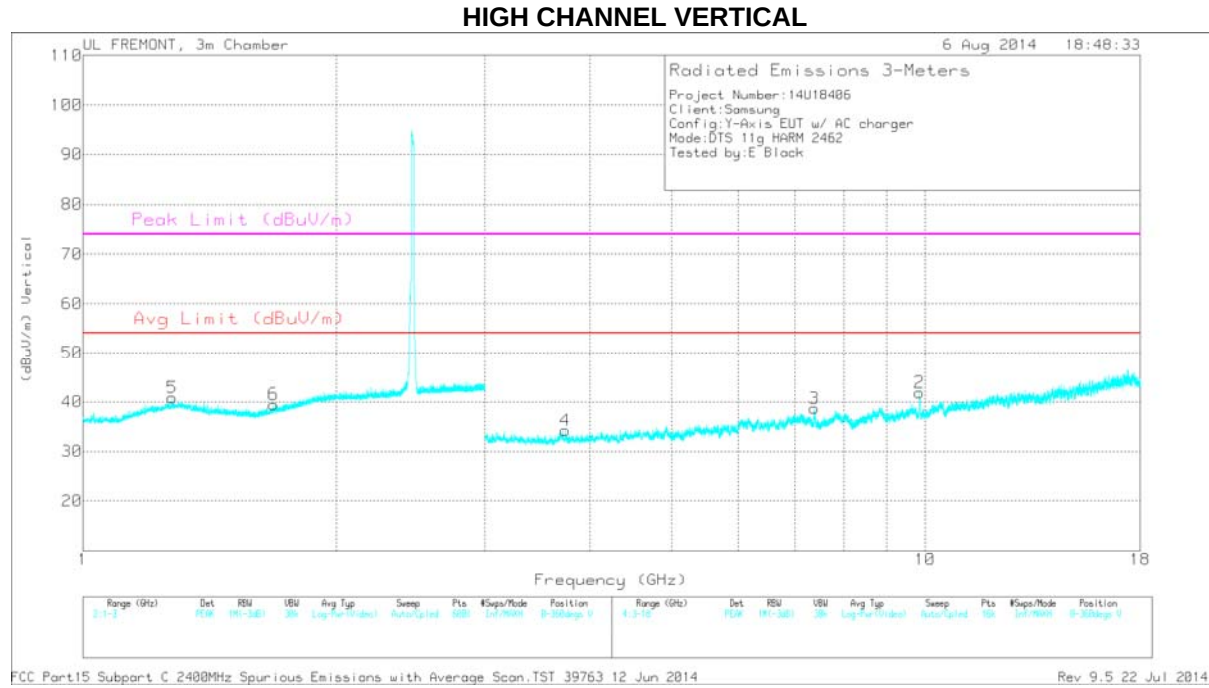
TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/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
6	1.163	34.81	PK	28.5	-23.8	0	39.51	-	-	74	-34.49	0-360	100	V
5	4.118	31.77	PK	33.5	-31	0	34.27	-	-	74	-39.73	0-360	100	V
2	4.862	31.33	PK	34	-30	0	35.33	-	-	74	-38.67	0-360	100	V
1	7.306	30.97	PK	35.6	-28.5	0	38.07	-	-	74	-35.93	0-360	200	V
4	8.745	31.13	PK	35.9	-27.7	0	39.33	-	-	-	-	0-360	200	V
3	9.745	29.15	PK	36.9	-25.6	0	40.45	-	-	-	-	0-360	200	V

PK - Peak detector



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



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

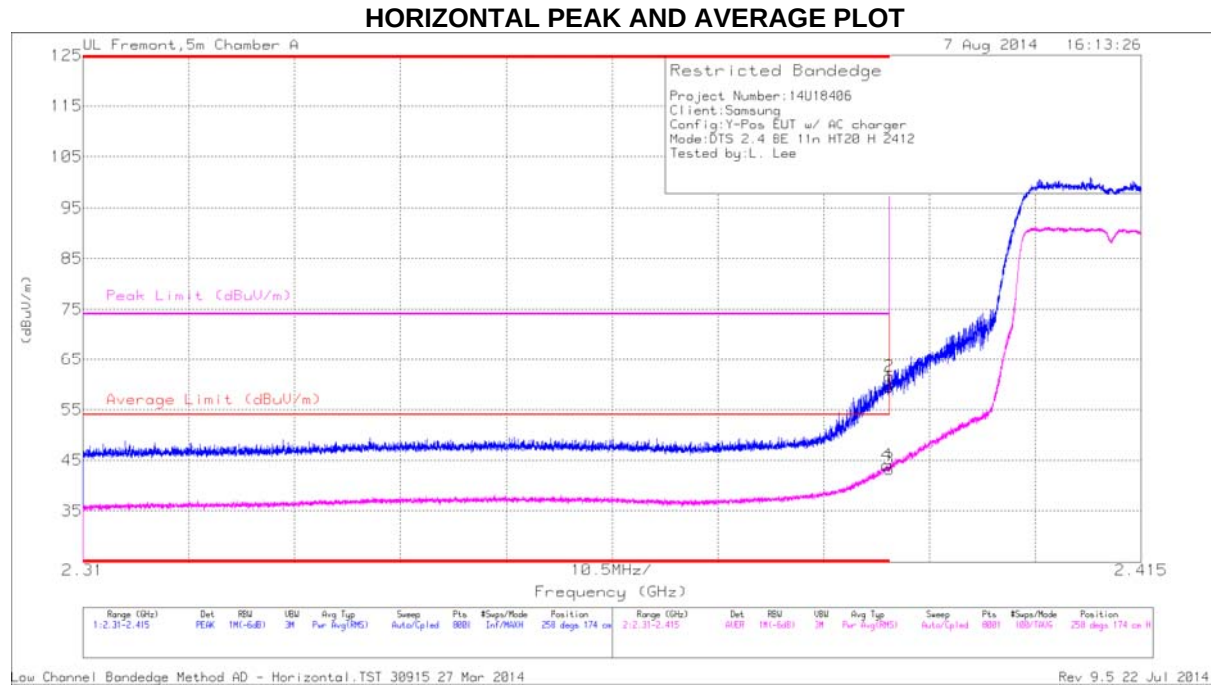
HIGH CHANNEL DATA*TRACE MARKERS*

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbi/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
5	1.277	34.67	PK	30	-23.8	0	40.87	-	-	74	-33.13	0-360	200	V
6	1.682	34.02	PK	28.9	-23.4	0	39.52	-	-	74	-34.48	0-360	100	V
4	3.739	31.93	PK	33.2	-30.9	0	34.23	-	-	74	-39.77	0-360	100	V
1	4.923	32.89	PK	34	-30.4	0	36.49	-	-	74	-37.51	0-360	200	H
3	7.386	31.28	PK	35.7	-28.3	0	38.68	-	-	74	-35.32	0-360	200	V
2	9.848	30.93	PK	36.9	-25.9	0	41.93	-	-	-	-	0-360	200	V

