FCC CFR47 PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

GSM/WCDMA/LTE Phone + Bluetooth, WLAN 2.4GHz b/g/n & NFC

MODEL NUMBER: SM-G530F & SM-G530FQ

FCC ID: A3LSMG530F

REPORT NUMBER: 14U18524-E4

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	SAMSUNG ELECTRONICS CO., LTD.
EUT DESCRIPTION:	GSM/WCDMA/LTE Phone + Bluetooth, WLAN 2.4GHz b/g/n & NFC
MODEL:	SM-G530F and SM-G530FQ
SERIAL NUMBER:	1935734(Radiated) & 1935735(Conducted)
DATE TESTED:	AUGUST 8-12, 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.

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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.

2. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
☐ Chamber A	☐ Chamber D
☒ Chamber B	☐ Chamber E
☒ Chamber C	☐ Chamber F
☒ Chamber G	☐ Chamber F

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3. CALIBRATION AND UNCERTAINTY

3.1. 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.

3.2. SAMPLE CALCULATION

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Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

3.3. 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%.

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4. EQUIPMENT UNDER TEST

4.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE Phone + Bluetooth, WLAN 2.4GHz b/g/n & NFC

4.2. 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	16.9	48.98
2412 - 2462	802.11g	13.0	19.95
2412 - 2462	802.11n HT20	11.0	12.59

4.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of -1.86 dBi.

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

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

802.11b mode: 1 Mbps

802.11g mode: 6 Mbps

802.11n HT20mode: MCS0

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4.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
AC Adapter	Samsung	SM-G530F	N/A	N/A
Earphone	Samsung	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.

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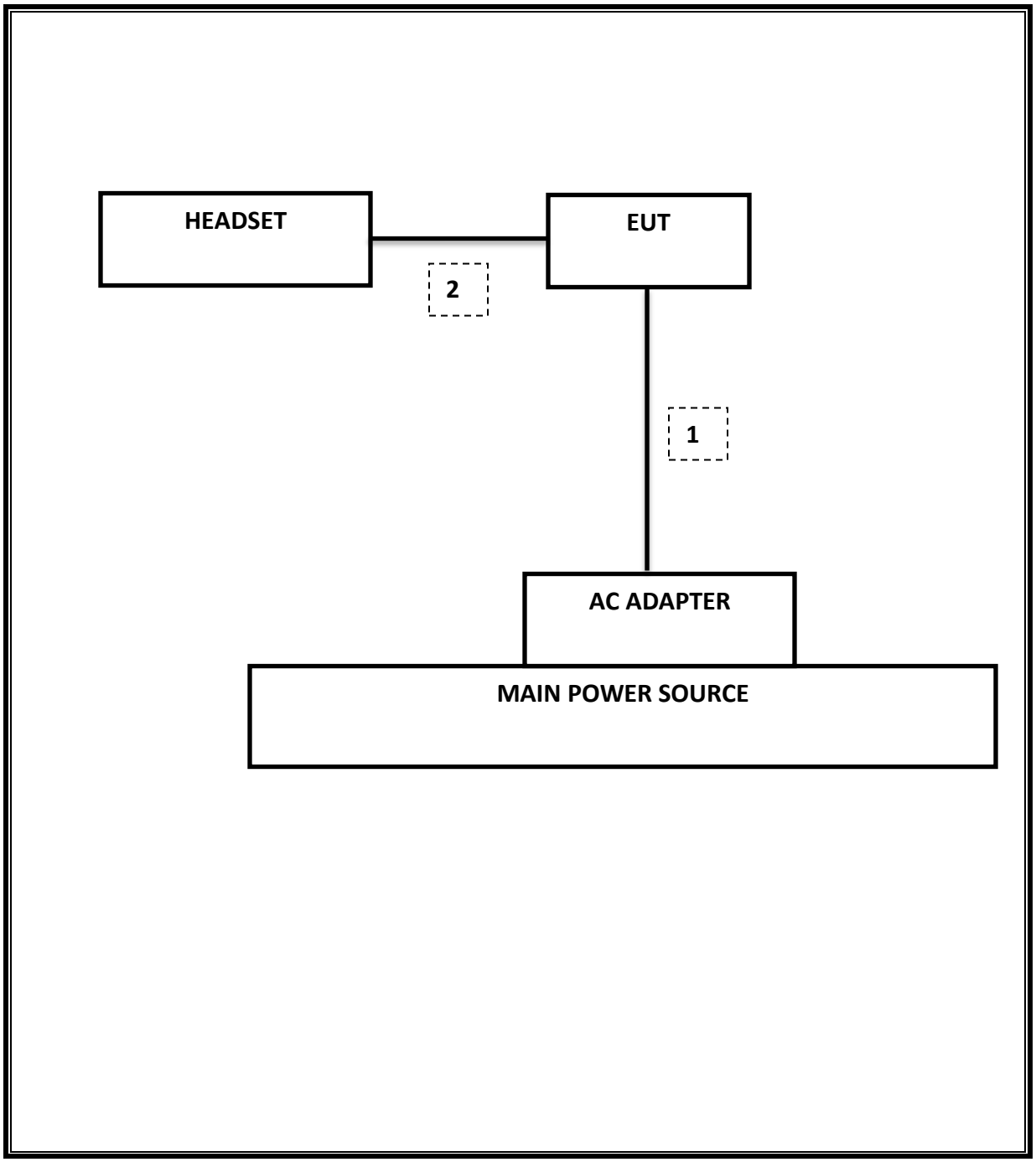
SETUP DIAGRAM FOR TESTS



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5. 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	08/13/14
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

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6. 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.

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7. 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	7.63 MHz
2.1051, 15.247 (d)	RSS-210 A8.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass	-34.08 dBm
15.247	RSS-210 A8.4	TX conducted output power	<30dBm		Pass	16.9 dBm
15.247	RSS-210 A8.2	PSD	<8dBm		Pass	-13.03dBm
15.207 (a)	RSS-GEN 7.2.2	AC Power Line conducted emissions	Section 10	Radiated	Pass	49.81dBuV
15.205, 15.209	RSS-210 Clause 2.6, RSS-210 Clause 6	Radiated Spurious Emission	< 54dBuV/m		Pass	50.04dBuV/m

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8. ANTENNA PORT TEST RESULTS

8.1. 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 to100KHz, the VBW >= 3 x RBW, peak detector and max hold.

RESULTS

8.1.1. 802.11b MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	7.67	0.5
Mid	2437	7.63	0.5
High	2462	7.63	0.5
Worst		7.63	

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8.1.2. 802.11g MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	16.48	0.5
Mid	2437	16.50	0.5
High	2462	16.53	0.5
Worst		16.48	

8.1.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	17.70	0.5
Mid	2437	17.70	0.5
High	2462	17.78	0.5
Worst		17.70	

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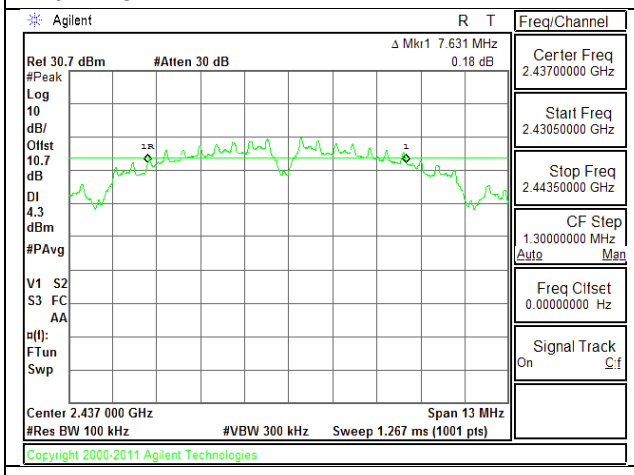
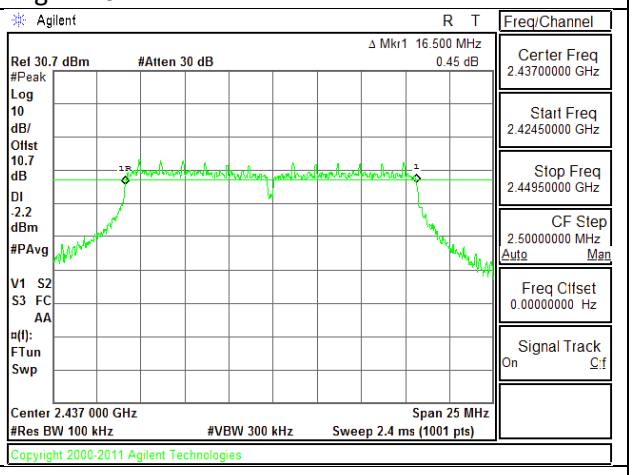
8.1.4. 6 dB BANDWIDTH MID CH PLOTS

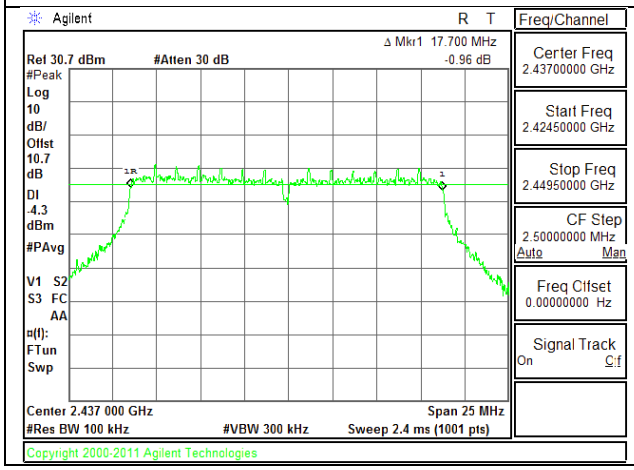
11b HT20 2.4



11g HT20 2.4



11n HT20 2.4



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8.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

8.2.1. 802.11b MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	12.80
Mid	2437	12.60
High	2462	12.49
Worst		12.80

8.2.2. 802.11g MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	16.48
Mid	2437	16.41
High	2462	16.30
Worst		16.48

8.2.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	17.57
Mid	2437	17.62
High	2462	17.58
Worst		17.62

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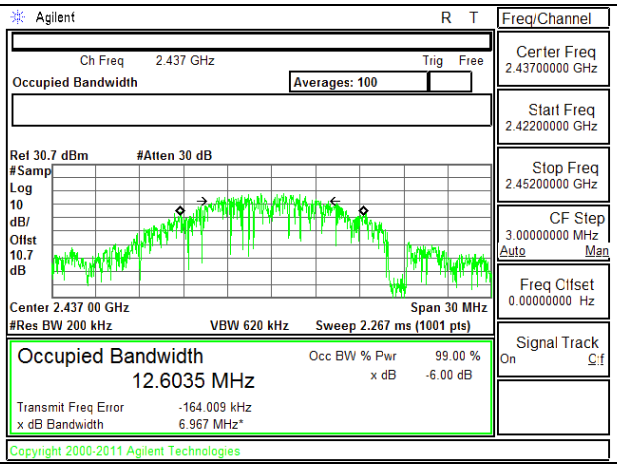
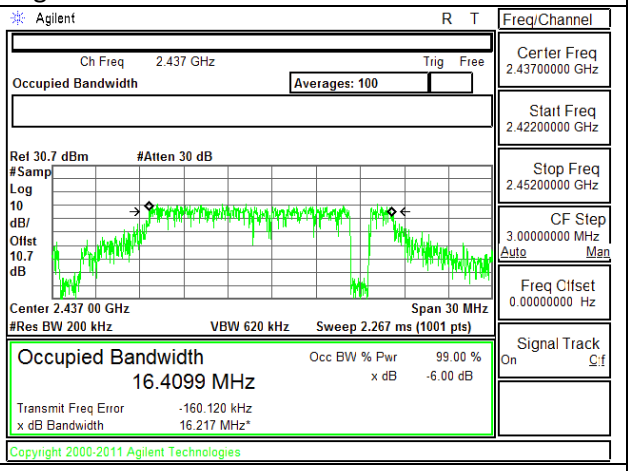
8.2.4. 99% BANDWIDTH MID CH PLOTS

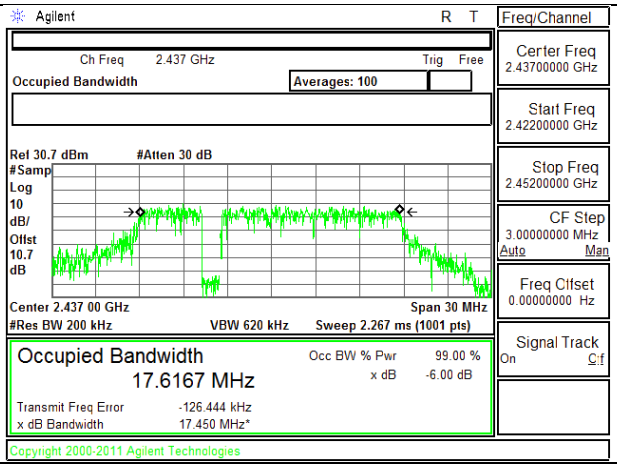
11b HT20 2.4



11g HT20 2.4



11n HT20 2.4



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8.3. 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

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8.3.1. 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	-1.86	30.00	30	36	30.00
Mid	2437	-1.86	30.00	30	36	30.00
High	2462	-1.86	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	16.90	16.90	30.00	-13.10
Mid	2437	16.50	16.50	30.00	-13.50
High	2462	16.90	16.90	30.00	-13.10
Worst			16.90		

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8.3.2. 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	-1.86	30.00	30	36	30.00
Mid	2437	-1.86	30.00	30	36	30.00
High	2462	-1.86	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	12.40	12.40	30.00	-17.60
Mid	2437	13.00	13.00	30.00	-17.00
High	2462	13.00	13.00	30.00	-17.00
Worst			13.00		

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8.3.3. 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	-1.86	30.00	30	36	30.00
Mid	2437	-1.86	30.00	30	36	30.00
High	2462	-1.86	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	10.40	10.40	30.00	-19.60
Mid	2437	11.00	11.00	30.00	-19.00
High	2462	11.00	11.00	30.00	-19.00
Worst			11.00		

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8.4. 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

8.4.1. 802.11b MODE IN THE 2.4 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-13.03	8.0	-21.0
Mid	2437	-13.18	8.0	-21.2
High	2462	-13.72	8.0	-21.7

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8.4.2. 802.11g MODE IN THE 2.4 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-19.10	8.0	-27.1
Mid	2437	-19.94	8.0	-27.9
High	2462	-21.01	8.0	-29.0

8.4.3. 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	-21.91	8.0	-29.9
Mid	2437	-21.22	8.0	-29.2
High	2462	-22.11	8.0	-30.1

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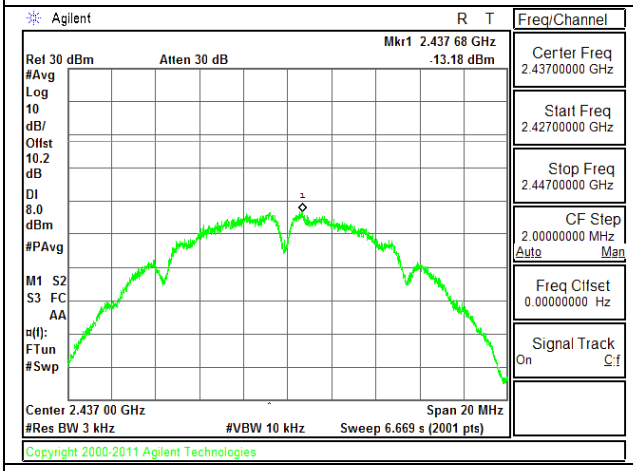
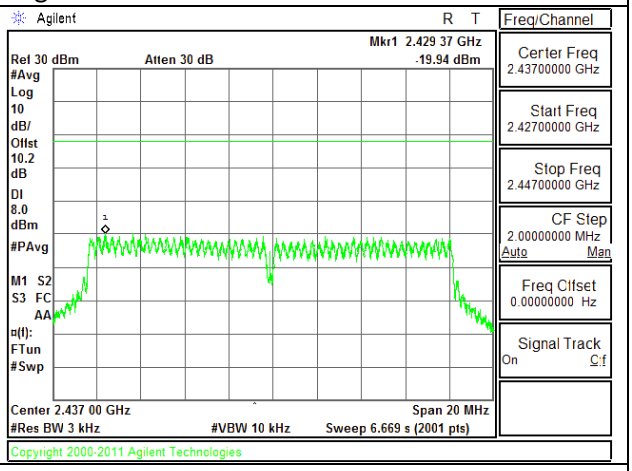
8.4.4. PSD Chain 0 MID CH PLOTS

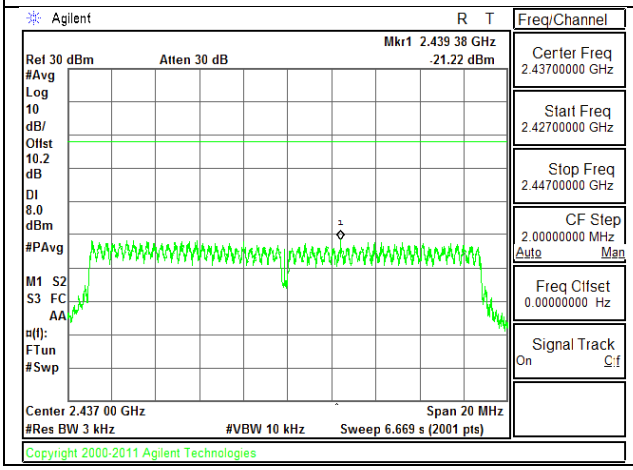
11b HT20 2.4



11g HT20 2.4



11n HT20 2.4



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8.5. 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

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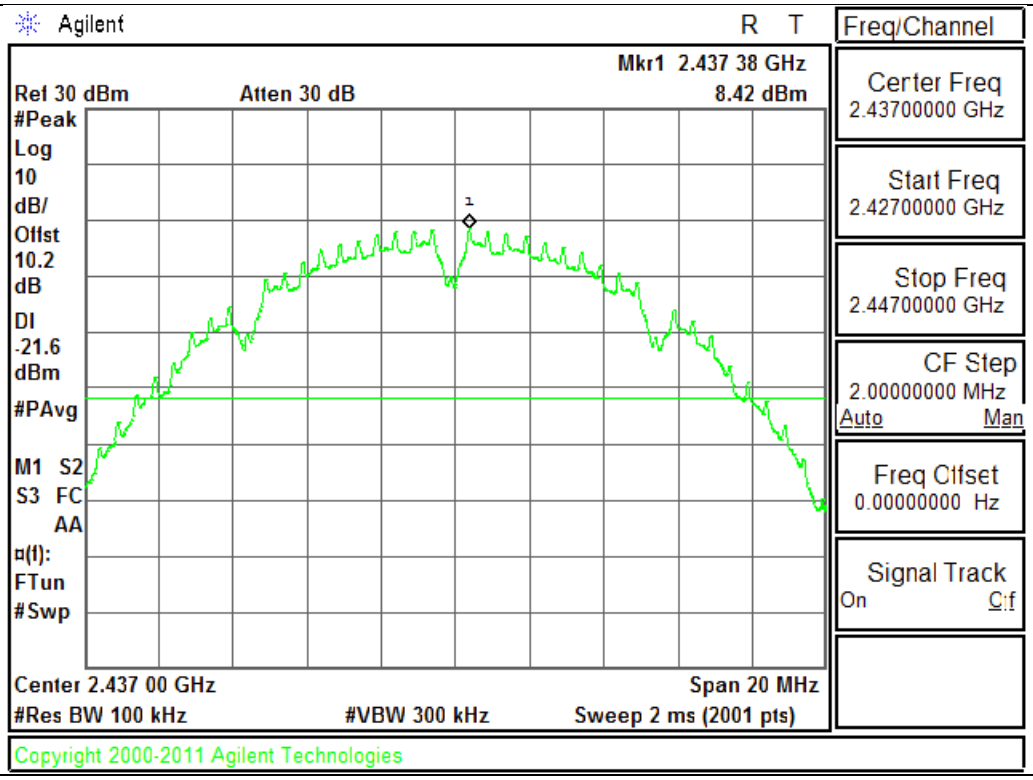
8.5.1. 802.11b MODE IN THE 2.4 GHz BAND

IN-BAND REFERENCE LEVEL

REFERENCE LEVEL MID CH



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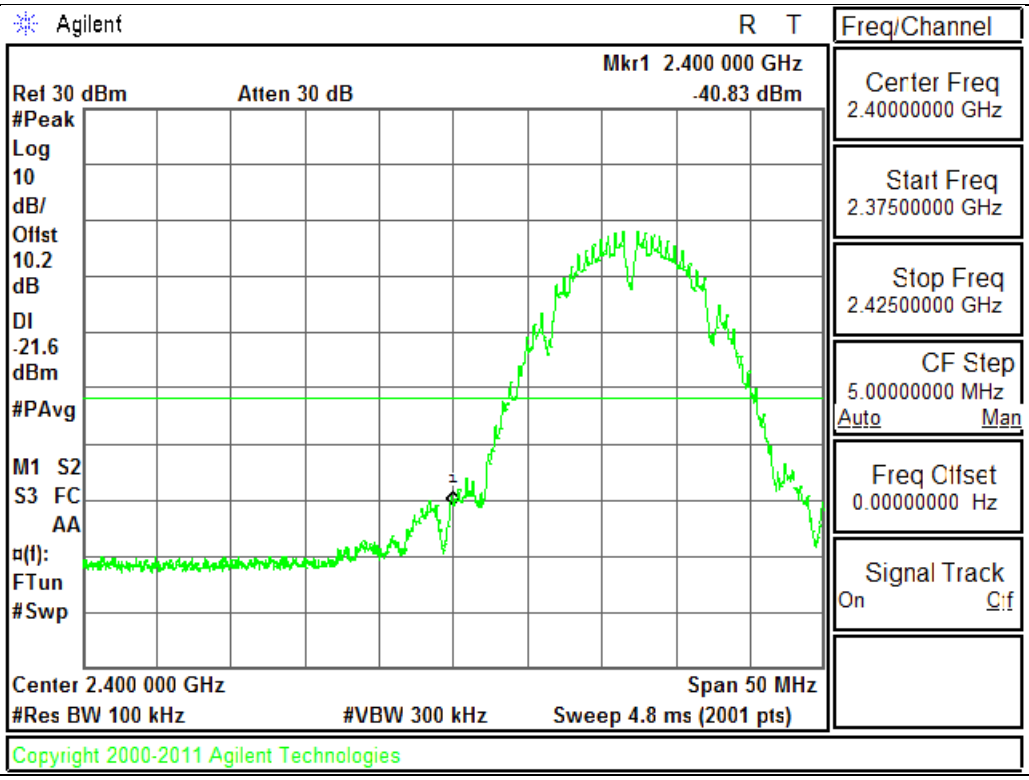
LOW CHANNEL BANDEDGE

