



FCC CFR47 PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

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

MODEL NUMBER : GT-I9192I

FCC ID: A3LGTI9192I

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Prepared for

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Revision History

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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
MODEL NUMBER: GT-I9192I
SERIAL NUMBER: R31FC02BPRY (RADIATED); R31FC01MYAK (CONDUCTED)
DATE TESTED: JANUARY 14-20, 2015

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

UL Korea, Ltd. 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 Korea, Ltd. 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 Korea, Ltd. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Korea, Ltd. 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 IAS, any agency of the Federal Government, or any agency of any government.

Approved & Released For
UL Korea, Ltd. By:

Tested By:



Ji Ho Choi
Suwon Lab Manager
UL Korea, Ltd.

CY Choi
Suwon Lab Engineer
UL Korea, Ltd.

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, RSS-GEN Issue 3, and RSS-210 Issue 8.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 443-823, Korea. Line conducted emissions are measured only at the 218 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.

218 Maeyeong-ro	
☒	Chamber 1
☐	Chamber 2

UL Korea, Ltd. is accredited by IAS, Laboratory Code TL-637. The full scope of accreditation can be viewed at <http://www.iasonline.org/PDF/TL/TL-637.pdf>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	2.32 dB
Radiated Disturbance, Below 1GHz	4.14 dB
Radiated Disturbance, Above 1 GHz	5.97 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
This test report addresses the DTS (WLAN) operational mode.

5.2. MAXIMUM OUTPUT POWER

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

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2412 - 2462	802.11b	17.0	50.12
2412 - 2462	802.11g	13.9	24.55
2412 - 2462	802.11n HT20	12.8	19.05

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antennas, with a maximum gain of -2.2 dBi.

5.4. WORST-CASE CONFIGURATION AND MODE

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

The fundamental of the EUT was investigated in three orthogonal orientations X, Y and 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

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Charger	SAMSUNG	ETA0U83EWE	N/A	N/A
Earphone	SAMSUNG	EHS64AVFWE	N/A	N/A

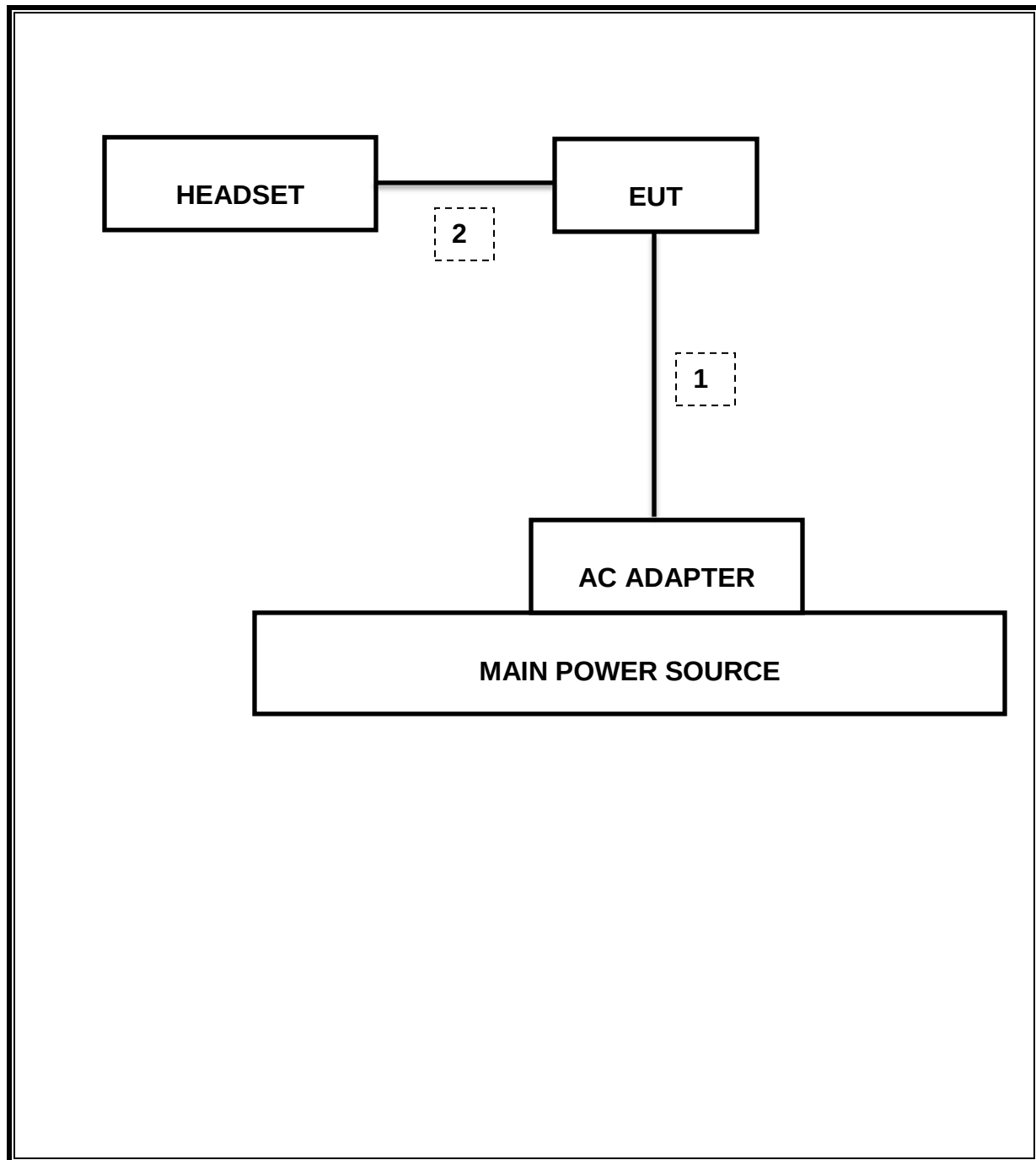
I/O CABLES

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	0.8m	N/A
2	Audio	1	Mini-Jack	Unshielded	1.0m	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	S/N	Cal Due
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	950	11-17-15
Antenna, Horn, 18 GHz	ETS	3115	00167211	09-20-15
Antenna, Horn, 40 GHz	ETS	3116C	00166255	09-23-15
Antenna, Horn, 40 GHz	ETS	3116C-PA	00168841	09-29-15
Preamplifier, 1000 MHz	Sonoma	310N	341282	11-17-15
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1876511	11-18-15
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54170614	09-23-14
Bluetooth Tester	TESCOM	TC-3000C	3000C000546	11-17-15
Average Power Sensor	R&S	NRZ-Z91	102681	11-17-15
Average Power Sensor	Agilent / HP	U2000	MY54270007	09-23-15
EMI Test Receive, 40 GHz	R&S	ESU40	100439	11-17-15
EMI Test Receive, 3 GHz	R&S	ESR3	101832	11-17-15
Attenuator / Switch driver	HP	11713A	3748A04272	N/A
Low Pass Filter 3GHz	Micro-Tronics	LPS17541	009	11-17-15
High Pass Filter 5GHz	Micro-Tronics	HPS17542	009	11-17-15
High Pass Filter 6GHz	Micro-Tronics	HPM17543	010	11-17-15

7. MEASUREMENT METHODS

KDB 558074 D01 DTS Meas Guidance v03r02: Measurement Procedure AVGPM-G is used for power and AVGPS-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. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS

LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 789033 Zero-Span Spectrum Analyzer Method.

8.1. ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)
2400MHz Bands						
802.11b	8.414	8.517	0.988	98.8%	0.00	0.010
802.11g	1.396	1.495	0.934	93.4%	0.30	0.716
802.11n HT20	1.296	1.395	0.929	92.9%	0.32	0.772

9. SUMMARY TABLE

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result	Worst Case
15.247 (a)(2)	Occupied Band width (6dB)	>500KHz	Conducted	Pass	9.009MHz
2.1051, 15.247 (d)	Band Edge / Conducted Spurious Emission	-20dBc		Pass	-27.49dBm
15.247	TX conducted output power	<30dBm		Pass	17.00dBm
15.247	PSD	<8dBm		Pass	-13.87dBm
15.207 (a)	AC Power Line conducted emissions	Section 10	Radiated	Pass	27.54dBuV(AV)
15.205, 15.209	Radiated Spurious Emission	< 54dBuV/m		Pass	52.35dBuV/m

10. ANTENNA PORT TEST RESULTS

10.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

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

TEST PROCEDURE

Reference to KDB 558074 D01 DTS Meas Guidance v03r02: The transmitter output is connected to a spectrum analyzer with the RBW set to 100kHz, the VBW $\geq 3 \times$ RBW, peak detector and max hold.

RESULTS

10.1.1. 802.11b MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	9.009	0.5
Mid	2437	9.022	0.5
High	2462	9.009	0.5
Worst		9.022	

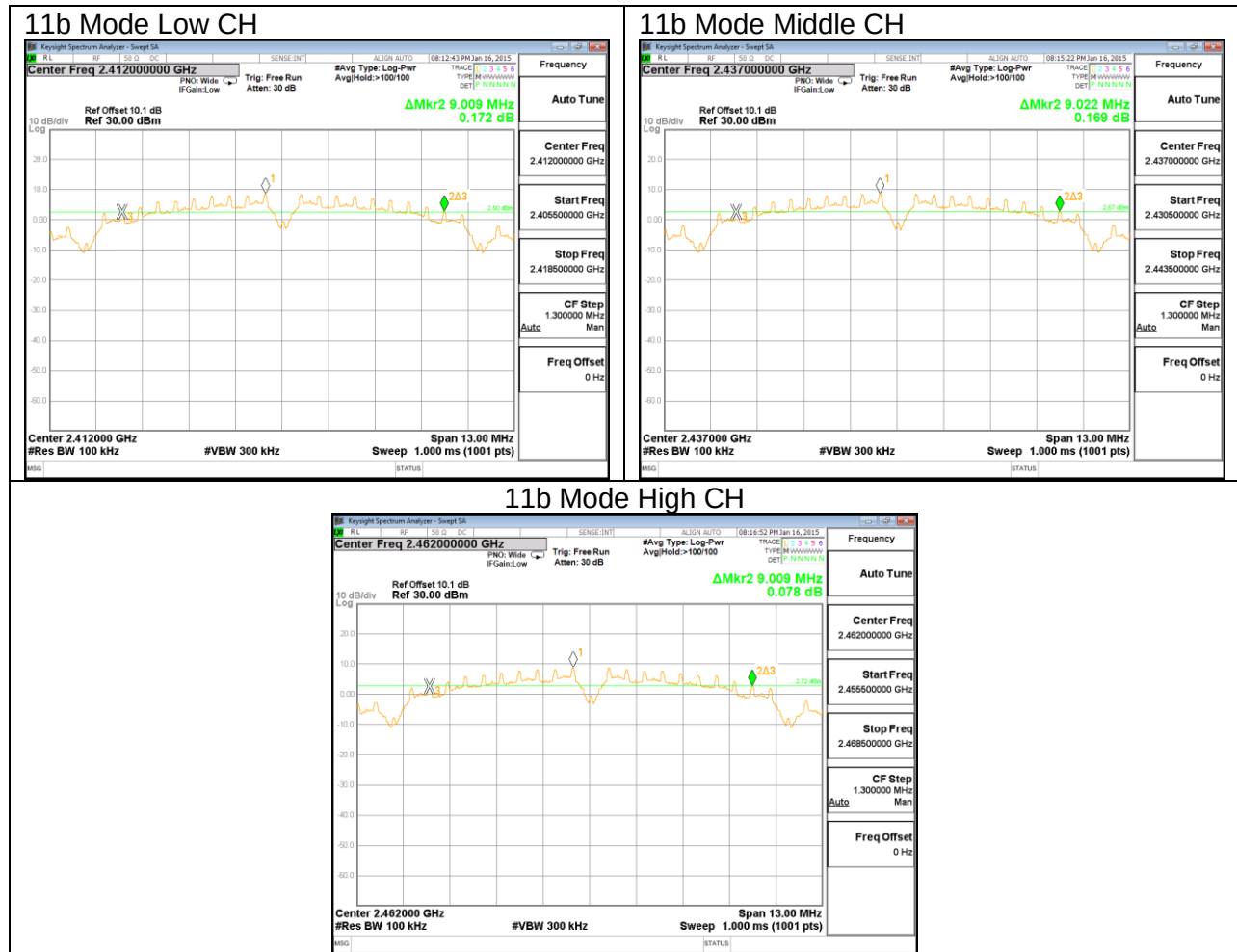
10.1.2. 802.11g MODE IN THE 2.4 GHz BAND

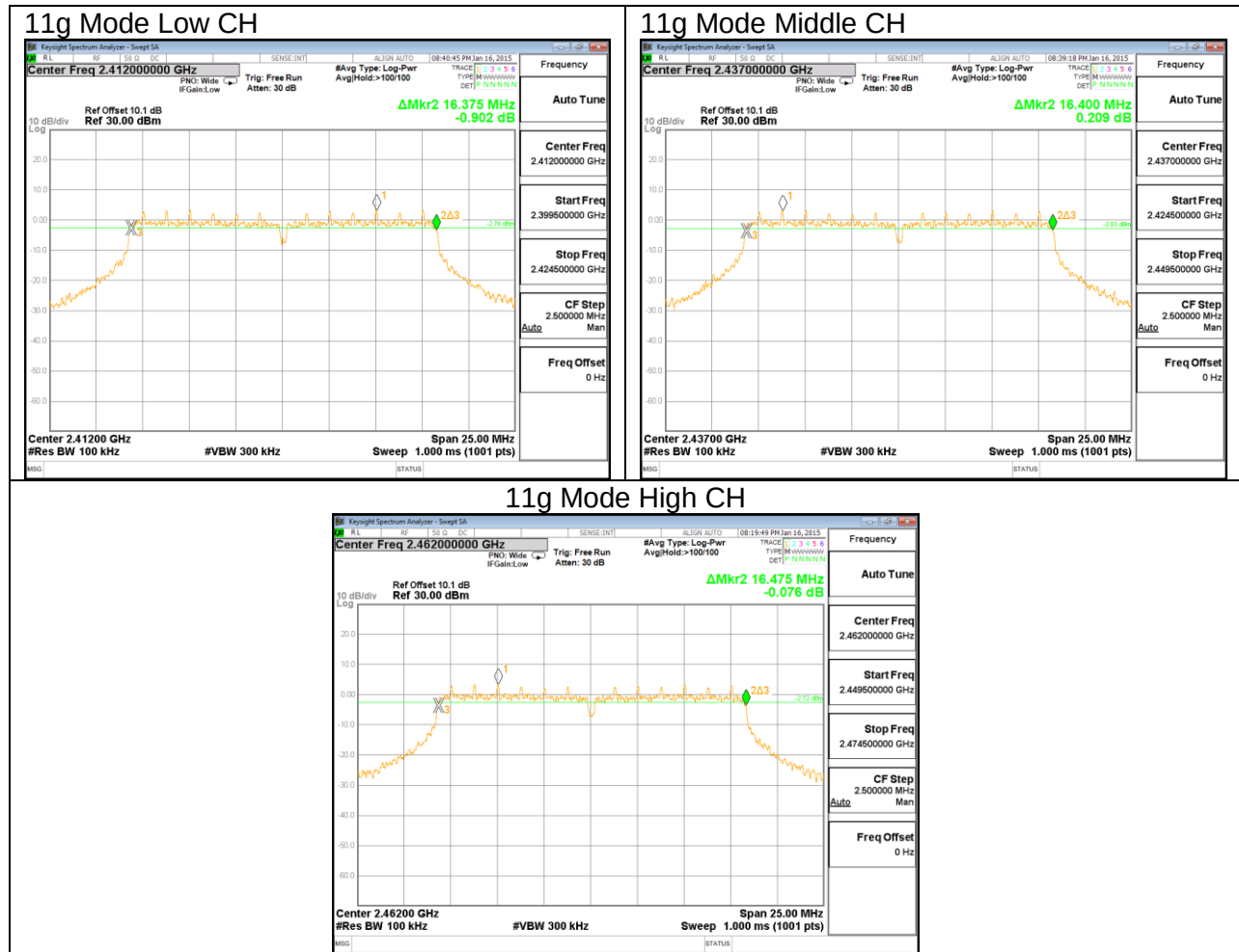
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	16.375	0.5
Mid	2437	16.400	0.5
High	2462	16.475	0.5
Worst		16.475	

10.1.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

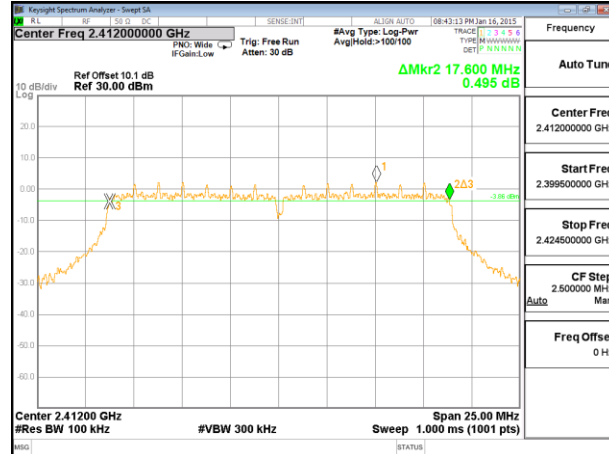
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	17.600	0.5
Mid	2437	17.600	0.5
High	2462	17.600	0.5
Worst		17.600	

10.1.4. 6 dB BANDWIDTH PLOTS

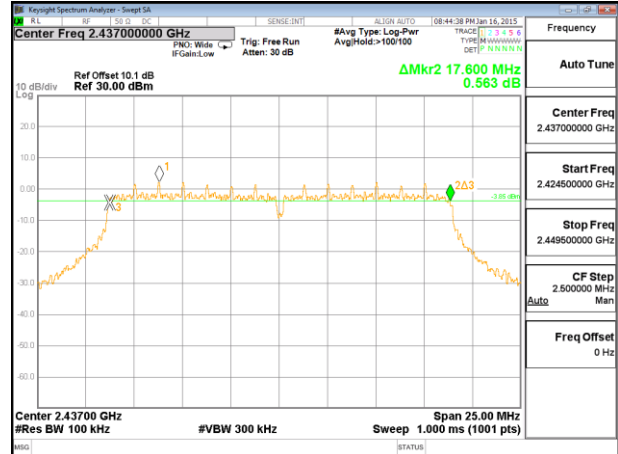




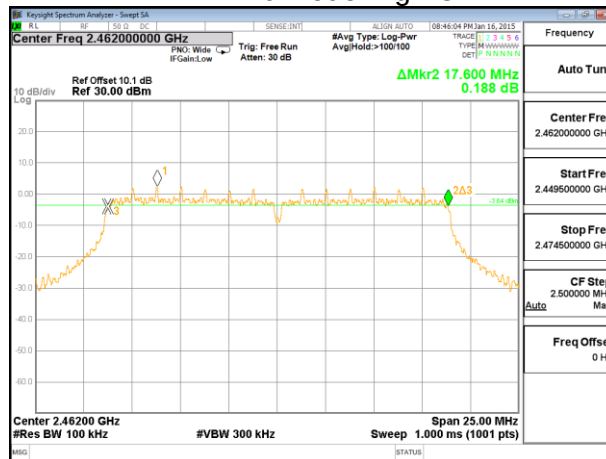
11n HT20 Mode Low CH



11n HT20 Mode Middle CH



11n HT20 Mode High CH



10.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

10.2.1. 802.11b MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	13.527
Mid	2437	13.417
High	2462	13.790
Worst		13.790

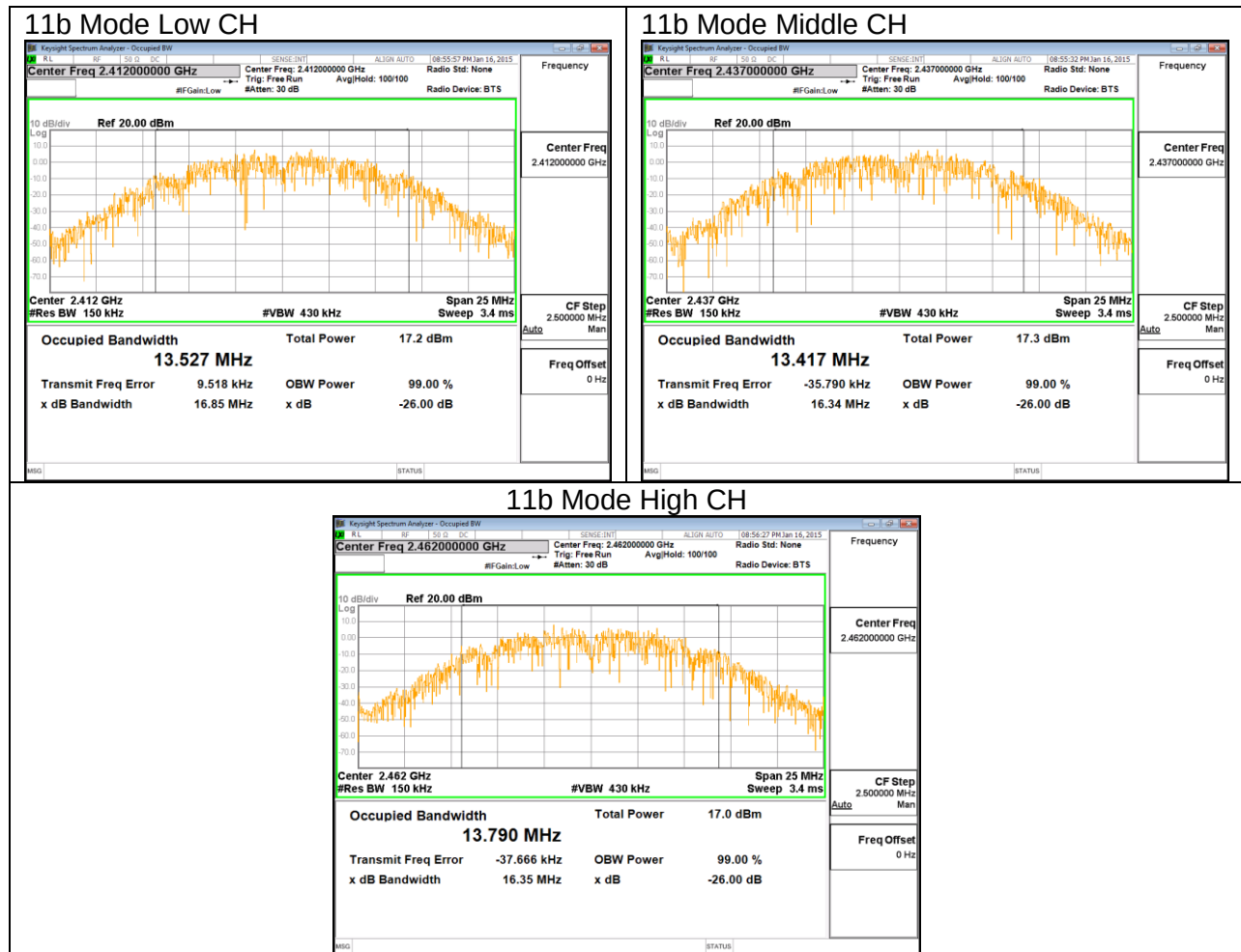
10.2.2. 802.11g MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	16.522
Mid	2437	16.502
High	2462	16.521
Worst		16.522

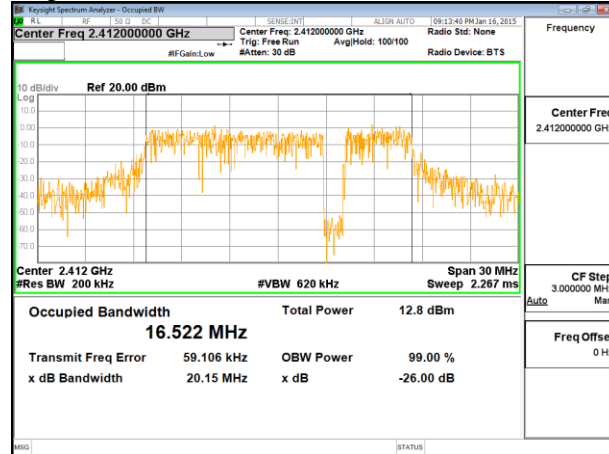
10.2.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	17.697
Mid	2437	17.758
High	2462	17.699
Worst		17.758