PK - Peak detector

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

RESTRICTED BANDEDGE (LOW CHANNEL)



HORIZONTAL DATA

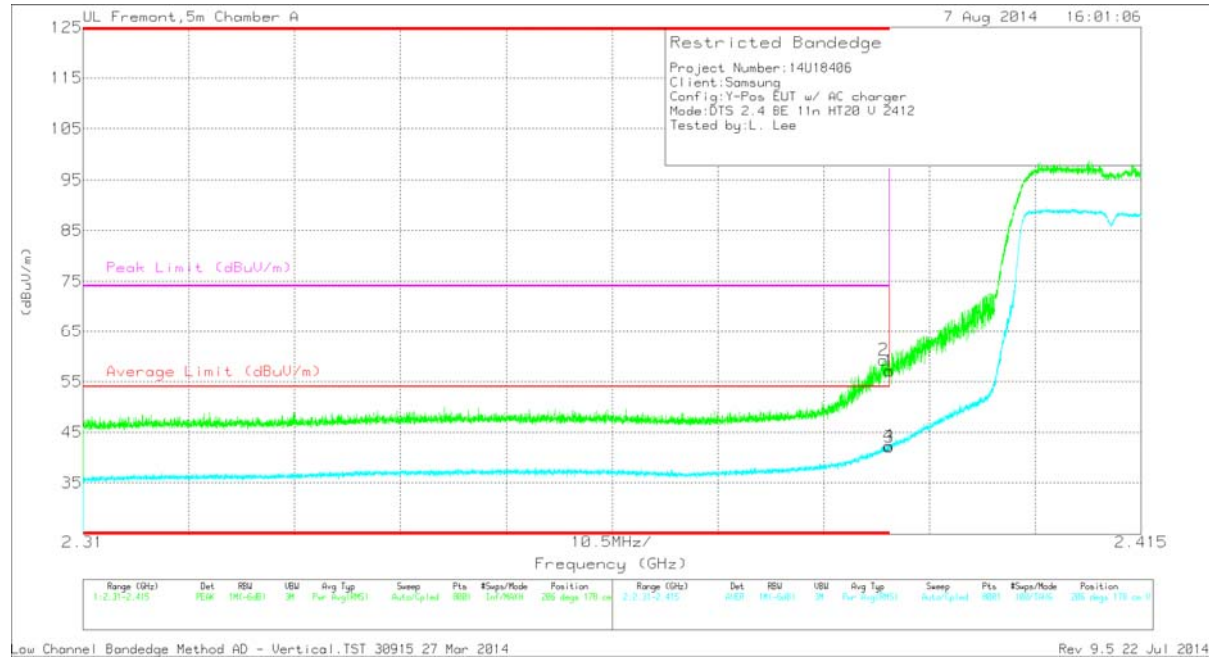
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT136 (dB/m)	Amp/Cb/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	51.7	PK	32.2	-24.4	0	59.5	-	-	74	-14.5	258	174	H
2	* 2.39	53.74	PK	32.2	-24.4	0	61.54	-	-	74	-12.46	258	174	H
3	* 2.39	35.26	RMS	32.2	-24.4	.22	43.28	54	-10.72	-	-	258	174	H
4	* 2.39	36.1	RMS	32.2	-24.4	.22	44.12	54	-9.88	-	-	258	174	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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	49.34	PK	32.2	-24.4	0	57.14	-	-	74	-16.86	206	178	V
2	* 2.389	51.49	PK	32.2	-24.4	0	59.29	-	-	74	-14.71	206	178	V
3	* 2.39	34.1	RMS	32.2	-24.4	.22	42.12	54	-11.88	-	-	206	178	V
4	* 2.39	34.34	RMS	32.2	-24.4	.22	42.36	54	-11.64	-	-	206	178	V

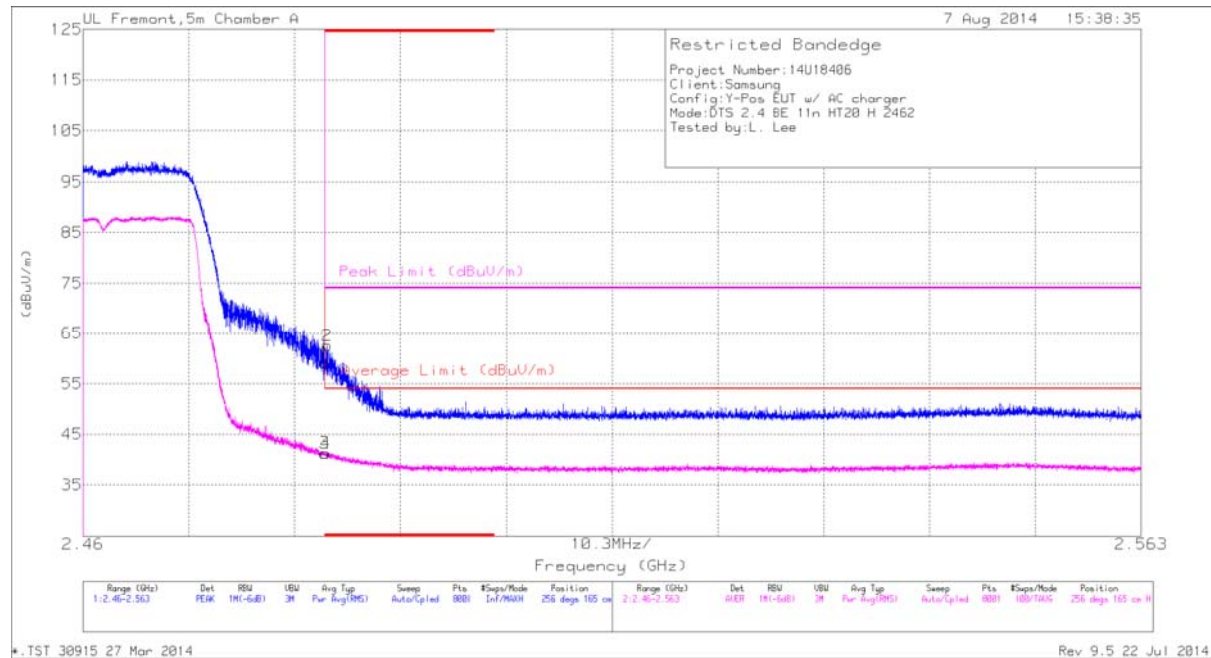
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