AUTHORIZED BAND EDGE LOW CH



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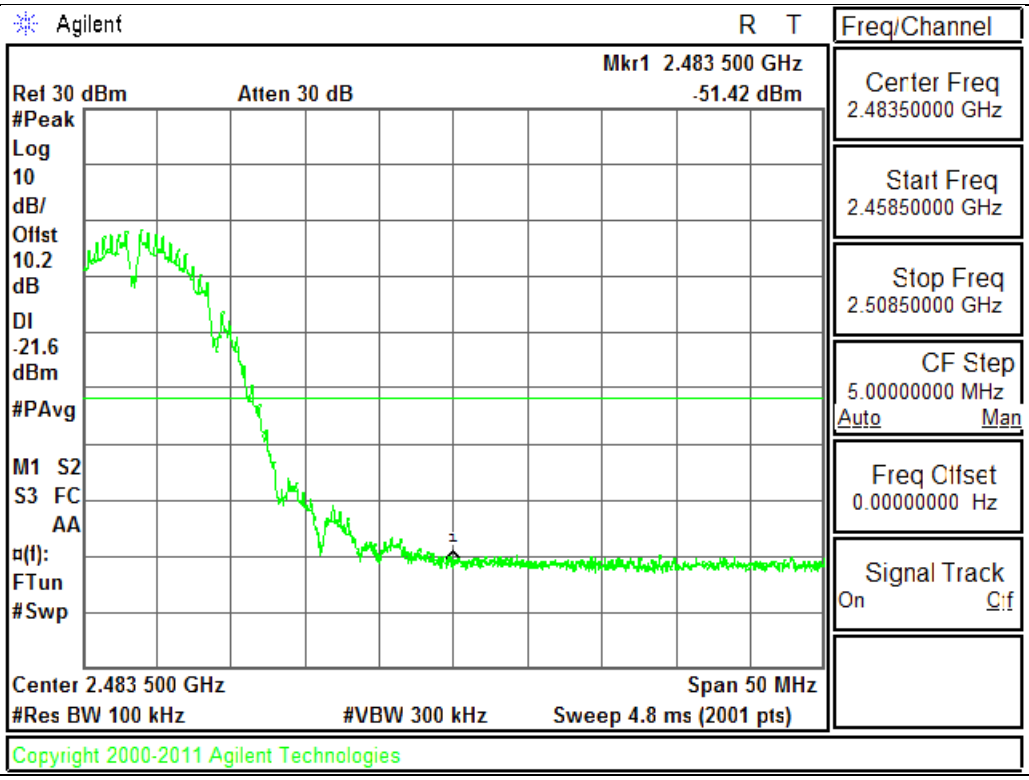
HIGH CHANNEL BANDEDGE

AUTHORIZED BAND EDGE HIGH CH



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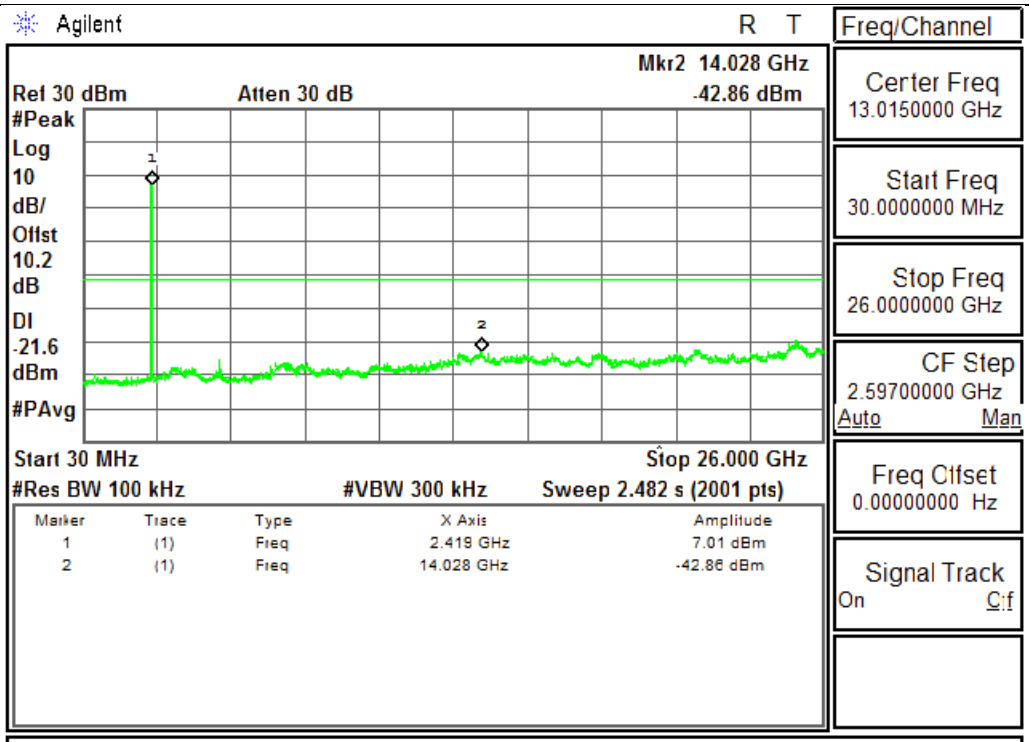
OUT-OF-BAND EMISSIONS

OUT OF BAND LOW CH



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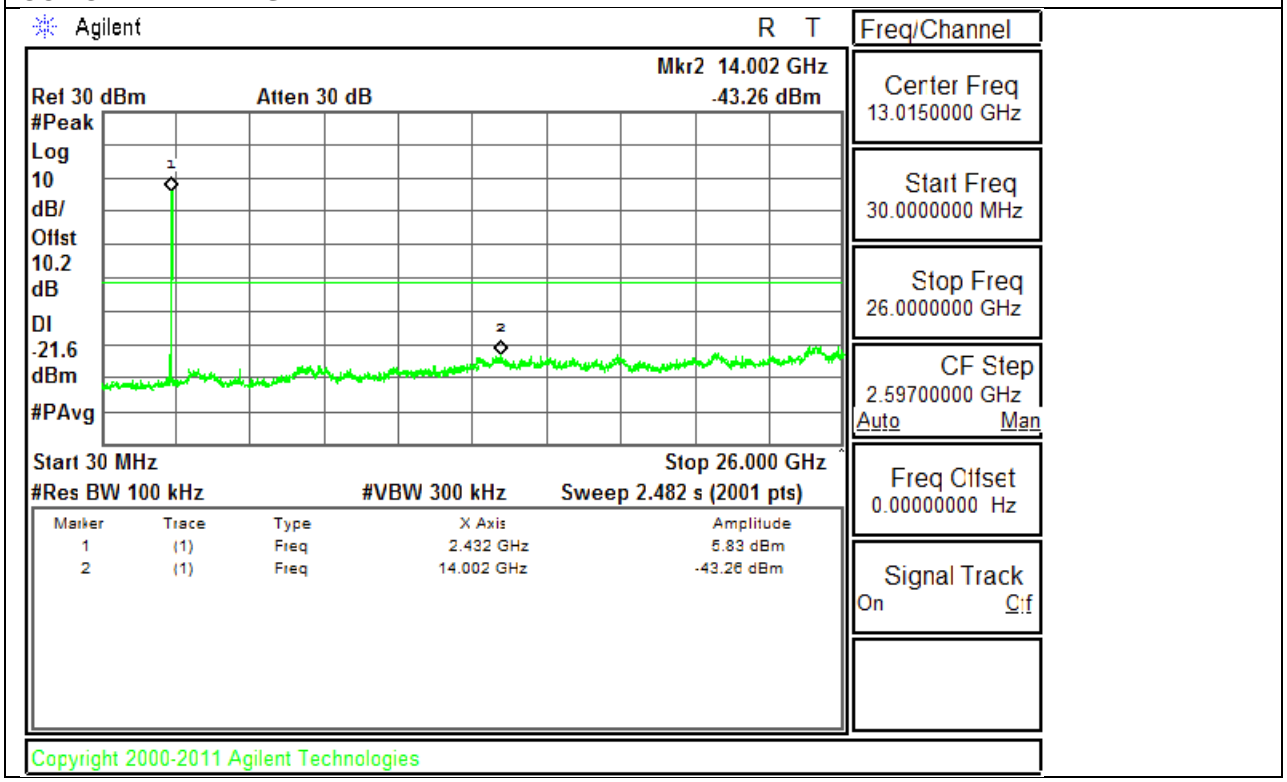
OUT OF BAND MID CH



OUT OF BAND HIGH CH

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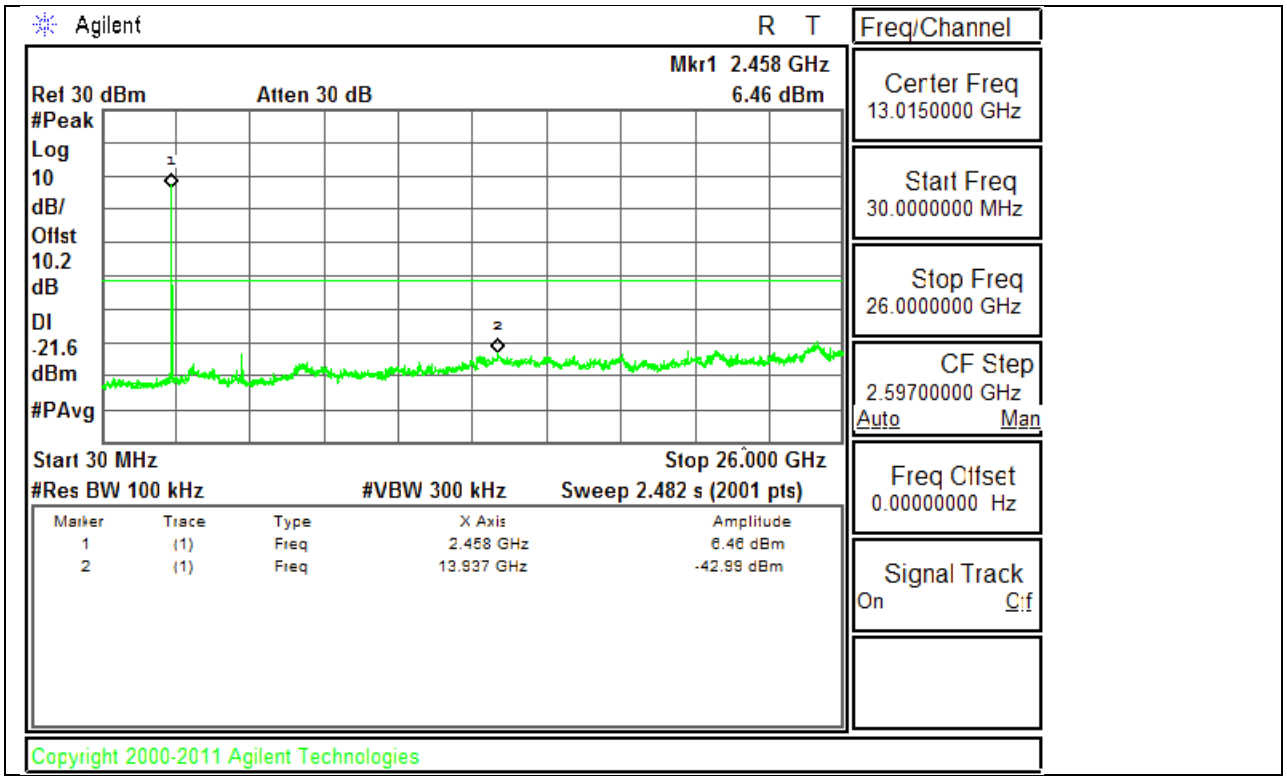

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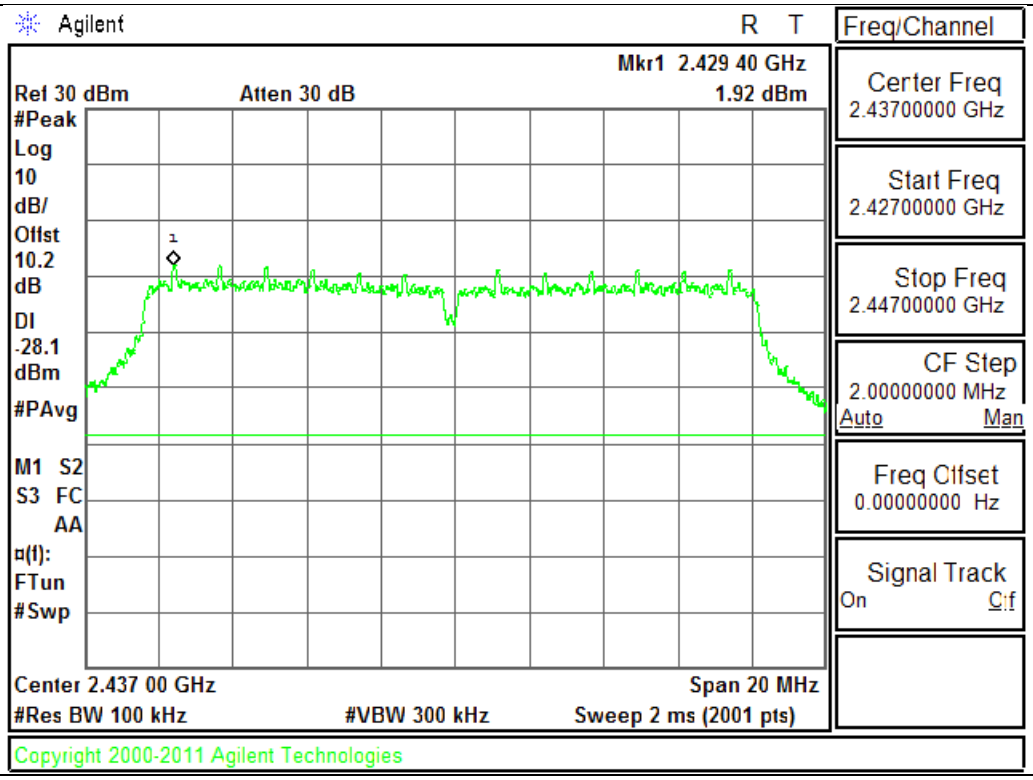
8.5.2. 802.11g MODE IN THE 2.4 GHz BAND

IN-BAND REFERENCE LEVEL

REFERENCE LEVEL MID CH



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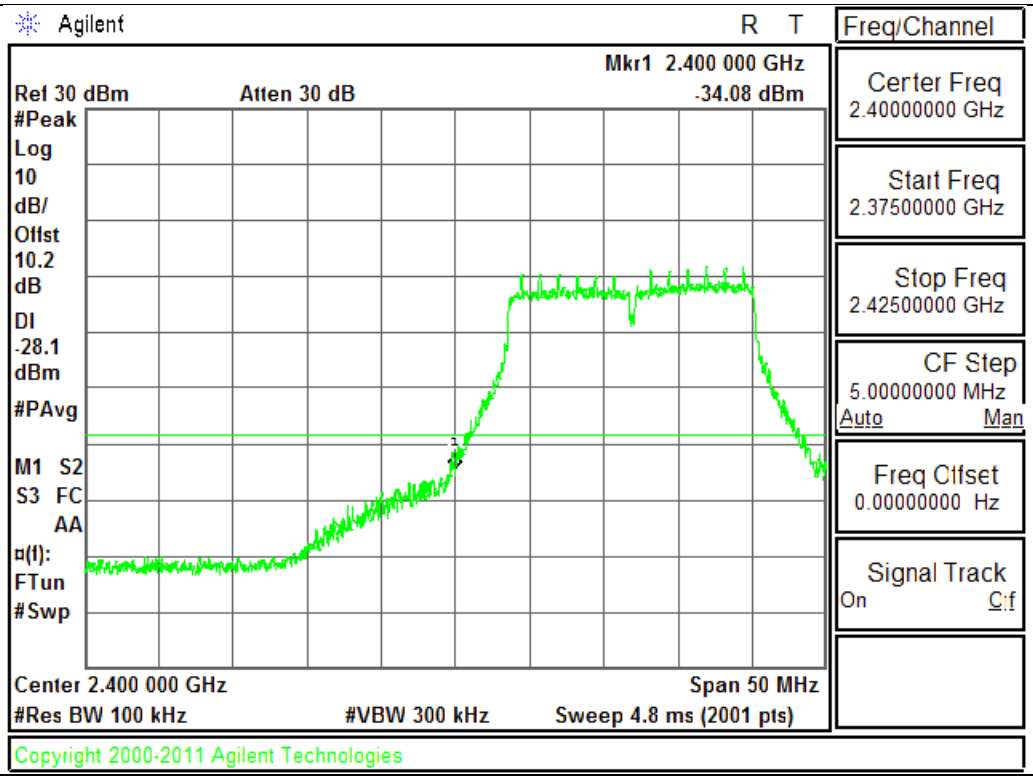
LOW CHANNEL BANDEDGE

AUTHORIZED BAND EDGE LOW CH



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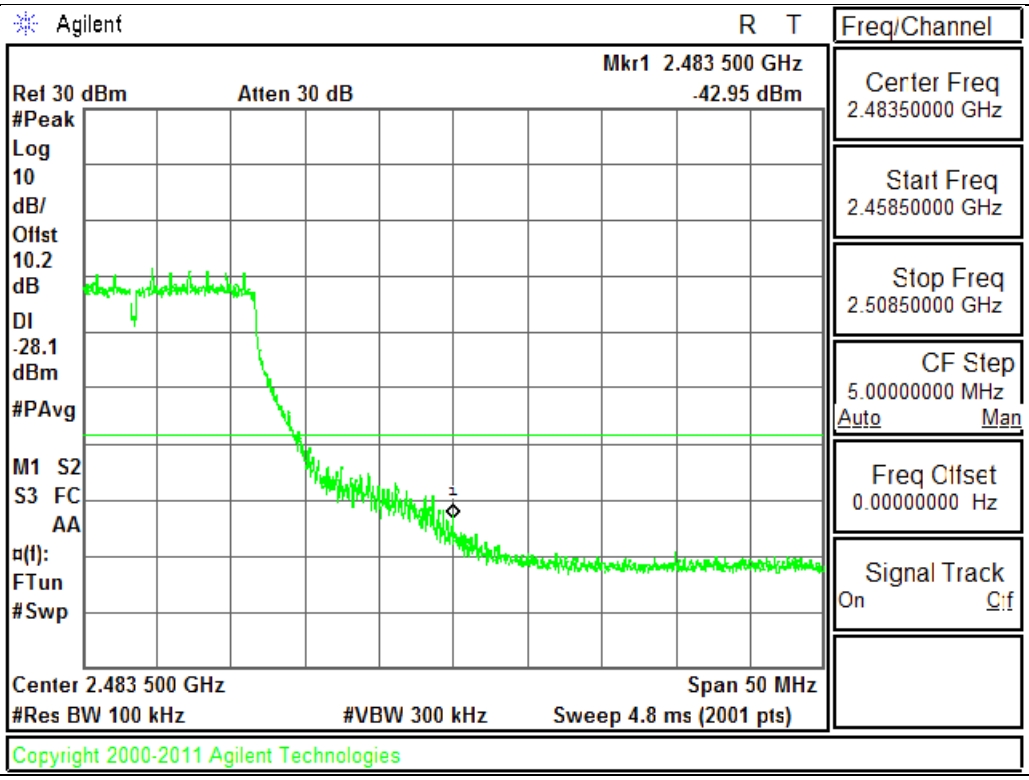
HIGH CHANNEL BANDEDGE

AUTHORIZED BAND EDGE HIGH CH



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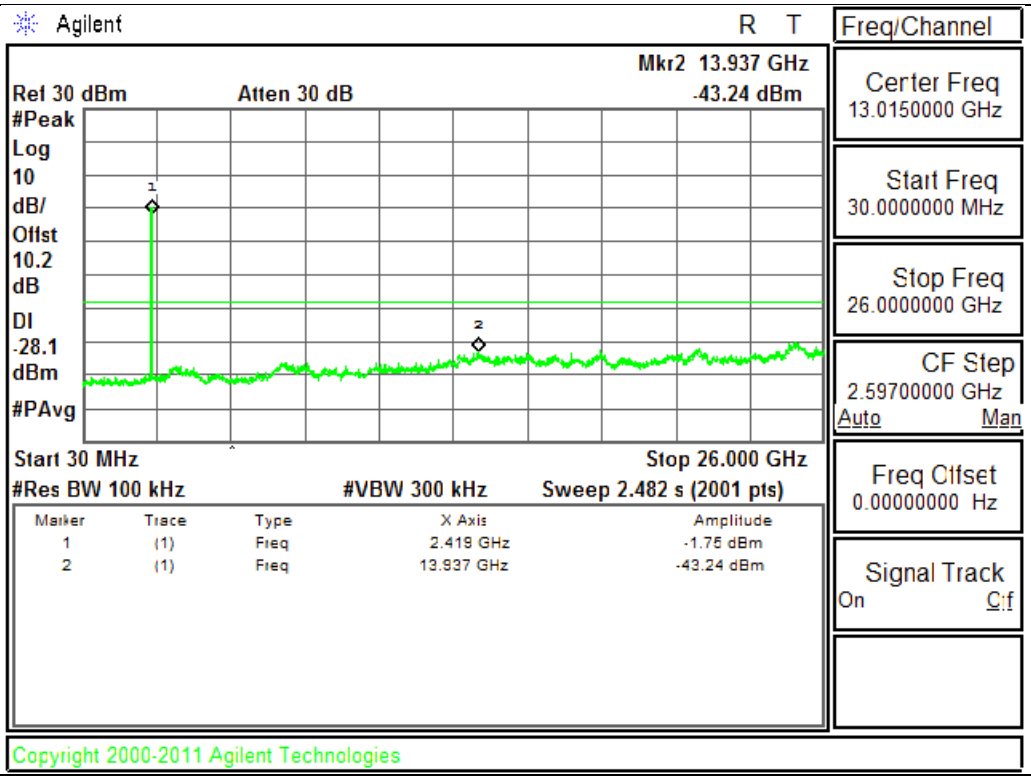
OUT-OF-BAND EMISSIONS

