TEST REPORT

Report Number. : 13211873-E4V1

Applicant	:	Samsung Electronics Co., Ltd. 129 Samsung-Ro, Yeongtong-Gu, Suwon-Si, Gyeonggi-Do, 16677, Korea
Model	:	SM-A715W
FCC ID	:	A3LSMA715W
EUT Description	:	GSM/WCDMA/LTE Phablet with BT/BLE, DTS/UNII a/b/g/n/ac, NFC and ANT+
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART C

Date Of Issue:
February 25, 2020

Prepared by:
UL Verification Services Inc.
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NVLAP Lab code: 200065-0

REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2/25/2020	Initial Issue	

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	Samsung Electronics Co., Ltd. 129 Samsung-Ro, Yeongtong-Gu, Suwon-Si, Gyeonggi-Do, 16677, Korea
EUT DESCRIPTION:	GSM/WCDMA/LTE Phablet with BT/BLE, DTS/UNII a/b/g/n/ac, NFC and ANT+
MODEL:	SM-A715W
SERIAL NUMBER:	Conducted (Original): R38M60J9VBM Radiated (Original): R38M808E5AH Radiated (Spot Check): R38N108PFHB
DATE TESTED:	NOVEMBER 11 – DECEMBER 2, 2019 (ORIGINAL) FEBRUARY 11, 2020 -- FEBRUARY 21, 2020 (SPOT CHECK)

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart C	Complies

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

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 the U.S. government.

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2. INTRODUCTION OF TEST DATA REUSE

2.1. INTRODUCTION

According to the manufacturer, FCC ID: A3LSMA715F and FCC ID: A3LSMA715W non-licensed radios are electrically identical. The FCC ID: A3LSMA715F test data shall remain representative of FCC ID: A3LSMA715W.

The applicant takes full responsibility that the test data as referenced in this section represents compliance for this FCC ID.

2.2. DIFFERENCES

The FCC ID: A3LSMA715F, shares the same enclosure and circuit board as FCC ID: A3LSMA715W. The DTS WLAN antennas and surrounding circuitry and layout are identical between two models.

After confirming through preliminary radiated emissions that the performance of the FCC ID: A3LSMG715F remains representative of FCC ID: A3LSMA715W. The test data of FCC ID: A3LSMG715F being submitted for this application to cover DTS WLAN features.

2.3. SPOT CHECK VERIFICATION RESULTS SUMMARY

Spot check verification has been done on device A3LSMA715W for radiated harmonic spurious and radiated band-edge. The data from the application has been verified through appropriate spot checks to demonstrate compliance for this device in accordance to FCC public KDB 484596 D01 as shown in the summary below.

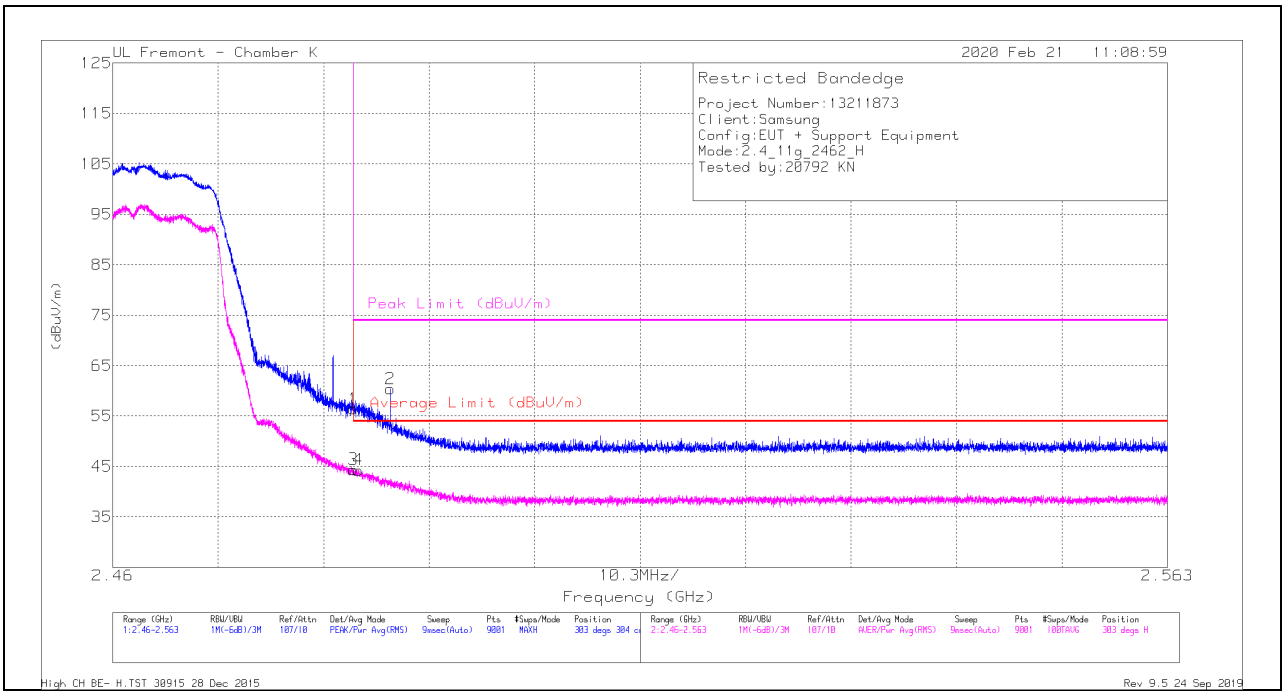
A3LSMA715W SPOT CHECK RESULTS										
Technology	Mode	Test Item	Channel	Measured	Original model		Spot check model		Delta (dB)	
					SM-A715F		SM-A715W			
					A3LSMA715F		A3LSMA715W			
				Frequency	Peak	Ave	Peak	Ave	Peak	Ave
DTS	11g	RBE	11	2483.5MHz	70.3	51.73	60.44	44.43	-9.86	-7.3
	11b	RSE	6	7311MHz	52.97	47.62	49.87	43.9	-3.1	-3.72