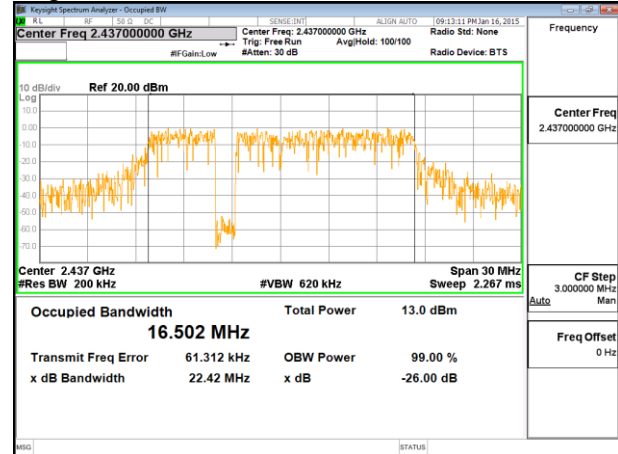
10.2.4. 99% BANDWIDTH PLOTS



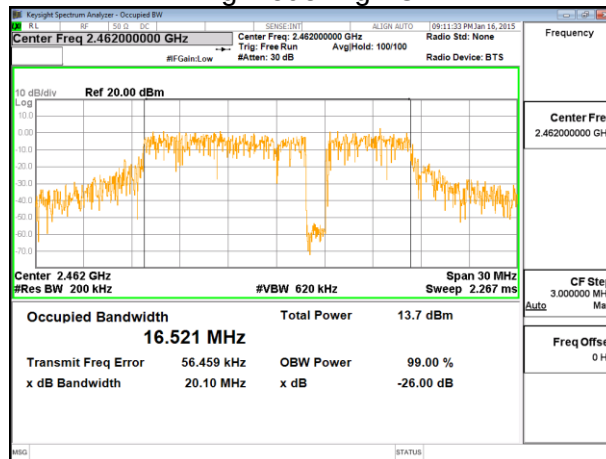
11g Mode Low CH



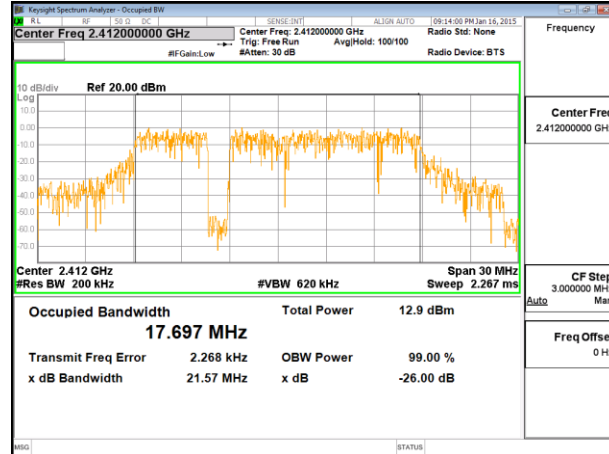
11g Mode Middle CH



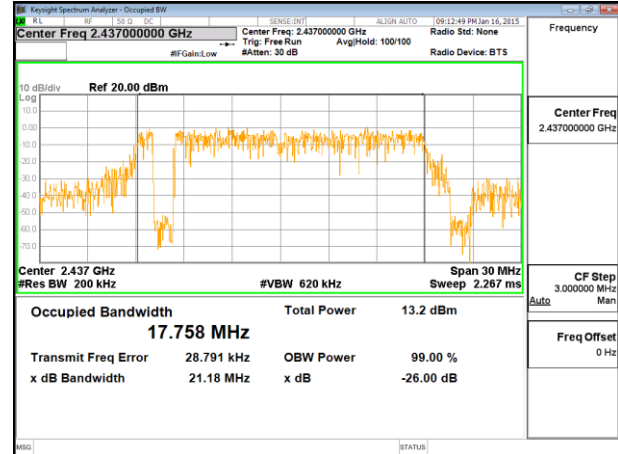
11g Mode High CH



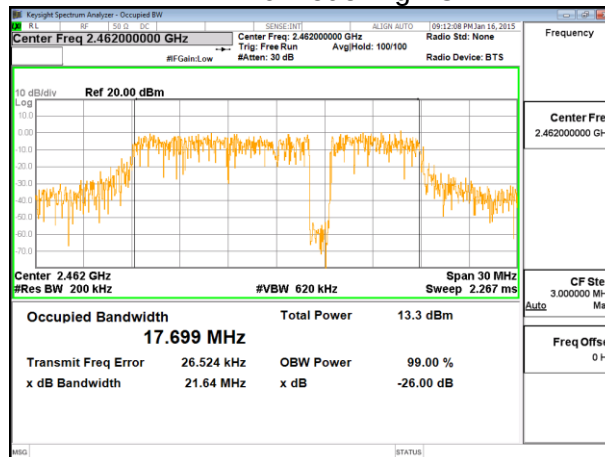
11n HT20 Mode Low CH



11n HT20 Mode Middle CH



11n HT20 Mode High CH



10.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 10.1 dB (including 10 dB pad and 0.1 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

10.3.1. 802.11b MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	2412	17.0
Mid	2437	16.8
High	2462	16.8
Worst		17.0

10.3.2. 802.11g MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	2412	13.8
Mid	2437	13.9
High	2462	13.8
Worst		13.9

10.3.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	Avg Power (dBm)
Low	2412	12.8
Mid	2437	12.8
High	2462	12.8
Worst		12.8

10.4. 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

10.4.1. 802.11b MODE IN THE 2.4 GHZ BAND

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2412	-2.50	30.00	30.00	36.00	30.00
Mid	2437	-2.50	30.00	30.00	36.00	30.00
High	2462	-2.30	30.00	30.00	36.00	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	17.00	17.00	30.00	-13.00
Mid	2437	16.80	16.80	30.00	-13.20
High	2462	16.80	16.80	30.00	-13.20
Worst			17.00		

10.4.2. 802.11g MODE IN THE 2.4 GHz BAND

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2412		30.00	30.00	36.00	30.00
Mid	2437		30.00	30.00	36.00	30.00
High	2462		30.00	30.00	36.00	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	17.00	13.80	30.00	-16.20
Mid	2437	16.80	13.90	30.00	-16.10
High	2462	16.80	13.90	30.00	-16.10
Worst			13.90		

10.4.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2412		30.00	30.00	36.00	30.00
Mid	2437		30.00	30.00	36.00	30.00
High	2462		30.00	30.00	36.00	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	17.00	12.80	30.00	-17.20
Mid	2437	16.80	12.80	30.00	-17.20
High	2462	16.80	12.80	30.00	-17.20
Worst			12.80		

10.5. 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

10.5.1. 802.11b MODE IN THE 2.4 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-14.5	8.0	-22.5
Mid	2437	-14.1	8.0	-22.1
High	2462	-4.7	8.0	-12.7

10.5.2. 802.11g MODE IN THE 2.4 GHz BAND

PSD Results

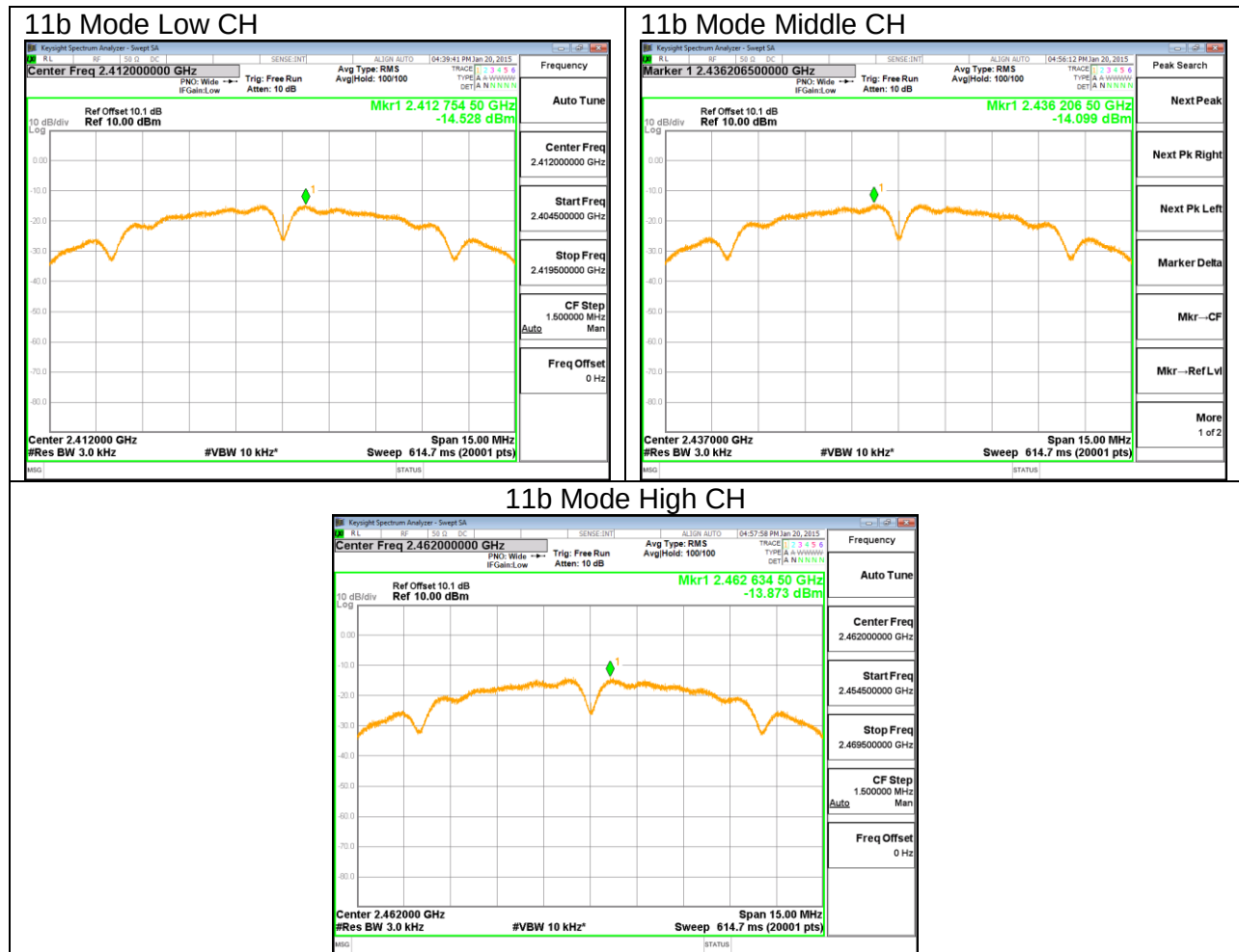
Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-19.9	8.0	-27.9
Mid	2437	-19.9	8.0	-27.9
High	2462	-19.8	8.0	-27.8

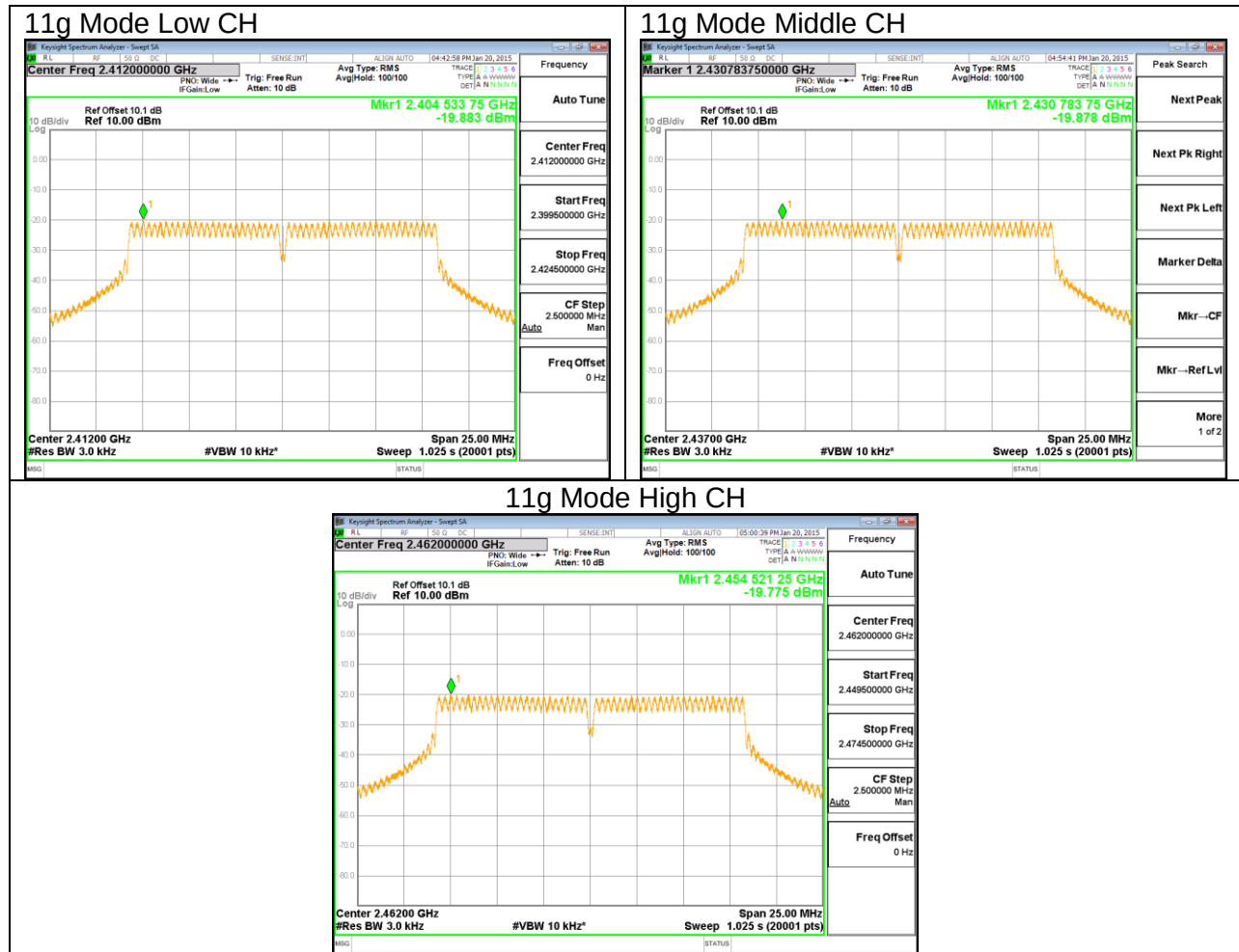
10.5.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

PSD Results

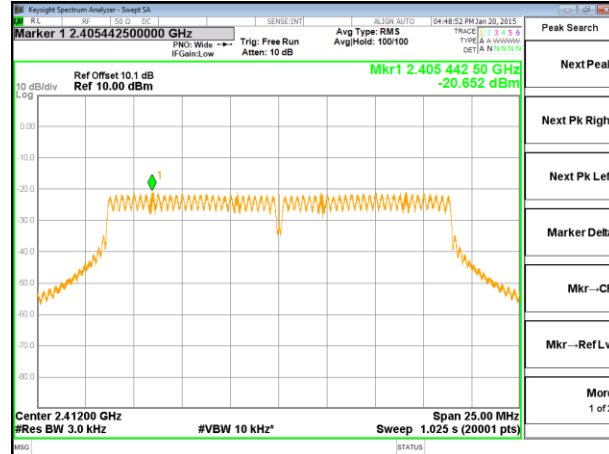
Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-20.7	8.0	-28.7
Mid	2437	-20.6	8.0	-28.6
High	2462	-20.5	8.0	-28.5

10.5.4. PSD PLOTS

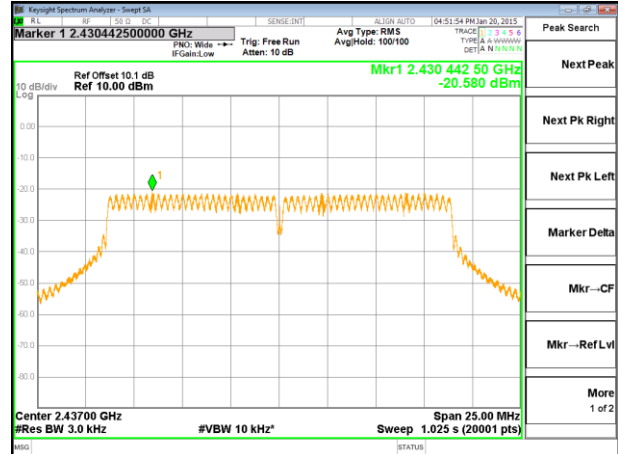




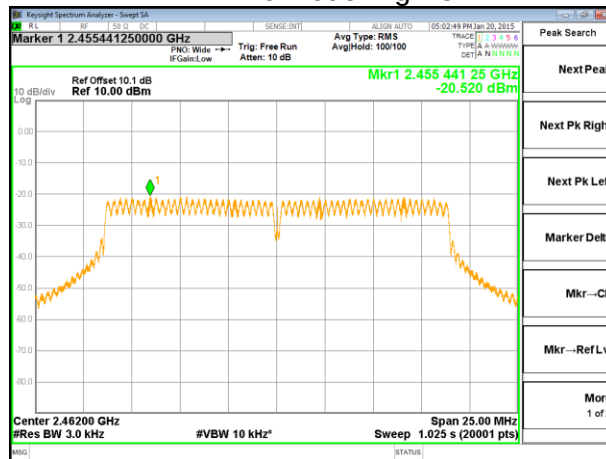
11n HT20 Mode Low CH



11n HT20 Mode Middle CH



11n HT20 Mode High CH



10.6. OUT-OF-BAND EMISSIONS

LIMITS

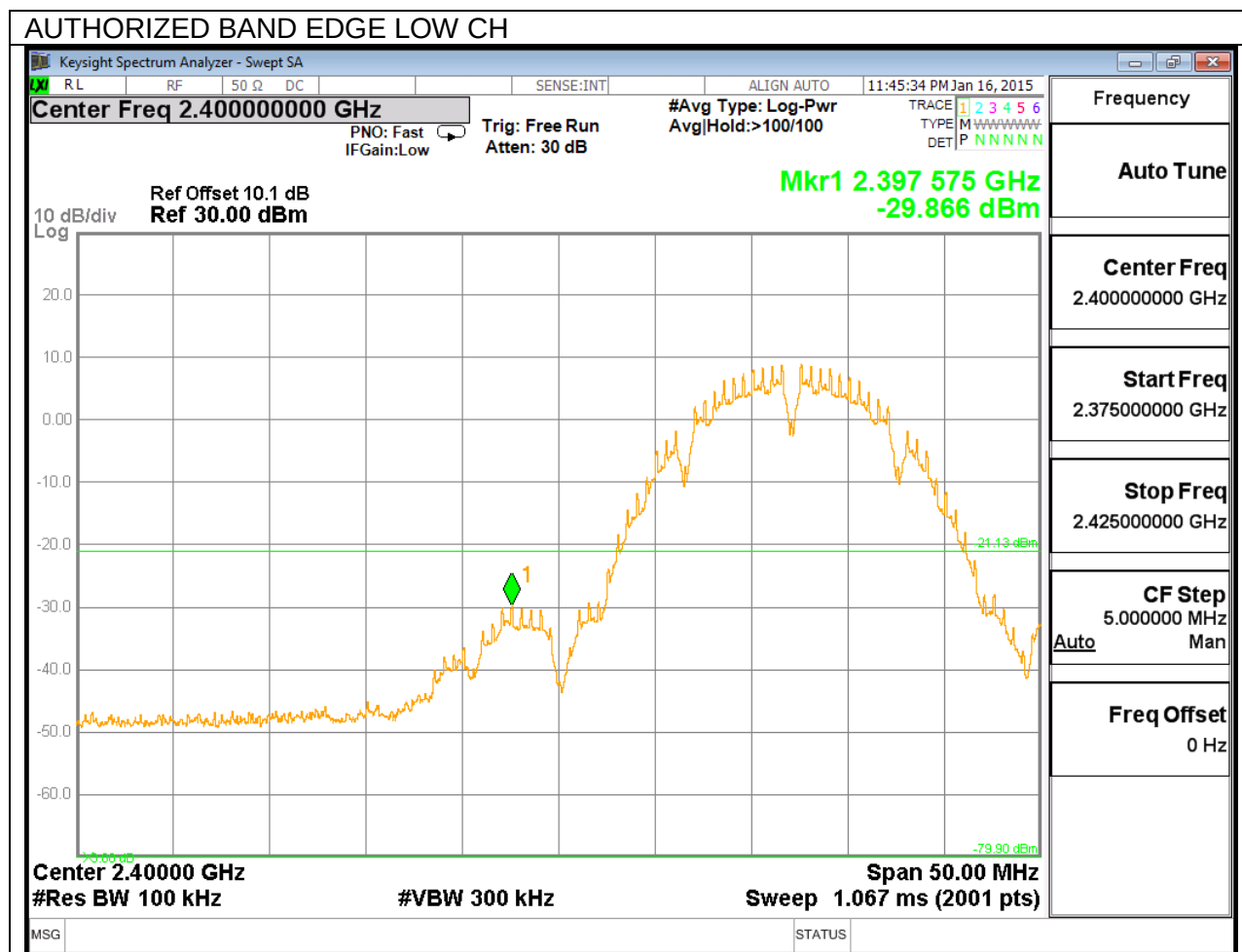
FCC §15.247 (d)

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.

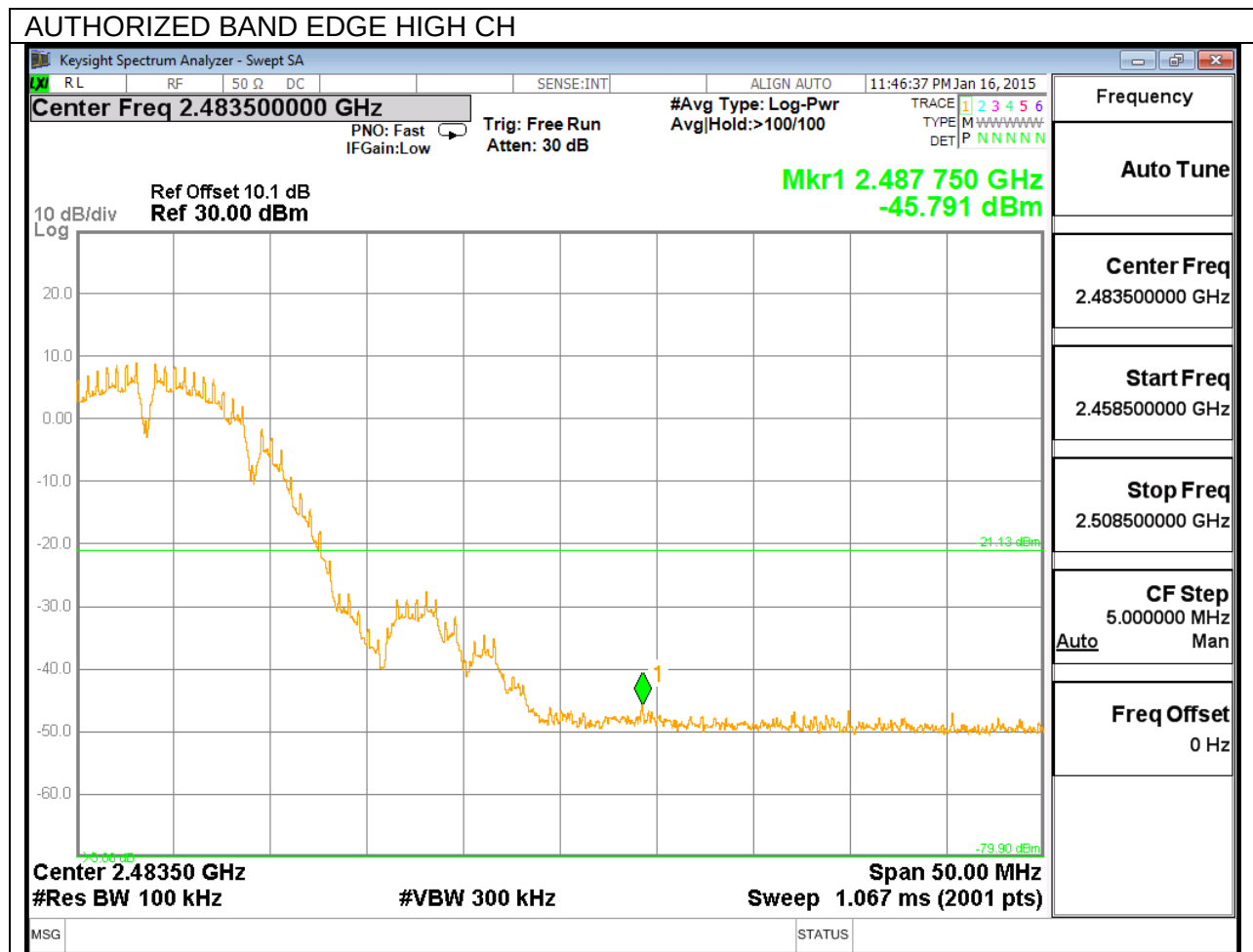
TEST PROCEDURE

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.