OUT OF BAND LOW CH



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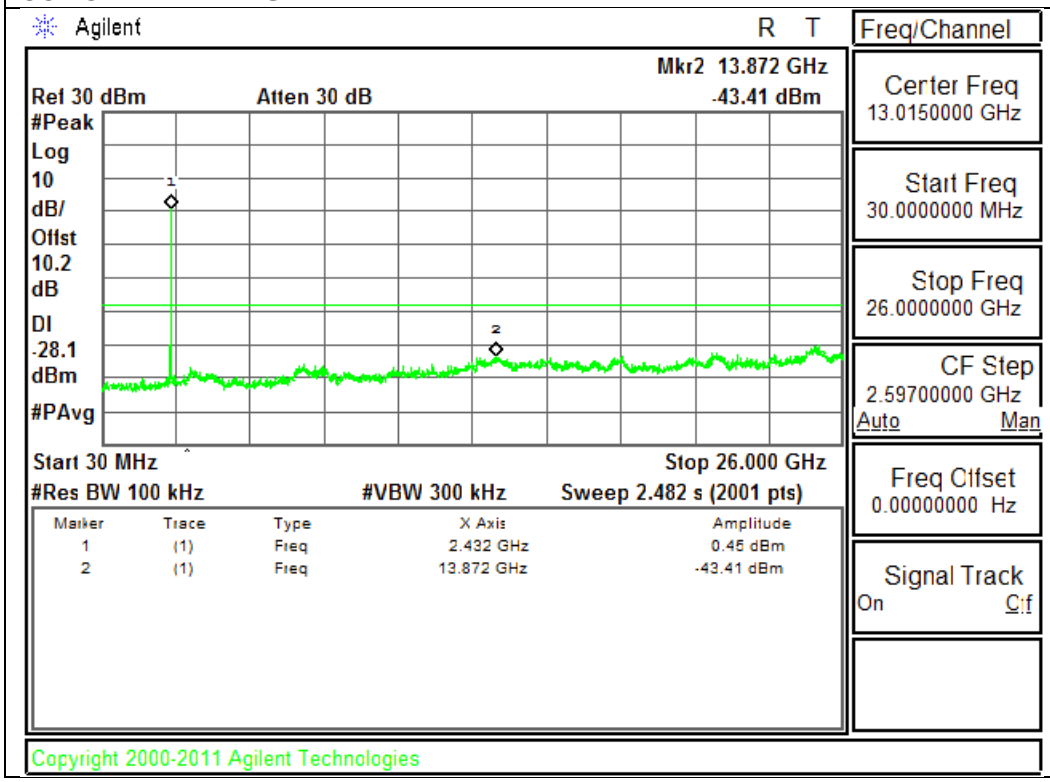
OUT OF BAND MID CH



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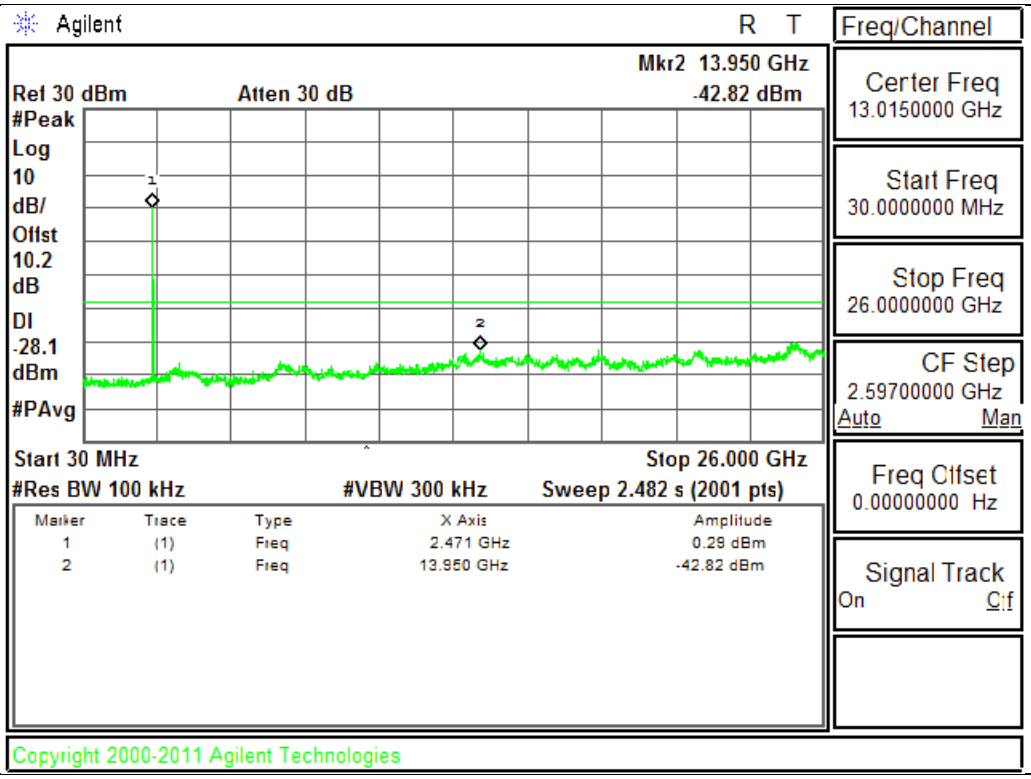
OUT OF BAND HIGH CH



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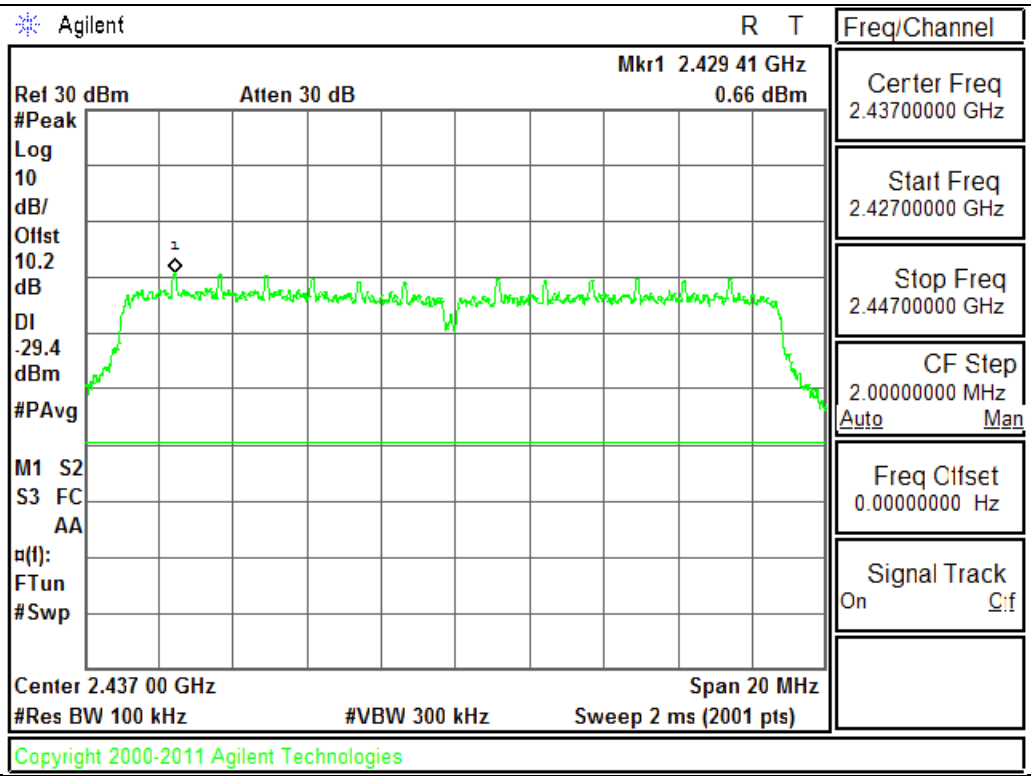
8.5.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

IN-BAND REFERENCE LEVEL

REFERENCE LEVEL MID CH



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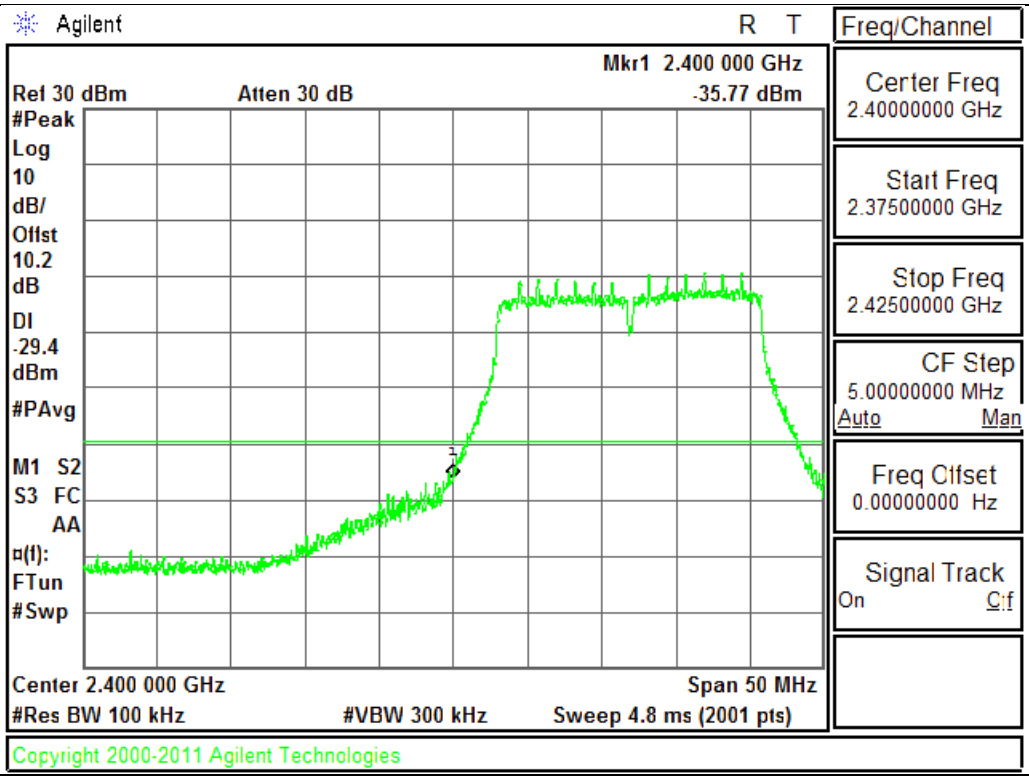
LOW CHANNEL BANDEDGE

AUTHORIZED BAND EDGE LOW CH



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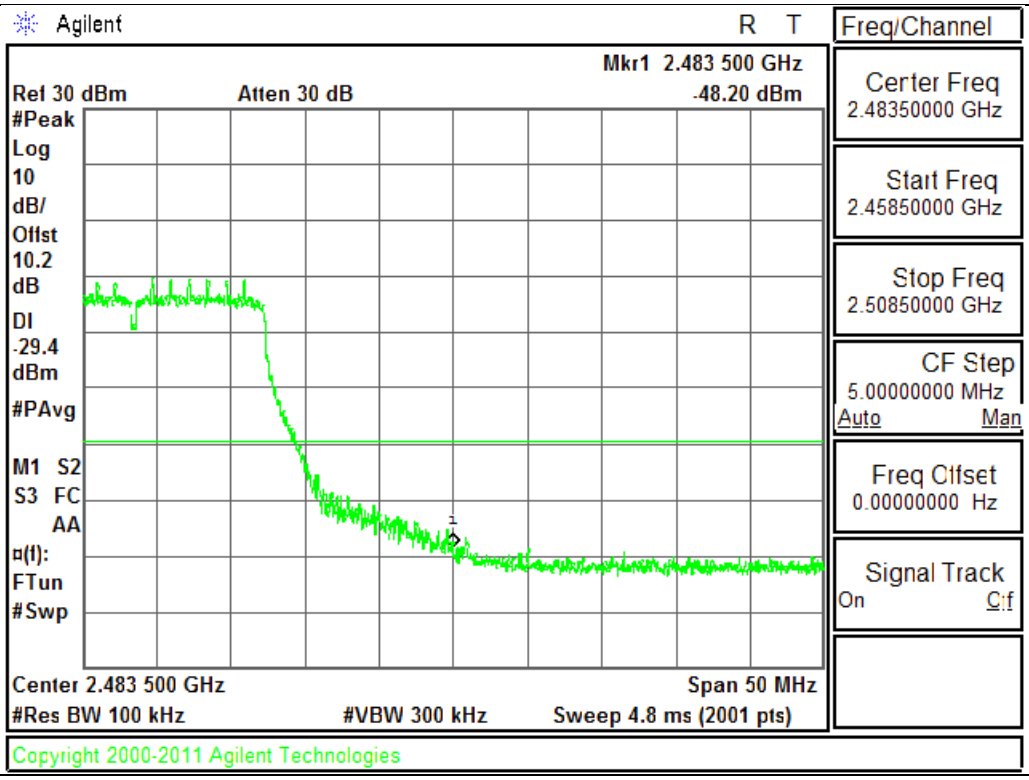
HIGH CHANNEL BANDEDGE

AUTHORIZED BAND EDGE HIGH CH



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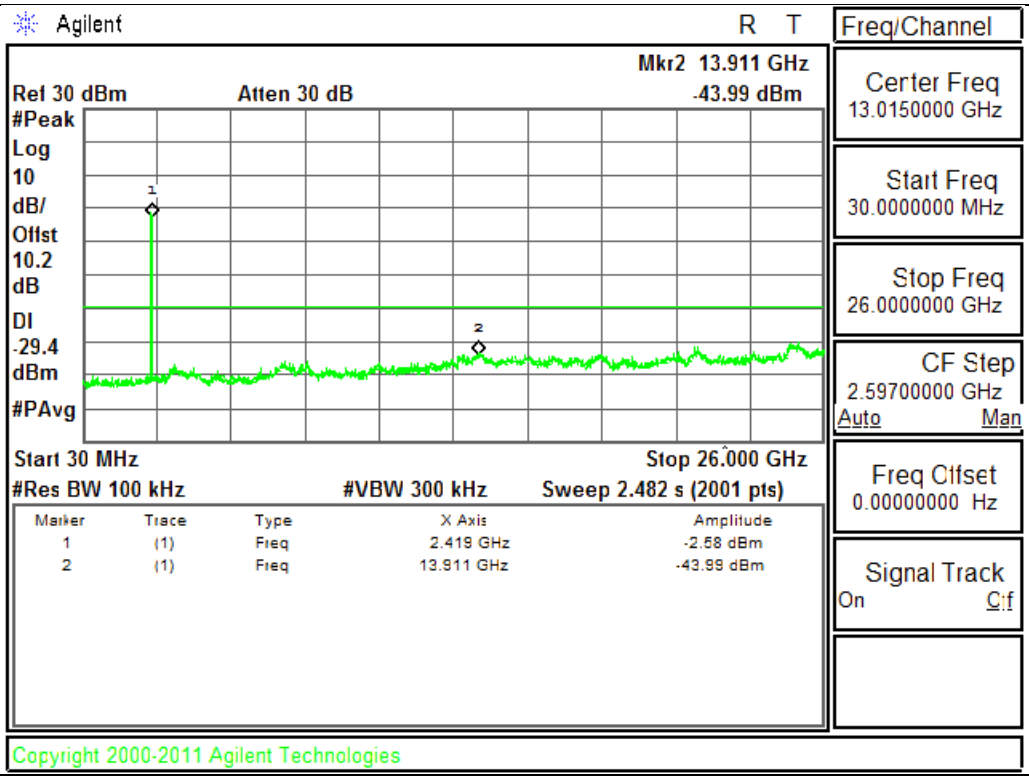
OUT-OF-BAND EMISSIONS

OUT OF BAND LOW CH



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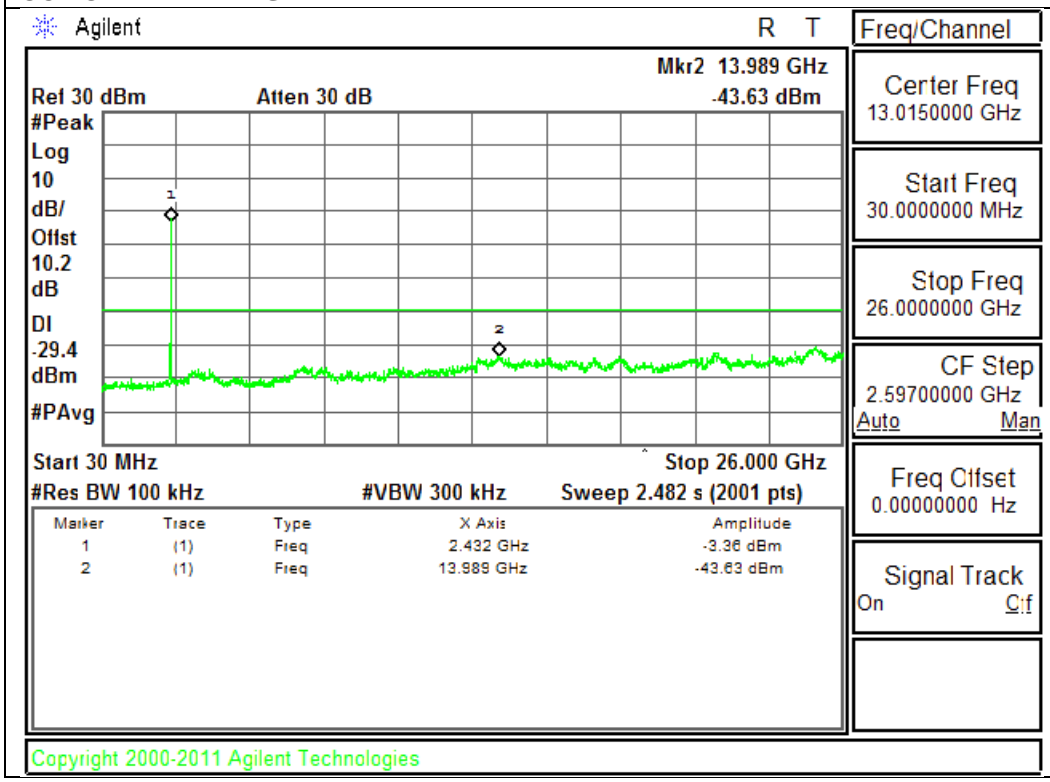
OUT OF BAND MID CH



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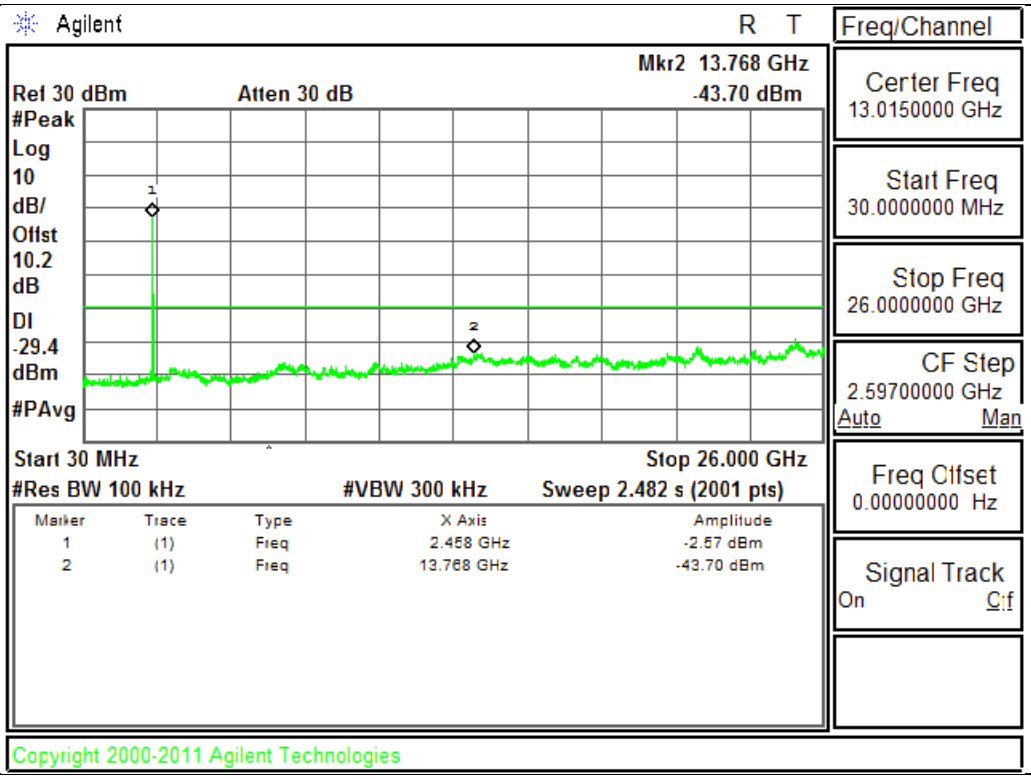
OUT OF BAND HIGH CH



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9. RADIATED TEST RESULTS

9.1. 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 = 0.05dB; G mode = 0.33dB; N mode = 0.39dB.

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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.