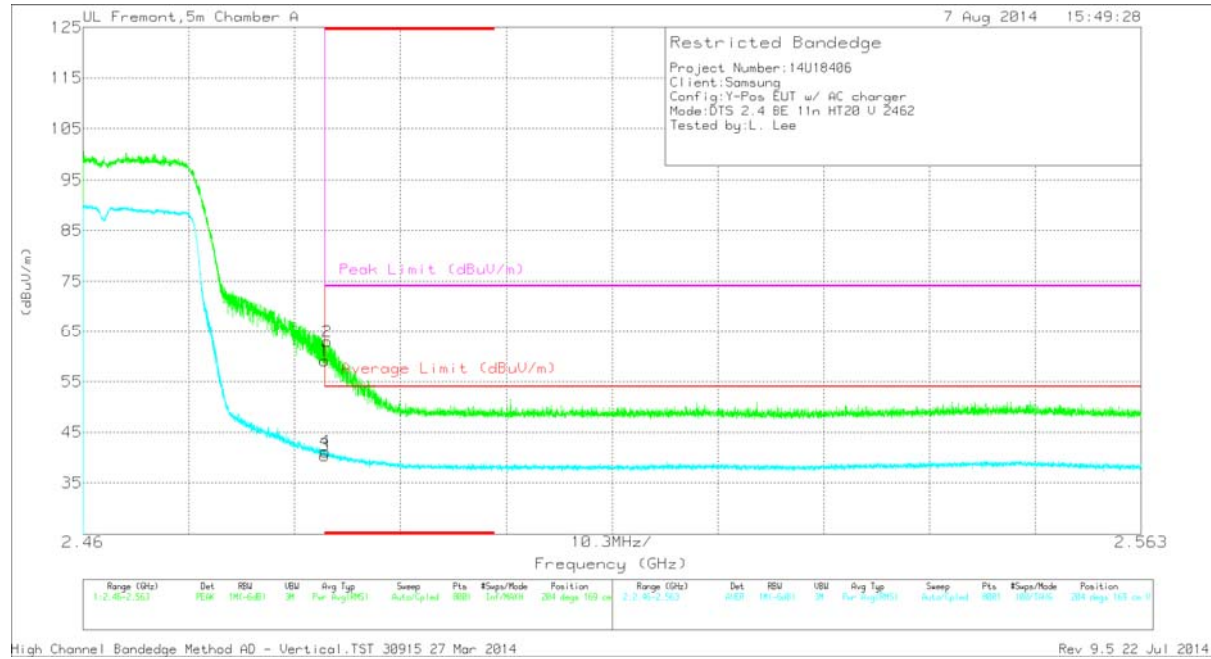
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT136 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	49.92	PK	32.7	-23.5	0	59.12	-	-	74	-14.88	256	165	H
2	* 2.484	53.4	PK	32.7	-23.5	0	62.6	-	-	74	-11.4	256	165	H
3	* 2.484	31.87	RMS	32.7	-23.5	.22	41.29	54	-12.71	-	-	256	165	H
4	* 2.484	31.86	RMS	32.7	-23.5	.22	41.28	54	-12.72	-	-	256	165	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

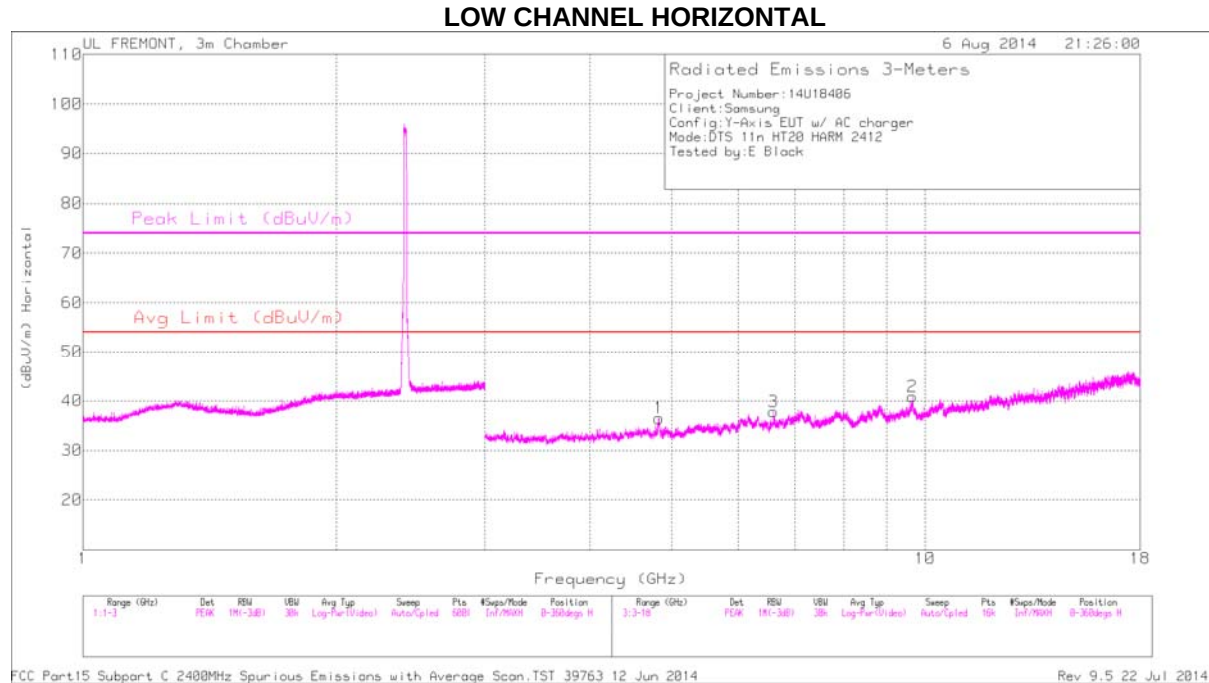
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	49.86	PK	32.7	-23.5	0	59.06	-	-	74	-14.94	204	169	V
2	* 2.484	53.77	PK	32.7	-23.5	0	62.97	-	-	74	-11.03	204	169	V
3	* 2.484	31	RMS	32.7	-23.5	.22	40.42	54	-13.58	-	-	204	169	V
4	* 2.484	31.75	RMS	32.7	-23.5	.22	41.17	54	-12.83	-	-	204	169	V