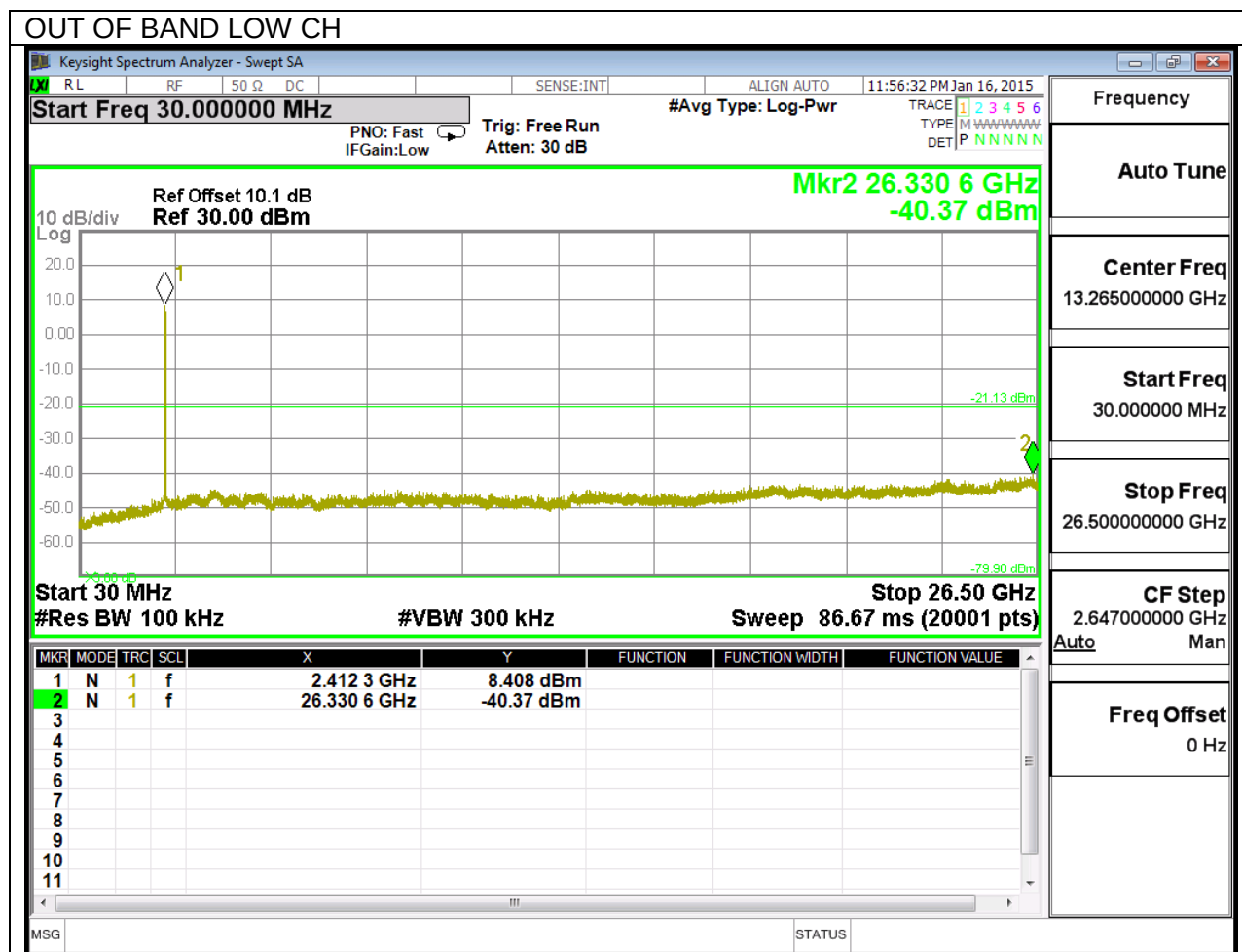
LOW CHANNEL BANDEDGE



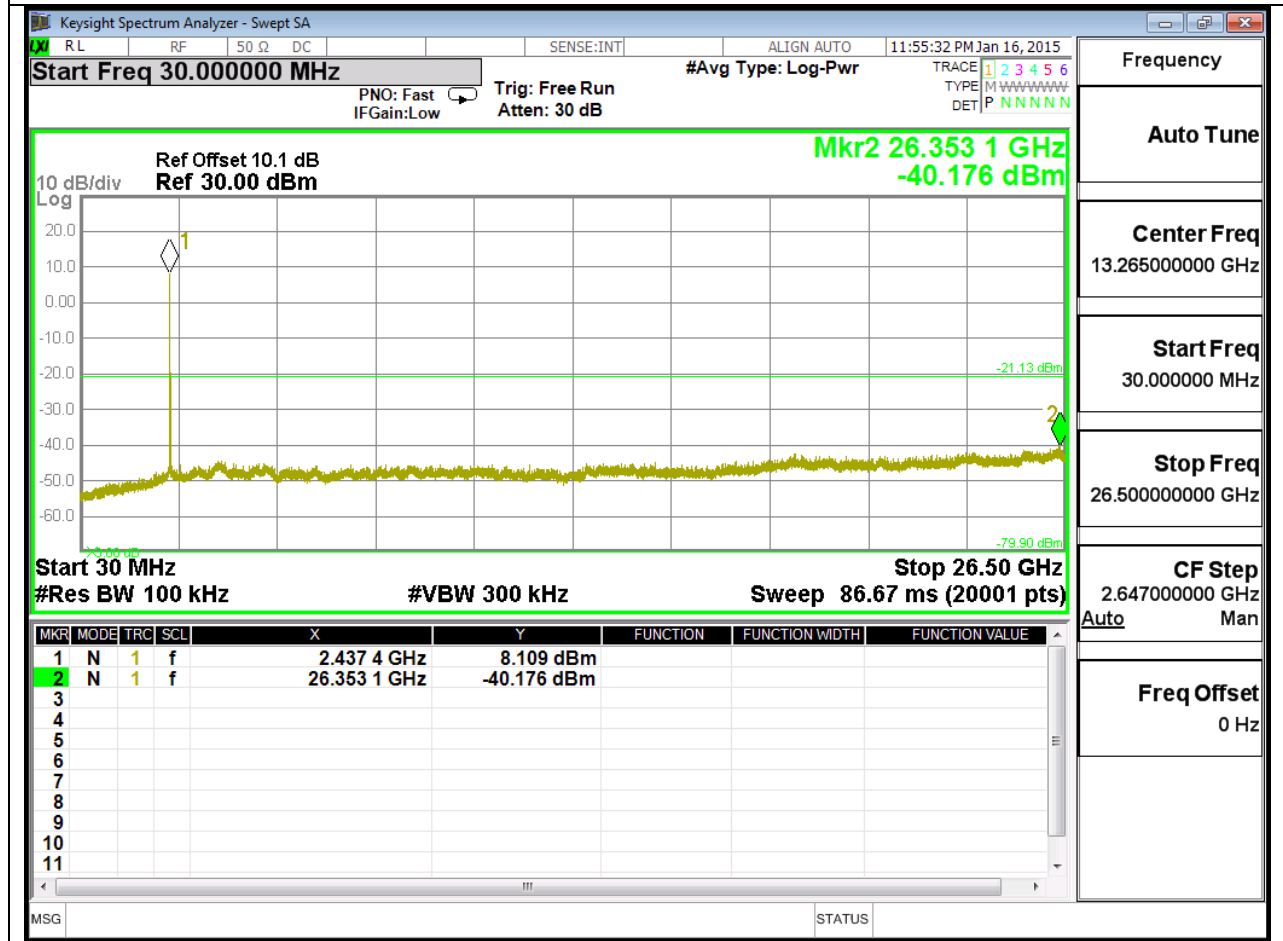
HIGH CHANNEL BANDEGE



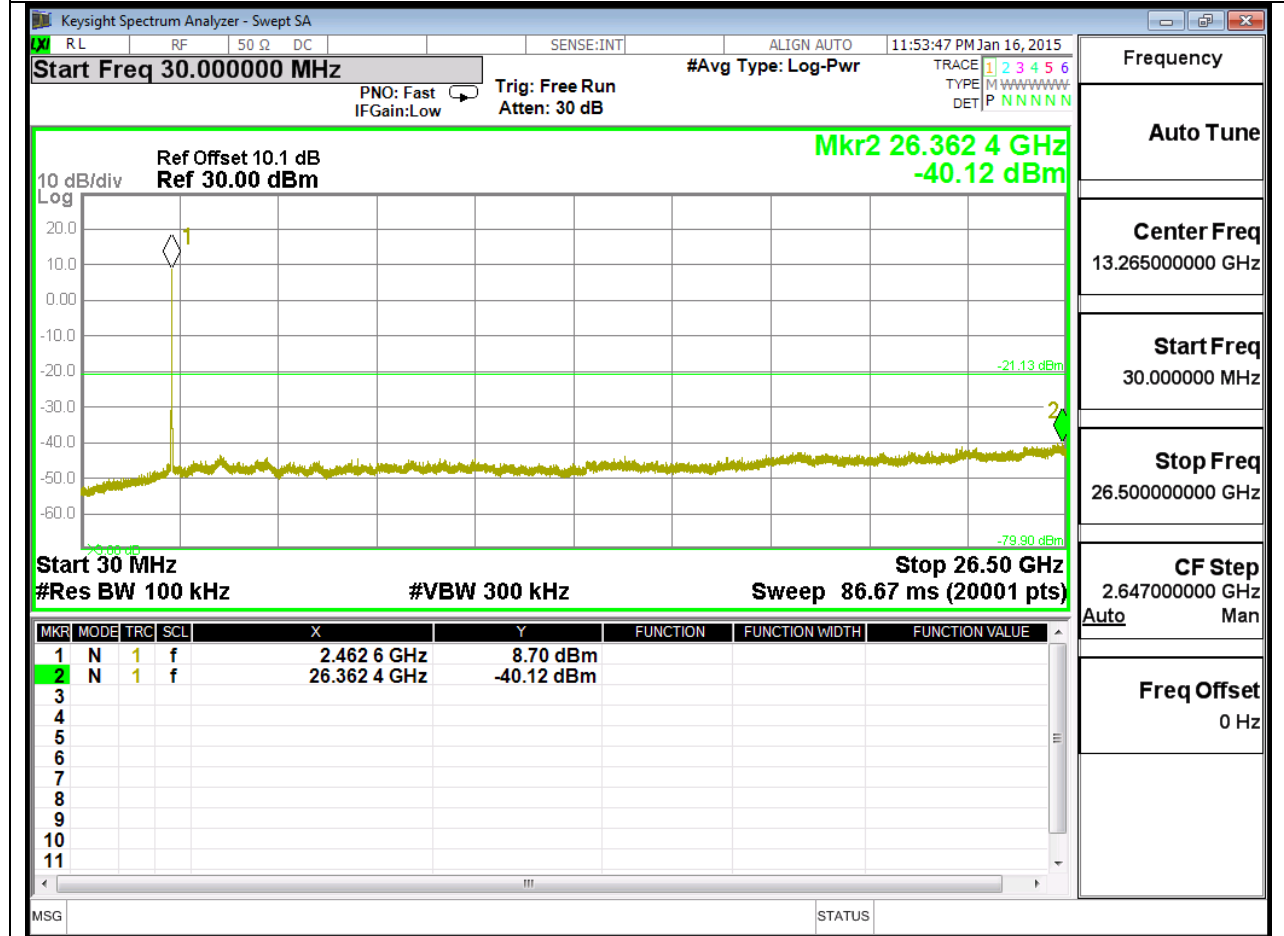
OUT-OF-BAND EMISSIONS



OUT OF BAND MID CH

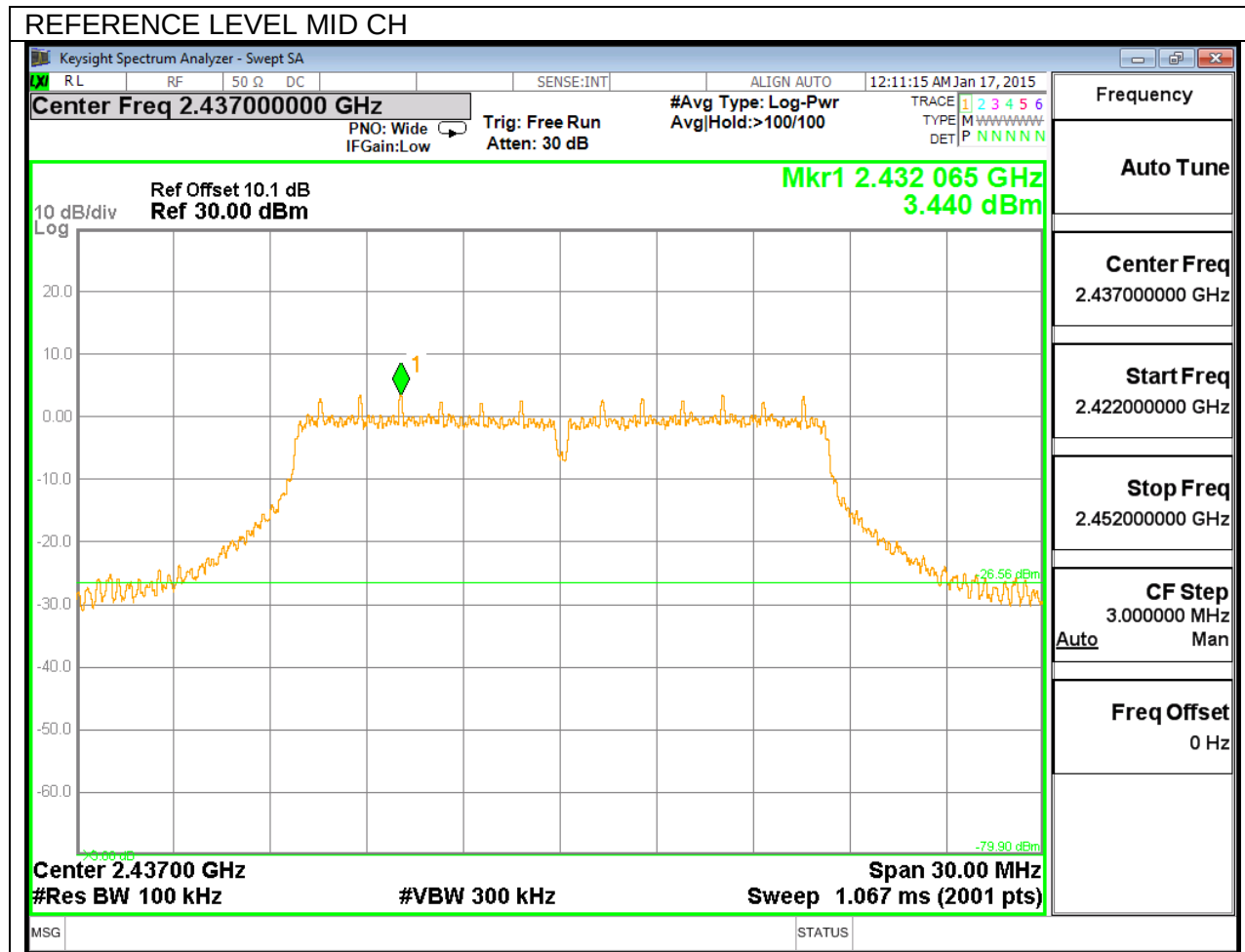


OUT OF BAND HIGH CH

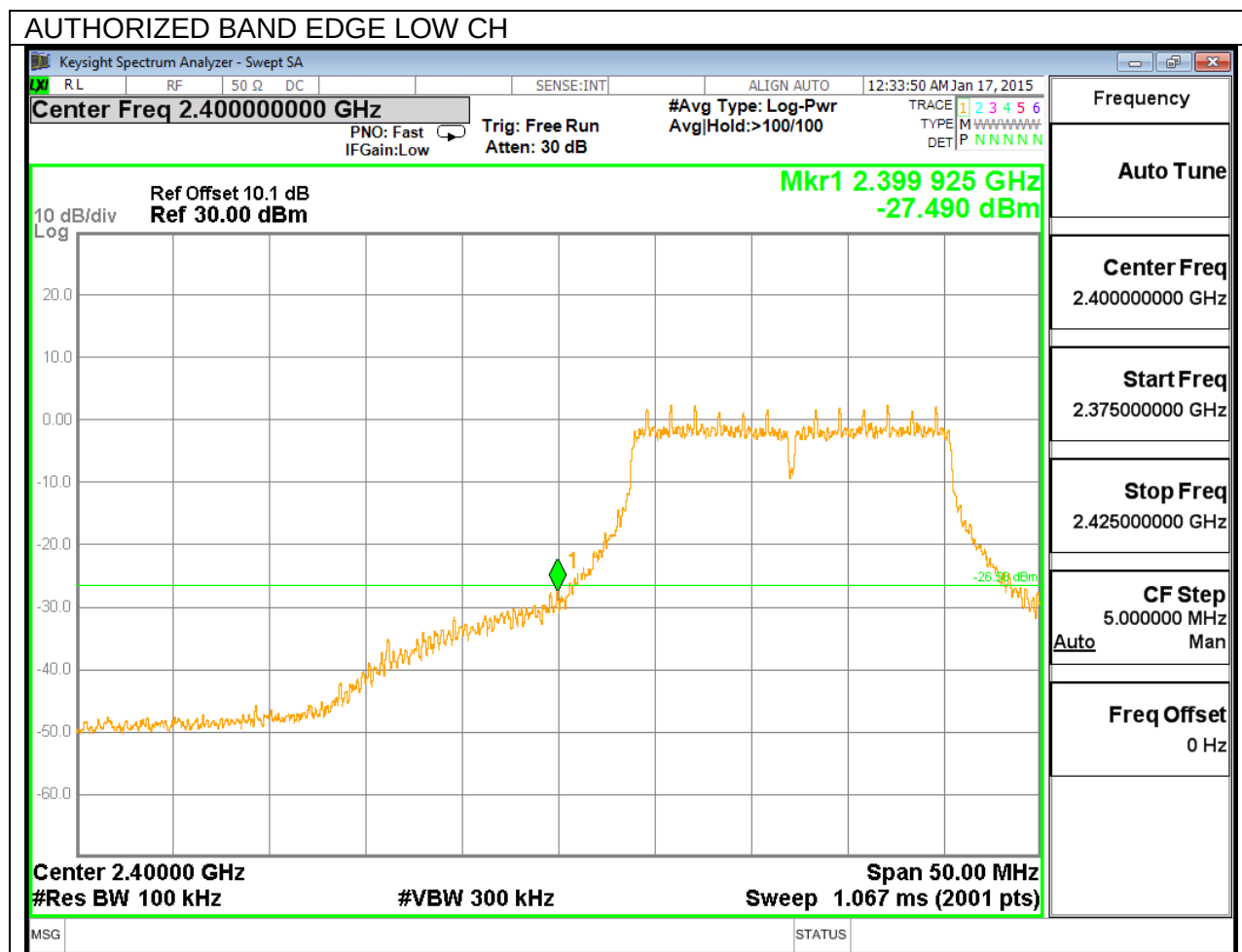


10.6.2. 802.11g MODE IN THE 2.4 GHz BAND

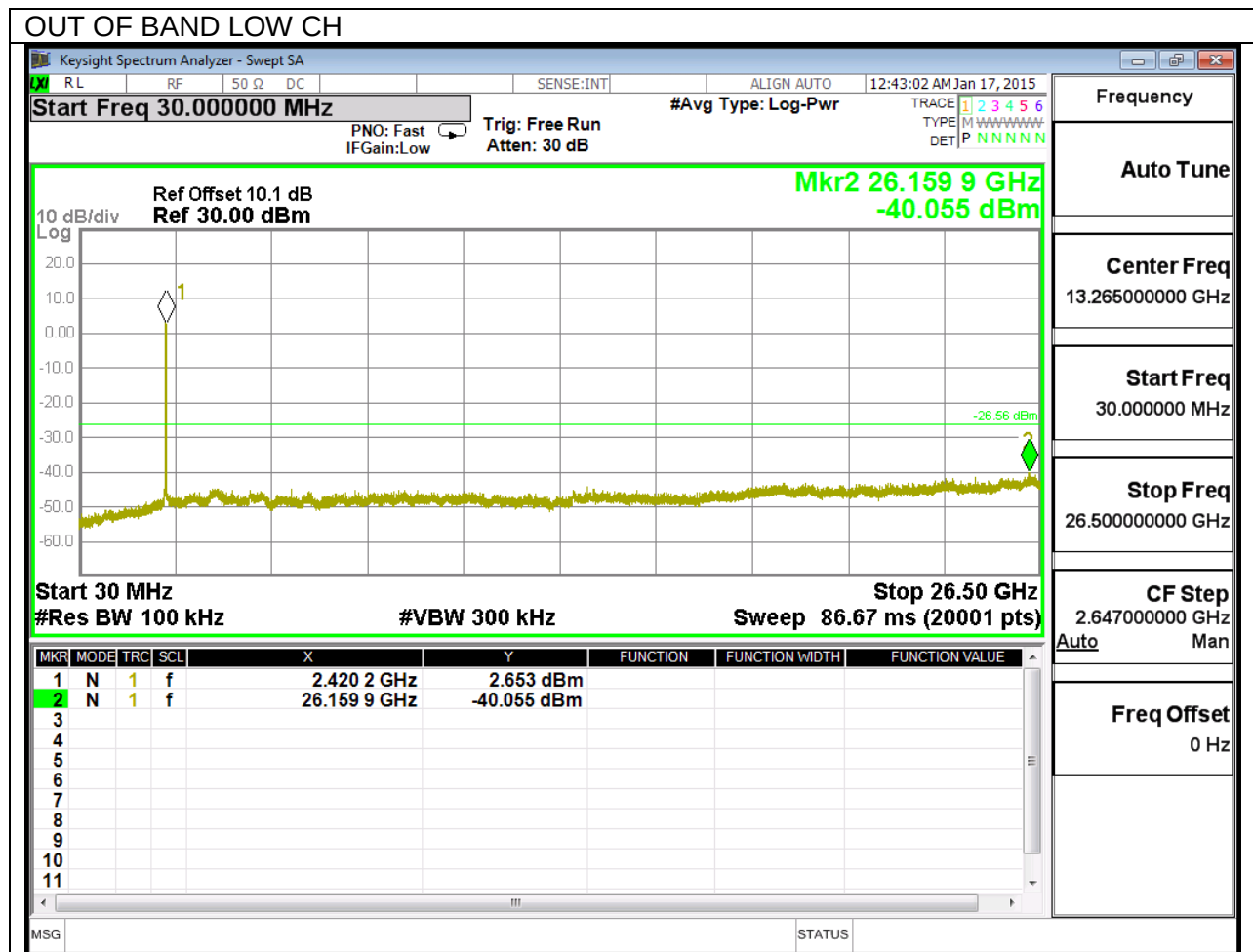
IN-BAND REFERENCE LEVEL



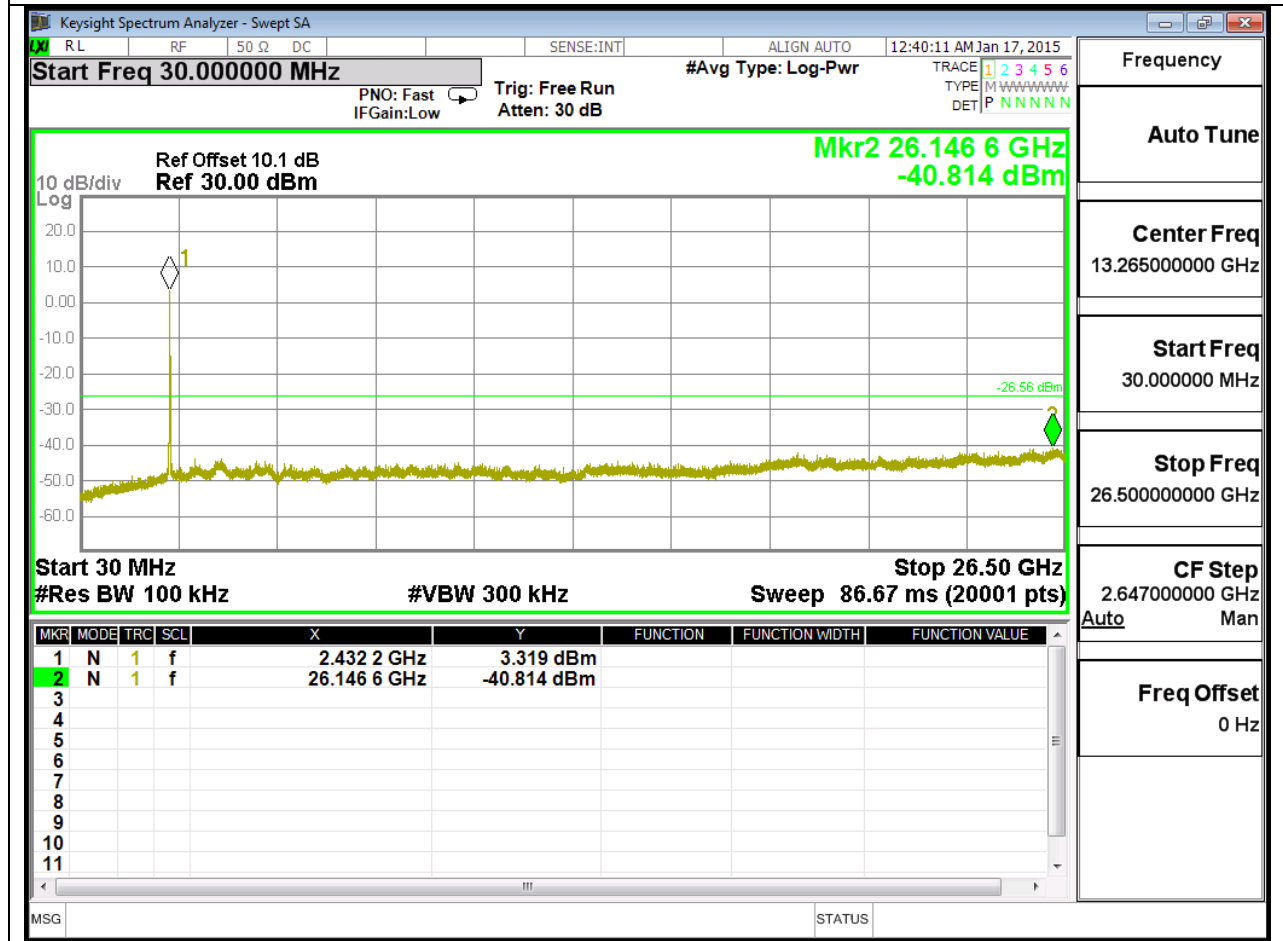
LOW CHANNEL BANDEDGE



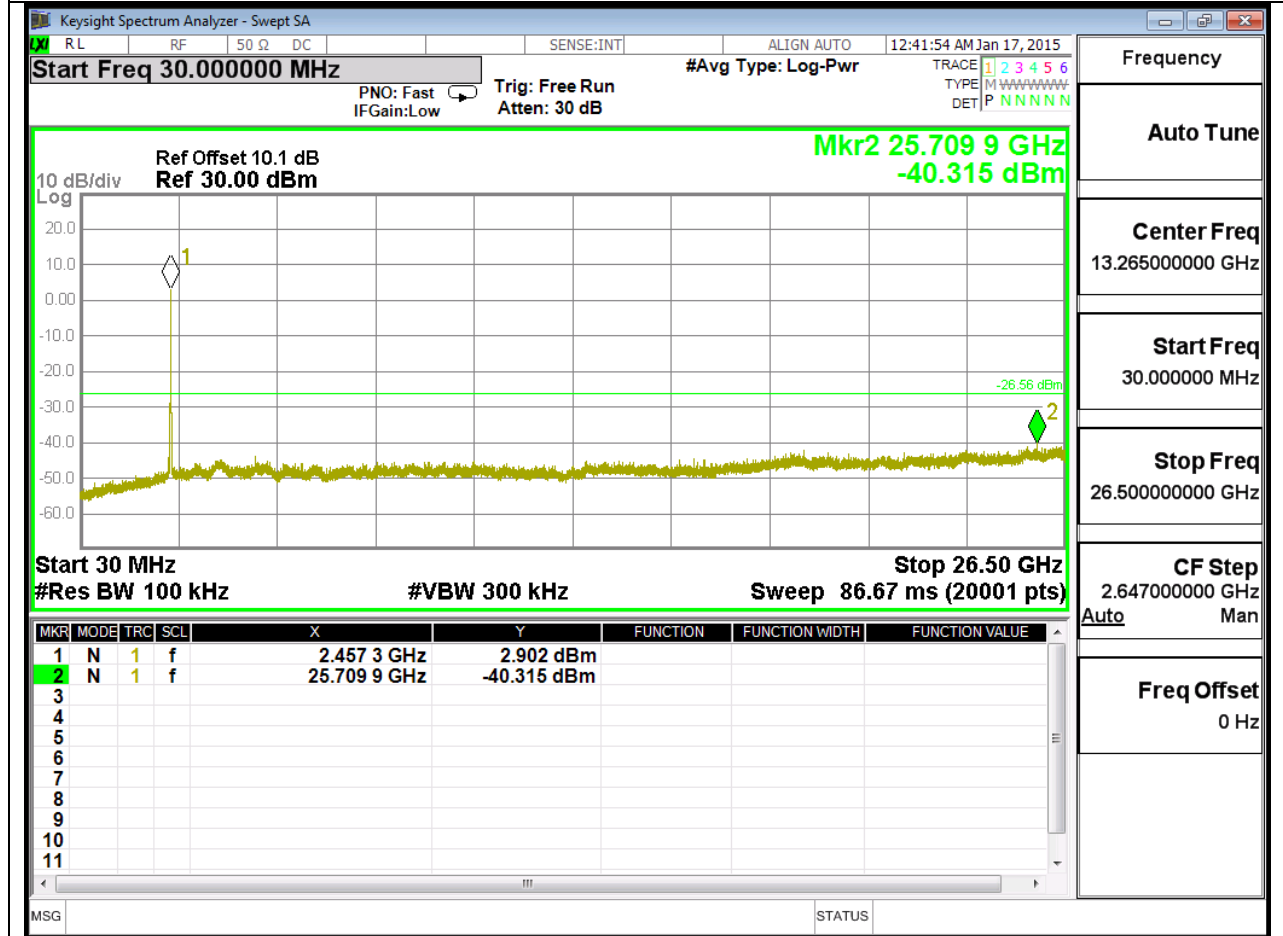
OUT-OF-BAND EMISSIONS



OUT OF BAND MID CH

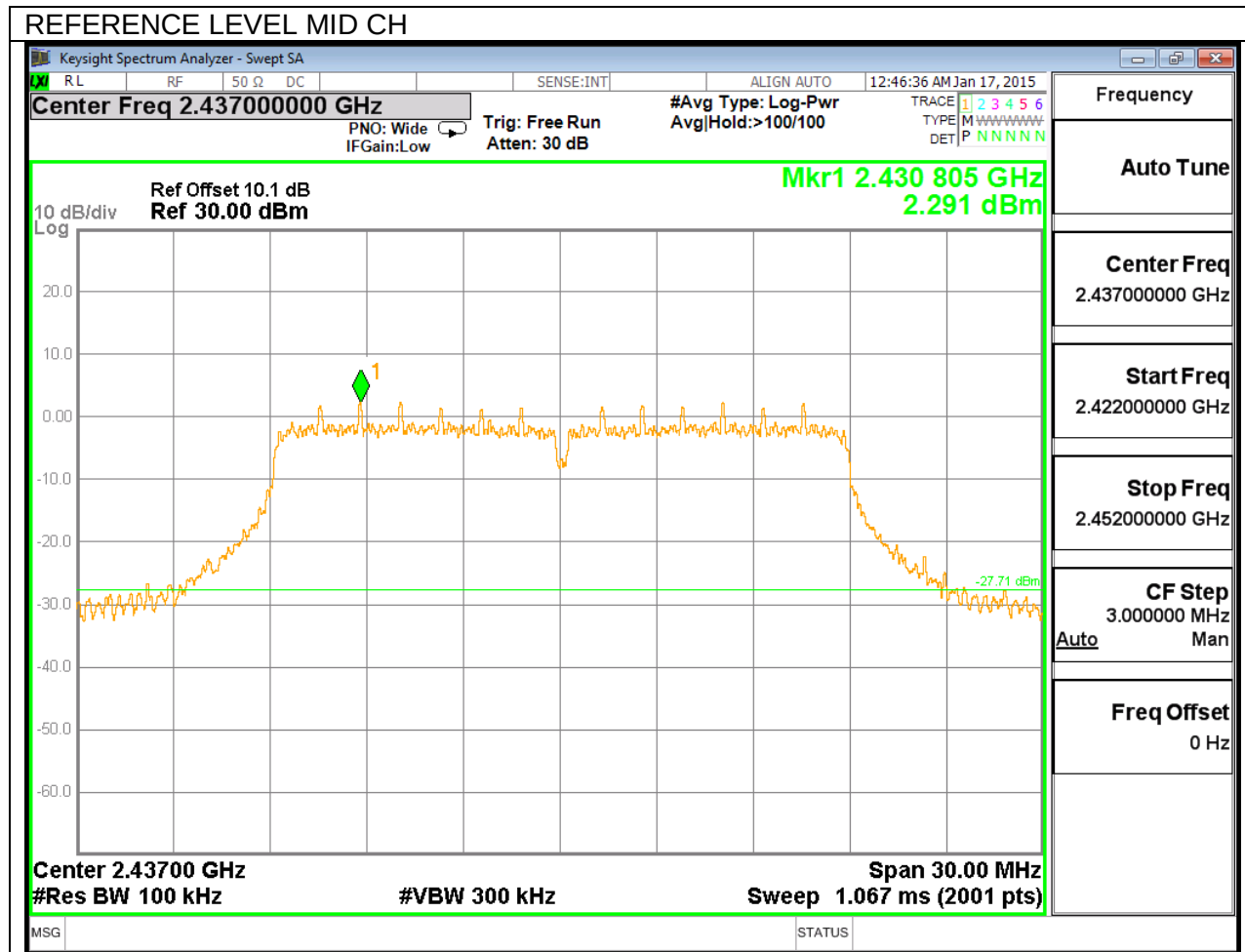


OUT OF BAND HIGH CH

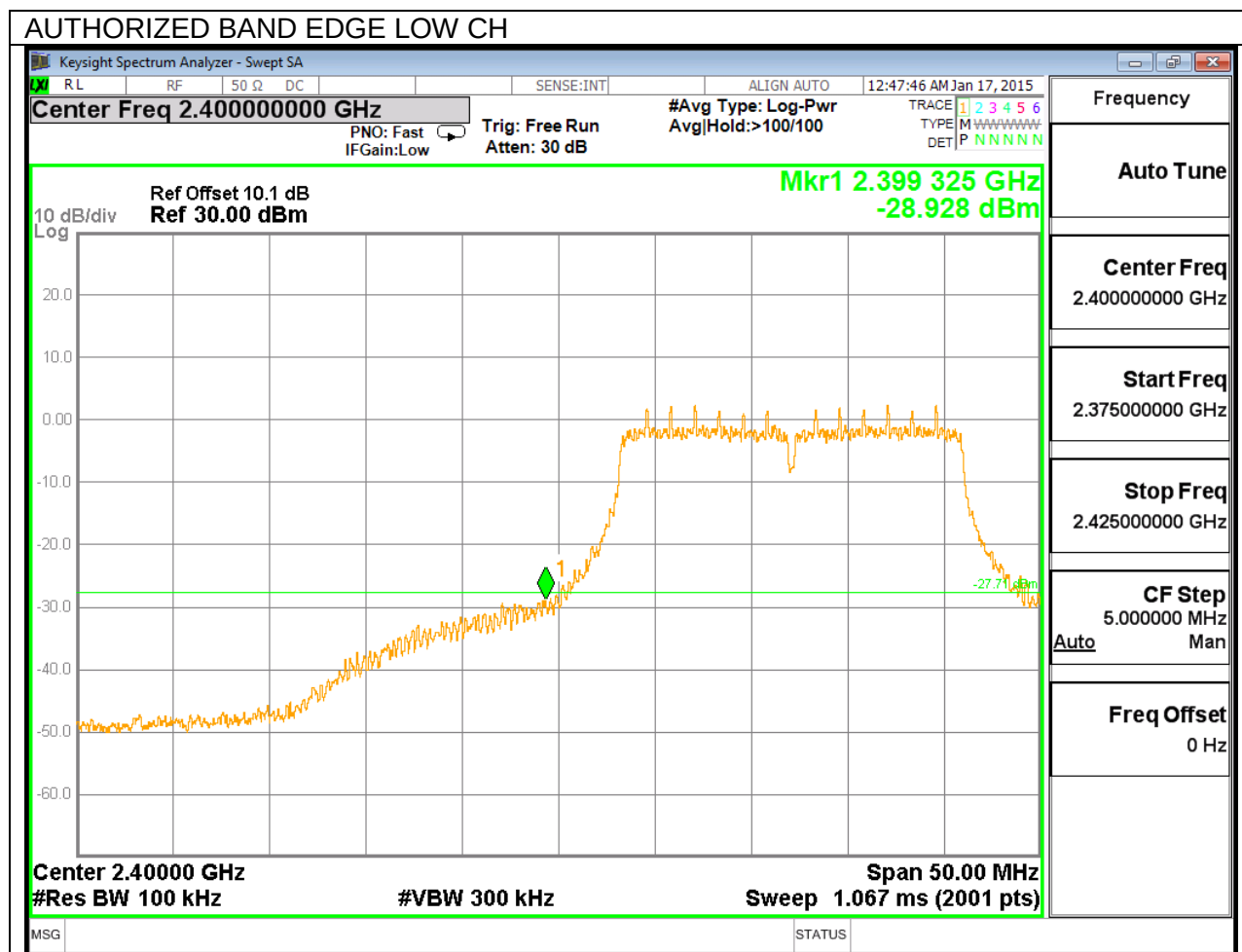


10.6.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

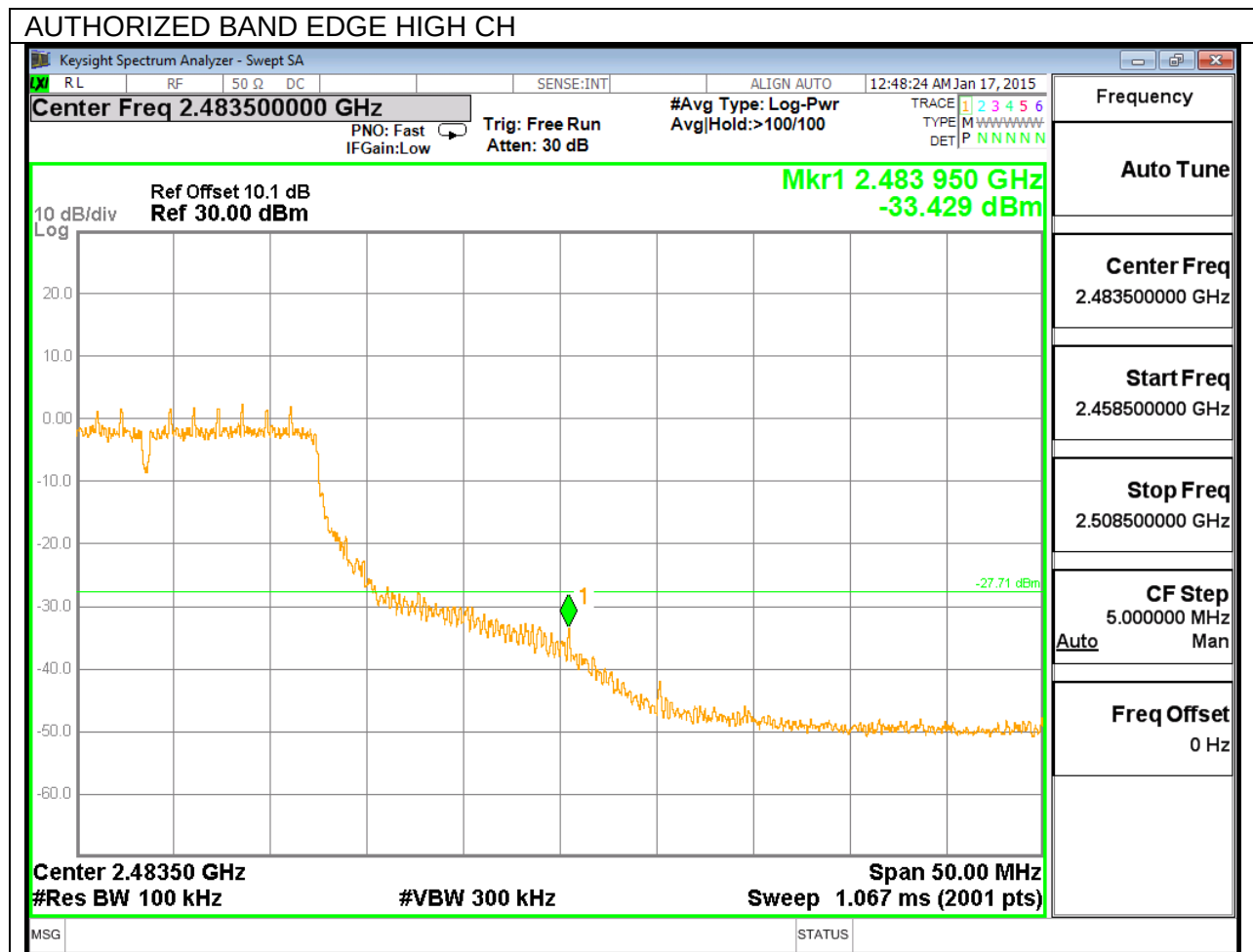
IN-BAND REFERENCE LEVEL



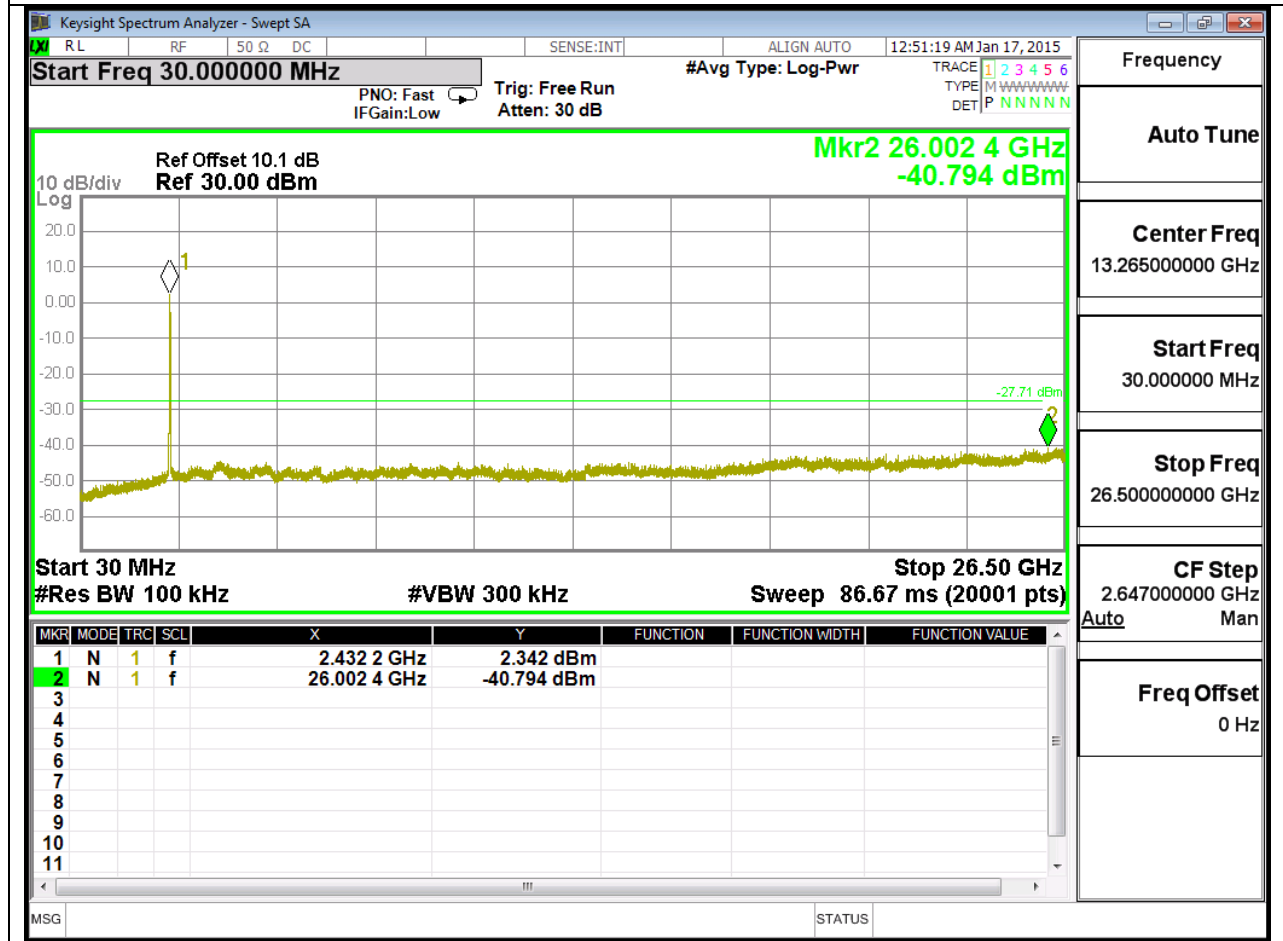
LOW CHANNEL BANDEDGE



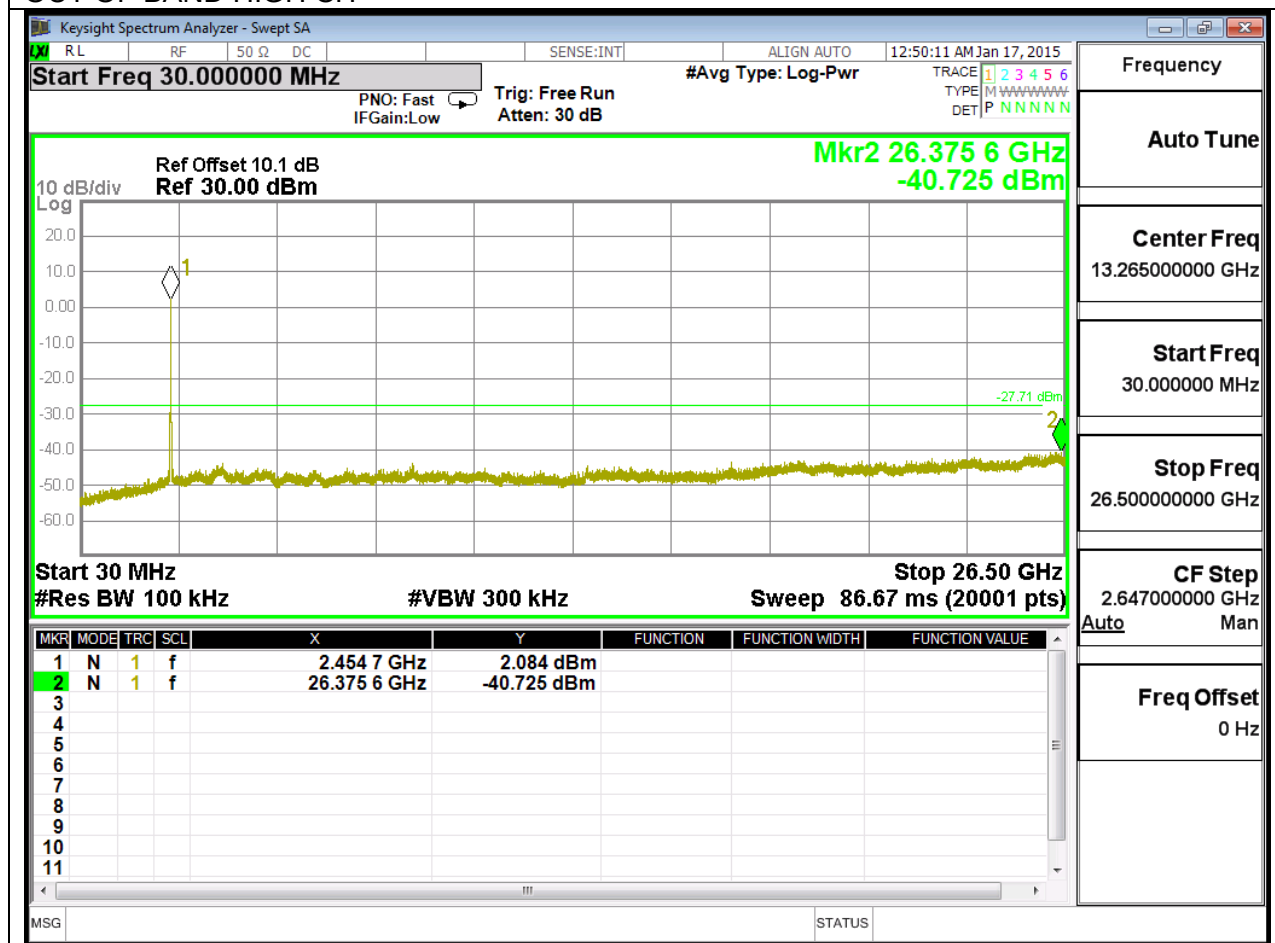
HIGH CHANNEL BANDEGE



OUT OF BAND MID CH



OUT OF BAND HIGH CH



11. RADIATED TEST RESULTS

11.1. 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= $10\log(1/x)$ For this sample B mode = 0dB (duty cycle >98%); G mode = 0.3dB; N mode = 0.32dB.