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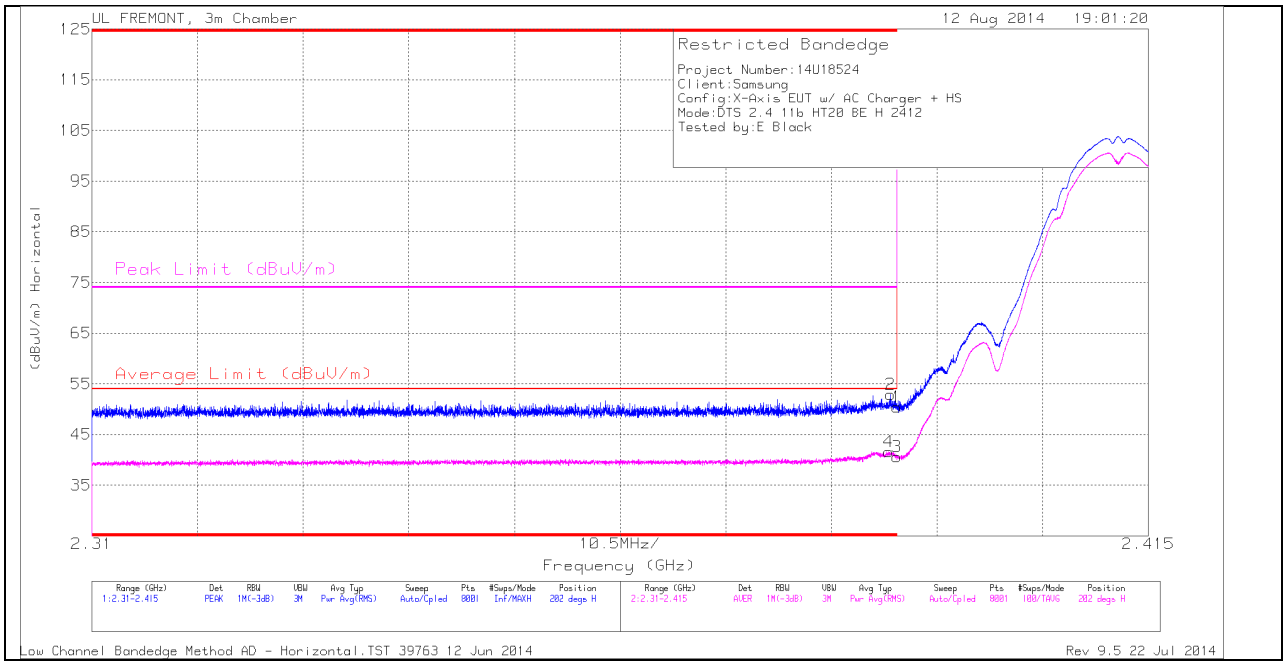
9.2. TRANSMITTER ABOVE 1 GHz

9.2.1. 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/Flt 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	* 2.389	43.85	PK	32.1	-23.1	0	52.85	-	-	74	-21.15	202	376	H
4	* 2.389	32.59	RMS	32.1	-23.1	.05	41.64	54	-12.36	-	-	202	376	H
1	* 2.39	41.44	PK	32.1	-23.1	0	50.44	-	-	74	-23.56	202	376	H
3	* 2.39	31.61	RMS	32.1	-23.1	.05	40.66	54	-13.34	-	-	202	376	H

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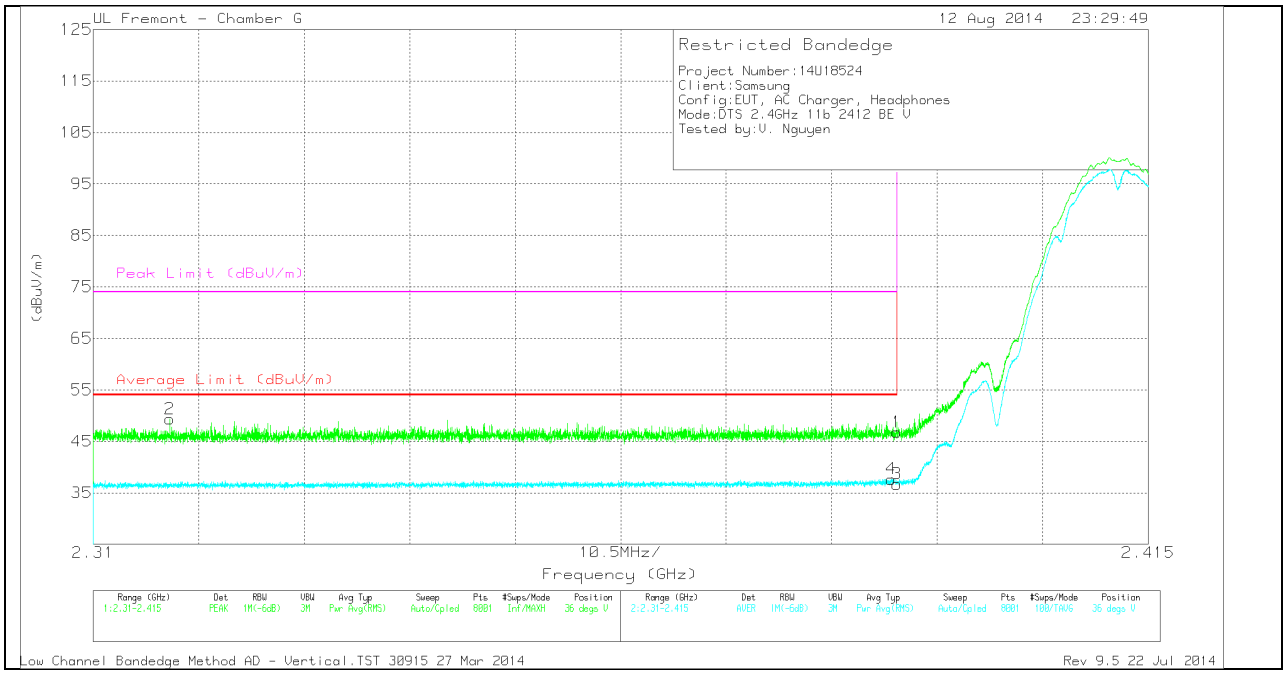
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr/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	39.87	PK	31.8	-24.9	0	46.77	-	-	74	-27.23	36	299	V
2	* 2.318	42.74	PK	31.6	-25	0	49.34	-	-	74	-24.66	36	299	V
3	* 2.39	29.78	RMS	31.8	-24.9	.05	36.72	54	-17.28	-	-	36	299	V
4	* 2.389	30.74	RMS	31.8	-24.9	.05	37.68	54	-16.32	-	-	36	299	V

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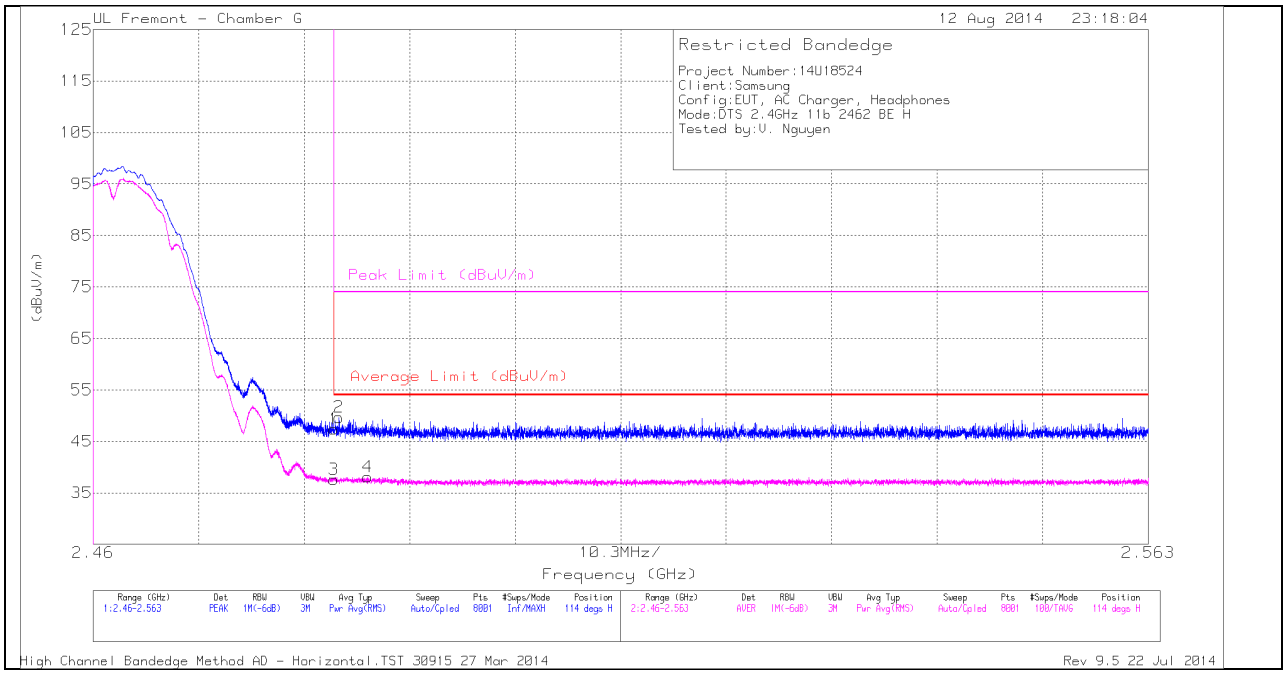
AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Flt 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	40.28	PK	32	-24.9	0	47.38	-	-	74	-26.62	114	342	H
2	* 2.484	42.56	PK	32	-24.9	0	49.66	-	-	74	-24.34	114	342	H
3	* 2.484	30.45	RMS	32	-24.9	.05	37.59	54	-16.41	-	-	114	342	H
4	* 2.487	30.97	RMS	32	-24.9	.05	38.11	54	-15.89	-	-	114	342	H

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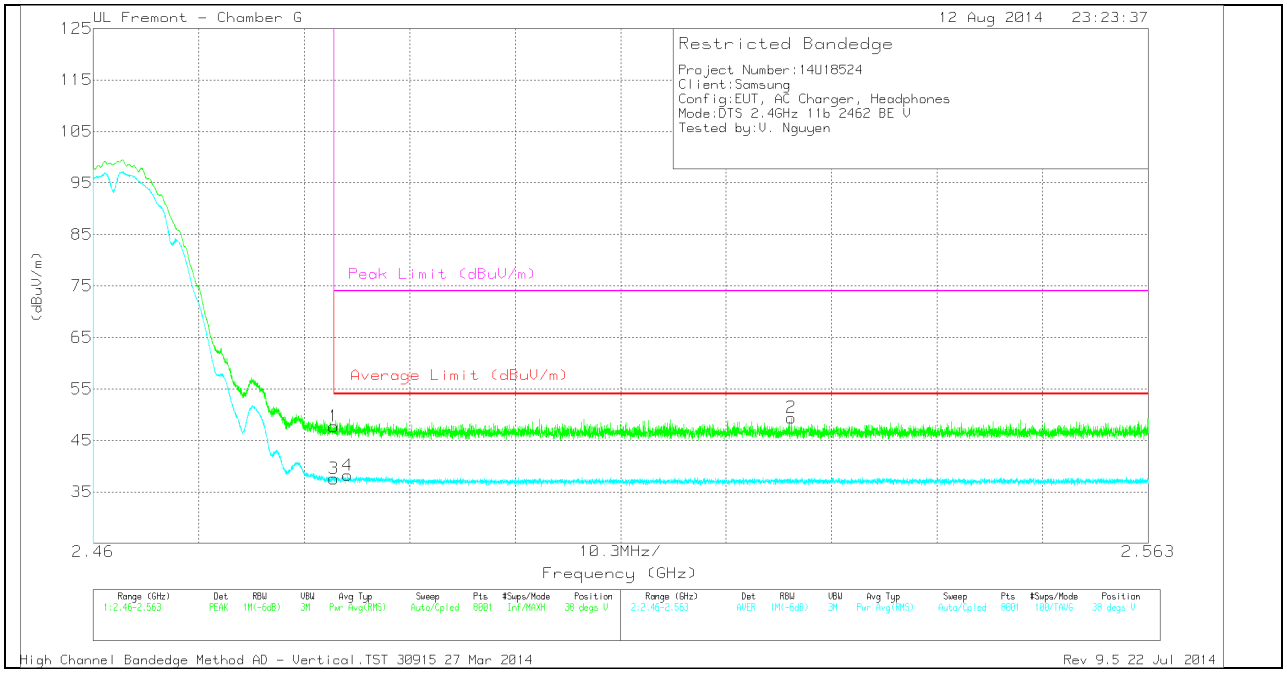
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Flt 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	40.62	PK	32	-24.9	0	47.72	-	-	74	-26.28	38	284	V
3	* 2.484	30.44	RMS	32	-24.9	.05	37.58	54	-16.42	-	-	38	284	V
4	* 2.485	31.08	RMS	32	-24.9	.05	38.22	54	-15.78	-	-	38	284	V
2	2.528	42.31	PK	32	-24.9	0	49.41	-	-	74	-24.59	38	284	V

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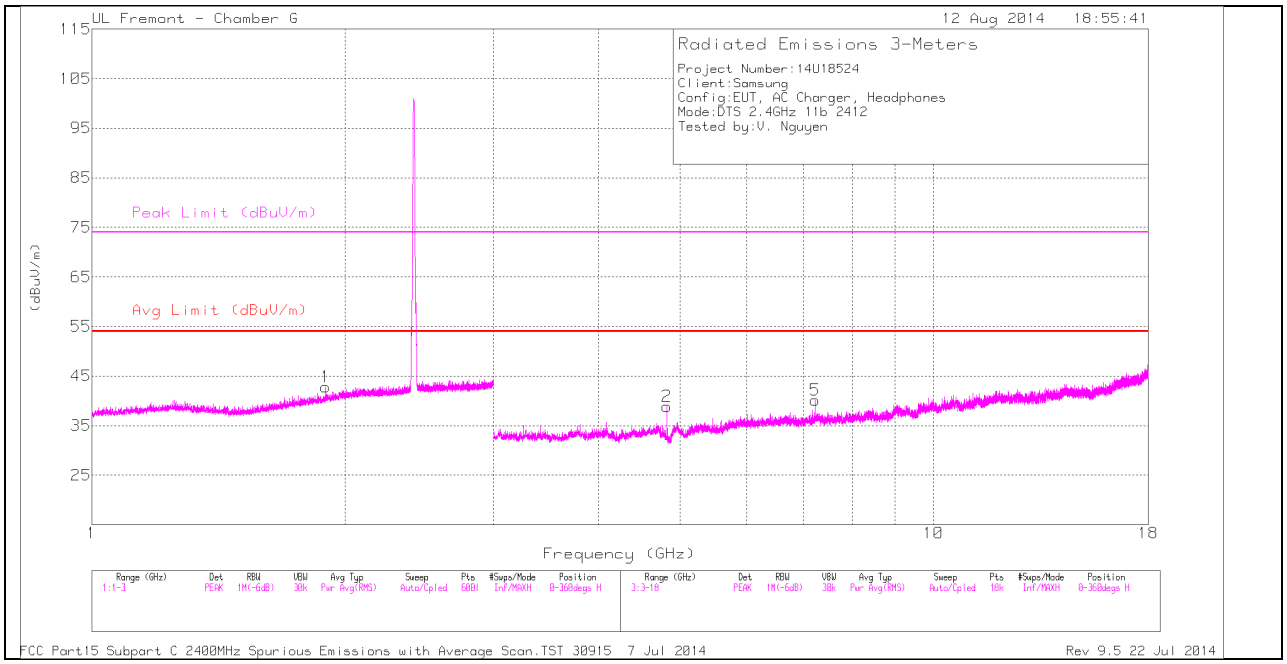
HARMONICS AND SPURIOUS EMISSIONS

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.

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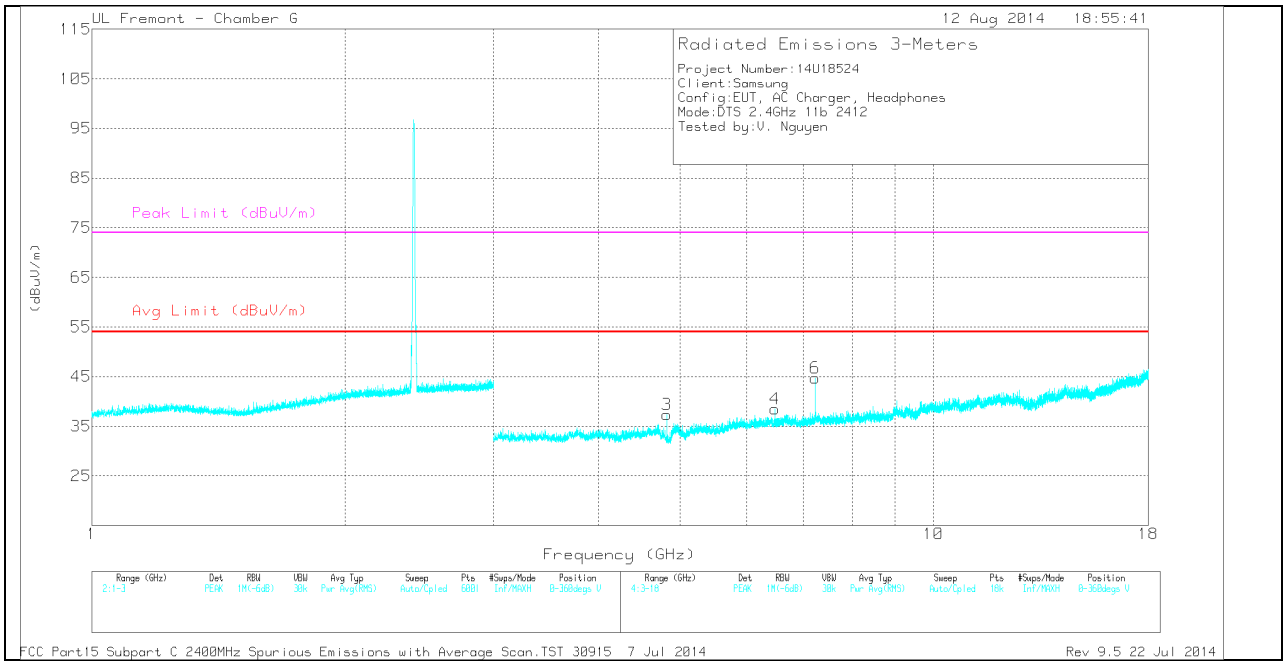
LOW CHANNEL VERTICAL



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

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LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr /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	* 4.824	37.78	PK	34.1	-33	0	38.88	-	-	74	-35.12	0-360	101	H
3	* 4.824	36.3	PK	34.1	-33	0	37.4	-	-	74	-36.6	0-360	101	V
1	1.894	37.66	PK	30.6	-25.5	0	42.76	-	-	-	-	0-360	101	H
4	6.479	35.84	PK	35.6	-32.9	0	38.54	-	-	-	-	0-360	201	V
5	7.235	35.47	PK	35.6	-30.9	0	40.17	-	-	-	-	0-360	101	H
6	7.235	40.06	PK	35.6	-30.9	0	44.76	-	-	-	-	0-360	101	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/ Fltr/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	43.23	PK2	34.1	-33	0	44.33	-	-	74	-29.67	0	164	H
* 4.824	35.72	MAv1	34.1	-33	.05	36.82	54	-17.18	-	-	0	164	H
* 4.824	43.99	PK2	34.1	-33	0	45.09	-	-	74	-28.91	225	289	V
* 4.824	37.06	MAv1	34.1	-33	.05	38.16	54	-15.84	-	-	225	289	V

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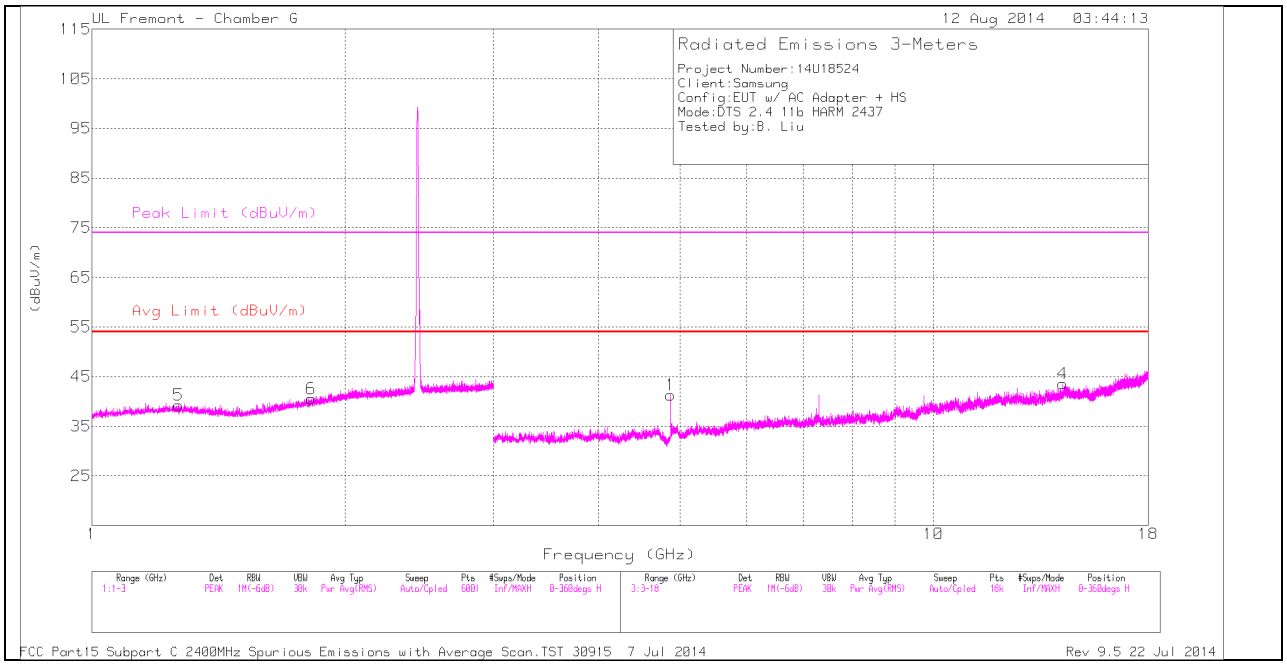
MID CHANNEL HORIZONTAL



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

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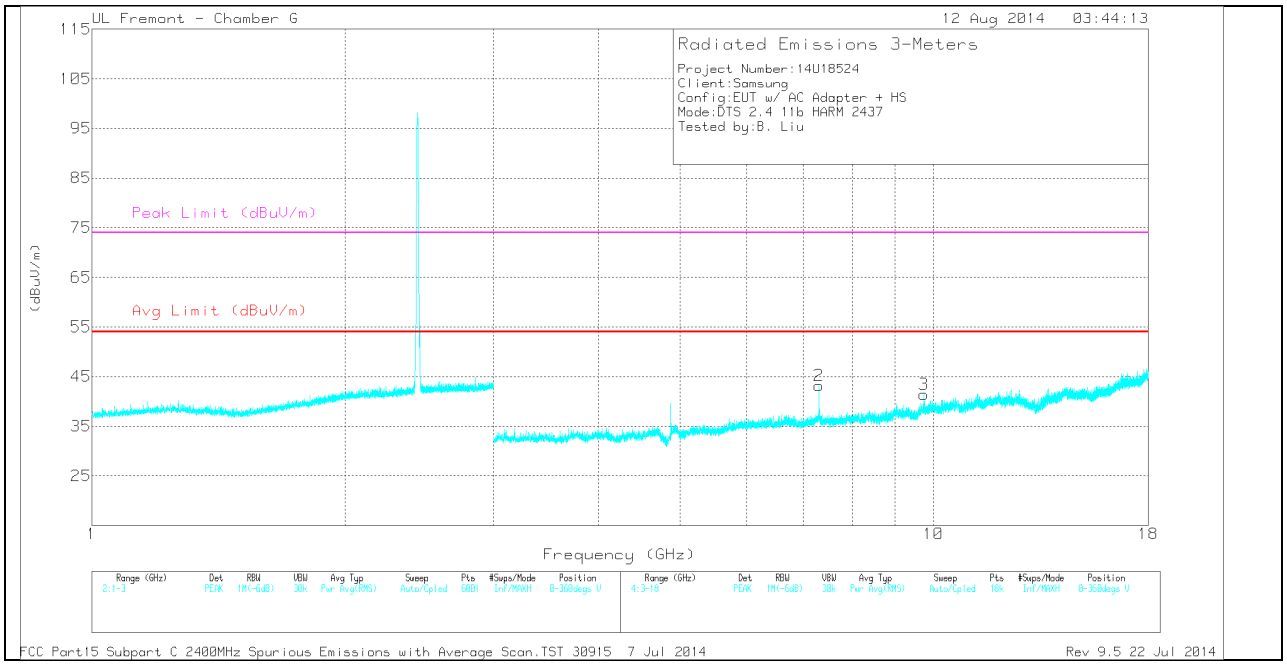
MID CHANNEL VERTICAL