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

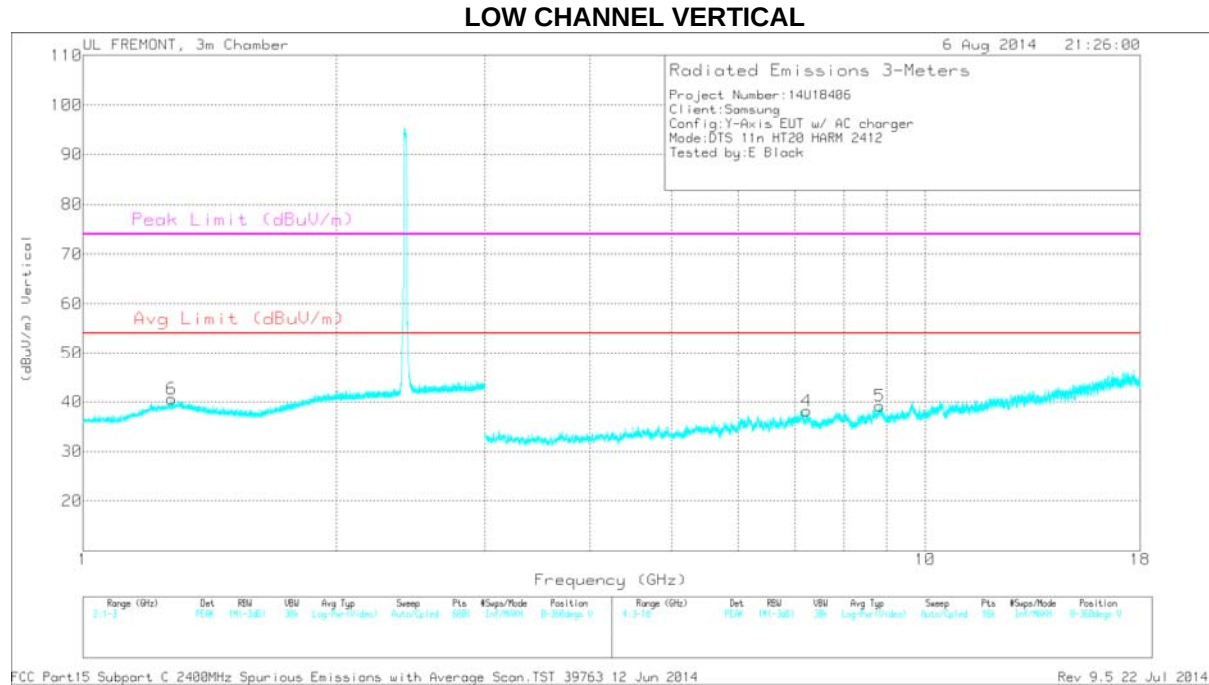
PK - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS



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



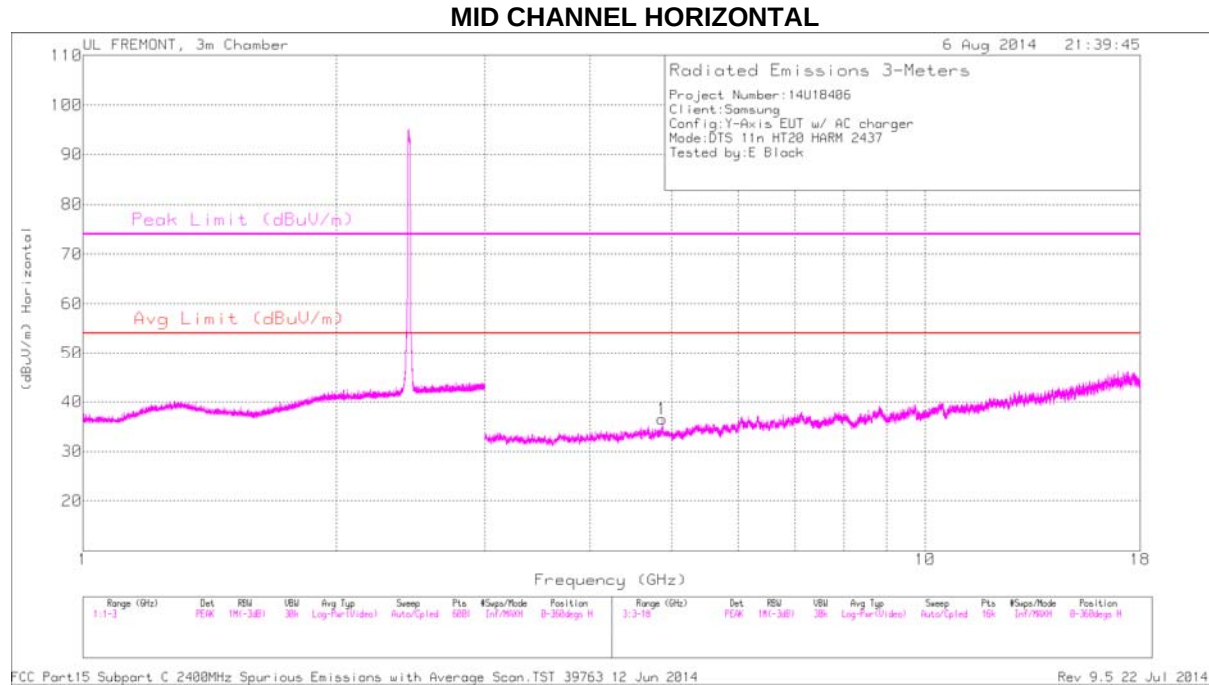
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