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

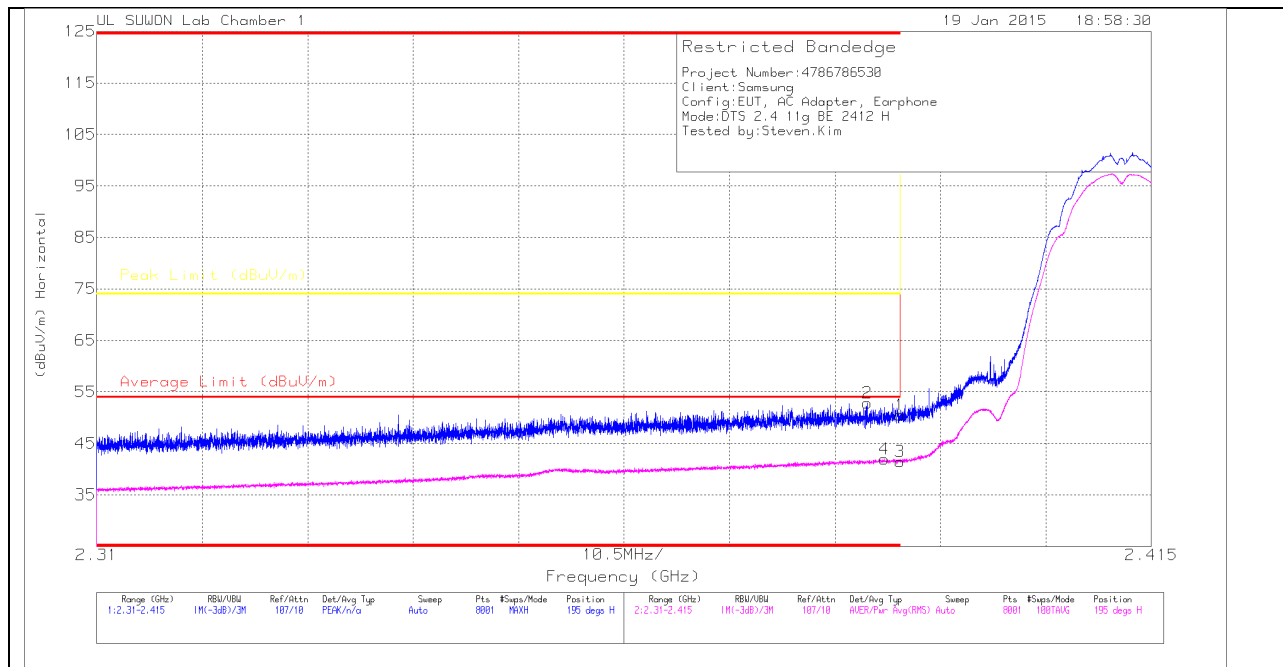
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

11.2. TRANSMITTER ABOVE 1 GHz

11.2.1. TX ABOVE 1 GHz 802.11b MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

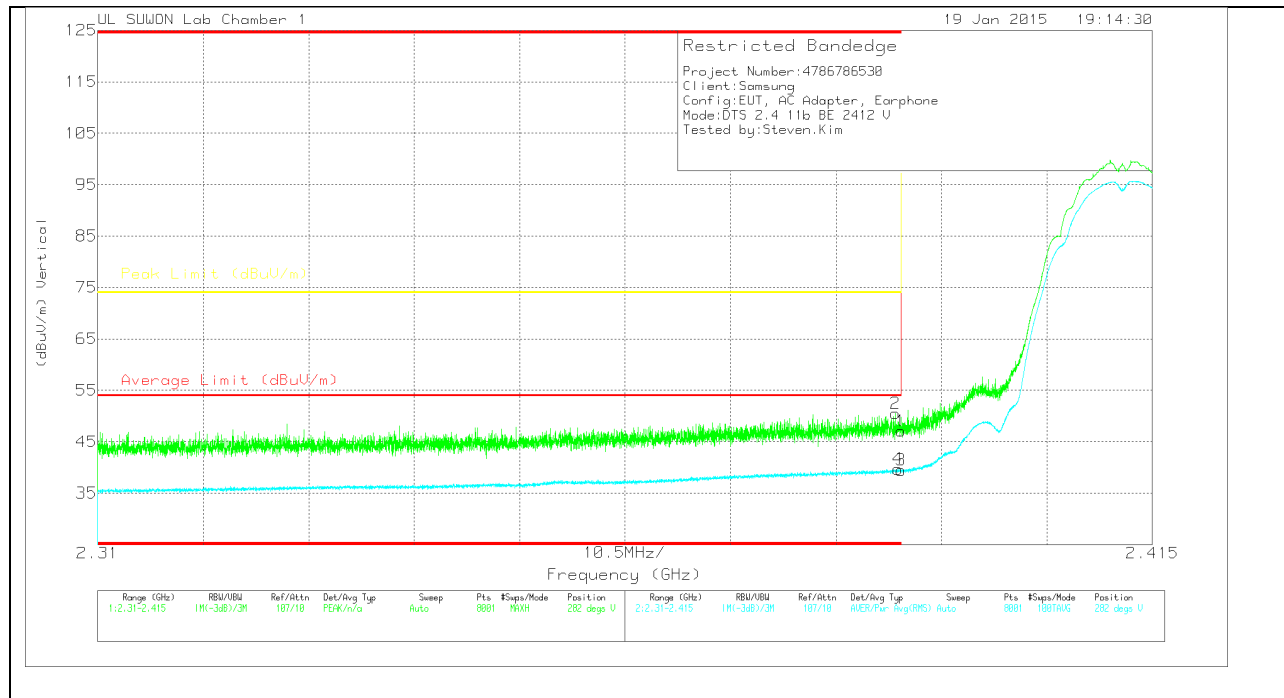
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	10dB_Path2	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	45.23	PK	27.9	-22.6	0	50.53	-	-	74	-23.47	195	308	H
2	* 2.387	47.51	PK	27.9	-22.6	0	52.81	-	-	74	-21.19	195	308	H
3	* 2.39	36.14	RMS	27.9	-22.6	.05	41.49	54	-12.51	-	-	195	308	H
4	* 2.388	36.67	RMS	27.9	-22.6	.05	42.02	54	-11.98	-	-	195	308	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	3115D Factor	10dB_Path2	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	41.8	PK	27.9	-22.6	0	47.1	-	-	74	-26.9	282	376	V
2	* 2.389	45.18	PK	27.9	-22.6	0	50.48	-	-	74	-23.52	282	376	V
3	* 2.39	34.16	RMS	27.9	-22.6	.05	39.51	54	-14.49	-	-	282	376	V
4	* 2.39	34.41	RMS	27.9	-22.6	.05	39.76	54	-14.24	-	-	282	376	V