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

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MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr /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	* 1.267	36.24	PK	29.1	-26.1	0	39.24	-	-	74	-34.76	0-360	201	H
1	* 4.874	40.26	PK	34.1	-33.1	0	41.26	-	-	74	-32.74	0-360	101	H
2	* 7.31	38.62	PK	35.6	-31	0	43.22	-	-	74	-30.78	0-360	101	V
6	1.821	35.88	PK	30.1	-25.4	0	40.58	-	-	-	-	0-360	101	H
3	9.748	32.24	PK	37	-27.8	0	41.44	-	-	-	-	0-360	101	V
4	14.242	31.11	PK	39.8	-27.3	0	43.61	-	-	-	-	0-360	101	H

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/ Fltr/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
* 4.874	44.08	PK2	34.1	-33.1	0	45.08	-	-	74	-28.92	360	100	H
* 7.311	44.77	PK2	35.6	-31.1	0	49.27	-	-	74	-24.73	360	100	V

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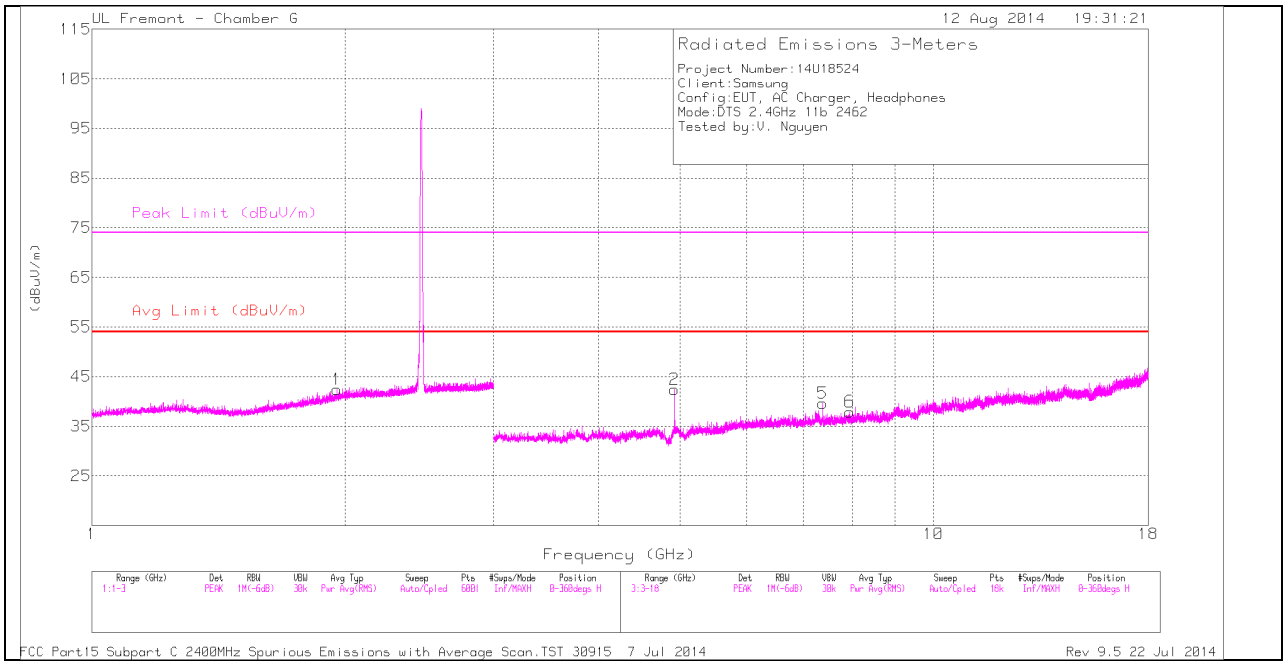
HIGH CHANNEL HORIZONTAL



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

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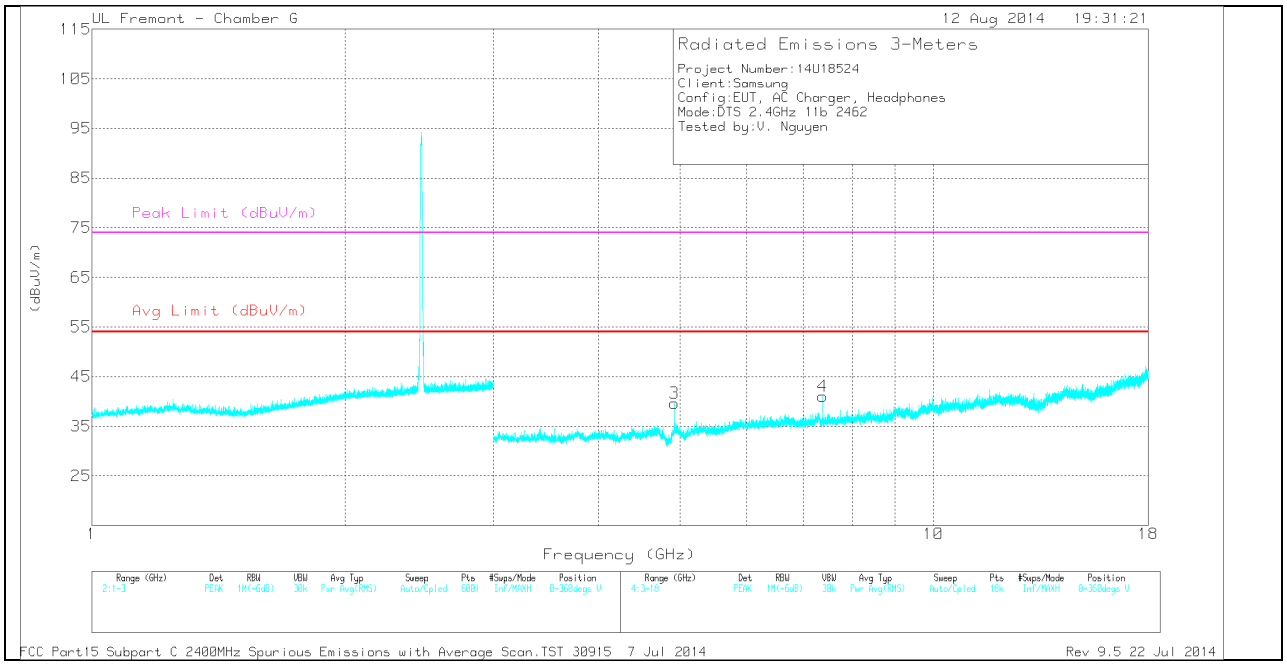
HIGH CHANNEL VERTICAL



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

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HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr /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	* 4.924	41.4	PK	34.1	-33.1	0	42.4	-	-	74	-31.6	0-360	100	H
5	* 7.385	35.73	PK	35.6	-31.7	0	39.63	-	-	74	-34.37	0-360	201	H
3	* 4.924	38.68	PK	34.1	-33.1	0	39.68	-	-	74	-34.32	0-360	101	V
4	* 7.384	37.09	PK	35.6	-31.7	0	40.99	-	-	74	-33.01	0-360	101	V
1	1.954	36.87	PK	31	-25.4	0	42.47	-	-	-	-	0-360	101	H
6	7.951	32.92	PK	35.8	-30.8	0	37.92	-	-	-	-	0-360	201	H

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/ Fltr/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
* 4.924	47.26	PK2	34.1	-33.1	0	48.26	-	-	74	-25.74	6	102	H
* 4.924	40.74	MAv1	34.1	-33.1	.05	41.74	54	-12.26	-	-	6	102	H
* 7.384	45.65	PK2	35.6	-31.7	0	49.55	-	-	74	-24.45	309	309	H
* 7.385	36.63	MAv1	35.6	-31.7	.05	40.53	54	-13.47	-	-	309	309	H
* 4.924	47.58	PK2	34.1	-33.1	0	48.58	-	-	74	-25.42	60	287	V
* 4.924	41.65	MAv1	34.1	-33.1	.05	42.65	54	-11.35	-	-	60	287	V
* 7.385	45.55	PK2	35.6	-31.7	0	49.45	-	-	74	-24.55	194	113	V
* 7.385	37.37	MAv1	35.6	-31.7	.05	41.27	54	-12.73	-	-	194	113	V

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

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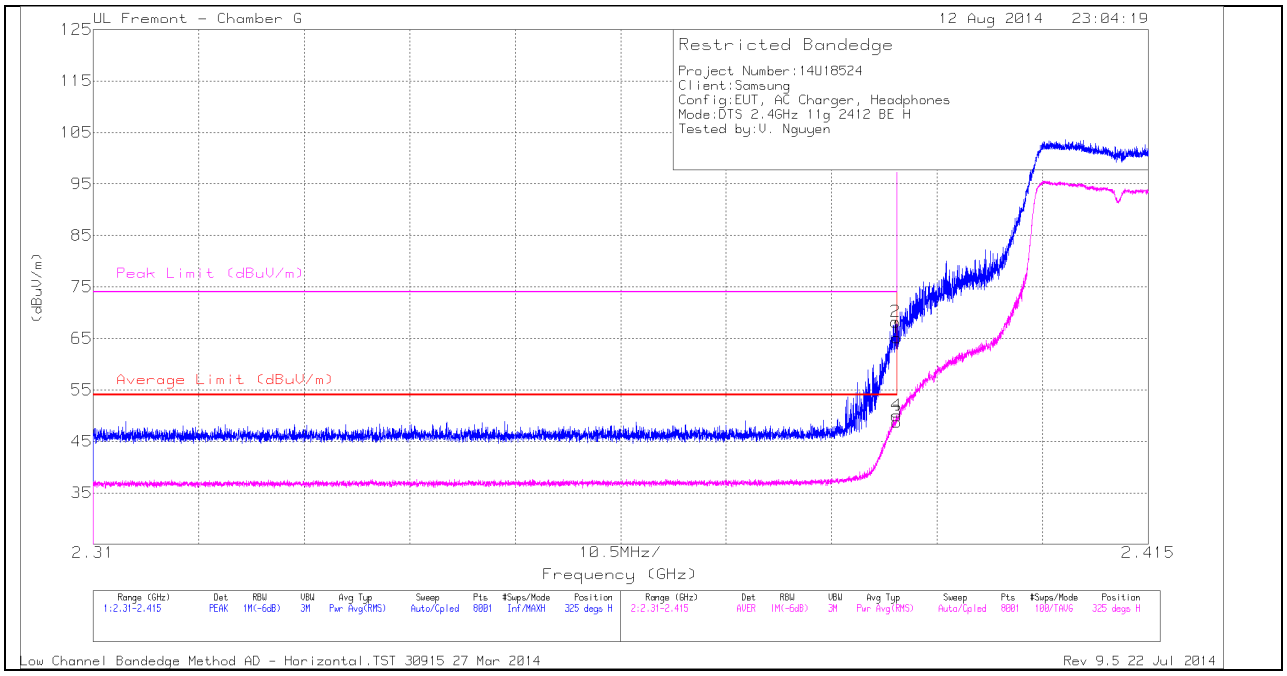
9.2.2. TX ABOVE 1 GHz 802.11g MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Flt 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	58.26	PK	31.8	-24.9	0	65.16	-	-	74	-8.84	325	357	H
2	* 2.39	61.33	PK	31.8	-24.9	0	68.23	-	-	74	-5.77	325	357	H
3	* 2.39	41.55	RMS	31.8	-24.9	.33	48.78	54	-5.22	-	-	325	357	H
4	* 2.39	42.81	RMS	31.8	-24.9	.33	50.04	54	-3.96	-	-	325	357	H

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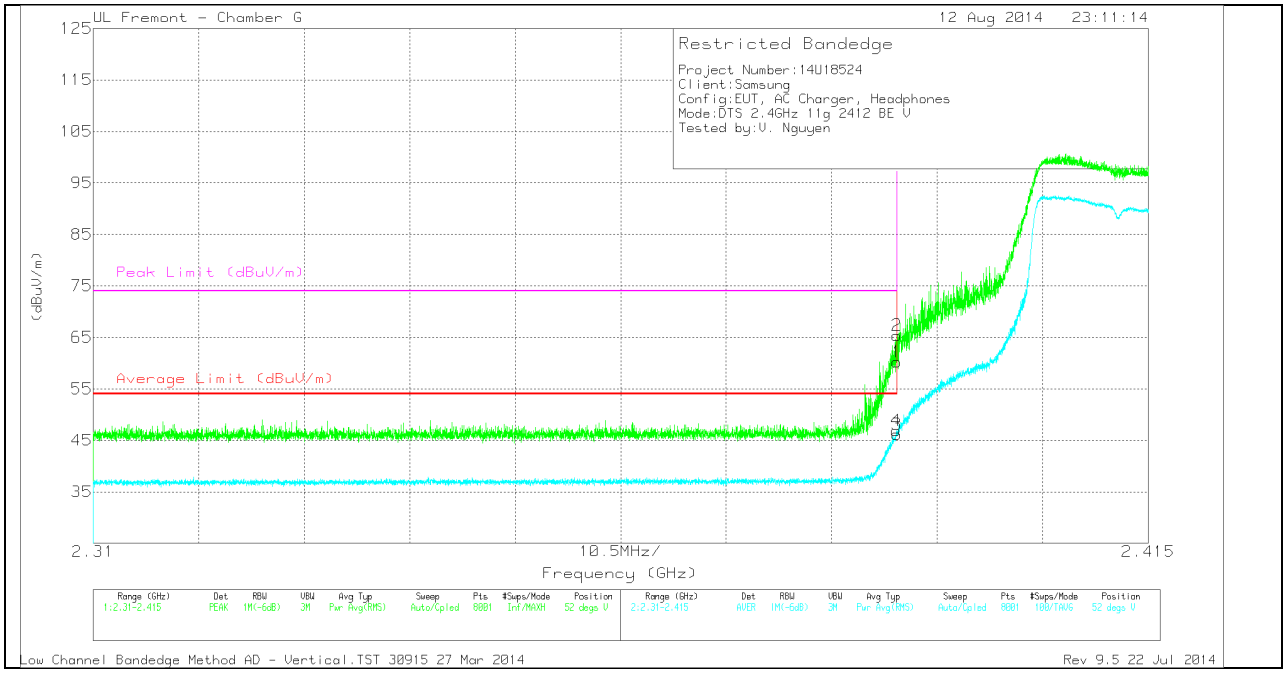
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Flt 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	53.34	PK	31.8	-24.9	0	60.24	-	-	74	-13.76	52	384	V
2	* 2.39	58.47	PK	31.8	-24.9	0	65.37	-	-	74	-8.63	52	384	V
3	* 2.39	38.95	RMS	31.8	-24.9	.33	46.18	54	-7.82	-	-	52	384	V
4	* 2.39	39.68	RMS	31.8	-24.9	.33	46.91	54	-7.09	-	-	52	384	V

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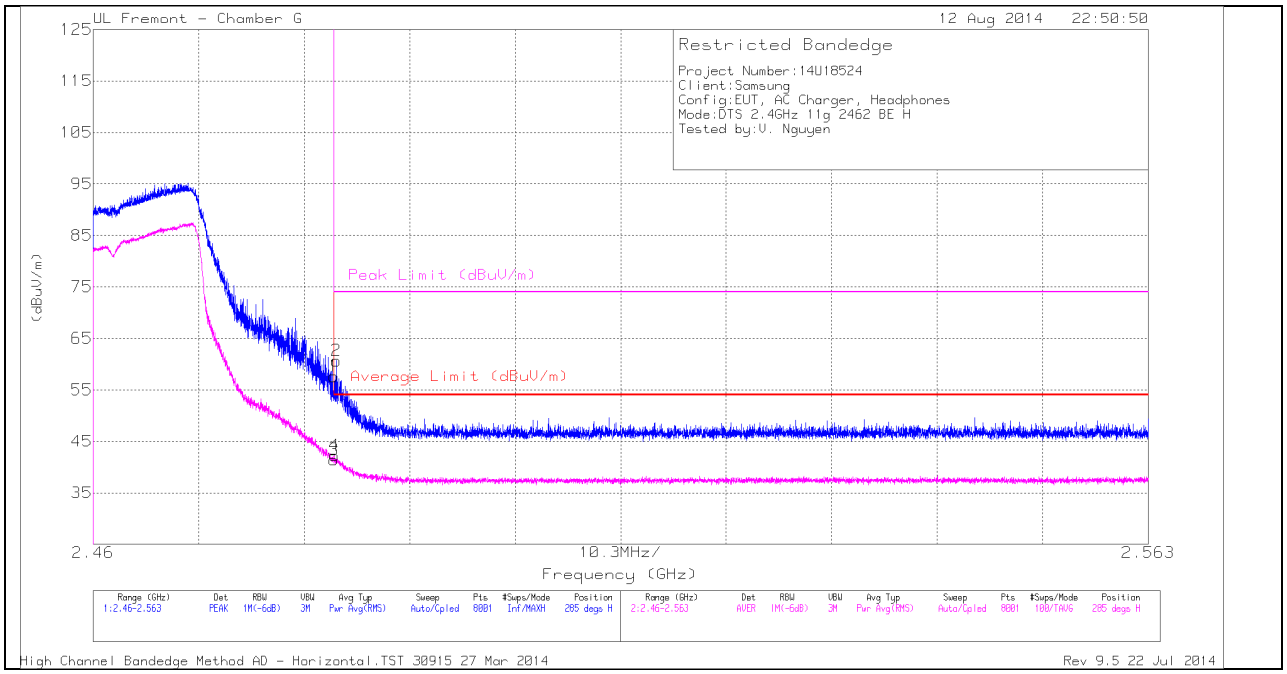
AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr/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	50.52	PK	32	-24.9	0	57.62	-	-	74	-16.38	285	240	H
2	* 2.484	53.57	PK	32	-24.9	0	60.67	-	-	74	-13.33	285	240	H
3	* 2.484	34	RMS	32	-24.9	.33	41.43	54	-12.57	-	-	285	240	H
4	* 2.484	34.82	RMS	32	-24.9	.33	42.25	54	-11.75	-	-	285	240	H

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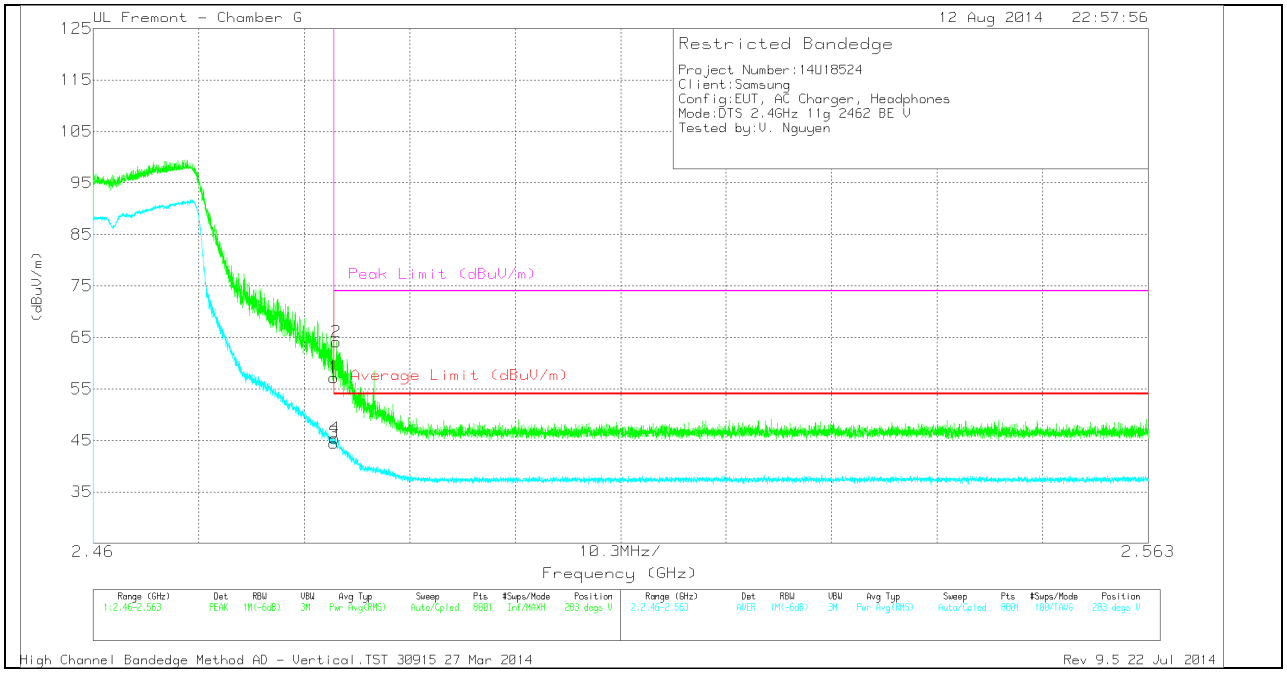
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Flt 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	50.09	PK	32	-24.9	0	57.19	-	-	74	-16.81	283	326	V
2	* 2.484	57	PK	32	-24.9	0	64.1	-	-	74	-9.9	283	326	V
3	* 2.484	37.06	RMS	32	-24.9	.33	44.49	54	-9.51	-	-	283	326	V
4	* 2.484	37.98	RMS	32	-24.9	.33	45.41	54	-8.59	-	-	283	326	V

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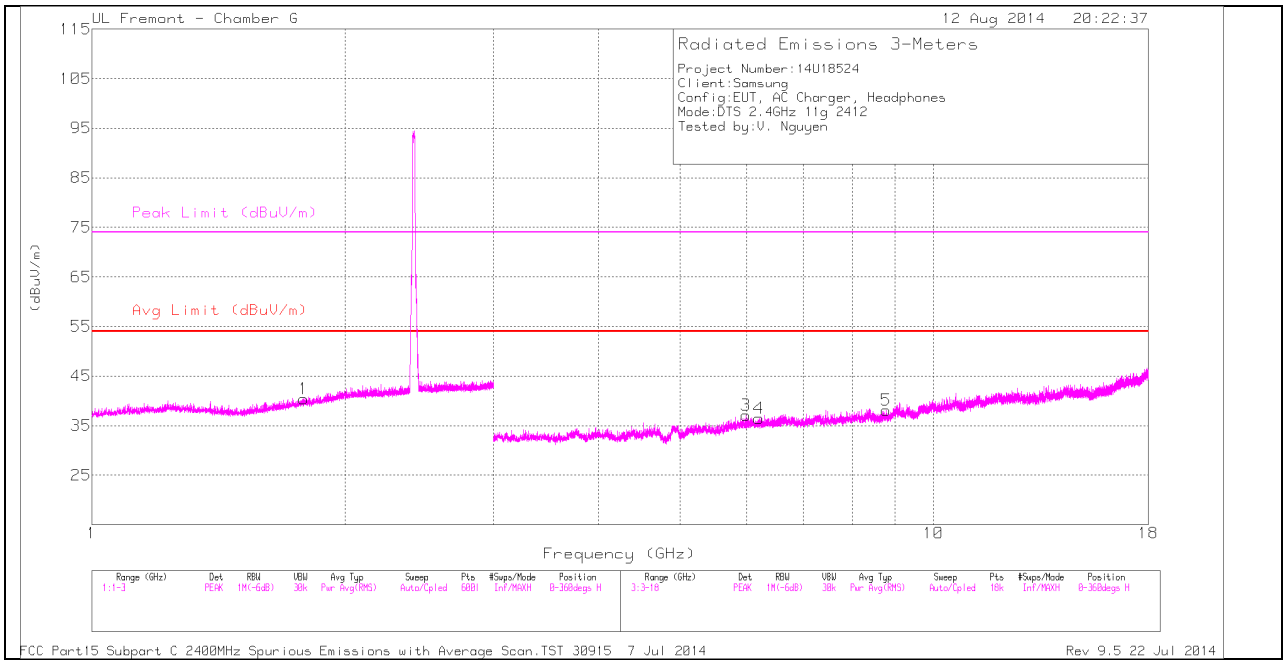
HARMONICS AND SPURIOUS EMISSIONS

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.