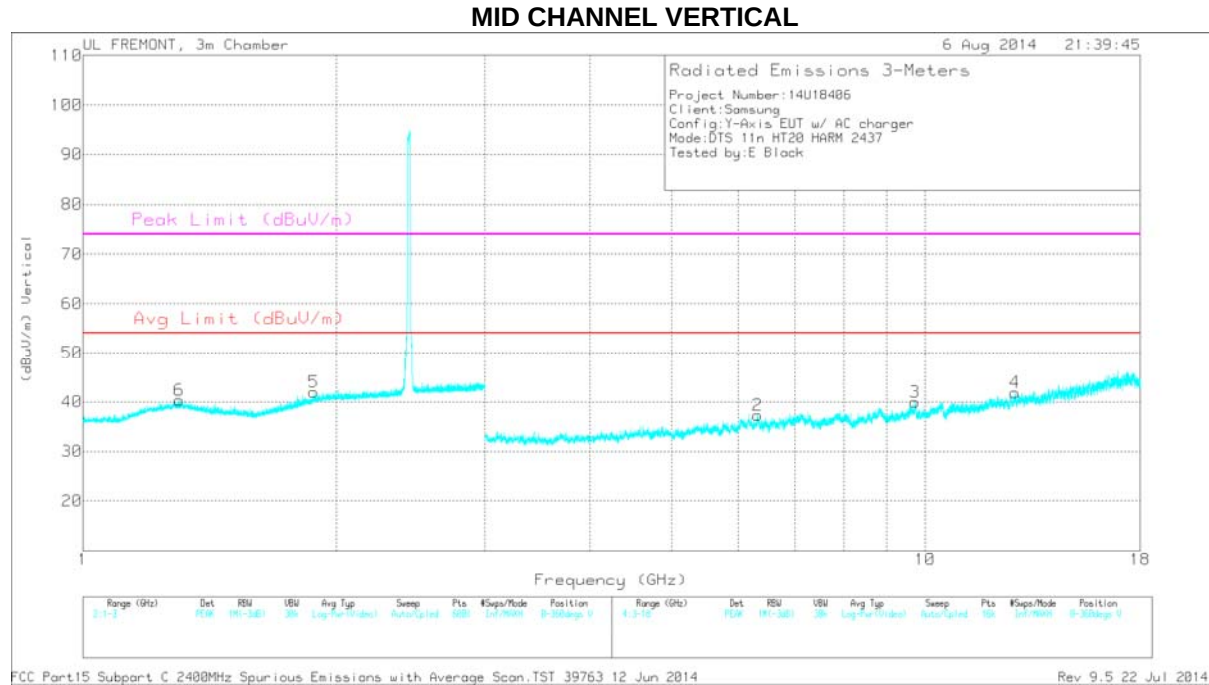
TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/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
6	1.275	34.4	PK	30	-23.8	0	40.6	-	-	74	-33.4	0-360	100	V
1	4.831	32.38	PK	34	-29.9	0	36.48	-	-	74	-37.52	0-360	200	H
3	6.606	30.66	PK	35.6	-28.5	0	37.76	-	-	-	-	0-360	200	H
4	7.238	32.27	PK	35.6	-29.7	0	38.17	-	-	-	-	0-360	200	V
5	8.827	29.67	PK	36	-26.5	0	39.17	-	-	-	-	0-360	200	V
2	9.659	29.52	PK	36.8	-25.5	0	40.82	-	-	-	-	0-360	100	H

PK - Peak detector



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



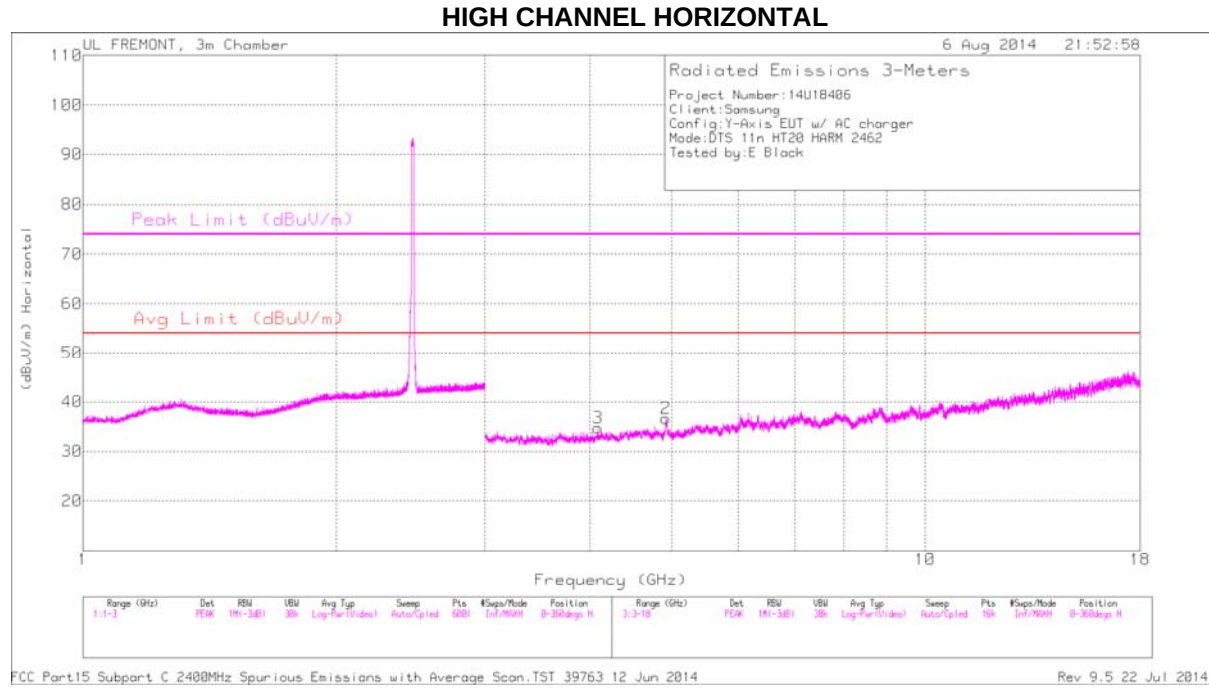
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