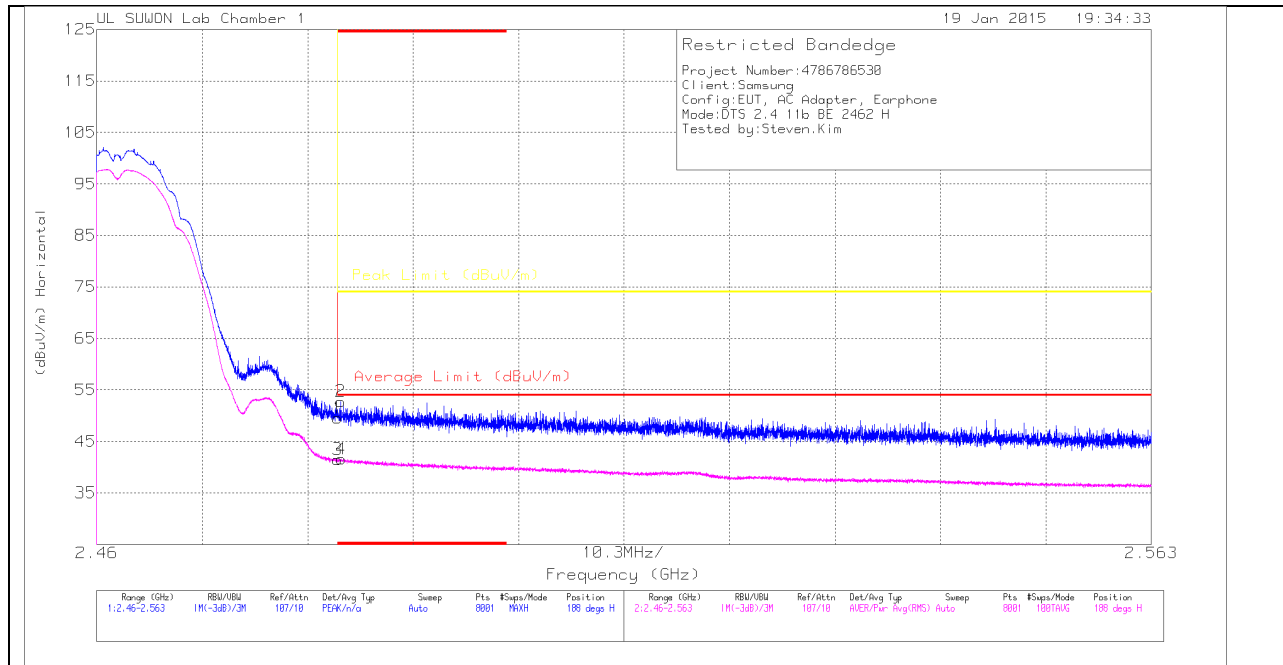
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

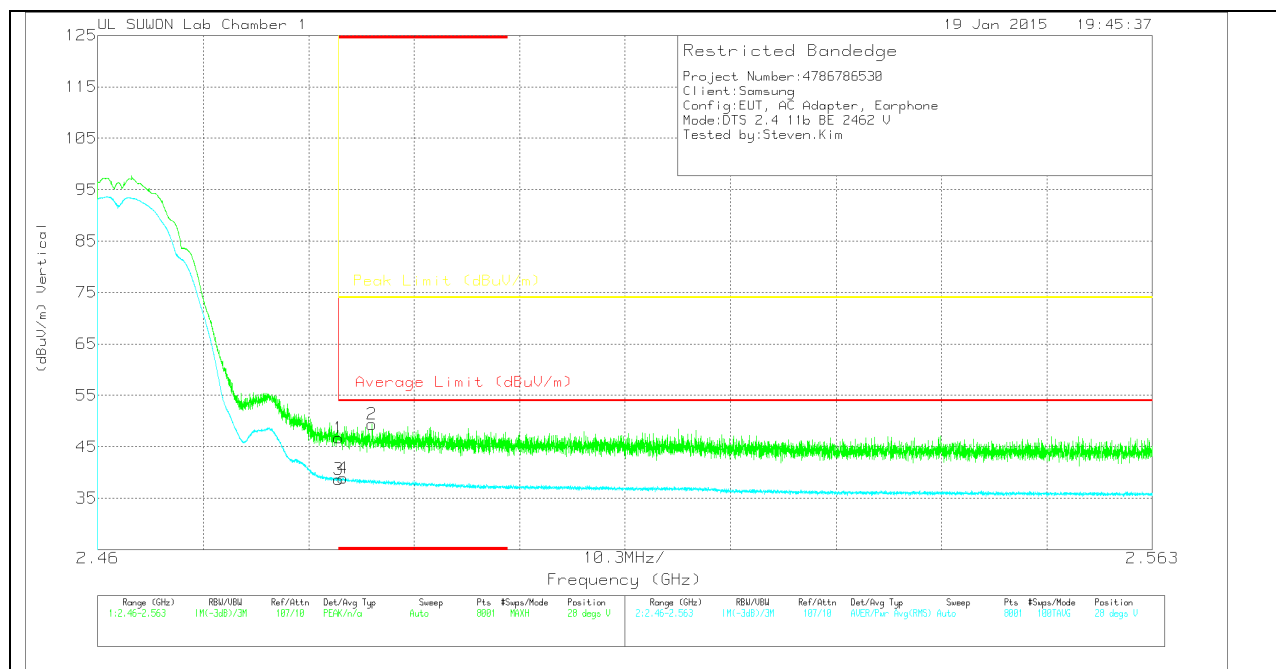
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	10dB_Path2	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	44.17	Pk	27.9	-22.5	0	49.57	-	-	74	-24.43	188	101	H
2	* 2.484	47.37	Pk	27.9	-22.5	0	52.77	-	-	74	-21.23	188	101	H
3	* 2.484	36.1	RMS	27.9	-22.5	.05	41.55	54	-12.45	-	-	188	101	H
4	* 2.484	36.2	RMS	27.9	-22.5	.05	41.65	54	-12.35	-	-	188	101	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	3115D Factor	10dB_Path2	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	41.32	PK	27.9	-22.5	0	46.72	-	-	74	-27.28	28	180	V
2	* 2.487	43.97	PK	27.9	-22.5	0	49.37	-	-	74	-24.63	28	180	V
3	* 2.484	33.31	RMS	27.9	-22.5	.05	38.76	54	-15.24	-	-	28	180	V
4	* 2.484	33.49	RMS	27.9	-22.5	.05	38.94	54	-15.06	-	-	28	180	V

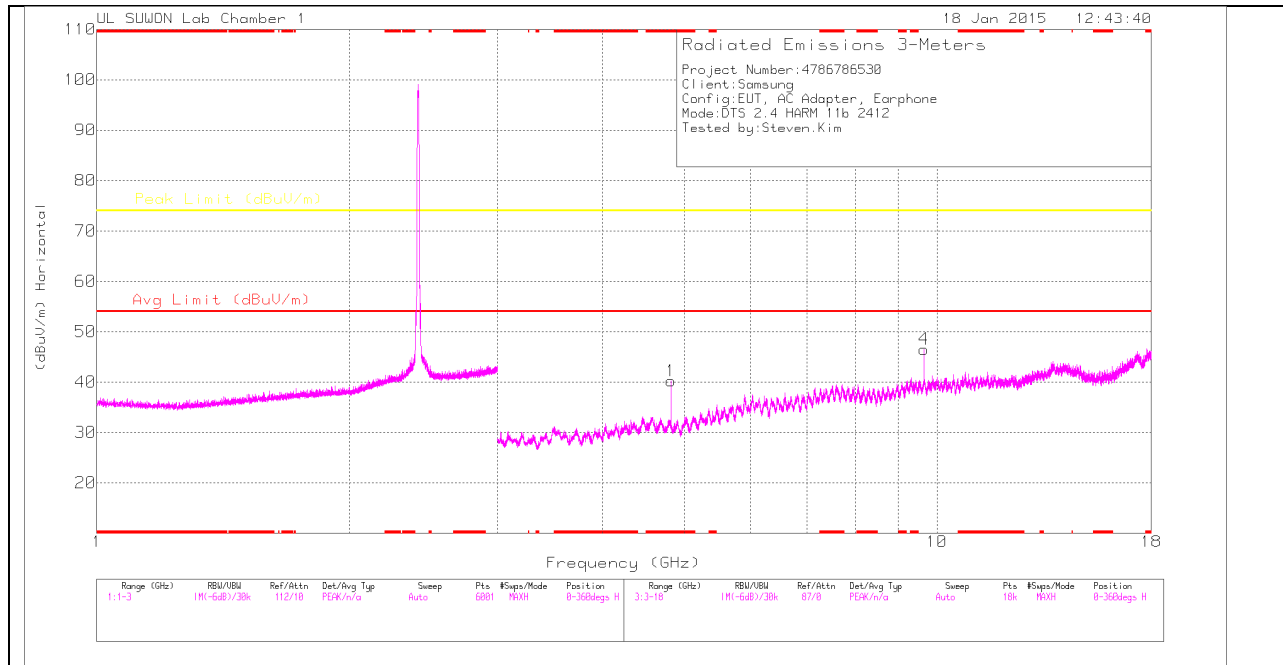
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

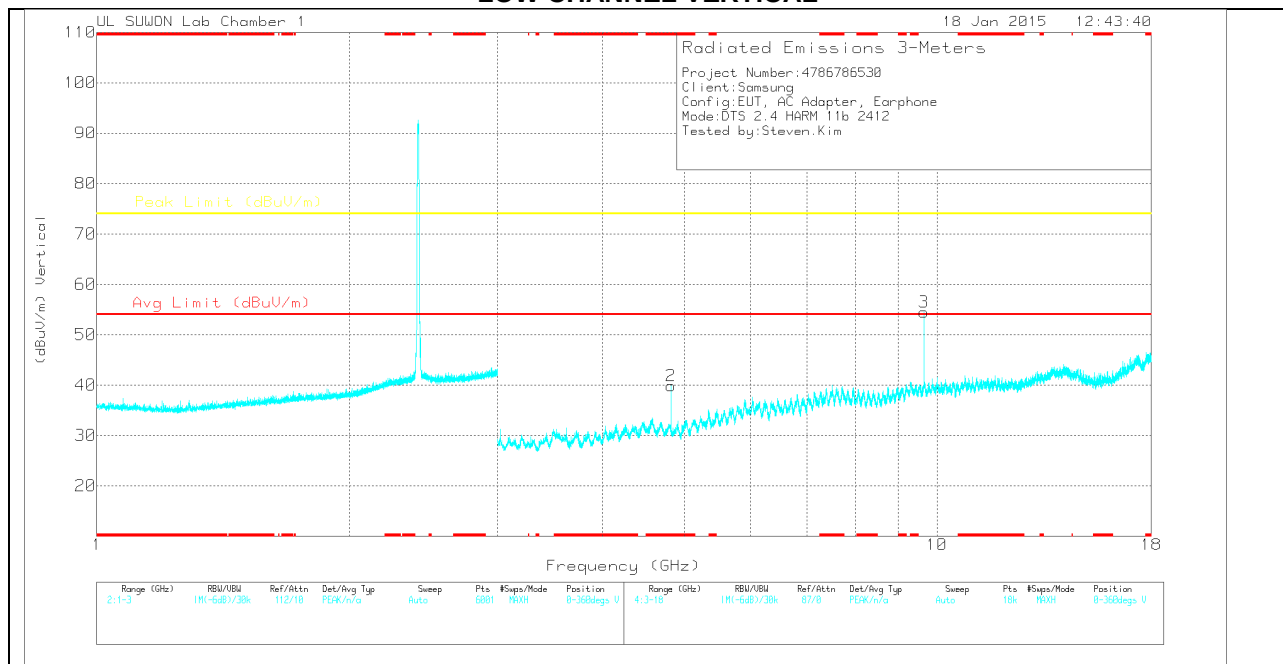
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



LOW CHANNEL VERTICAL



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

LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	3 GHz HPF_Path3	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	* 4.823	37.51	Avg	31.9	-29.2	-.05	40.16	54	-13.84	-	-	0-360	100	H
4	9.648	29.83	Avg	37.6	-20.9	-.05	46.48	-	-	-	-	0-360	200	H
2	* 4.824	37.13	Avg	31.9	-29.2	-.05	39.78	54	-14.22	-	-	0-360	100	V
3	9.648	37.75	Avg	37.6	-20.9	-.05	54.4	-	-	-	-	0-360	100	V

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

PK - Peak detector

Avg - Video bandwidth < Resolution bandwidth

Radiated Emissions

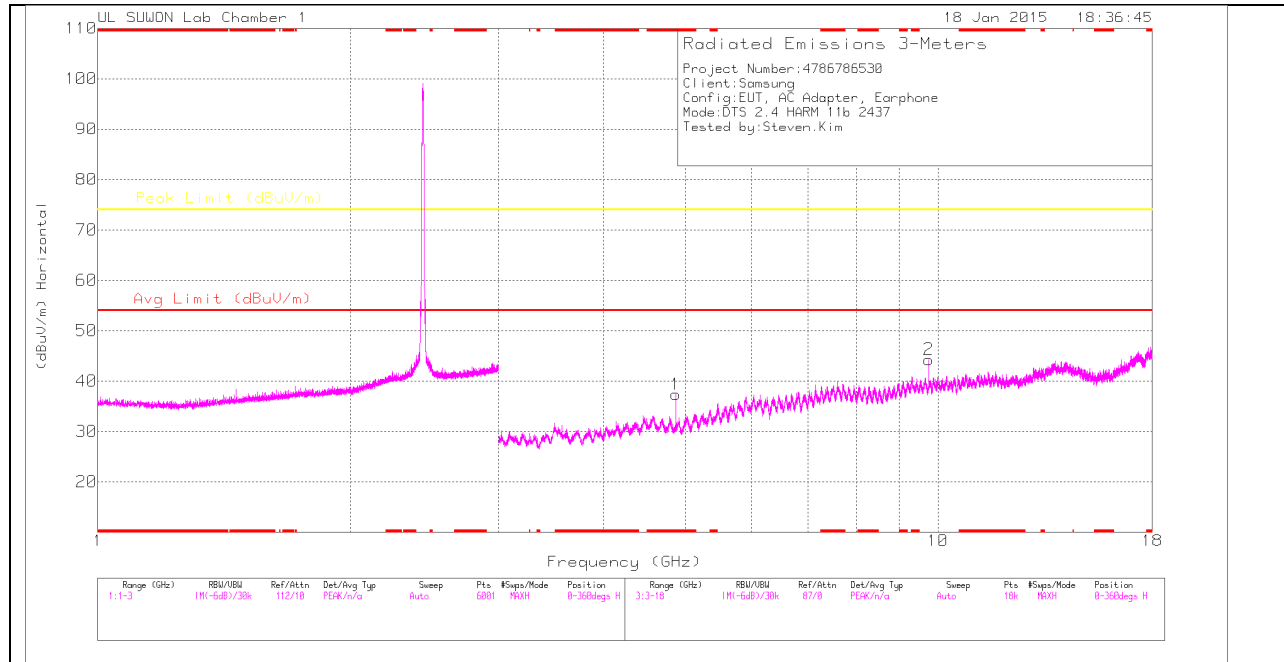
Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	3 GHz HPF_Path3	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.824	42.73	PK2	31.9	-29.2	0	45.43	-	-	74	-28.57	48	100	H
* 4.824	38.46	MAV1	31.9	-29.2	0	41.16	54	-12.84	-	-	48	100	H
9.648	37.18	PK2	37.6	-20.9	0	53.88	-	-	-	-	201	243	H
9.648	30.03	MAV1	37.6	-20.9	0	46.73	-	-	-	-	201	243	H
9.648	41.97	PK2	37.6	-20.9	0	58.67	-	-	-	-	181	100	V
9.648	37.88	MAV1	37.6	-20.9	0	54.58	-	-	-	-	181	100	V
* 4.824	44.69	PK2	31.9	-29.2	0	47.39	-	-	74	-26.61	37	337	V
* 4.824	38.66	MAV1	31.9	-29.2	0	41.36	54	-12.64	-	-	37	337	V

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

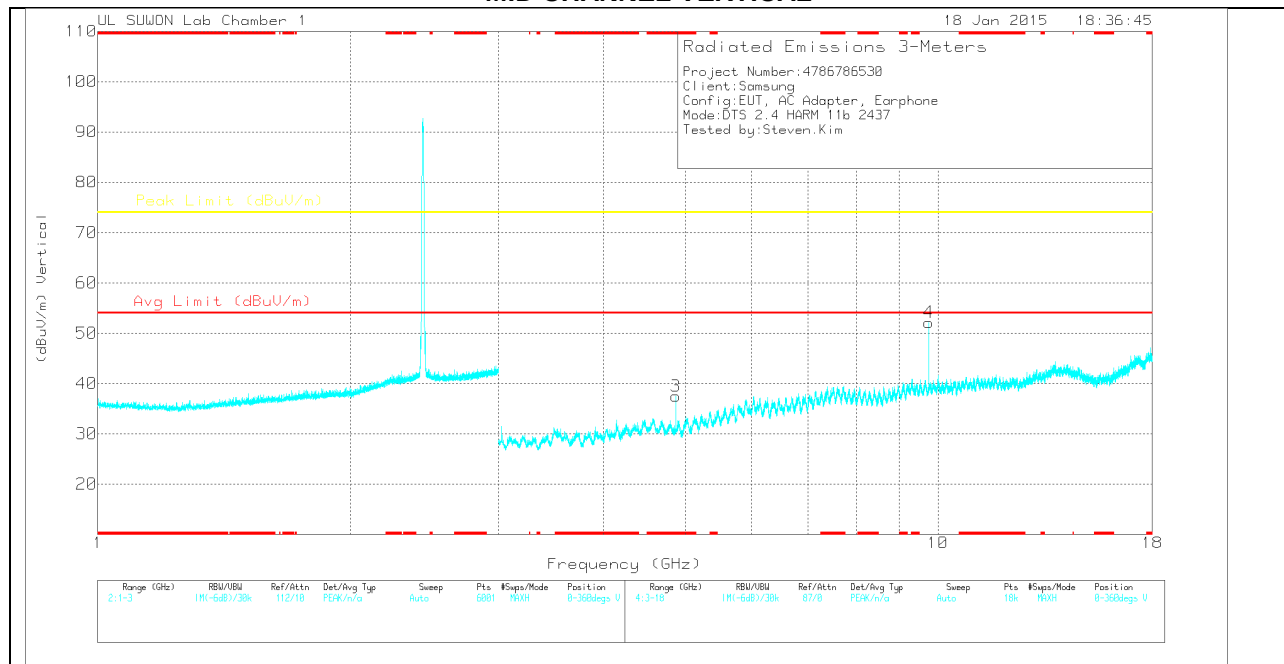
PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL HORIZONTAL



MID CHANNEL VERTICAL



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

MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	3 GHz HPF_Path3	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	* 4.873	34.44	Avg	32	-29.1	0	37.34	54	-16.66	-	-	0-360	100	H
2	9.748	28.57	Avg	37.6	-21.9	0	44.27	-	-	-	-	0-360	200	H
3	* 4.874	34.57	Avg	32	-29.1	0	37.47	54	-16.53	-	-	0-360	100	V
4	9.748	36.44	Avg	37.6	-21.9	0	52.14	-	-	-	-	0-360	100	V

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

PK - Peak detector

Avg - Video bandwidth < Resolution bandwidth

Radiated Emissions

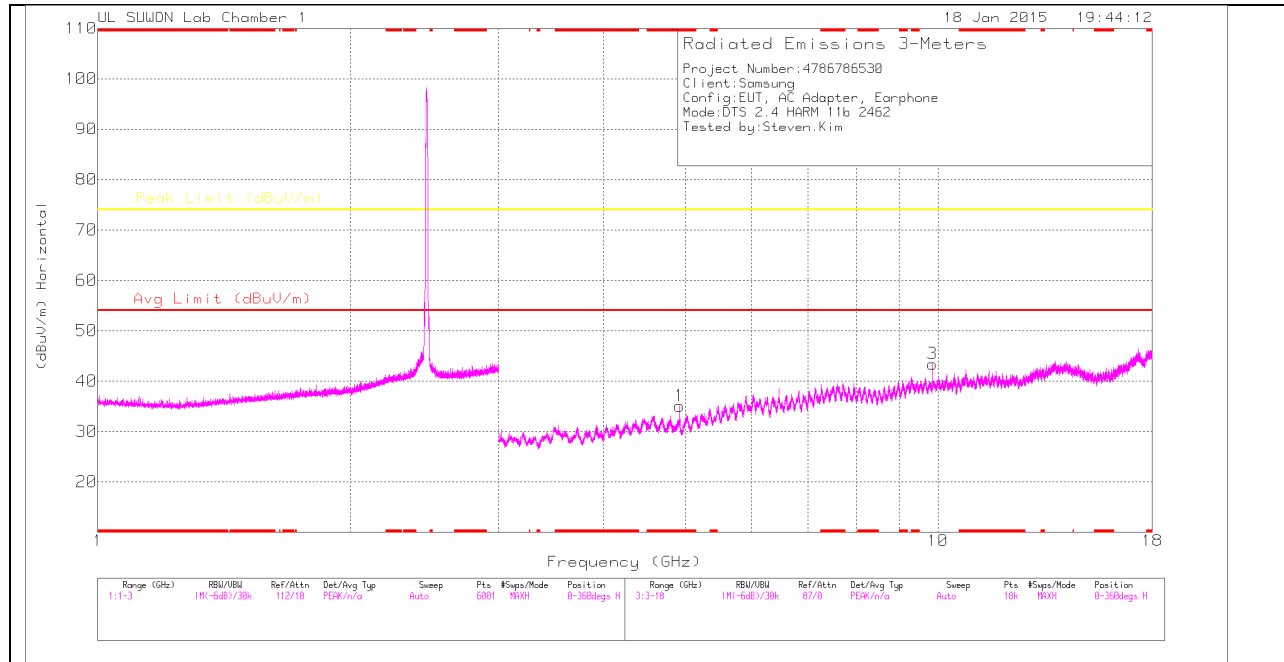
Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	3 GHz HPF_Path3	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.874	41.95	PK2	32	-29.1	0	44.85	-	-	74	-29.15	48	102	H
* 4.874	34.71	MAV1	32	-29.1	0	37.61	54	-16.39	-	-	48	102	H
9.748	36.47	PK2	37.6	-21.9	0	52.17	-	-	-	-	192	270	H
9.748	28.04	MAV1	37.6	-21.9	0	43.74	-	-	-	-	192	270	H
* 4.874	42.8	PK2	32	-29.1	0	45.7	-	-	74	-28.3	3	103	V
* 4.874	34.62	MAV1	32	-29.1	0	37.52	54	-16.48	-	-	3	103	V
9.748	40.39	PK2	37.6	-21.9	0	56.09	-	-	-	-	60	176	V
9.748	35.83	MAV1	37.6	-21.9	0	51.53	-	-	-	-	60	176	V