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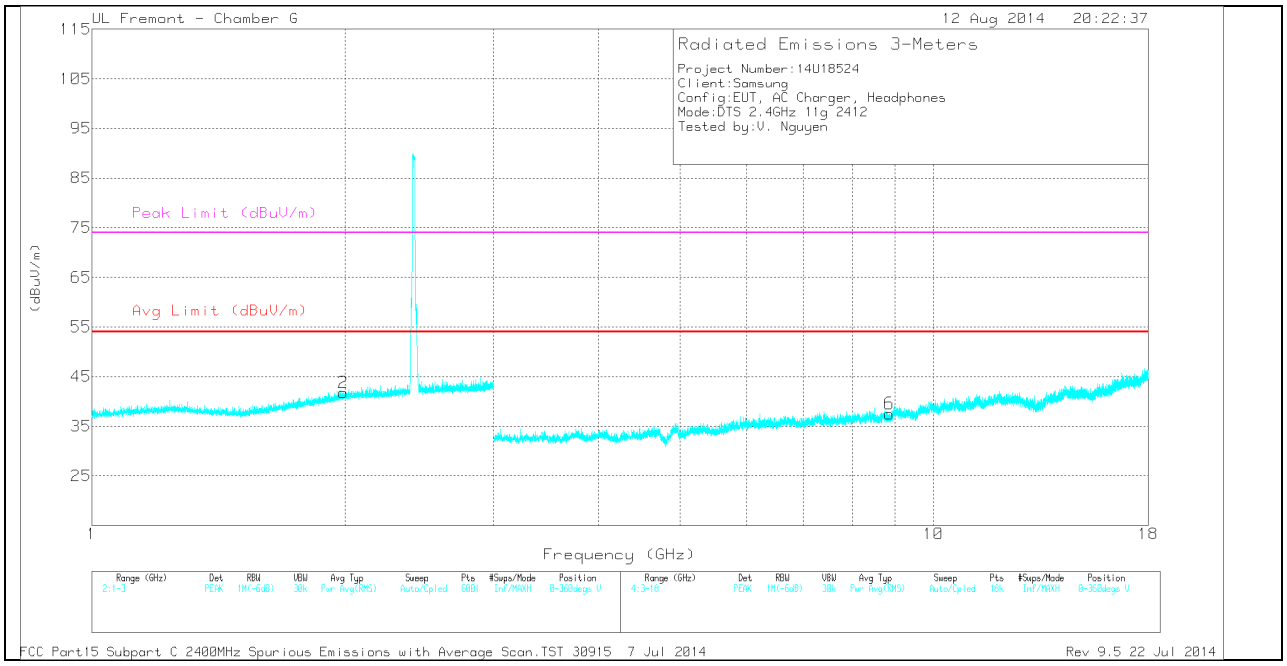
LOW CHANNEL VERTICAL



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

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LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr /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	1.784	35.96	PK	29.8	-25.4	0	40.36	-	-	-	-	0-360	201	H
2	1.99	35.92	PK	31.2	-25.3	0	41.82	-	-	-	-	0-360	201	V
3	5.991	33.77	PK	35.2	-31.9	0	37.07	-	-	-	-	0-360	201	H
4	6.202	33.44	PK	35.6	-32.6	0	36.44	-	-	-	-	0-360	201	H
5	8.785	31.08	PK	36.1	-29.1	0	38.08	-	-	-	-	0-360	101	H
6	8.856	31.04	PK	36.2	-29.7	0	37.54	-	-	-	-	0-360	201	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/ Fltr/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
1.988	43.36	PK2	31.2	-25.4	0	49.16	-	-	-	-	307	335	V
1.992	31.84	MAv1	31.2	-25.3	.33	38.07	-	-	-	-	307	335	V

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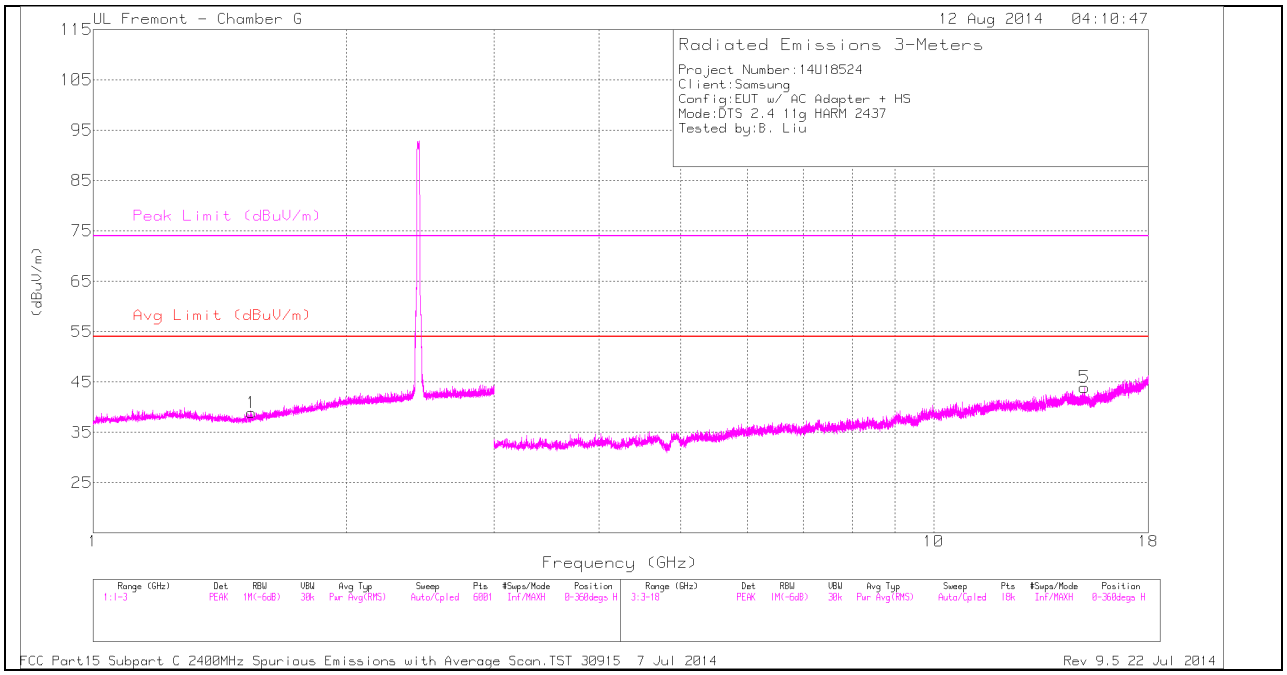
MID CHANNEL HORIZONTAL



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

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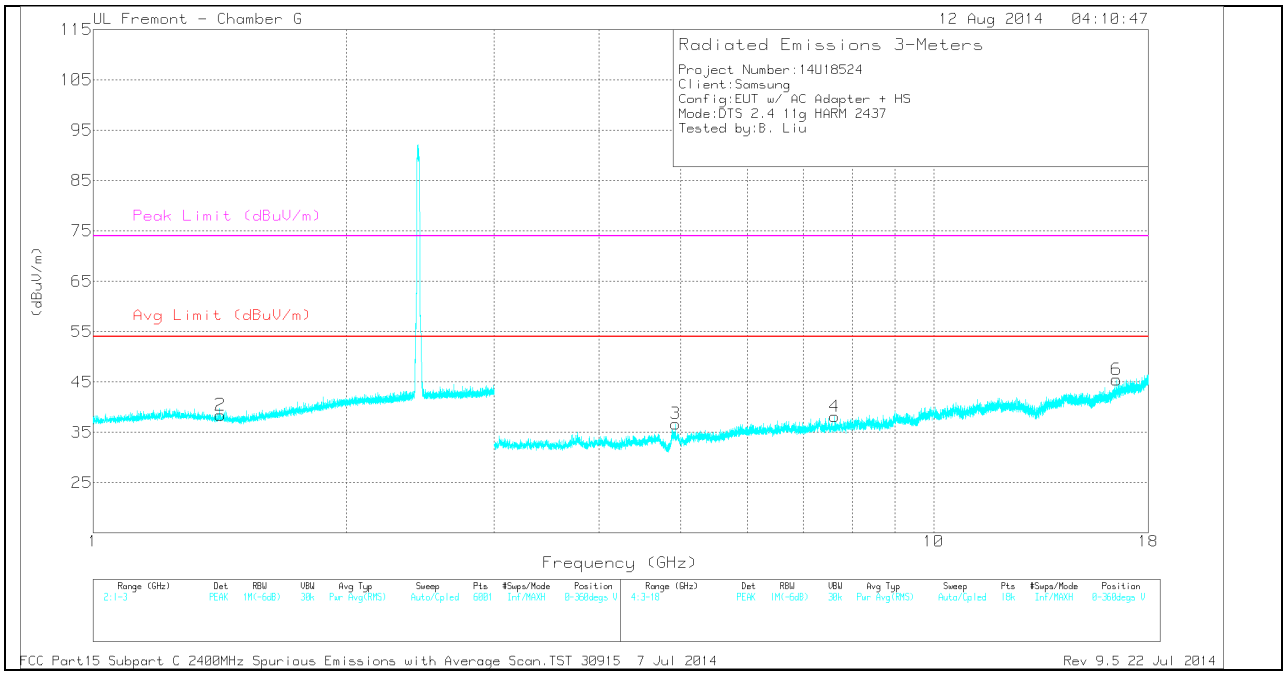
MID CHANNEL VERTICAL



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

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MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr /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	* 1.544	36.31	PK	28.2	-25.6	0	38.91	-	-	74	-35.09	0-360	100	H
2	* 1.417	35.86	PK	28.3	-25.7	0	38.46	-	-	74	-35.54	0-360	101	V
3	* 4.932	35.72	PK	34.1	-33.1	0	36.72	-	-	74	-37.28	0-360	201	V
4	* 7.629	33.35	PK	35.7	-30.9	0	38.15	-	-	74	-35.85	0-360	101	V
5	15.112	31.95	PK	39.8	-27.8	0	43.95	-	-	-	-	0-360	101	H
6	16.499	30.87	PK	41.3	-26.7	0	45.47	-	-	-	-	0-360	101	V

PK - Peak detector

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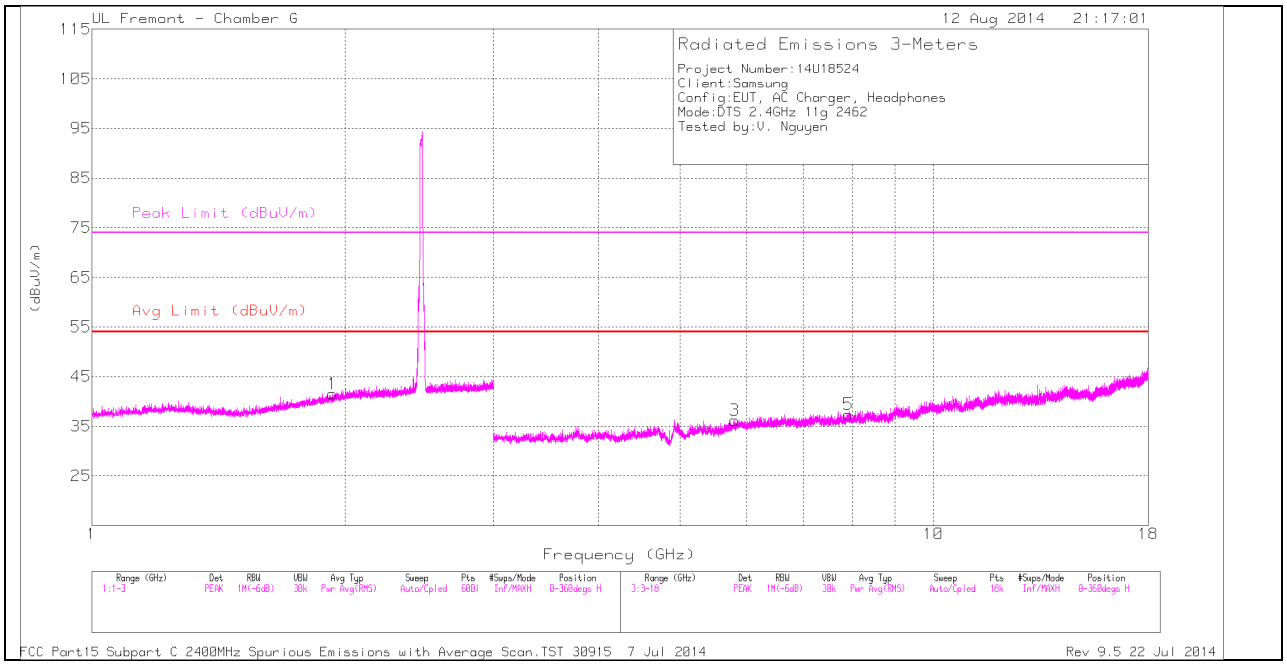
HIGH CHANNEL HORIZONTAL



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

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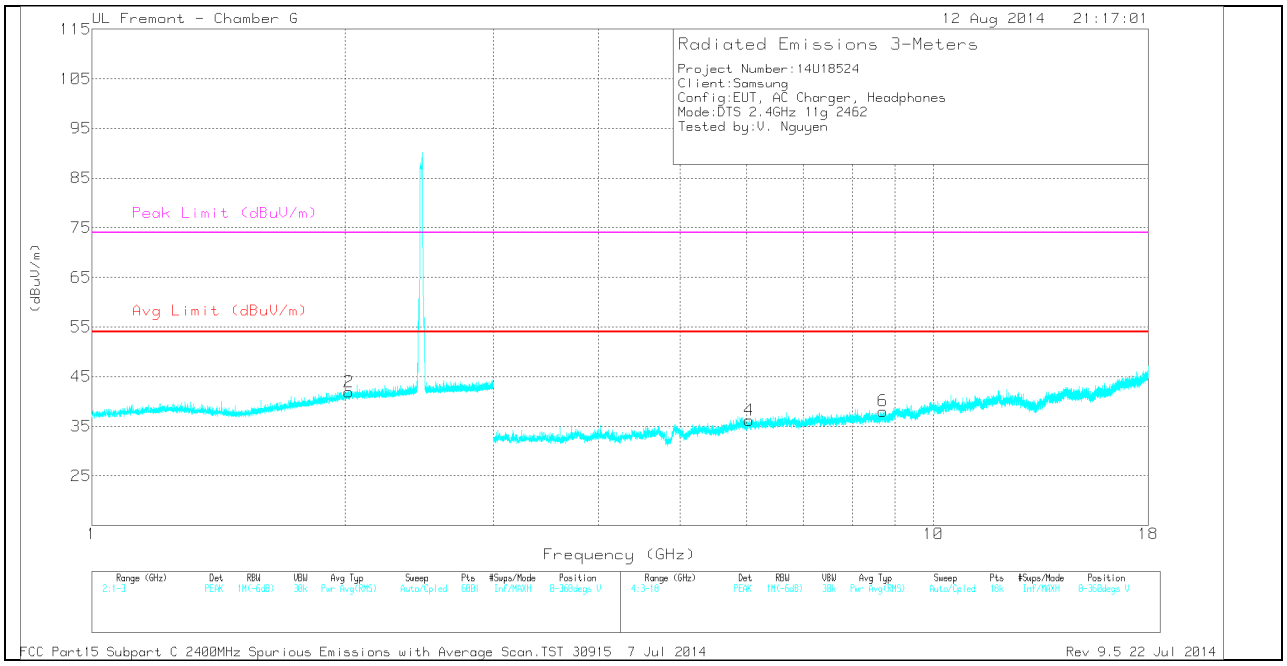
HIGH CHANNEL VERTICAL



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

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HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr /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	1.933	36.23	PK	30.8	-25.5	0	41.53	-	-	-	-	0-360	100	H
2	2.02	35.89	PK	31.3	-25.3	0	41.89	-	-	-	-	0-360	101	V
3	5.809	34.4	PK	34.9	-33.1	0	36.2	-	-	-	-	0-360	101	H
4	6.036	33	PK	35.3	-32.1	0	36.2	-	-	-	-	0-360	101	V
5	7.919	32.41	PK	35.8	-30.8	0	37.41	-	-	-	-	0-360	201	H
6	8.71	31.55	PK	36	-29.5	0	38.05	-	-	-	-	0-360	201	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/ Fltr/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
2.02	43.35	PK2	31.3	-25.3	0	49.35	-	-	-	-	265	112	V
2.022	31.86	MAv1	31.3	-25.3	.33	38.19	-	-	-	-	265	112	V

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

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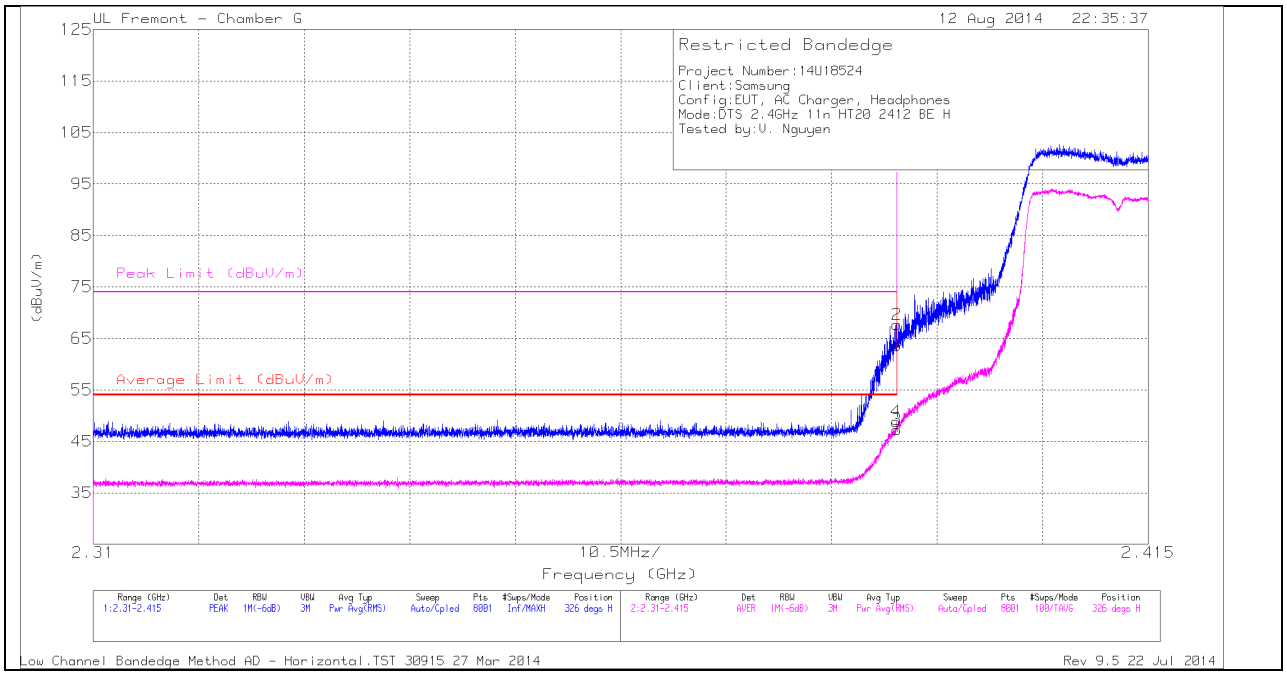
9.2.3. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Flt 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	56.81	PK	31.8	-24.9	0	63.71	-	-	74	-10.29	326	354	H
2	* 2.39	60.75	PK	31.8	-24.9	0	67.65	-	-	74	-6.35	326	354	H
3	* 2.39	39.98	RMS	31.8	-24.9	.39	47.27	54	-6.73	-	-	326	354	H
4	* 2.39	41.56	RMS	31.8	-24.9	.39	48.85	54	-5.15	-	-	326	354	H