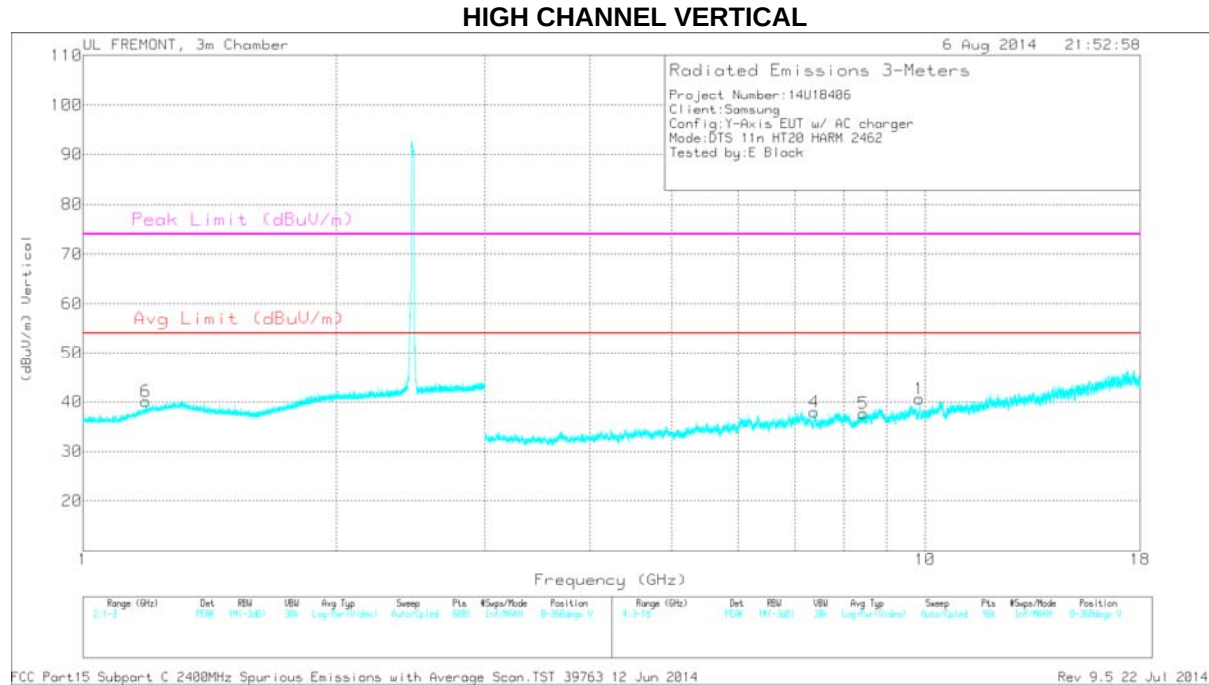
TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/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
6	1.301	33.91	PK	30.2	-23.8	0	40.31	-	-	74	-33.69	0-360	100	V
5	1.879	34.21	PK	31	-23.2	0	42.01	-	-	-	-	0-360	200	V
1	4.875	32.66	PK	34	-30.1	0	36.56	-	-	74	-37.44	0-360	100	H
2	6.321	31.17	PK	35.4	-29.3	0	37.27	-	-	-	-	0-360	100	V
3	9.729	28.46	PK	36.9	-25.4	0	39.96	-	-	-	-	0-360	200	V
4	12.786	29.33	PK	39.2	-26.6	0	41.93	-	-	-	-	0-360	100	V

PK - Peak detector



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



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

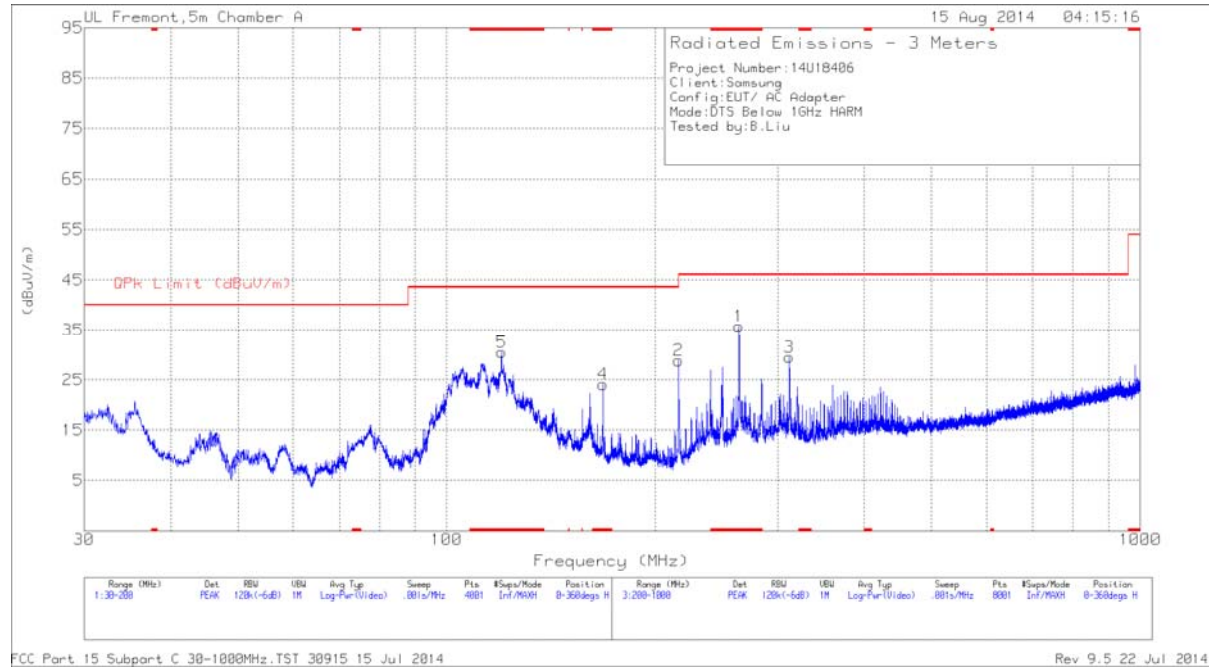
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Fitr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	1.188	34.87	PK	29	-23.8	0	40.07	-	-	74	-33.93	0-360	200	V
3	4.086	32.72	PK	33.5	-31.5	0	34.72	-	-	74	-39.28	0-360	100	H
2	4.918	32.89	PK	34	-30.2	0	36.69	-	-	74	-37.31	0-360	100	H
4	7.384	30.58	PK	35.7	-28.3	0	37.98	-	-	74	-36.02	0-360	200	V
5	8.442	29.12	PK	35.8	-27.2	0	37.72	-	-	74	-36.28	0-360	100	V
1	9.848	29.61	PK	36.9	-25.9	0	40.61	-	-	-	-	0-360	200	V