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

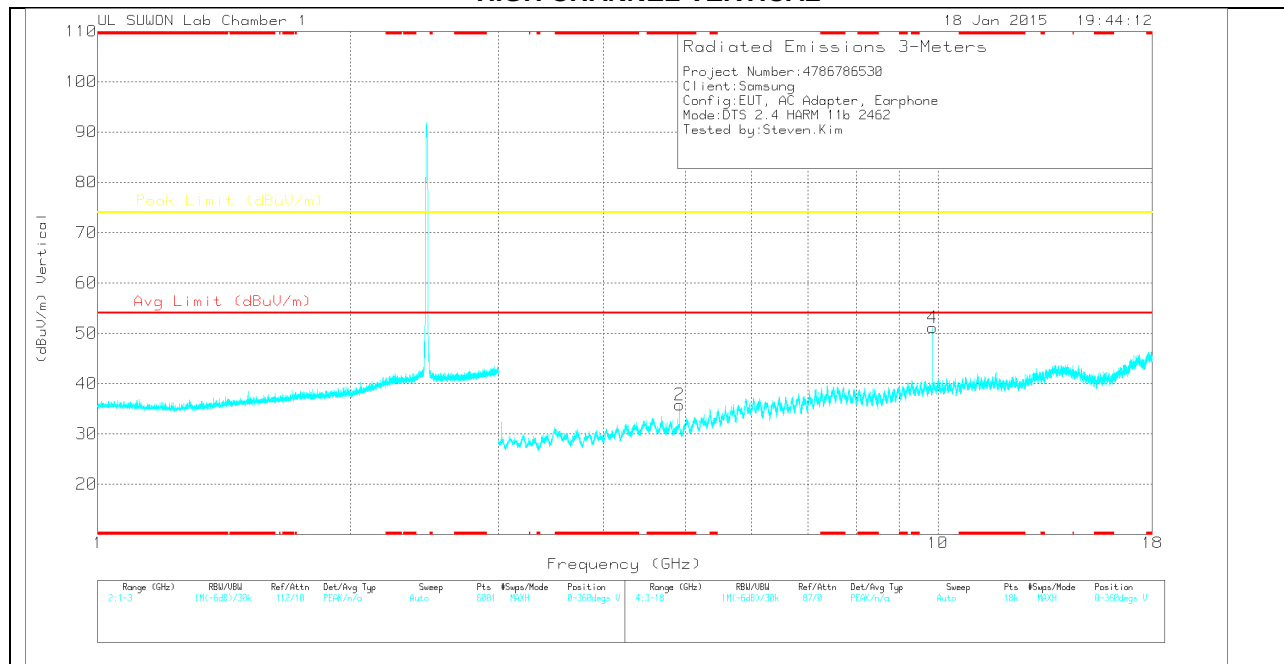
PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL HORIZONTAL



HIGH CHANNEL VERTICAL



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

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	3 GHz HPF_Path3	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	* 4.924	31.86	Avg	32.1	-28.9	0	35.06	54	-18.94	-	-	0-360	100	H
3	9.848	27.31	Avg	37.8	-21.7	0	43.41	-	-	-	-	0-360	200	H
2	* 4.924	32.57	Avg	32.1	-28.9	0	35.77	54	-18.23	-	-	0-360	100	V
4	9.848	35.04	Avg	37.8	-21.7	0	51.14	-	-	-	-	0-360	100	V

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

PK - Peak detector

Avg - Video bandwidth < Resolution bandwidth

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	3 GHz HPF_Path3	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	41.7	PK2	32.1	-28.9	0	44.9	-	-	74	-29.1	2	109	H
* 4.924	30.65	MAV1	32.1	-28.9	0	33.85	54	-20.15	-	-	2	109	H
9.848	33.63	PK2	37.8	-21.7	0	49.73	-	-	-	-	54	186	H
9.848	22.38	MAV1	37.8	-21.7	0	38.48	-	-	-	-	54	186	H
* 4.924	39.11	PK2	32.1	-28.9	0	42.31	-	-	74	-31.69	150	142	V
* 4.924	28.88	MAV1	32.1	-28.9	0	32.08	54	-21.92	-	-	150	142	V
9.848	39.18	PK2	37.8	-21.7	0	55.28	-	-	-	-	58	127	V
9.848	34.65	MAV1	37.8	-21.7	0	50.75	-	-	-	-	58	127	V

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

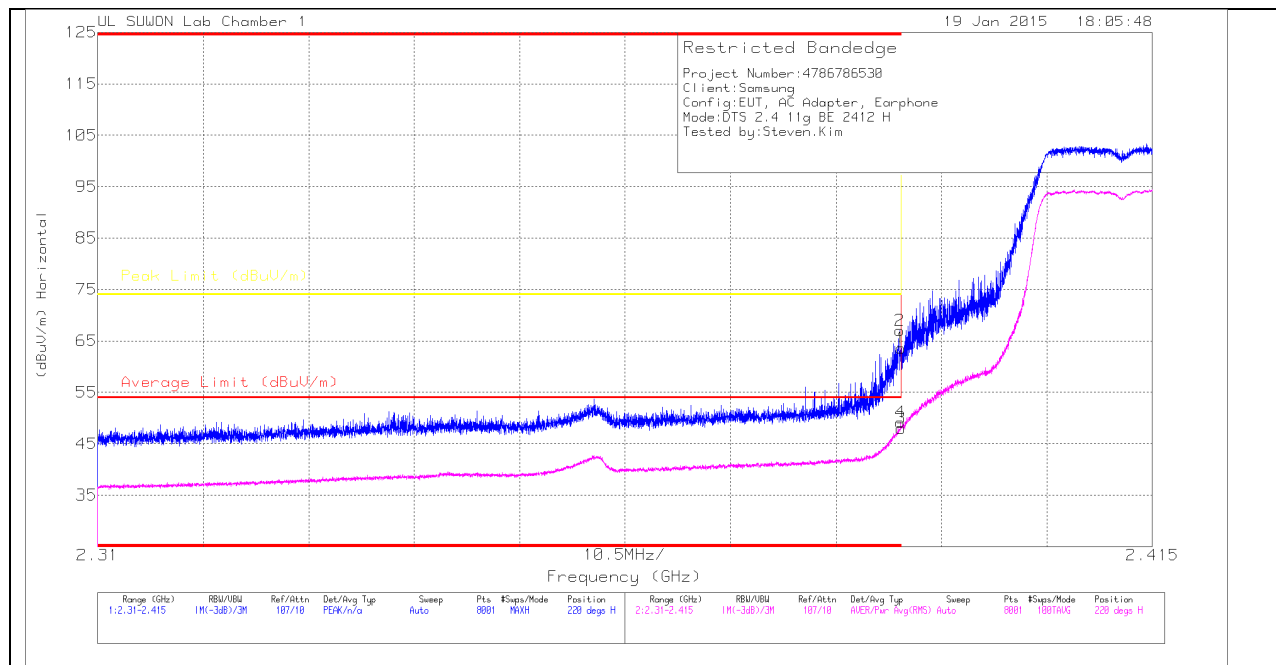
PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

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

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

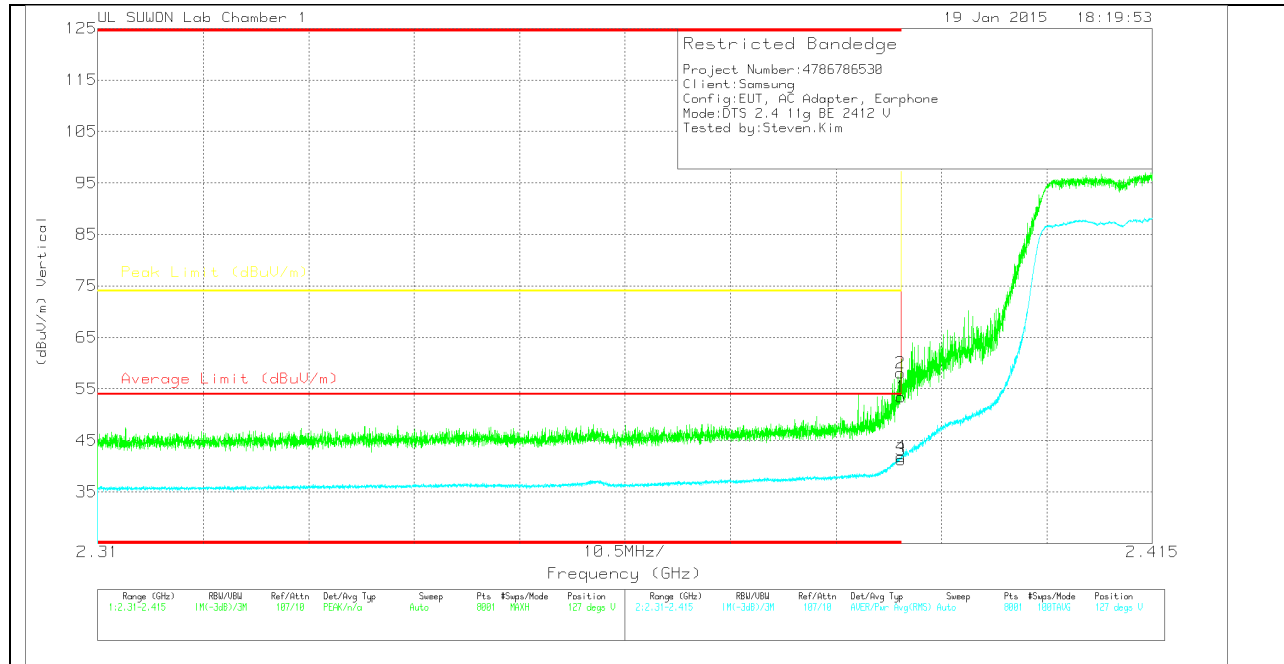
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	10dB_Path2	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	58.27	PK	27.9	-22.6	0	63.57	-	-	74	-10.43	220	101	H
2	* 2.39	61.69	PK	27.9	-22.6	0	66.99	-	-	74	-7.01	220	101	H
3	* 2.39	42.72	RMS	27.9	-22.6	0	48.02	54	-5.98	-	-	220	101	H
4	* 2.39	43.89	RMS	27.9	-22.6	0	49.19	54	-4.81	-	-	220	101	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	3115D Factor	10dB_Path2	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	48.14	PK	27.9	-22.6	0	53.44	-	-	74	-20.56	127	101	V
2	* 2.39	52.8	PK	27.9	-22.6	0	58.1	-	-	74	-15.9	127	101	V
3	* 2.39	35.95	RMS	27.9	-22.6	.3	41.55	54	-12.45	-	-	127	101	V
4	* 2.39	36.51	RMS	27.9	-22.6	.3	42.11	54	-11.89	-	-	127	101	V

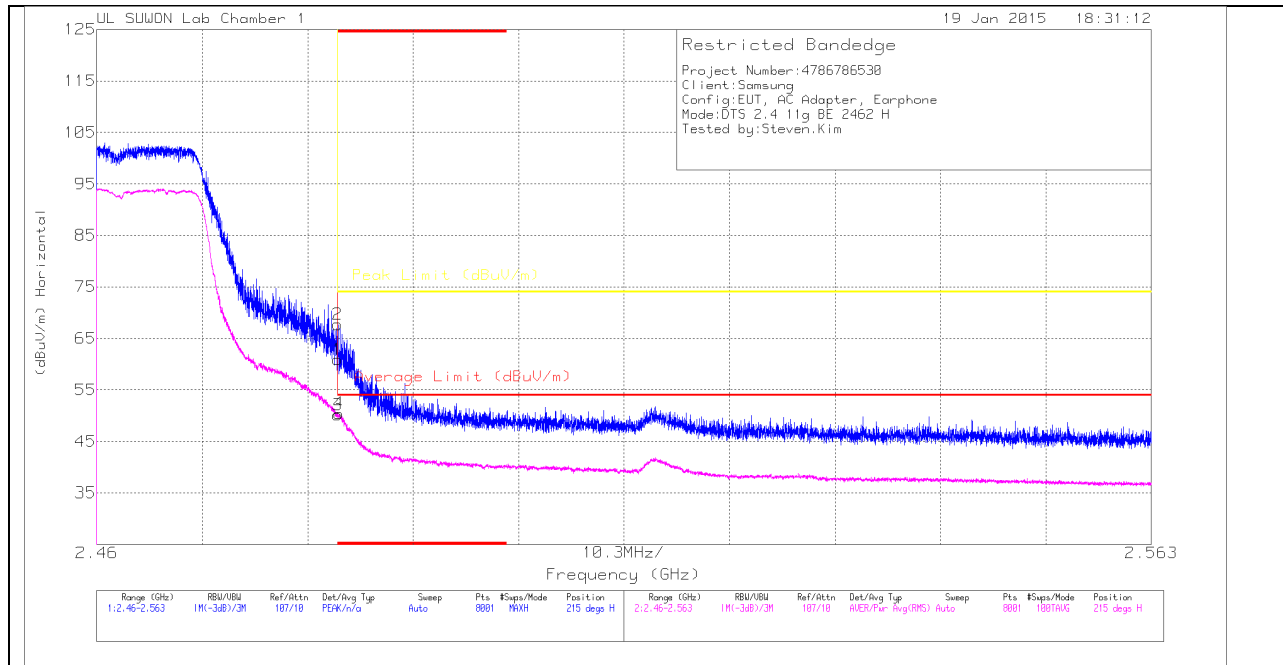
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

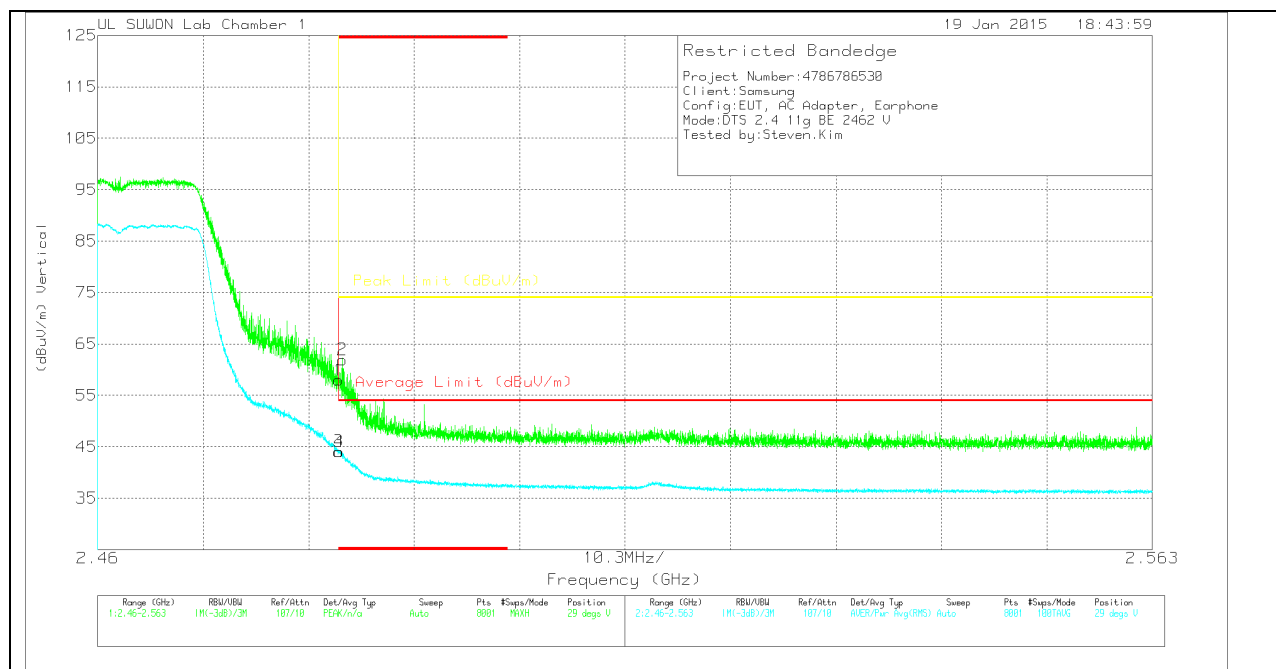
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	10dB_Path2	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	55.48	Pk	27.9	-22.5	0	60.88	-	-	74	-13.12	215	100	H
2	* 2.484	62.31	Pk	27.9	-22.5	0	67.71	-	-	74	-6.29	215	100	H
3	* 2.484	44.75	RMS	27.9	-22.5	.3	50.45	54	-3.55	-	-	215	100	H
4	* 2.484	45.03	RMS	27.9	-22.5	.3	50.73	54	-3.27	-	-	215	100	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	3115D Factor	10dB_Path2	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	52.58	PK	27.9	-22.5	0	57.98	-	-	74	-16.02	29	183	V
2	* 2.484	56.53	PK	27.9	-22.5	0	61.93	-	-	74	-12.07	29	183	V
3	* 2.484	38.69	RMS	27.9	-22.5	.3	44.39	54	-9.61	-	-	29	183	V
4	* 2.484	38.6	RMS	27.9	-22.5	.3	44.3	54	-9.7	-	-	29	183	V

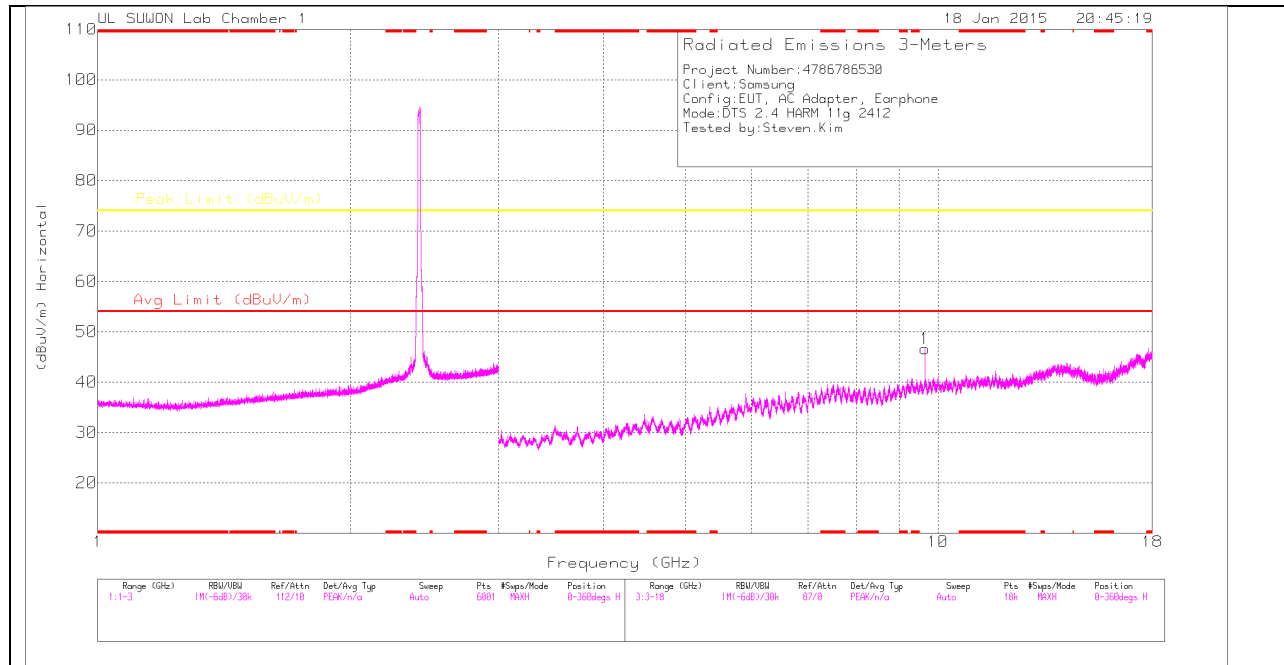
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

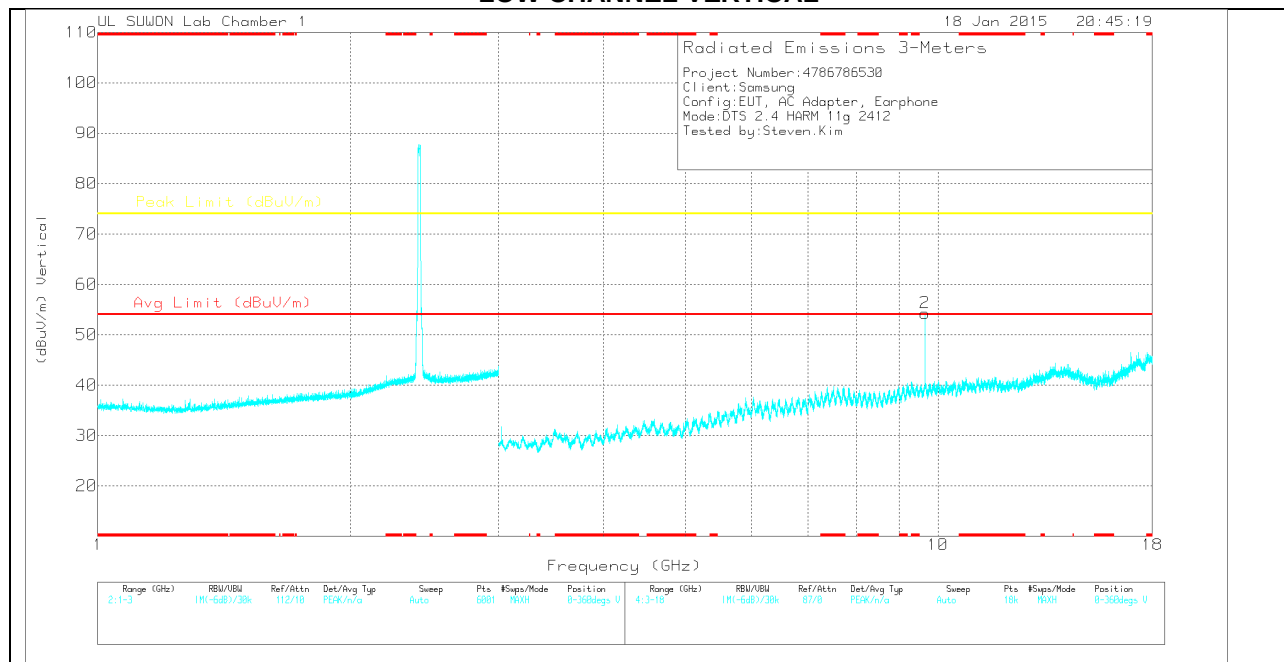
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



LOW CHANNEL VERTICAL



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

LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	3 GHz HPF_Path3	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	9.648	29.88	Avg	37.6	-20.9	0	46.58	-	-	-	-	0-360	200	H
2	9.648	37.58	Avg	37.6	-20.9	0	54.28	-	-	-	-	0-360	100	V

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

PK - Peak detector

Avg - Video bandwidth < Resolution bandwidth

Radiated Emissions

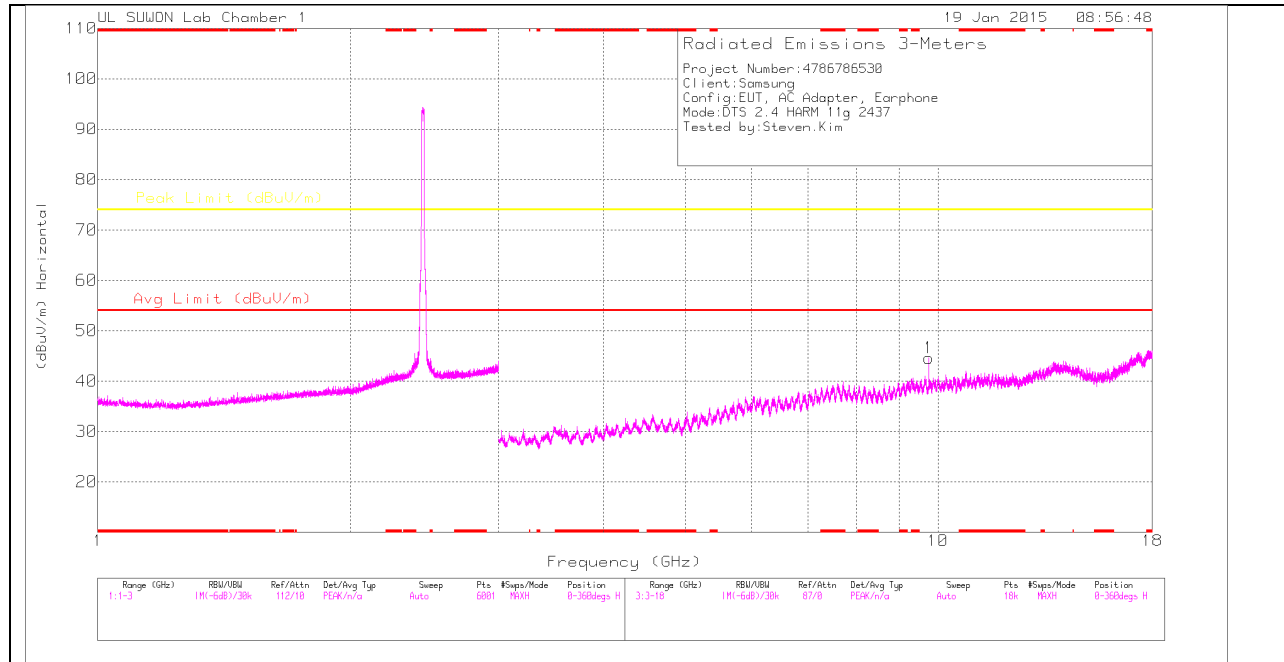
Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	3 GHz HPF_Path3	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
9.648	38.21	PK2	37.6	-20.9	0	54.91	-	-	-	-	197	245	H
9.648	31.59	MAV1	37.6	-20.9	0	48.29	-	-	-	-	197	245	H
9.648	41.16	PK2	37.6	-20.9	0	57.86	-	-	-	-	182	101	V
9.648	37.12	MAV1	37.6	-20.9	0	53.82	-	-	-	-	182	101	V

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

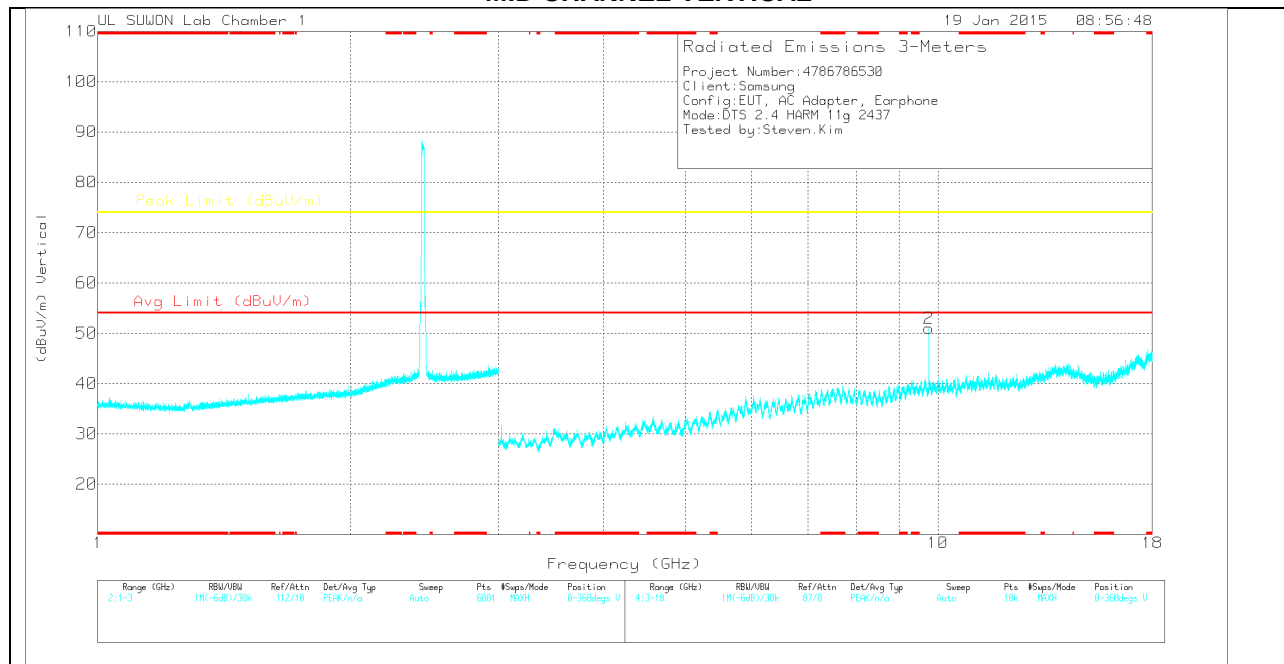
PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL HORIZONTAL