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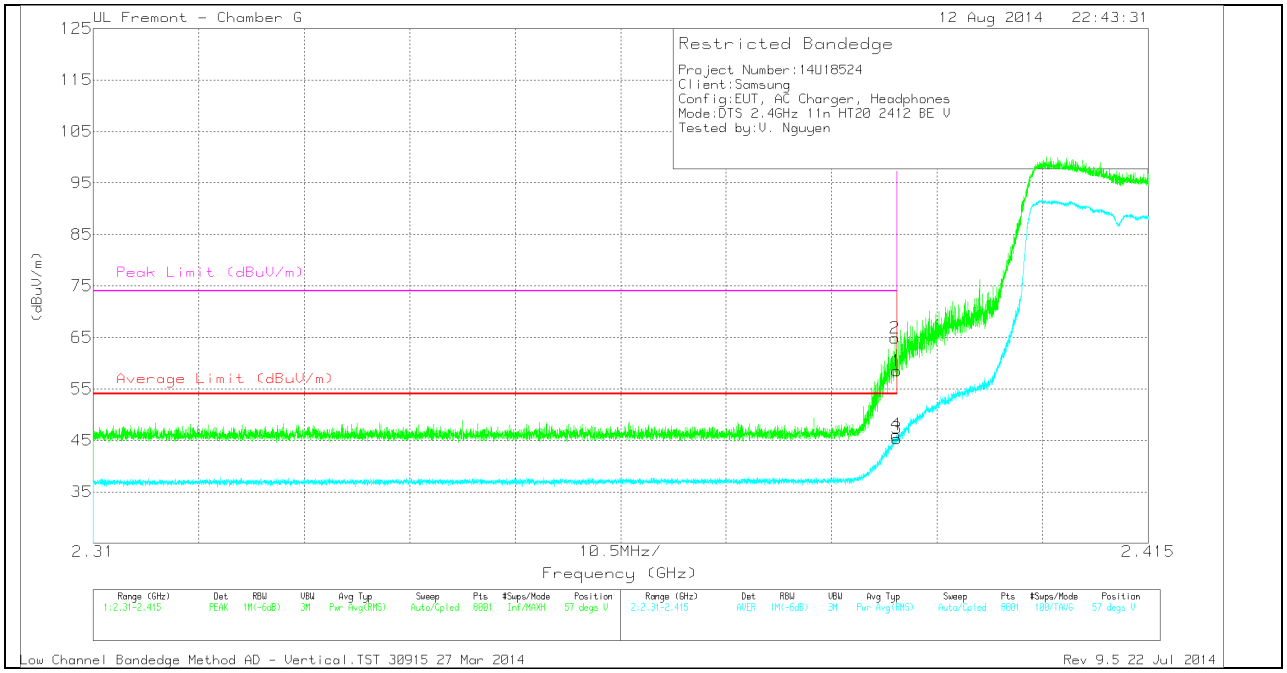
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Flt 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	51.59	PK	31.8	-24.9	0	58.49	-	-	74	-15.51	57	381	V
2	* 2.39	57.96	PK	31.8	-24.9	0	64.86	-	-	74	-9.14	57	381	V
3	* 2.39	38.09	RMS	31.8	-24.9	.39	45.38	54	-8.62	-	-	57	381	V
4	* 2.39	38.81	RMS	31.8	-24.9	.39	46.1	54	-7.9	-	-	57	381	V

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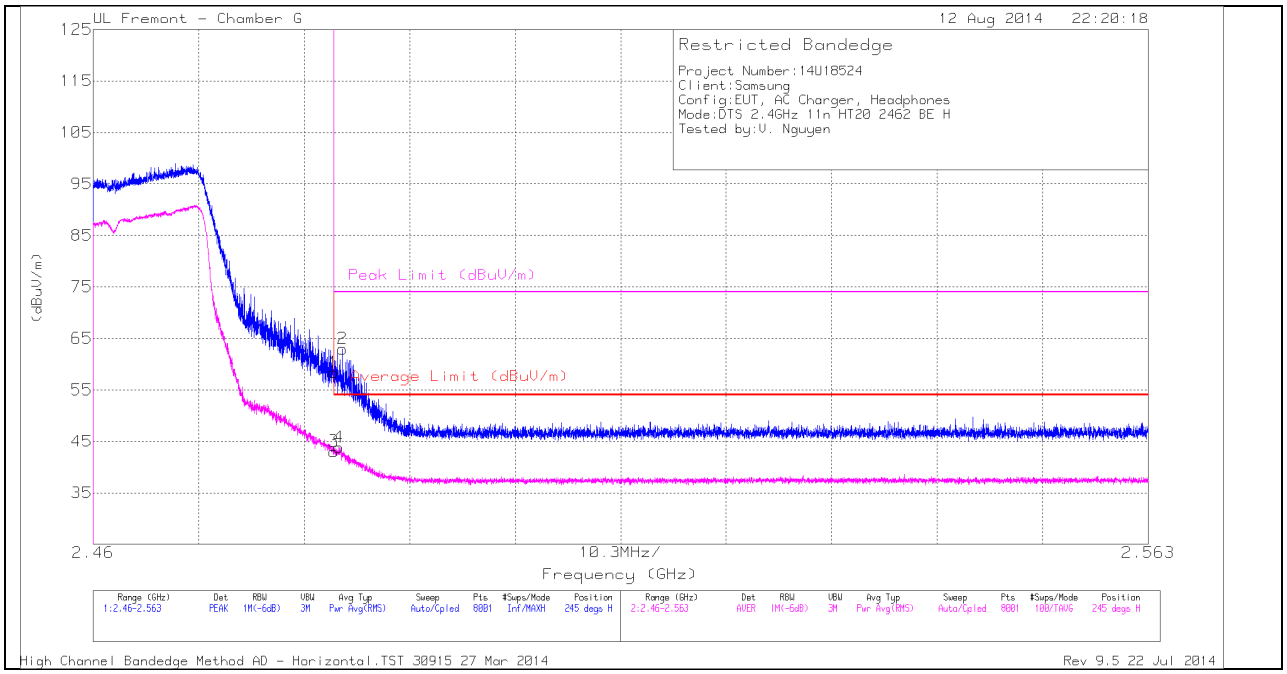
AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr/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	51.3	PK	32	-24.9	0	58.4	-	-	74	-15.6	245	179	H
2	* 2.484	55.88	PK	32	-24.9	0	62.98	-	-	74	-11.02	245	179	H
3	* 2.484	35.55	RMS	32	-24.9	.39	43.04	54	-10.96	-	-	245	179	H
4	* 2.484	36.34	RMS	32	-24.9	.39	43.83	54	-10.17	-	-	245	179	H

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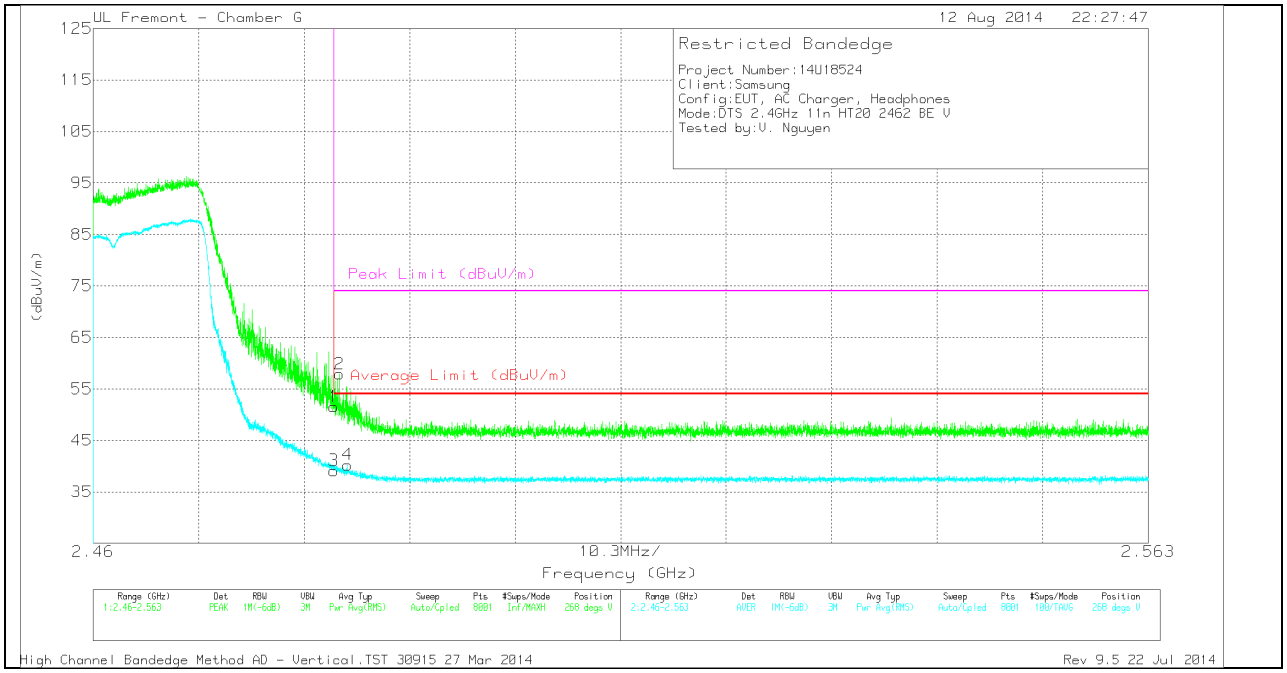
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Flt 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	44.43	PK	32	-24.9	0	51.53	-	-	74	-22.47	268	325	V
2	* 2.484	50.78	PK	32	-24.9	0	57.88	-	-	74	-16.12	268	325	V
3	* 2.484	31.62	RMS	32	-24.9	.39	39.11	54	-14.89	-	-	268	325	V
4	* 2.485	32.76	RMS	32	-24.9	.39	40.25	54	-13.75	-	-	268	325	V

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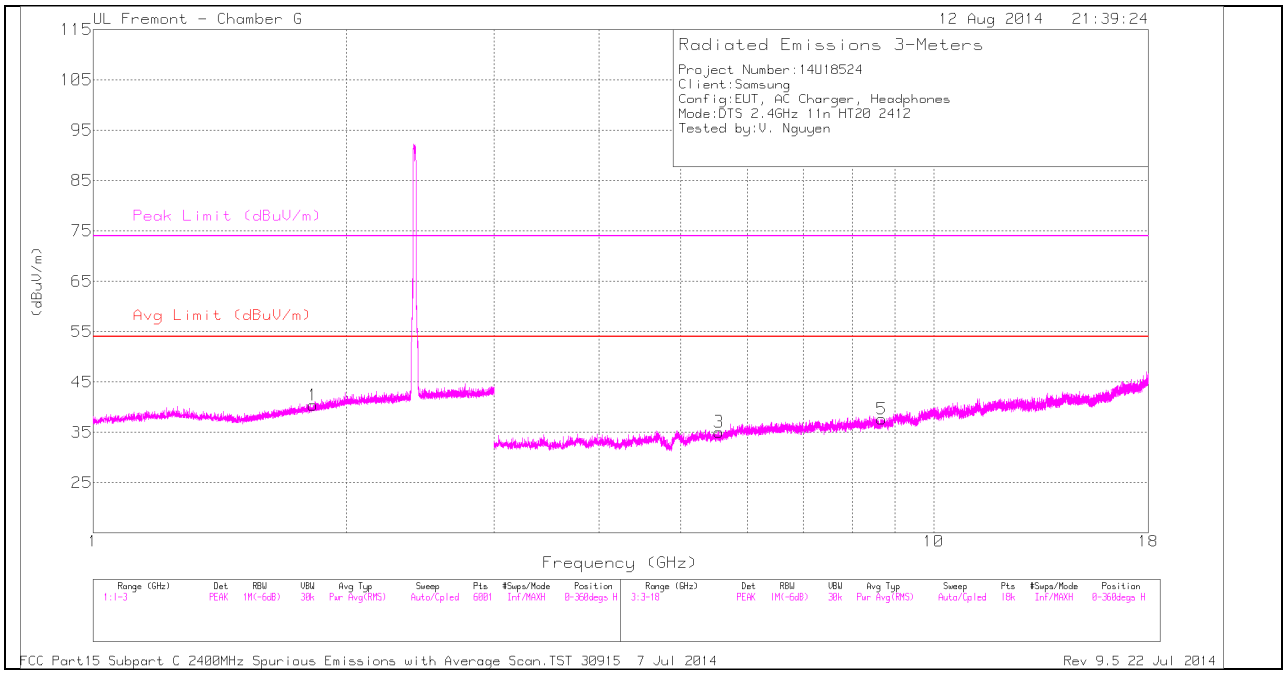
HARMONICS AND SPURIOUS EMISSIONS

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.

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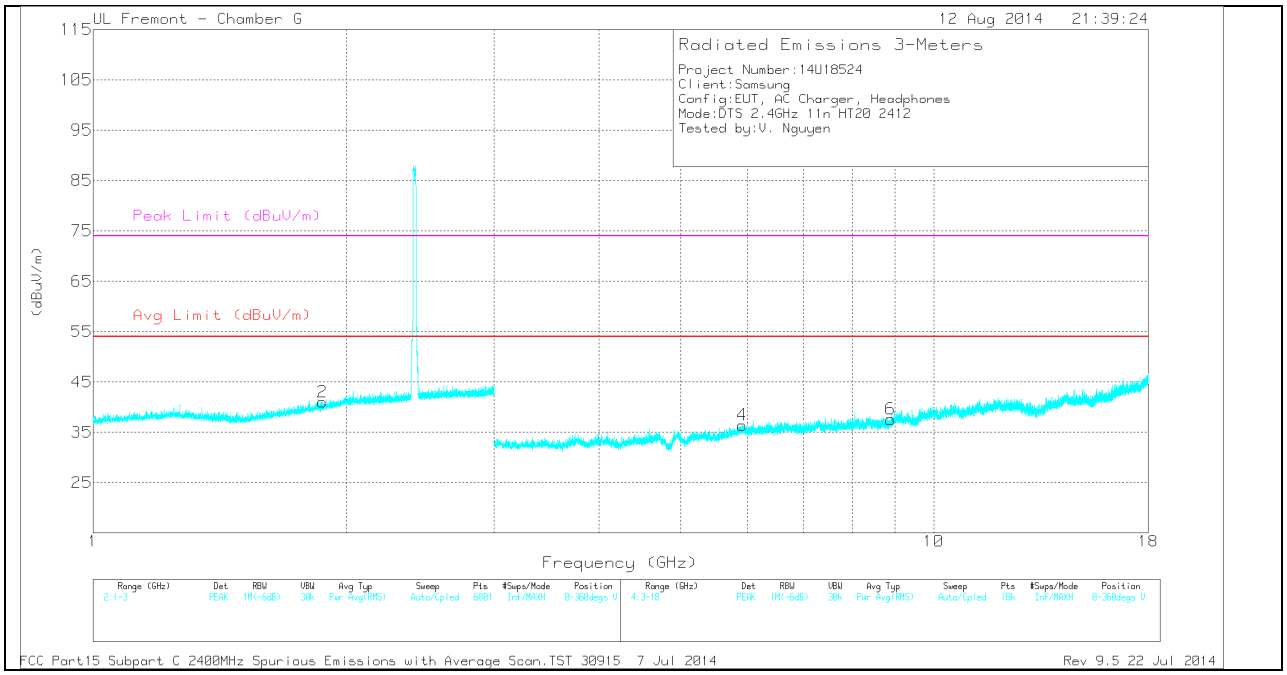
LOW CHANNEL VERTICAL



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LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr /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	1.826	35.68	PK	30.1	-25.4	0	40.38	-	-	-	-	0-360	101	H
2	1.876	35.92	PK	30.5	-25.4	0	41.02	-	-	-	-	0-360	201	V
3	5.552	33.65	PK	34.7	-33.3	0	35.05	-	-	-	-	0-360	100	H
4	5.92	33.74	PK	35.1	-32.4	0	36.44	-	-	-	-	0-360	101	V
5	8.67	31.63	PK	35.9	-29.9	0	37.63	-	-	-	-	0-360	100	H
6	8.891	31.3	PK	36.2	-29.9	0	37.6	-	-	-	-	0-360	201	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/ Fltr/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
1.874	31.76	MAv1	30.4	-25.5	.39	37.05	-	-	-	-	65	190	V
1.876	43.26	PK2	30.5	-25.4	0	48.36	-	-	-	-	65	190	V

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

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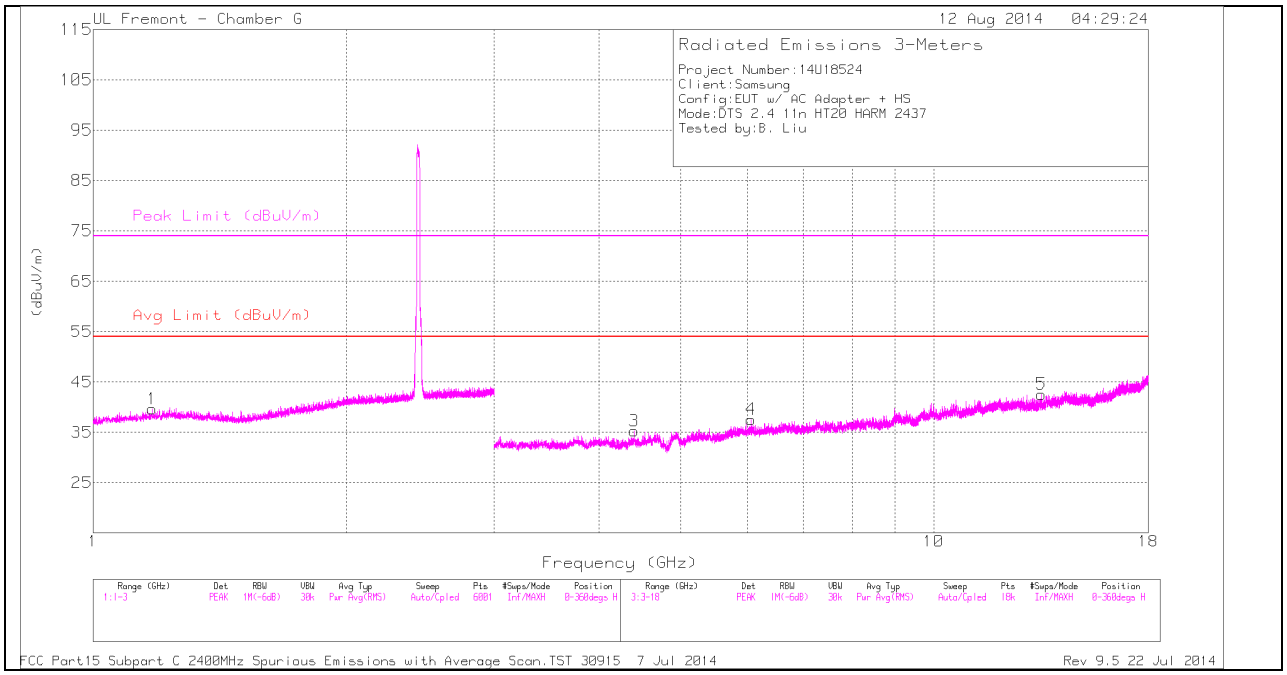
MID CHANNEL HORIZONTAL



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

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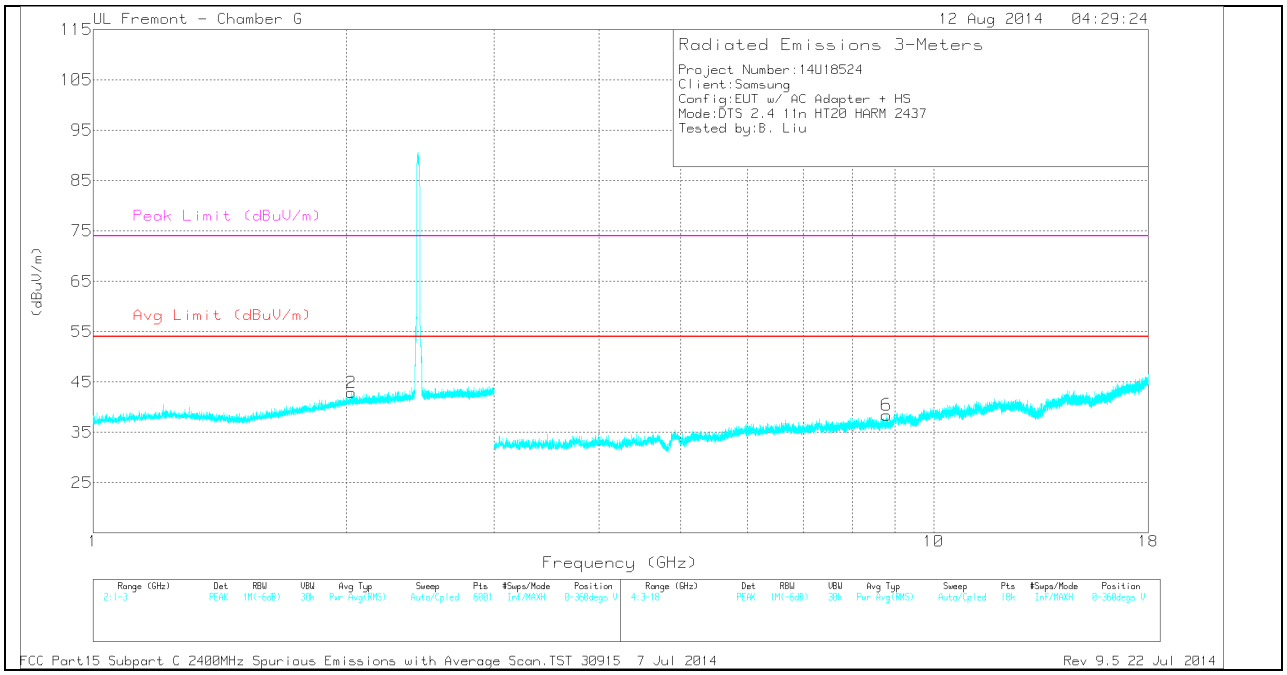
MID CHANNEL VERTICAL



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

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MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr /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	* 1.176	36.84	PK	28.8	-26	0	39.64	-	-	74	-34.36	0-360	201	H
2	2.029	36.78	PK	31.3	-25.2	0	42.88	-	-	-	-	0-360	201	V
3	4.402	34.56	PK	33.6	-32.9	0	35.26	-	-	-	-	0-360	101	H
4	6.066	34.68	PK	35.3	-32.4	0	37.58	-	-	-	-	0-360	201	H
6	8.789	31.44	PK	36.1	-29.1	0	38.44	-	-	-	-	0-360	201	V
5	13.428	30.48	PK	39.1	-27	0	42.58	-	-	-	-	0-360	201	H