PK - Peak detector

10.3. WORST-CASE BELOW 1 GHz

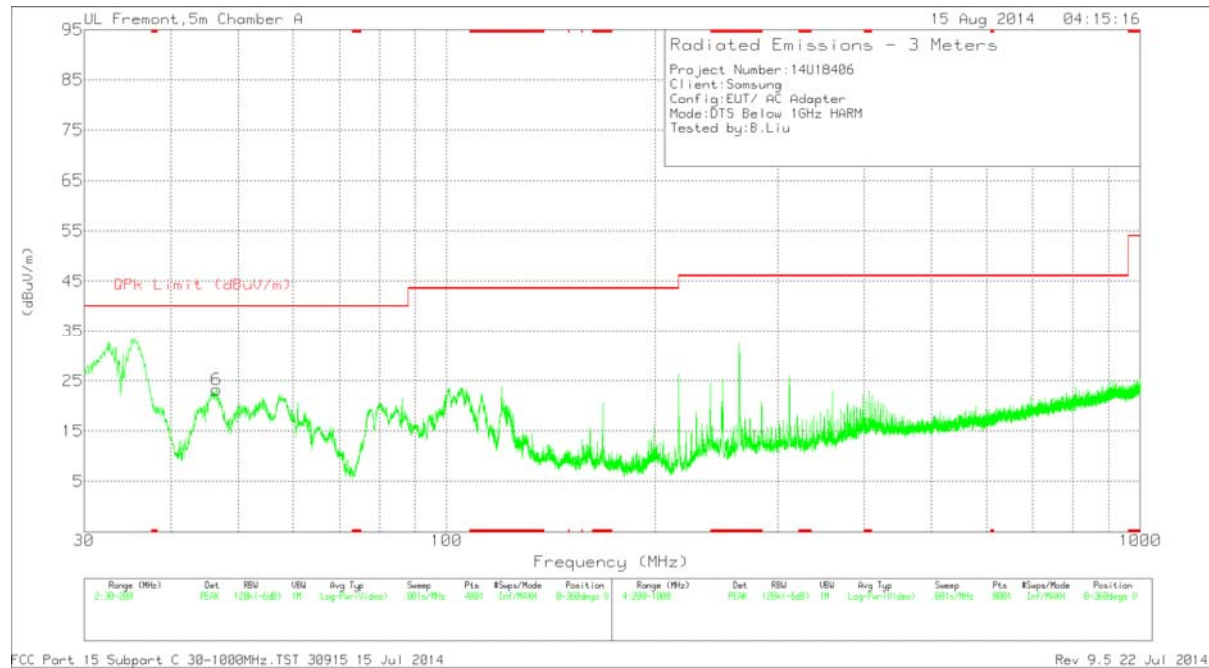
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

HORIZONTAL PLOT



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

VERTICAL PLOT



Below 1G Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T130 (dB/m)	Amp/Cbl (dB/m)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 167.9975	42.21	PK	11.9	-30	24.11	43.52	-19.41	0-360	200	H
5	* 119.9725	46.91	PK	13.9	-30.3	30.51	43.52	-13.01	0-360	300	H
1	* 264	52.45	PK	12.7	-29.4	35.75	46.02	-10.27	0-360	101	H
6	46.575	44.64	PK	9.6	-31	23.24	40	-16.76	0-360	101	V
2	216	47.86	PK	10.7	-29.7	28.86	43.52	-14.66	0-360	101	H
3	312	45.01	PK	13.8	-29.3	29.51	46.02	-16.51	0-360	101	H

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

PK - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	AF T130 (dB/m)	Amp/Cbl (dB/m)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 264.0028	51.95	QP	12.7	-29.4	35.25	46.02	-10.77	1	101	H

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

QP - Quasi-Peak detector

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 2009.

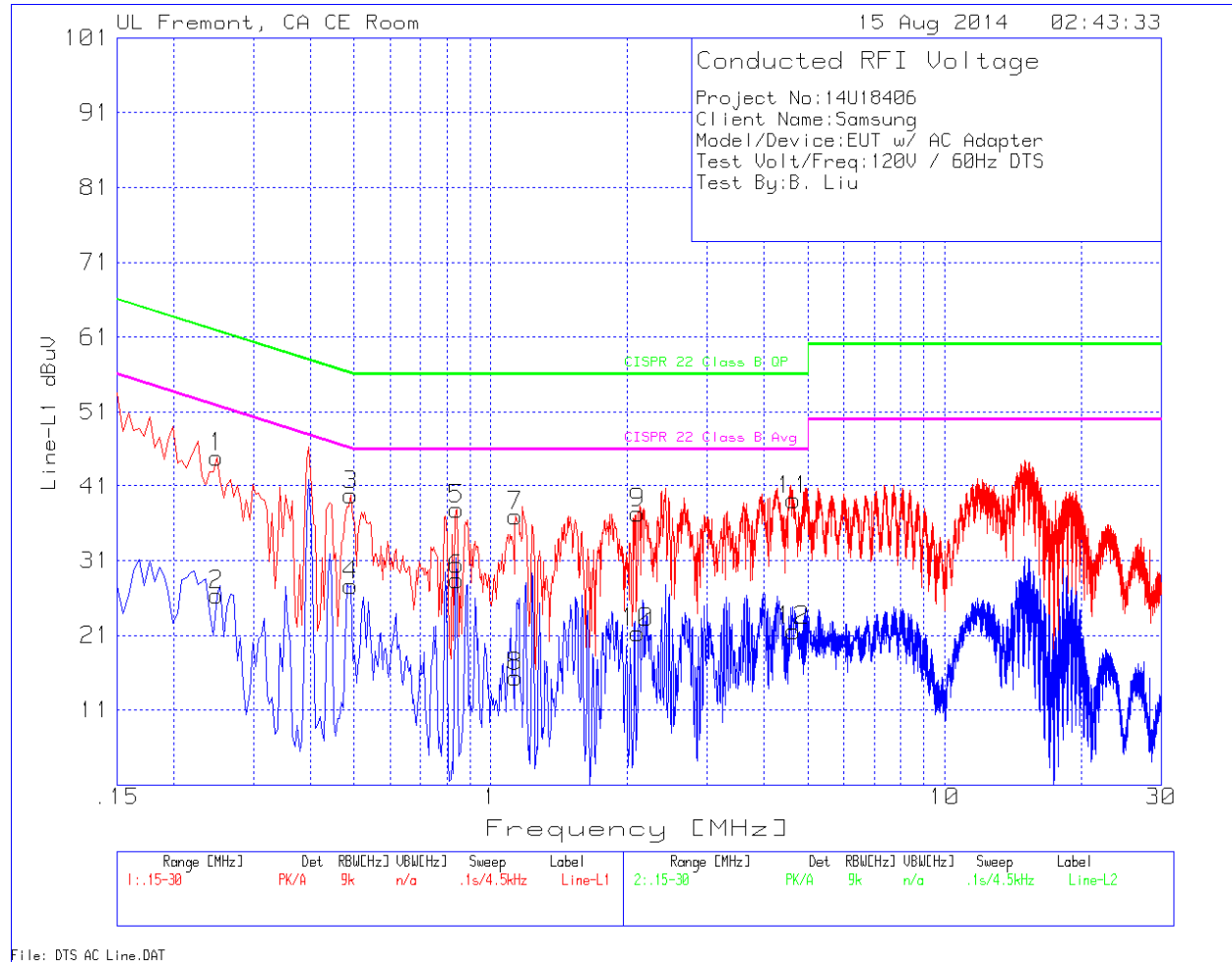
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