MID CHANNEL VERTICAL



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

MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	3 GHz HPF_Path3	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	9.748	28.86	Avg	37.6	-21.9	0	44.56	-	-	-	-	0-360	200	H
2	9.748	35.25	Avg	37.6	-21.9	0	50.95	-	-	-	-	0-360	200	V

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

PK - Peak detector

Avg - Video bandwidth < Resolution bandwidth

Radiated Emissions

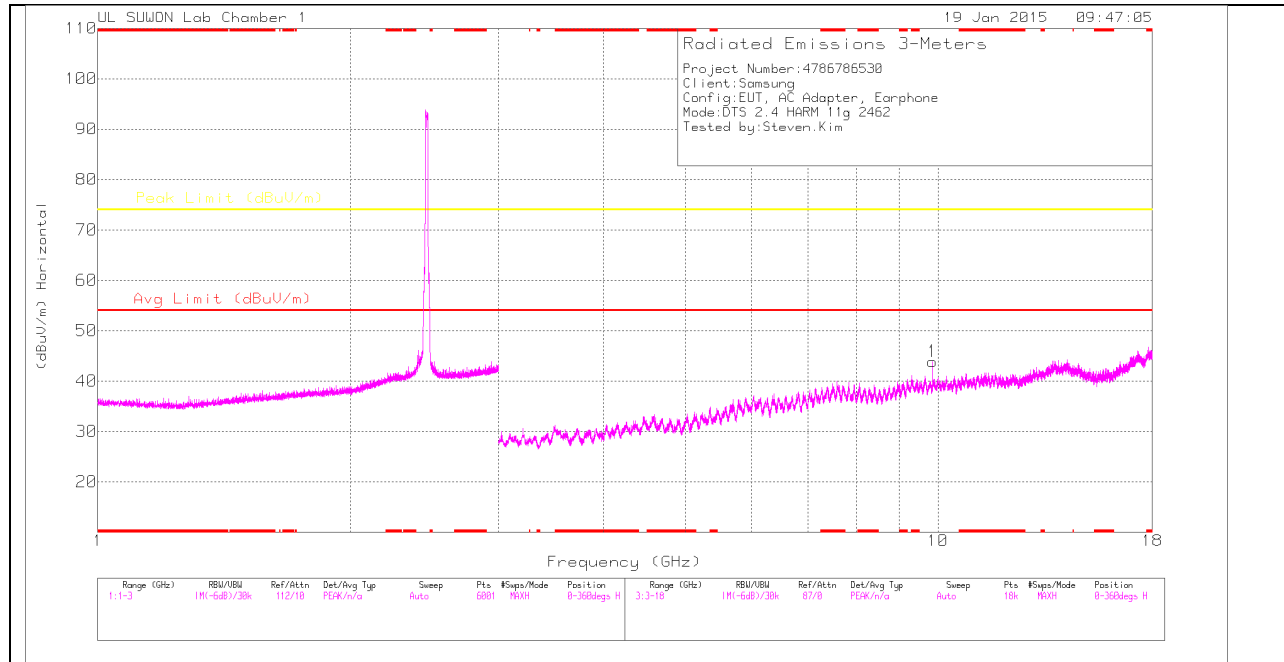
Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	3 GHz HPF_Path3	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
9.748	36.76	PK2	37.6	-21.9	0	52.46	-	-	-	-	217	300	H
9.748	28.09	MAV1	37.6	-21.9	0	43.79	-	-	-	-	217	300	H
9.748	40.27	PK2	37.6	-21.9	0	55.97	-	-	-	-	315	154	V
9.748	35.72	MAV1	37.6	-21.9	0	51.42	-	-	-	-	315	154	V

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

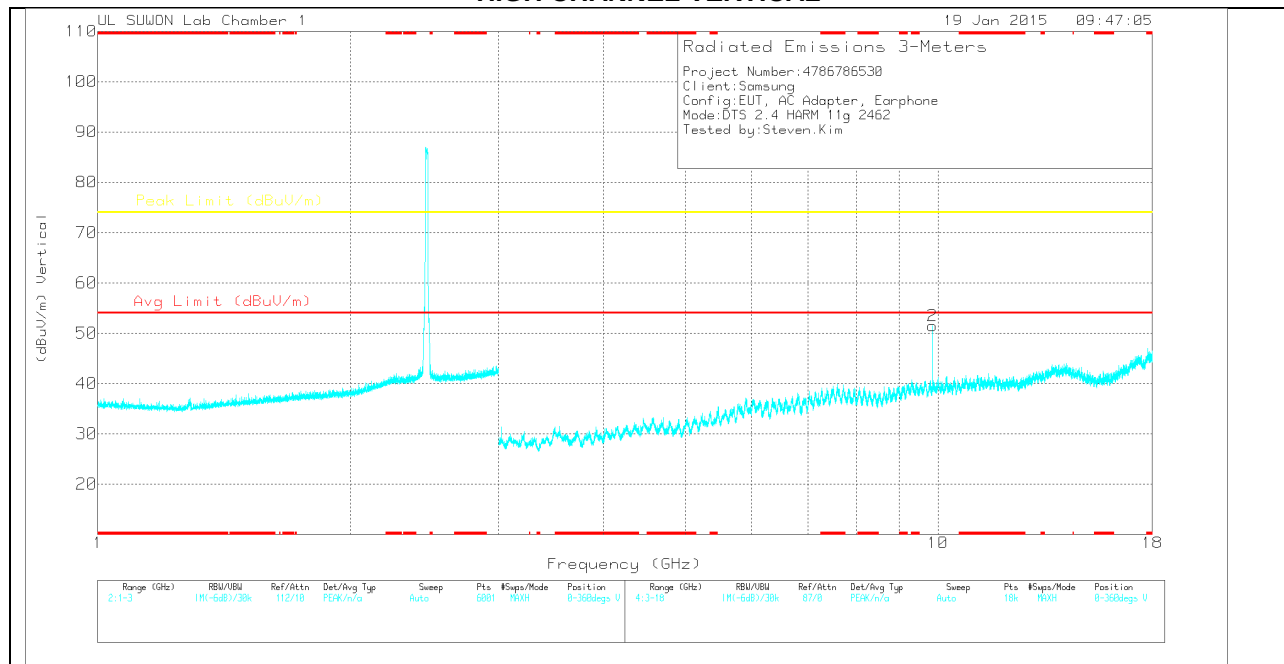
PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL HORIZONTAL



HIGH CHANNEL VERTICAL



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

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	3 GHz HPF_Path3	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	9.848	27.78	Avg	37.8	-21.7	0	43.88	-	-	-	-	0-360	200	H
2	9.848	35.38	Avg	37.8	-21.7	0	51.48	-	-	-	-	0-360	100	V

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

PK - Peak detector

Avg - Video bandwidth < Resolution bandwidth

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	3 GHz HPF_Path3	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	34.93	PK2	37.8	-21.7	0	51.03	-	-	-	-	217	296	H
9.848	26.35	MAV1	37.8	-21.7	0	42.45	-	-	-	-	217	296	H
9.848	38.79	PK2	37.8	-21.7	0	54.89	-	-	-	-	62	126	V
9.848	33.81	MAV1	37.8	-21.7	0	49.91	-	-	-	-	62	126	V

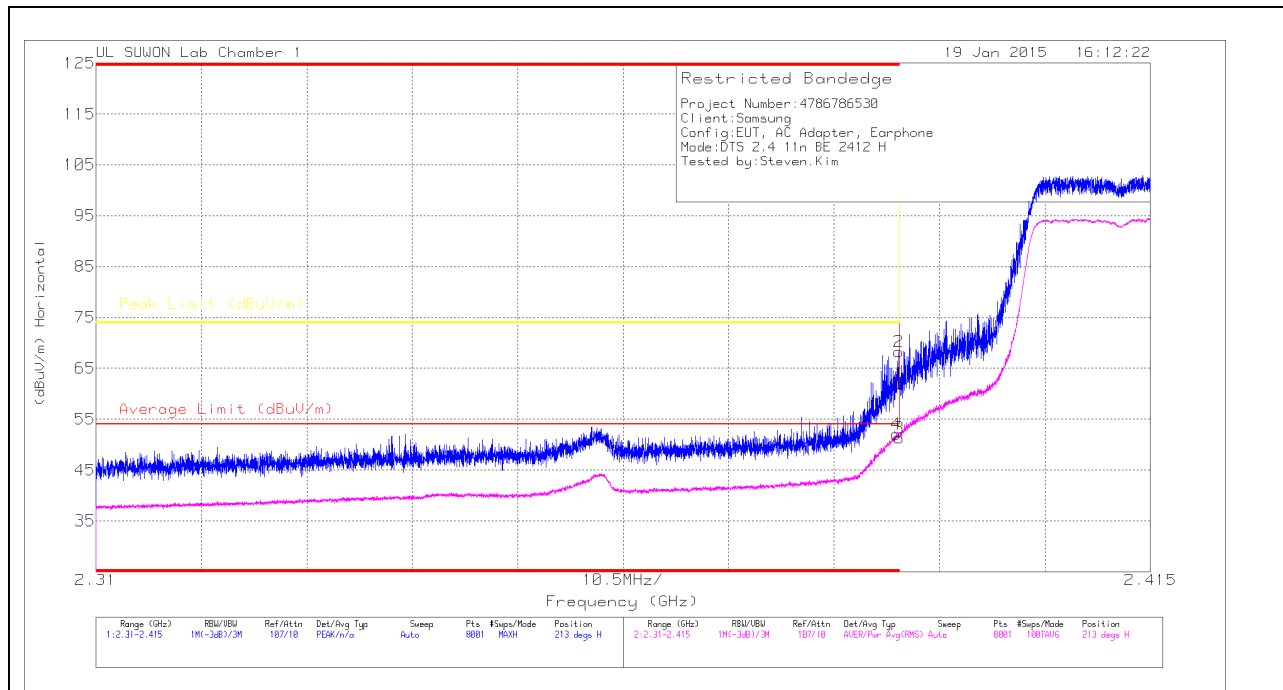
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

11.2.3. 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

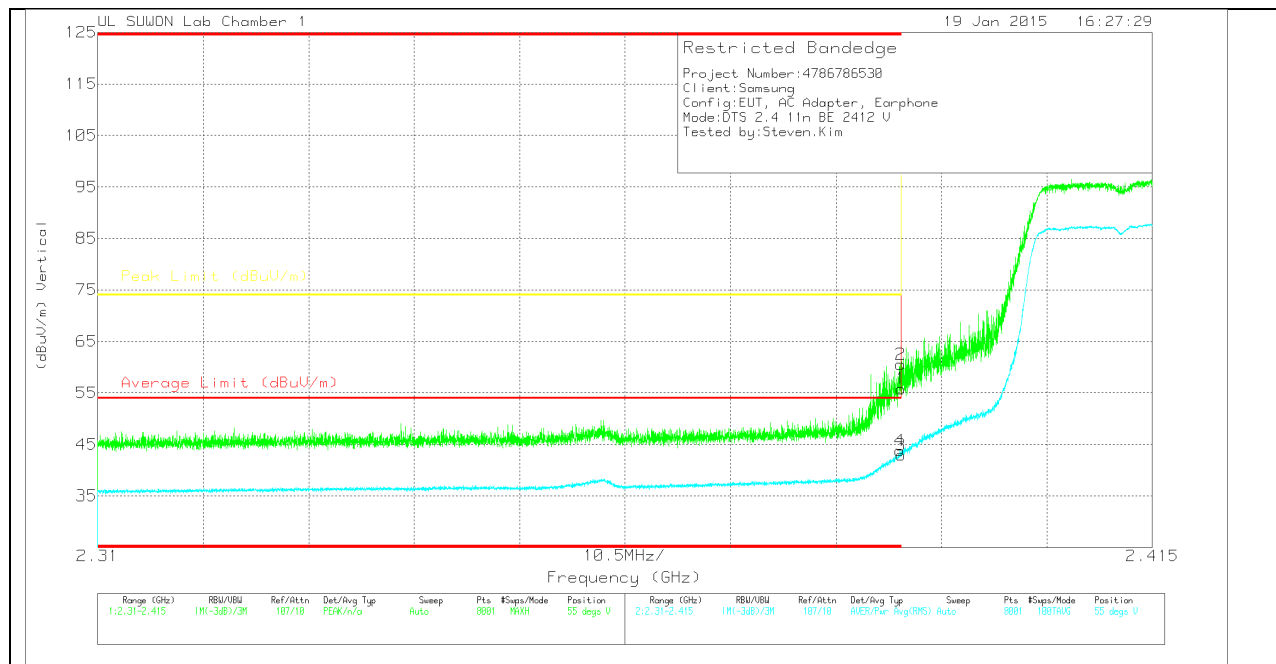
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	10dB_Path2	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	56.71	PK	27.9	-22.6	0	62.01	-	-	74	-11.99	213	103	H
2	* 2.39	63	PK	27.9	-22.6	0	68.3	-	-	74	-5.7	213	103	H
3	* 2.39	45.97	RMS	27.9	-22.6	.32	51.59	54	-2.41	-	-	213	103	H
4	* 2.39	46.73	RMS	27.9	-22.6	.32	52.35	54	-1.65	-	-	213	103	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	3115D Factor	10dB_Path2	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	50.53	Pk	27.9	-22.6	0	55.83	-	-	74	-18.17	55	111	V
2	* 2.39	55.21	Pk	27.9	-22.6	0	60.51	-	-	74	-13.49	55	111	V
3	* 2.39	37.62	RMS	27.9	-22.6	.32	43.24	54	-10.76	-	-	55	111	V
4	* 2.39	38.46	RMS	27.9	-22.6	.32	44.08	54	-9.92	-	-	55	111	V

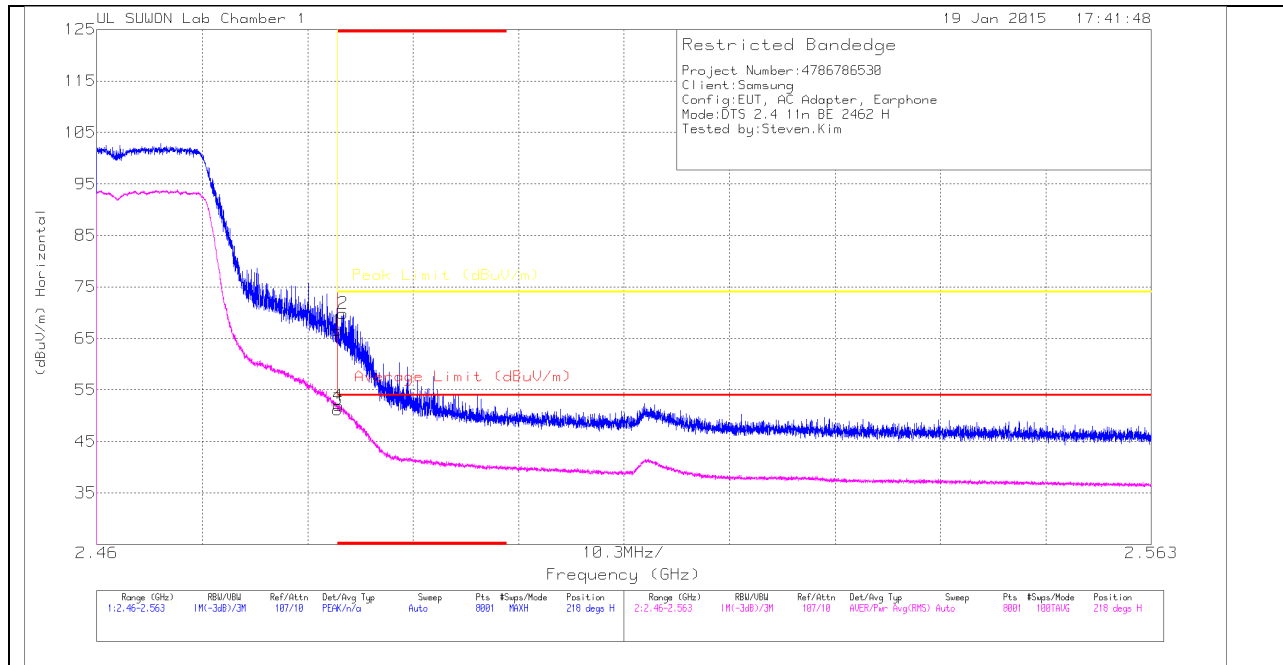
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

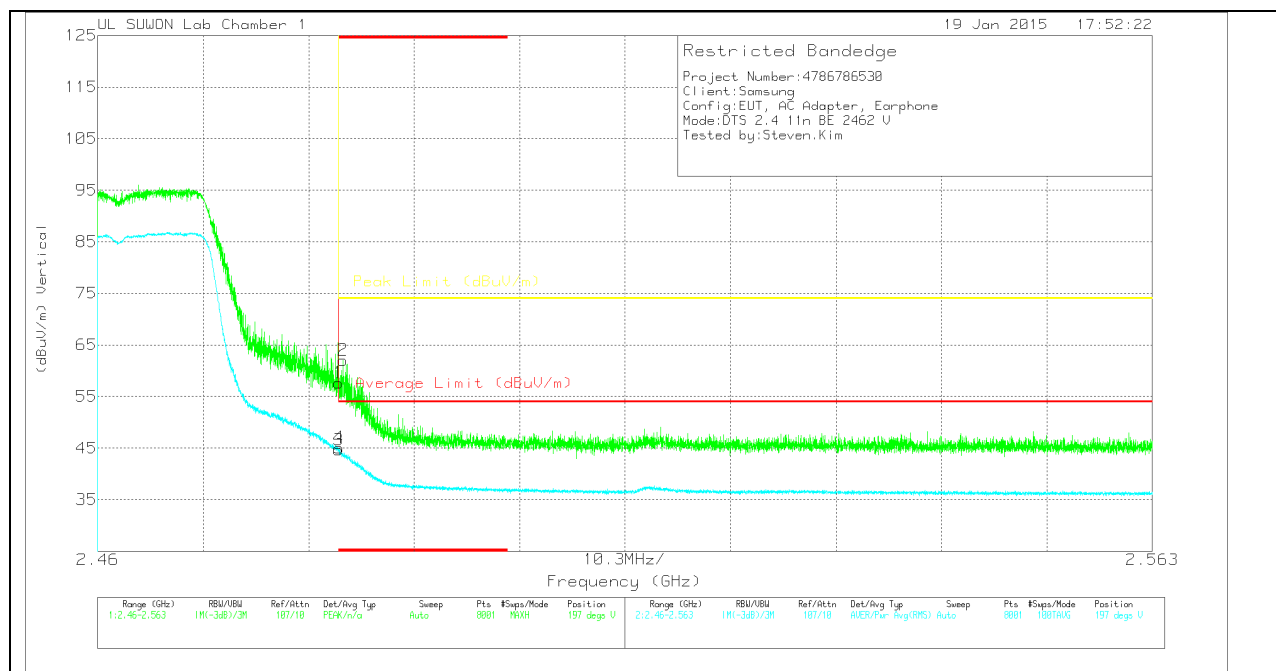
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	10dB_Path2	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	61.13	Pk	27.9	-22.5	0	66.53	-	-	74	-7.47	218	106	H
2	* 2.484	64.47	Pk	27.9	-22.5	0	69.87	-	-	74	-4.13	218	106	H
3	* 2.484	45.78	RMS	27.9	-22.5	.32	51.5	54	-2.5	-	-	218	106	H
4	* 2.484	46.57	RMS	27.9	-22.5	.32	52.29	54	-1.71	-	-	218	106	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	3115D Factor	10dB_Path2	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	52.25	PK	27.9	-22.5	0	57.65	-	-	74	-16.35	197	108	V
2	* 2.484	56.66	PK	27.9	-22.5	0	62.06	-	-	74	-11.94	197	108	V
3	* 2.484	39.22	RMS	27.9	-22.5	.32	44.94	54	-9.06	-	-	197	108	V
4	* 2.484	39.65	RMS	27.9	-22.5	.32	45.37	54	-8.63	-	-	197	108	V

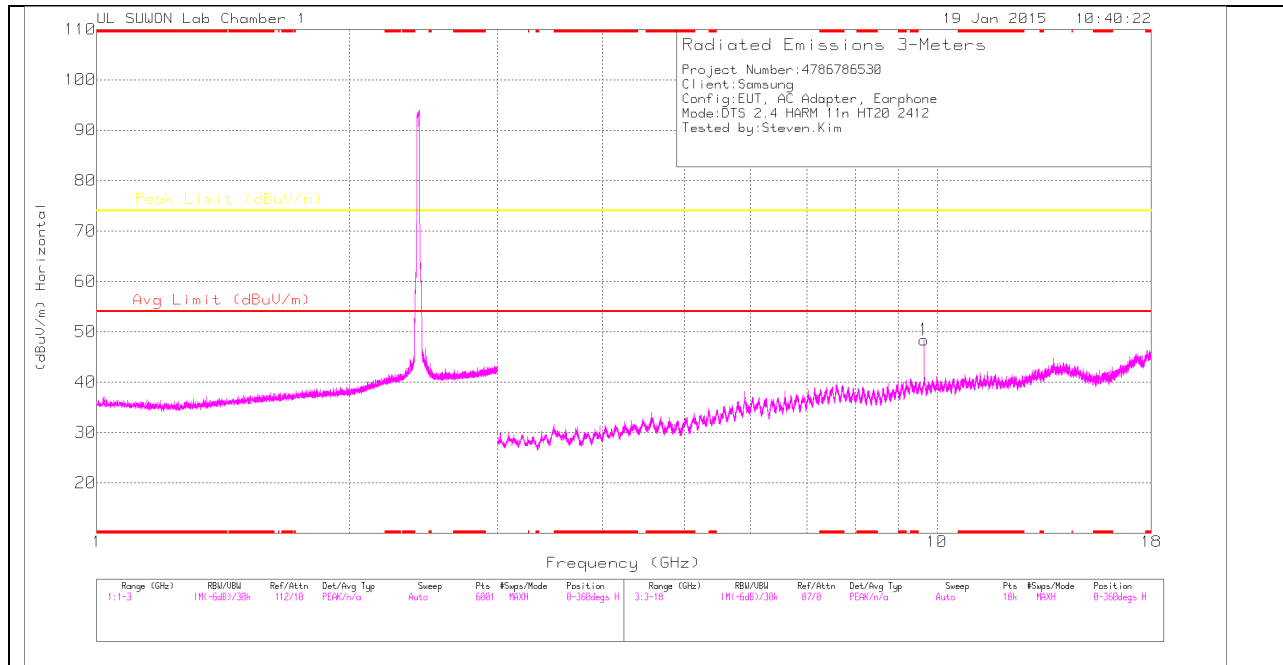
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

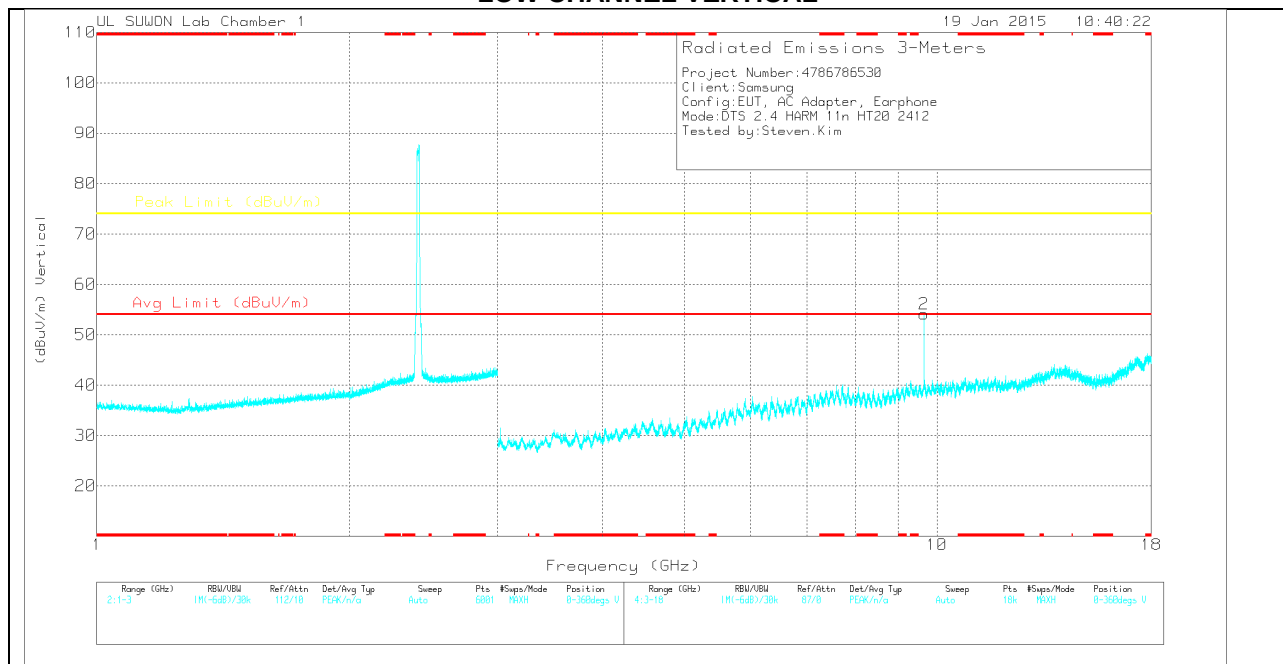
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