PK - Peak detector

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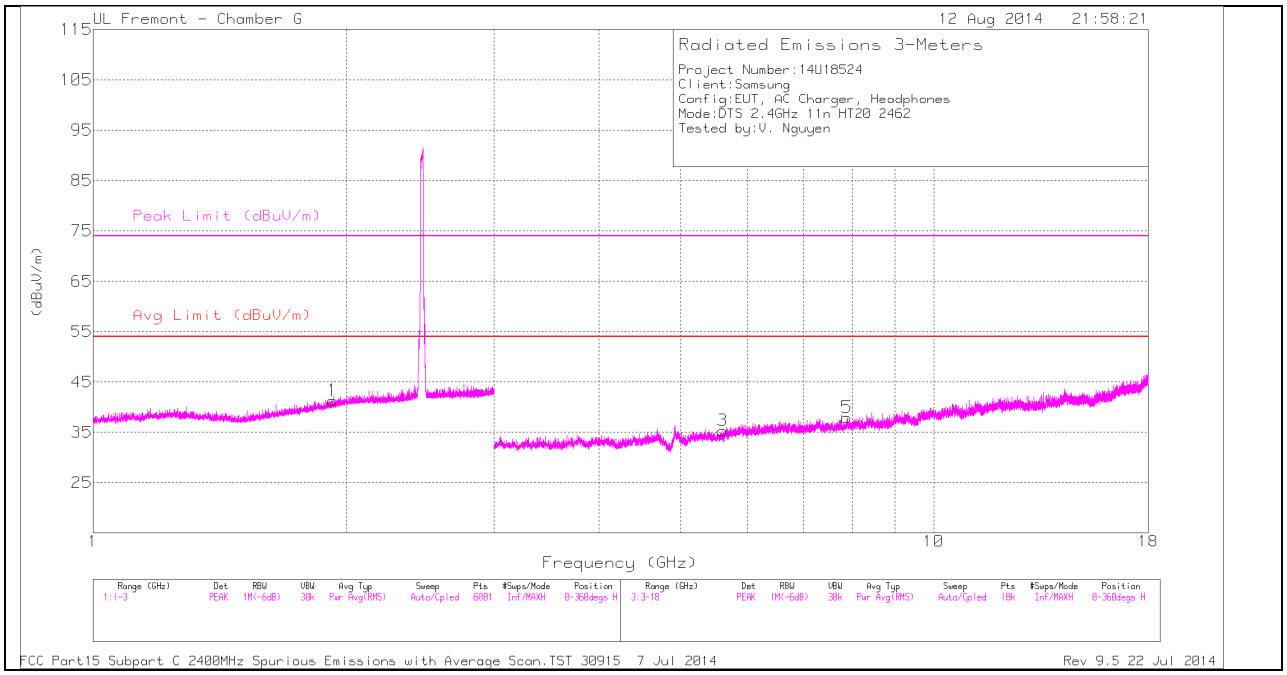
HIGH CHANNEL HORIZONTAL



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

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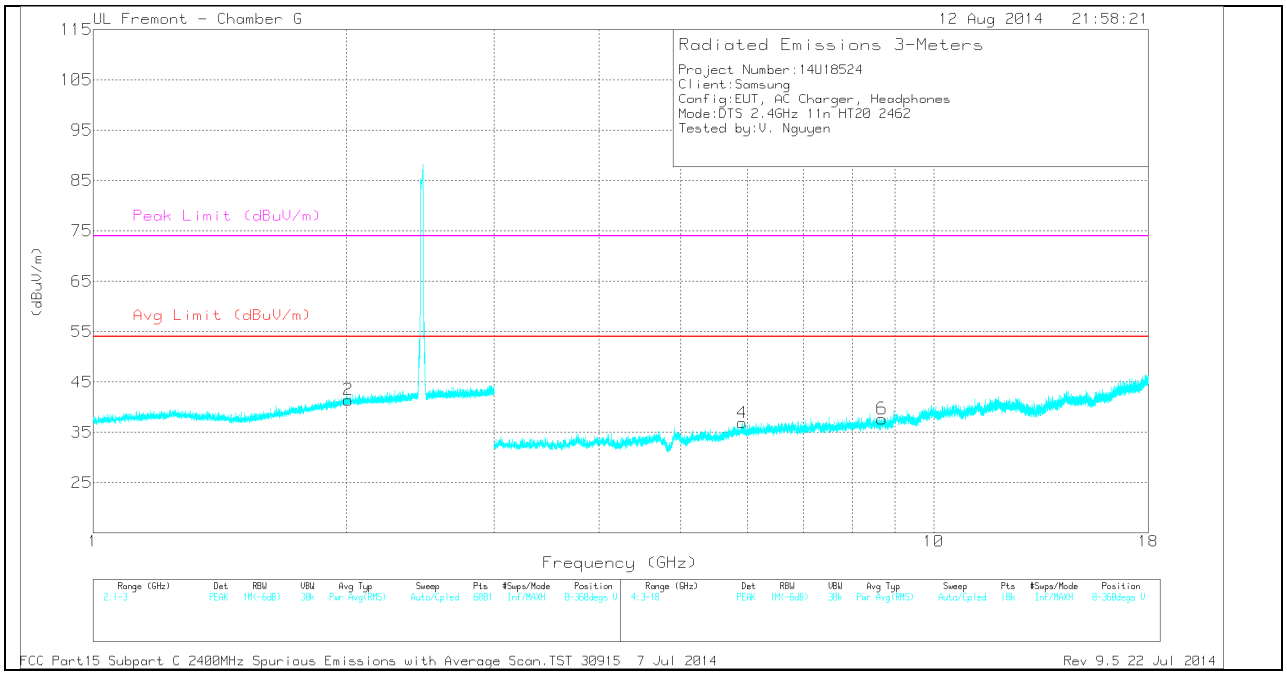
HIGH CHANNEL VERTICAL



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

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HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr /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	1.926	36.01	PK	30.8	-25.5	0	41.31	-	-	-	-	0-360	201	H
2	2.012	35.47	PK	31.3	-25.3	0	41.47	-	-	-	-	0-360	101	V
3	5.608	33.34	PK	34.7	-32.7	0	35.34	-	-	-	-	0-360	101	H
4	5.922	34.19	PK	35.1	-32.4	0	36.89	-	-	-	-	0-360	101	V
5	7.884	32.65	PK	35.8	-30.5	0	37.95	-	-	-	-	0-360	201	H
6	8.681	31.7	PK	35.9	-29.9	0	37.7	-	-	-	-	0-360	101	V

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/ Fltr/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
2.013	43.57	PK2	31.3	-25.3	0	49.57	-	-	-	-	234	134	V
2.014	31.8	MAv1	31.3	-25.3	.39	38.19	-	-	-	-	234	134	V

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

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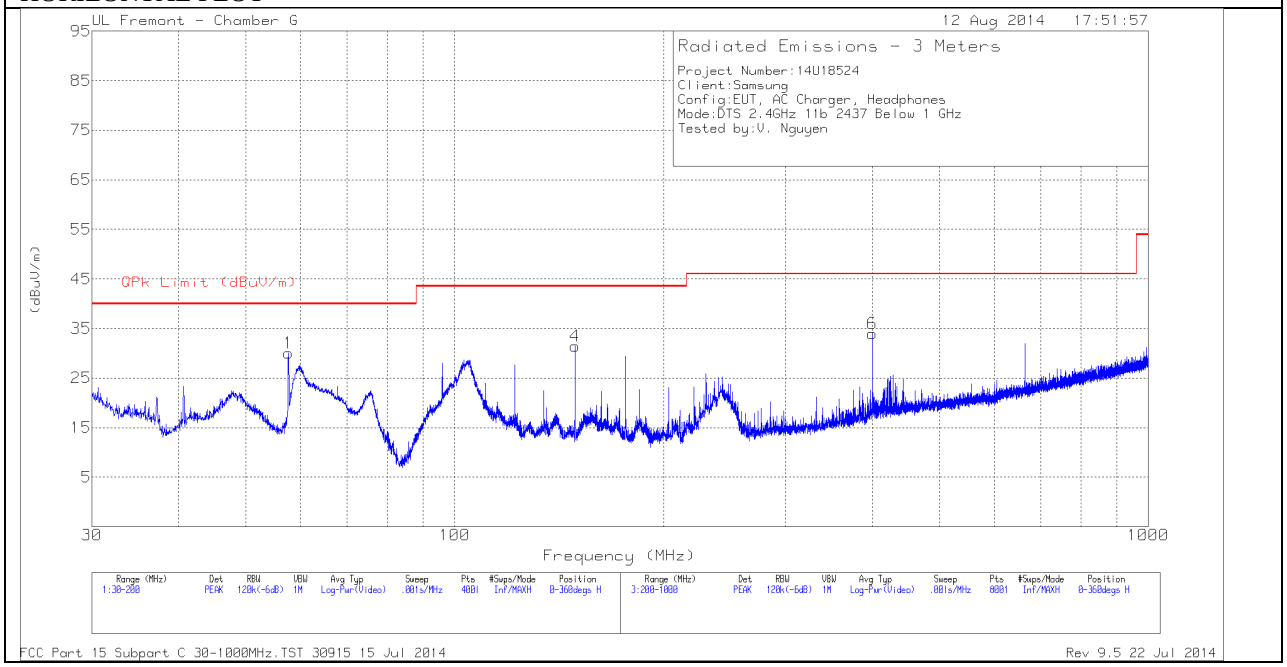
9.3. WORST-CASE BELOW 1 GHz

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

HORIZONTAL PLOT



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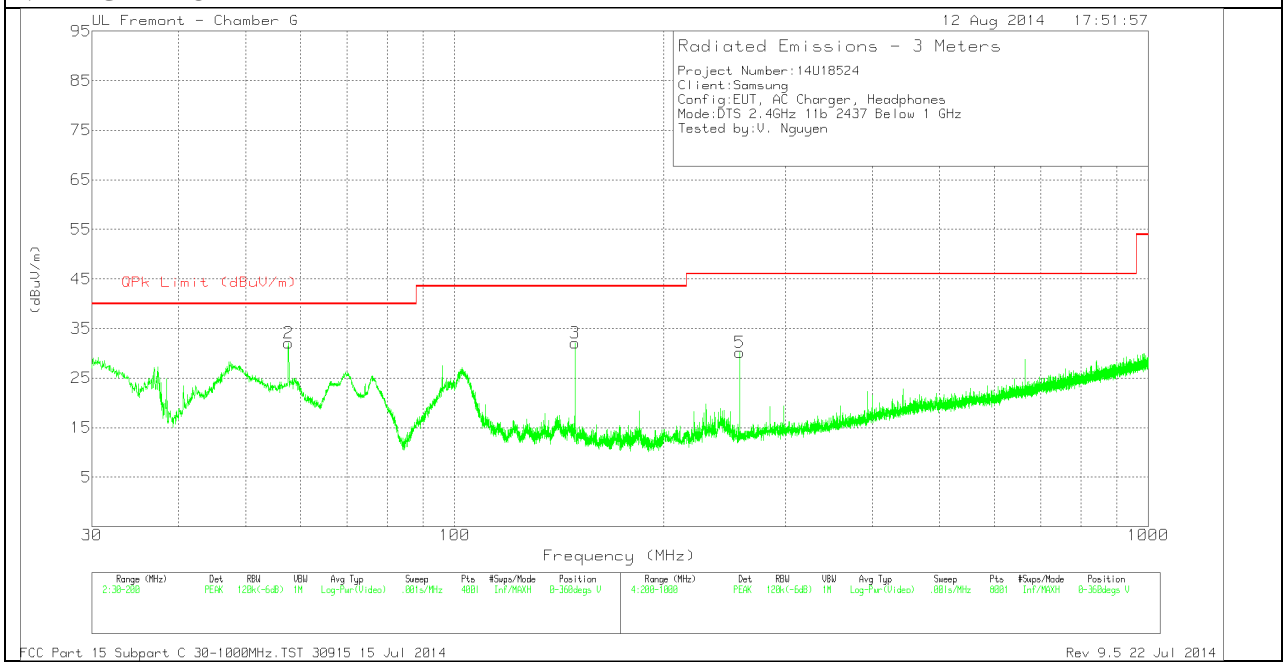
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)

VERTICAL PLOT



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Below 1G Data

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Hybrid	Amp/Cbl (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	* 400	43.24	PK	18.6	-27.9	0	33.94	46.02	-12.08	0-360	301	H
5	* 257.7	43.76	PK	15.2	-28.8	0	30.16	46.02	-15.86	0-360	100	V
1	57.5825	50.28	PK	10.4	-30.6	0	30.08	40	-9.92	0-360	401	H
2	57.5825	52.33	PK	10.4	-30.6	0	32.13	40	-7.87	0-360	100	V
4	149.17	45.22	PK	15.8	-29.6	0	31.42	43.52	-12.1	0-360	201	H
3	149.17	45.83	PK	15.8	-29.6	0	32.03	43.52	-11.49	0-360	100	V

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

PK - Peak detector

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10. 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.

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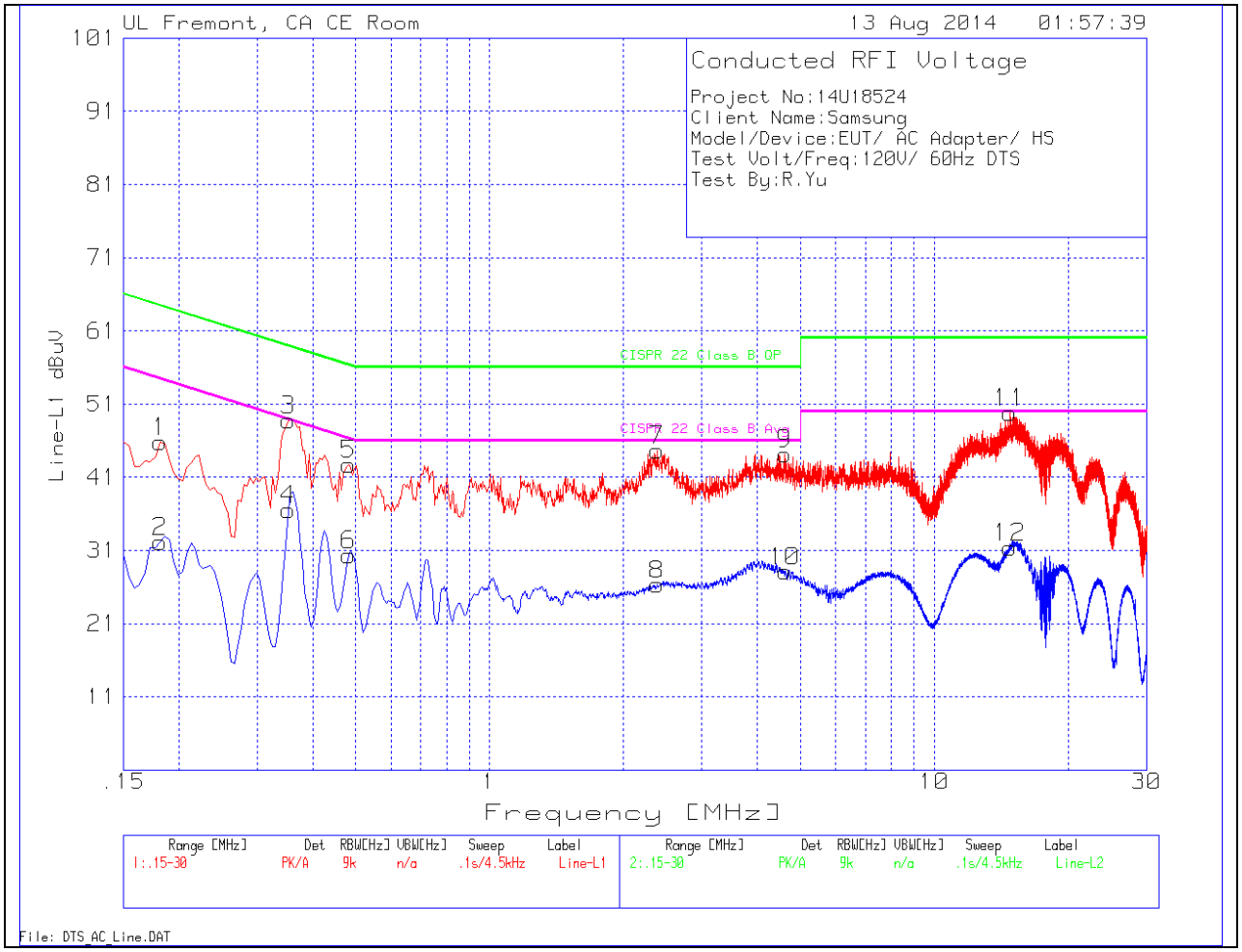
RESULTS

6 WORST EMISSIONS

LINE 1 PLOT



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LINE 1 RESULTS

Line-L1 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
1	.1815	44.71	PK	1.1	0	45.81	64.4	-18.59	-	-
2	.1815	31.04	Av	1.1	0	32.14	-	-	54.4	-22.26
3	.3525	48.33	PK	.5	0	48.83	58.9	-10.07	-	-
4	.3525	36.09	Av	.5	0	36.59	-	-	48.9	-12.31
5	.483	42.28	PK	.4	0	42.68	56.3	-13.62	-	-
6	.483	29.9	Av	.4	0	30.3	-	-	46.3	-16
7	2.3865	44.31	PK	.2	.1	44.61	56	-11.39	-	-
8	2.3865	25.99	Av	.2	.1	26.29	-	-	46	-19.71
9	4.614	43.85	PK	.2	.1	44.15	56	-11.85	-	-
10	4.614	27.8	Av	.2	.1	28.1	-	-	46	-17.9
11	14.802	49.41	PK	.2	.2	49.81	60	-10.19	-	-
12	14.802	30.94	Av	.2	.2	31.34	-	-	50	-18.66

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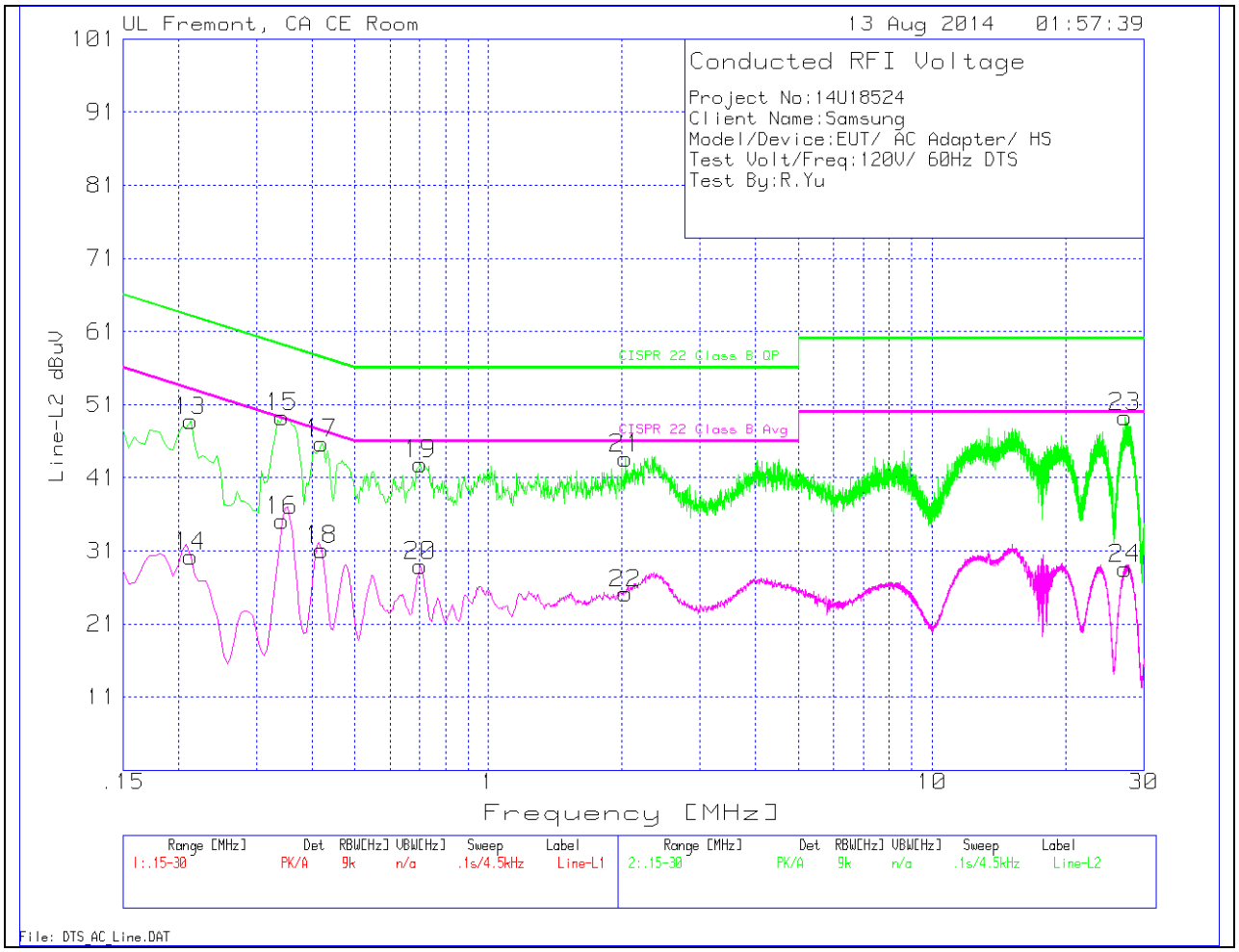
LINE 2 PLOT



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LINE 2 RESULTS

Line-L2 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2 (dB)	LC Cables 2&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
13	.213	47.82	PK	.9	0	48.72	63.1	-14.38	-	-
14	.213	29.3	Av	.9	0	30.2	-	-	53.1	-22.9
15	.3435	48.8	PK	.5	0	49.3	59.1	-9.8	-	-
16	.3435	34.66	Av	.5	0	35.16	-	-	49.1	-13.94
17	.42	45.27	PK	.4	0	45.67	57.4	-11.73	-	-
18	.42	30.73	Av	.4	0	31.13	-	-	47.4	-16.27
19	.7035	42.56	PK	.3	0	42.86	56	-13.14	-	-
20	.7035	28.64	Av	.3	0	28.94	-	-	46	-17.06
21	2.04	43.33	PK	.2	.1	43.63	56	-12.37	-	-
22	2.04	24.83	Av	.2	.1	25.13	-	-	46	-20.87
23	27.24	48.7	PK	.3	.3	49.3	60	-10.7	-	-
24	27.24	27.89	Av	.3	.3	28.49	-	-	50	-21.51

PK - Peak detector

Av - average detection

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