6 WORST EMISSIONS

LINE 1 PLOT

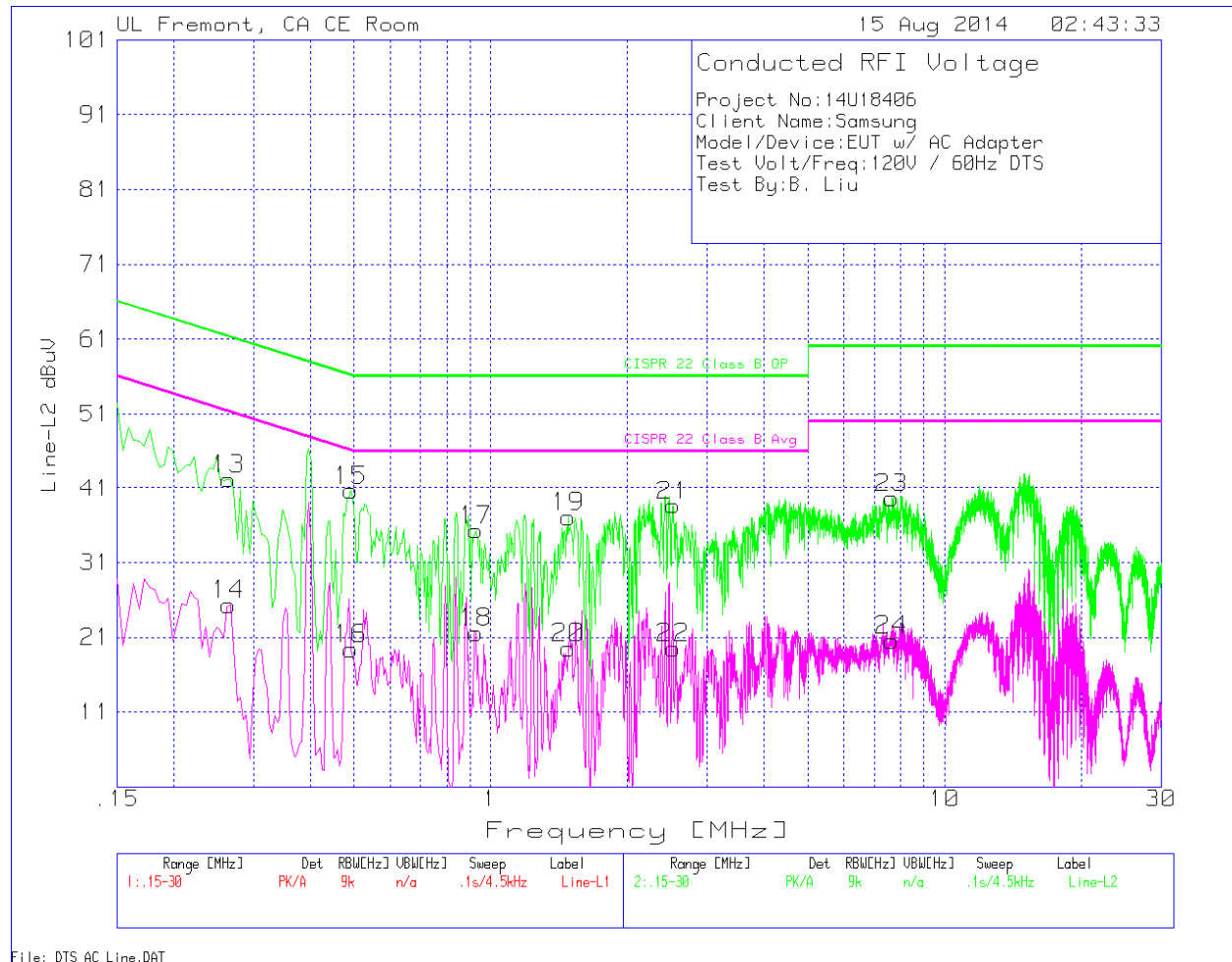


LINE 1 RESULTS

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	.249	44.16	PK	.7	0	44.86	61.8	-16.94	-	-
2	.249	25.64	Av	.7	0	26.34	-	-	51.8	-25.46
3	.492	39.34	PK	.4	0	39.74	56.1	-16.36	-	-
4	.492	27.27	Av	.4	0	27.67	-	-	46.1	-18.43
5	.843	37.53	PK	.3	0	37.83	56	-18.17	-	-
6	.843	28.12	Av	.3	0	28.42	-	-	46	-17.58
7	1.1355	36.73	PK	.2	0	36.93	56	-19.07	-	-
8	1.1355	15.17	Av	.2	0	15.37	-	-	46	-30.63
9	2.112	37	PK	.2	.1	37.3	56	-18.7	-	-
10	2.112	21.05	Av	.2	.1	21.35	-	-	46	-24.65
11	4.65	38.78	PK	.2	.1	39.08	56	-16.92	-	-
12	4.65	21.28	Av	.2	.1	21.58	-	-	46	-24.42

LINE 2 PLOT



LINE 2 RESULTS

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)
13	.26475	41.53	PK	.7	0	42.23	61.3	-19.07	-	-
14	.26475	24.58	Av	.7	0	25.28	-	-	51.3	-26.02
15	.492	40.24	PK	.4	0	40.64	56.1	-15.46	-	-
16	.492	18.96	Av	.4	0	19.36	-	-	46.1	-26.74
17	.9285	35.01	PK	.3	0	35.31	56	-20.69	-	-
18	.9285	21.28	Av	.3	0	21.58	-	-	46	-24.42
19	1.482	36.81	PK	.2	.1	37.11	56	-18.89	-	-
20	1.482	19.22	Av	.2	.1	19.52	-	-	46	-26.48
21	2.526	38.36	PK	.2	.1	38.66	56	-17.34	-	-
22	2.526	19.26	Av	.2	.1	19.56	-	-	46	-26.44
23	7.6335	39.38	PK	.2	.1	39.68	60	-20.32	-	-
24	7.6335	20.26	Av	.2	.1	20.56	-	-	50	-29.44