LOW CHANNEL VERTICAL



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

LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	3 GHz HPF_Path3	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	9.648	31.69	Avg	37.6	-20.9	0	48.39	-	-	-	-	0-360	200	H
2	9.648	37.38	Avg	37.6	-20.9	0	54.08	-	-	-	-	0-360	100	V

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

PK - Peak detector

Avg - Video bandwidth < Resolution bandwidth

Radiated Emissions

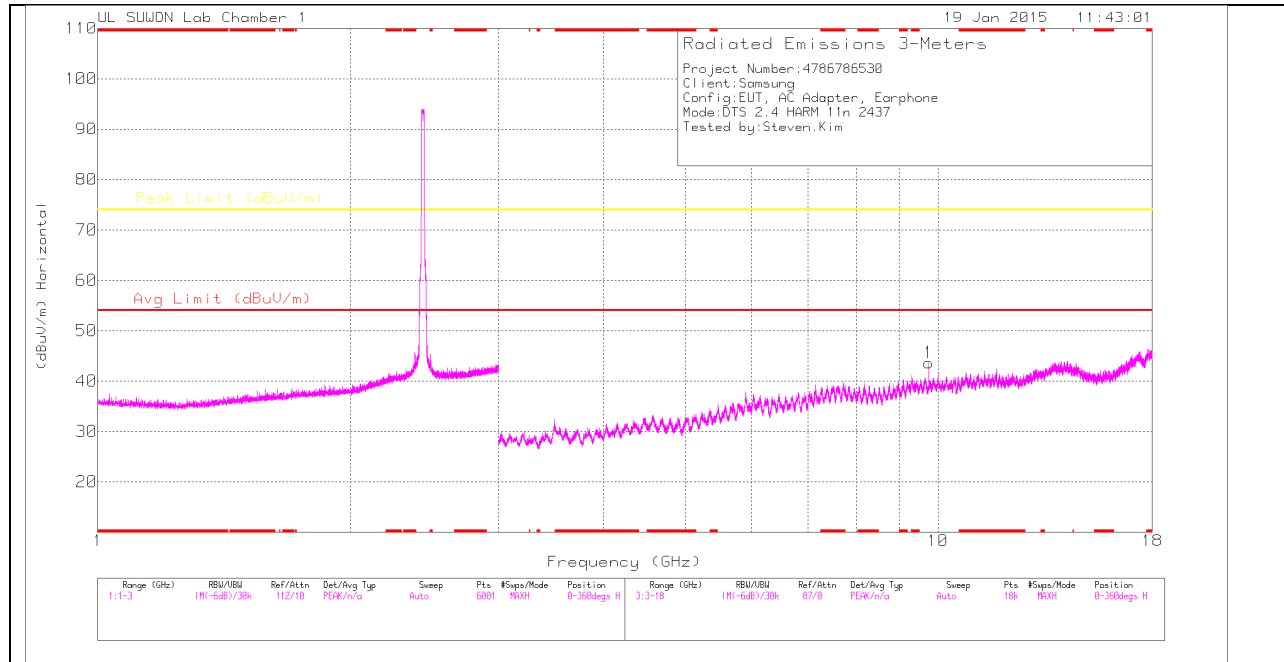
Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	3 GHz HPF_Path3	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
9.648	37.2	PK2	37.6	-20.9	0	53.9	-	-	-	-	197	274	H
9.648	30.3	MAV1	37.6	-20.9	0	47	-	-	-	-	197	274	H
9.648	41.68	PK2	37.6	-20.9	0	58.38	-	-	-	-	181	100	V
9.648	37.96	MAV1	37.6	-20.9	0	54.66	-	-	-	-	181	100	V

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

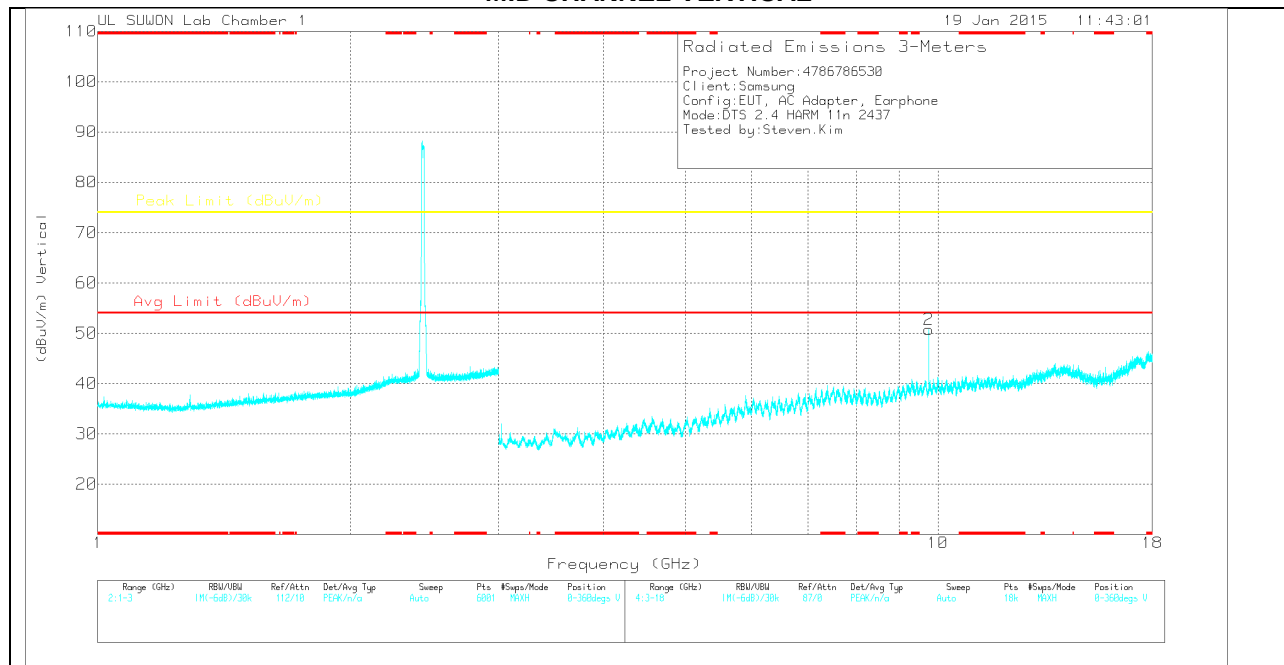
PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL HORIZONTAL



MID CHANNEL VERTICAL



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

MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	3 GHz HPF_Path3	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	9.748	27.93	Avg	37.6	-21.9	0	43.63	-	-	-	-	0-360	200	H
2	9.748	35.01	Avg	37.6	-21.9	0	50.71	-	-	-	-	0-360	100	V

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

PK - Peak detector

Avg - Video bandwidth < Resolution bandwidth

Radiated Emissions

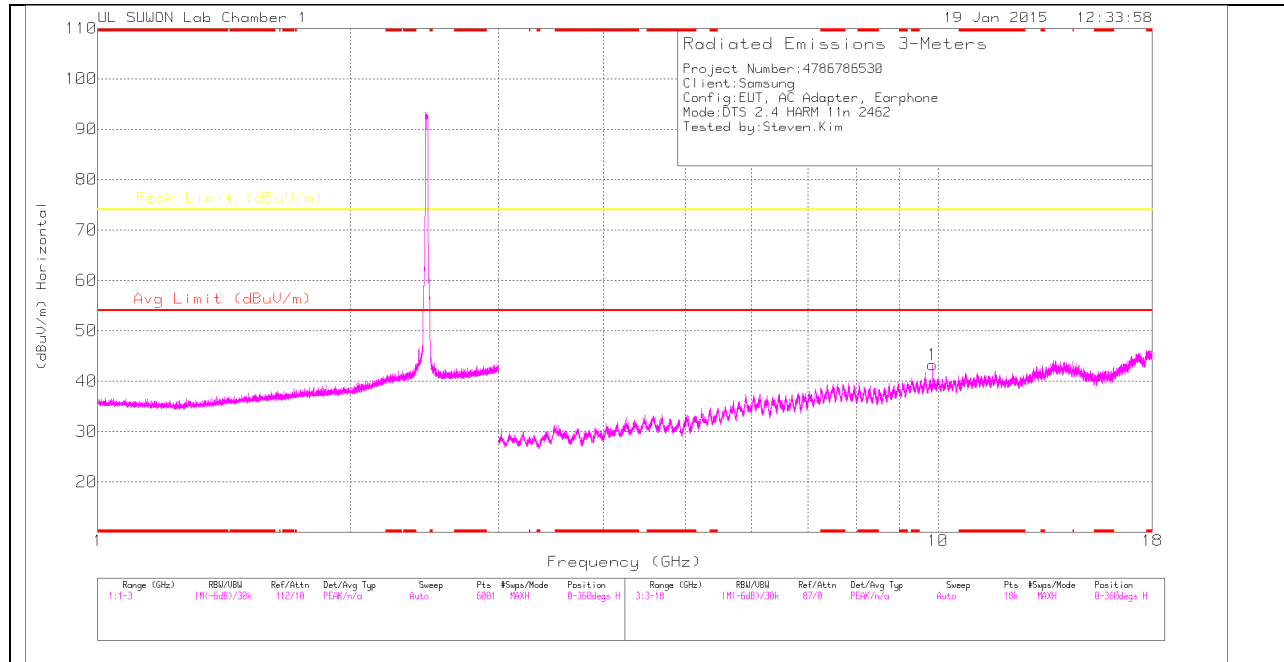
Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	3 GHz HPF_Path3	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
9.748	35.29	PK2	37.6	-21.9	0	50.99	-	-	-	-	217	302	H
9.748	26.21	MAv1	37.6	-21.9	0	41.91	-	-	-	-	217	302	H
9.748	39.18	PK2	37.6	-21.9	0	54.88	-	-	-	-	61	132	V
9.748	36.51	MAv1	37.6	-21.9	0	52.21	-	-	-	-	61	132	V

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

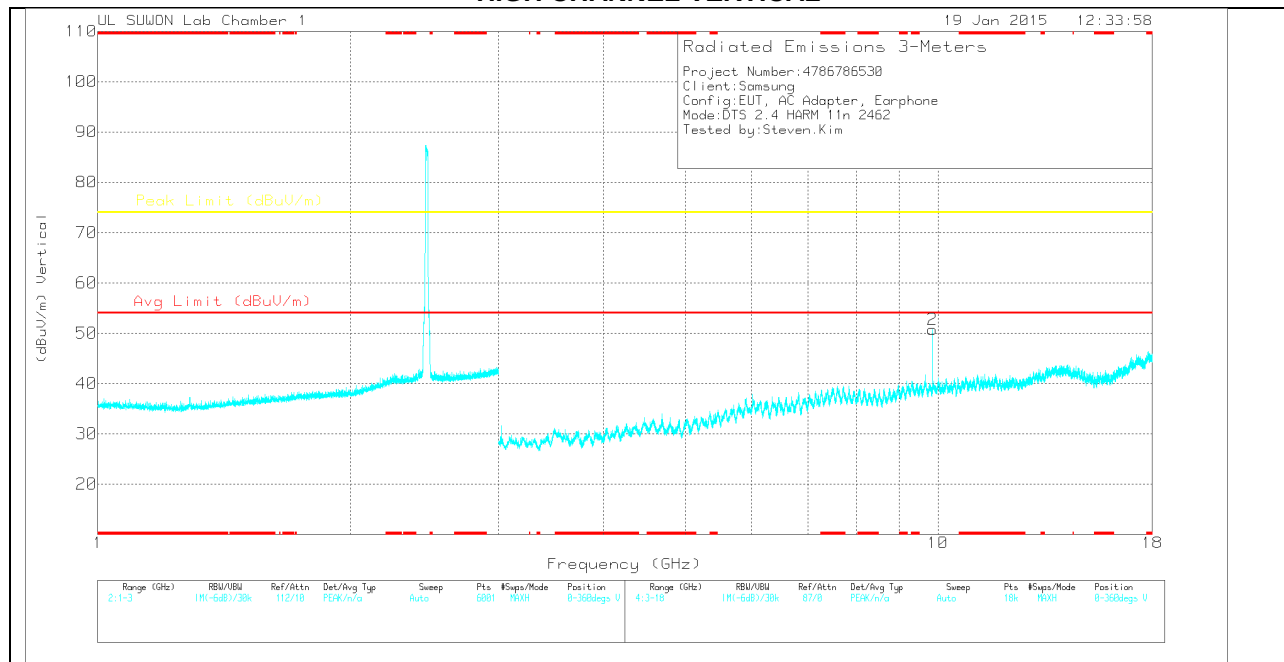
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL HORIZONTAL



HIGH CHANNEL VERTICAL



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

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	3 GHz HPF_Path3	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	9.848	27.15	Avg	37.8	-21.7	0	43.25	-	-	-	-	0-360	200	H
2	9.848	34.59	Avg	37.8	-21.7	0	50.69	-	-	-	-	0-360	100	V

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

PK - Peak detector

Avg - Video bandwidth < Resolution bandwidth

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3115D Factor	3 GHz HPF_Path3	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	35.47	PK2	37.8	-21.7	0	51.57	-	-	-	-	221	239	H
9.848	26.54	MAv1	37.8	-21.7	0	42.64	-	-	-	-	221	239	H
9.848	39.43	PK2	37.8	-21.7	0	55.53	-	-	-	-	61	125	V
9.848	34.5	MAv1	37.8	-21.7	0	50.6	-	-	-	-	61	125	V

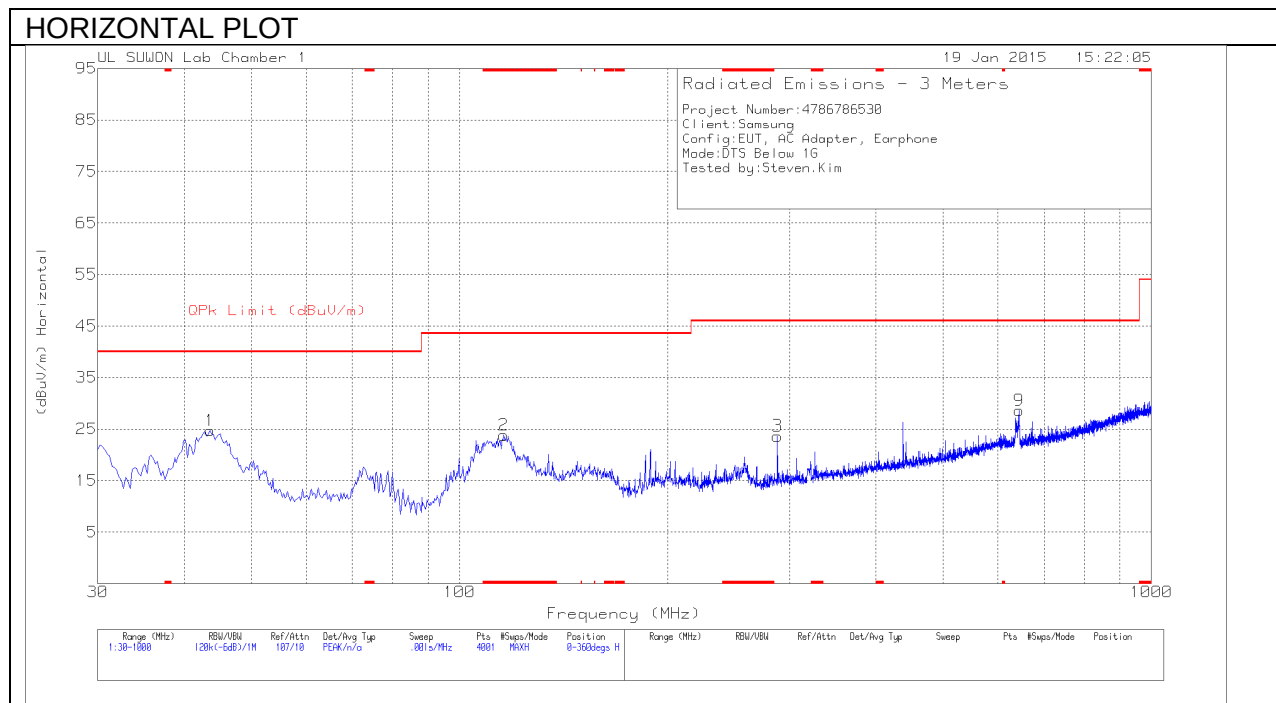
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

11.3. WORST-CASE BELOW 1 GHz

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



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



Below 1G Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163-750	Bi-Log Ant Pathloss	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	43.58	41.9	Pk	13.3	-30.5	24.7	40	-15.3	0-360	400	H
2	* 115.845	42.89	Pk	10.3	-29.4	23.79	43.52	-19.73	0-360	300	H
3	288.02	38.24	Pk	13.1	-27.7	23.64	46.02	-22.38	0-360	100	H
9	644.2525	35.07	Pk	19.3	-25.8	28.57	46.02	-17.45	0-360	400	H
4	43.095	46.68	Pk	13.2	-30.5	29.38	40	-10.62	0-360	100	V
5	77.53	47.05	Pk	7.6	-29.9	24.75	40	-15.25	0-360	100	V
6	437.6425	39.17	Pk	16.1	-26.8	28.47	46.02	-17.55	0-360	200	V
7	504.0875	43.49	Pk	17.1	-26.4	34.19	46.02	-11.83	0-360	100	V
8	644.2525	37.78	Pk	19.3	-25.8	31.28	46.02	-14.74	0-360	100	V

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

PK - Peak detector

12. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

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

^{*} Decreases with the logarithm of the frequency.

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.4 2009.

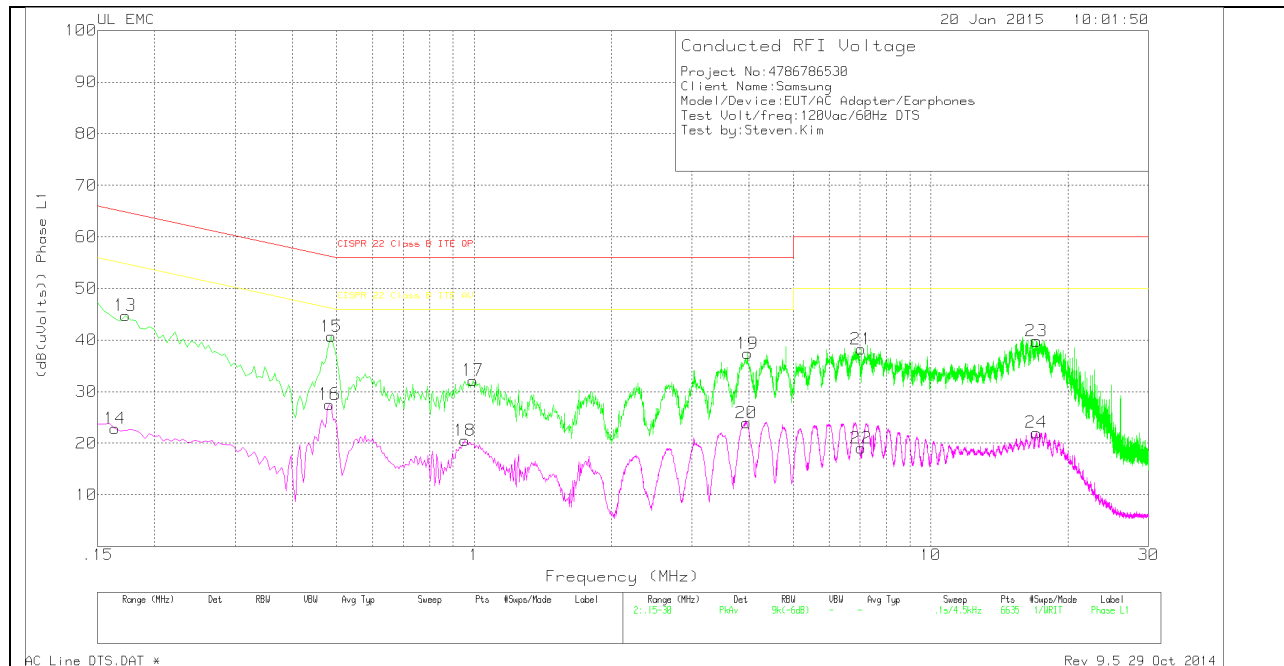
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

6 WORST EMISSIONS

LINE 1 PLOT

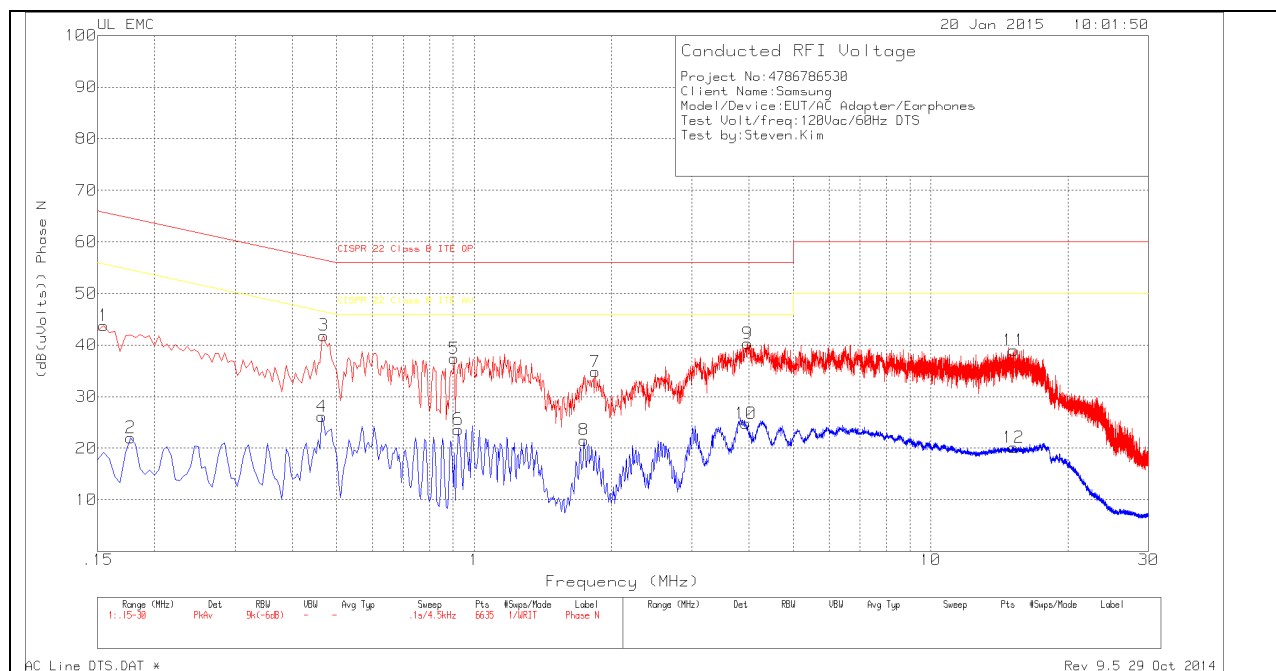


LINE 1 RESULTS

Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101837_L1	CE Shield Room	Corrected Reading (dB(uVolts))	CISPR 22 Class B ITE QP	Margin (dB)	CISPR 22 Class B ITE AV	Margin (dB)
13	.1725	34.95	Pk	9.8	0	44.75	64.84	-20.09	-	-
14	.1635	13.02	Av	9.8	0	22.82	-	-	55.28	-32.46
15	.4875	30.7	Pk	10	0	40.7	56.21	-15.51	-	-
16	.483	17.54	Av	10	0	27.54	-	-	46.29	-18.75
17	.996	22.68	Pk	9.5	0	32.18	56	-23.82	-	-
18	.9555	11	Av	9.5	0	20.5	-	-	46	-25.5
19	3.9705	27.9	Pk	9.4	.1	37.4	56	-18.6	-	-
20	3.948	14.47	Av	9.4	.1	23.97	-	-	46	-22.03
21	7.0395	28.75	Pk	9.4	.1	38.25	60	-21.75	-	-
22	7.0395	9.55	Av	9.4	.1	19.05	-	-	50	-30.95
23	17.043	30.19	Pk	9.4	.2	39.79	60	-20.21	-	-
24	17.0385	12.45	Av	9.4	.2	22.05	-	-	50	-27.95

LINE 2 PLOT



LINE 2 RESULTS

Phase N .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101837_N	CE Shield Room	Corrected Reading (dB(uVolts))	CISPR 22 Class B ITE QP	Margin (dB)	CISPR 22 Class B ITE AV	Margin (dB)
1	.1545	33.97	Pk	9.8	0	43.77	65.75	-21.98	-	-
2	.177	11.92	Av	10.1	0	22.02	-	-	54.63	-32.61
3	.4695	31.75	Pk	10.1	0	41.85	56.52	-14.67	-	-
4	.465	16.07	Av	10.1	0	26.17	-	-	46.6	-20.43
5	.906	27.5	Pk	9.9	0	37.4	56	-18.6	-	-
6	.924	13.72	Av	9.9	0	23.62	-	-	46	-22.38
7	1.842	24.91	Pk	9.8	.1	34.81	56	-21.19	-	-
8	1.743	11.66	Av	9.8	.1	21.56	-	-	46	-24.44
9	3.975	30.52	Pk	9.7	.1	40.32	56	-15.68	-	-
10	3.939	15.01	Av	9.7	.1	24.81	-	-	46	-21.19
11	15.2115	29	Pk	9.8	.2	39	60	-21	-	-
12	15.198	10.16	Av	9.8	.2	20.16	-	-	50	-29.84