Comparison of the models, upper deviation is within 3dB range and all tests are under FCC Technical Limits.

SPOT CHECK DATA

BANDEDGE (HIGH CHANNEL, CH 11)

HORIZONTAL RESULT

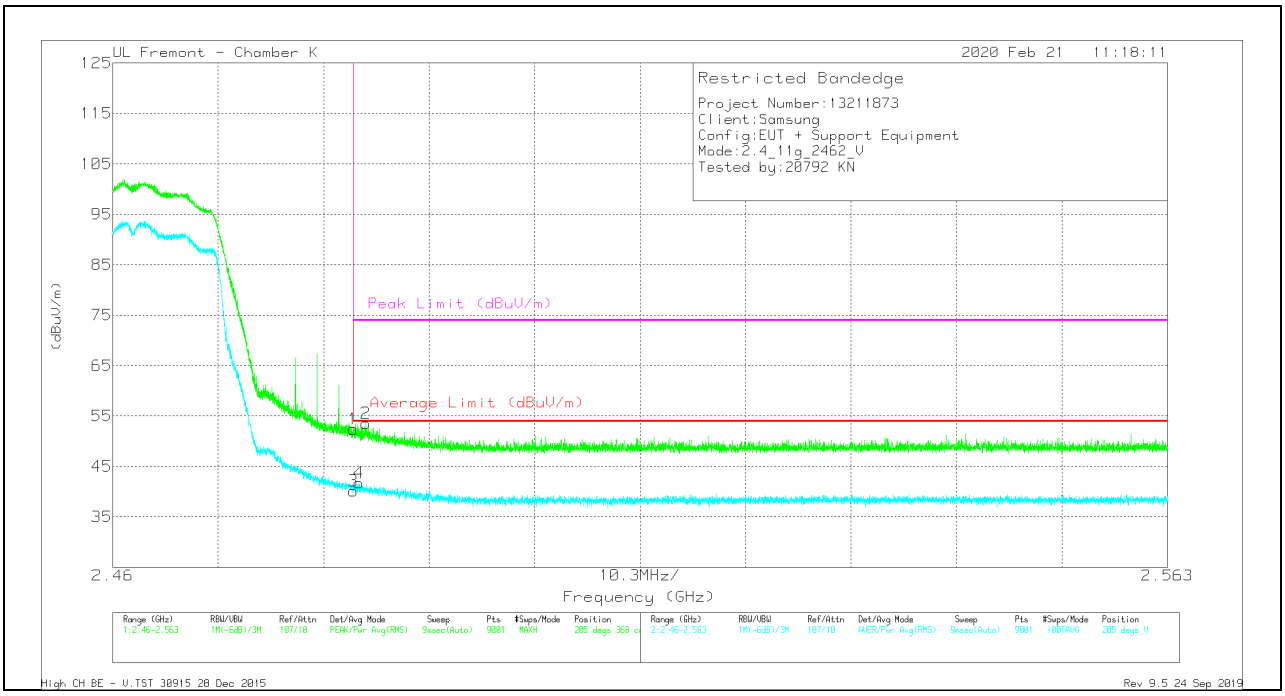


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4294 (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	* 2.48351	48.52	Pk	32.5	-24.6	0	56.42	-	-	74	-17.58	303	304	H
2	* 2.48712	52.64	Pk	32.5	-24.7	0	60.44	-	-	74	-13.56	303	304	H
3	* 2.48351	36.42	RMS	32.5	-24.6	.11	44.43	54	-9.57	-	-	303	304	H
4	* 2.48401	36.3	RMS	32.5	-24.6	.11	44.31	54	-9.69	-	-	303	304	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

VERTICAL RESULT



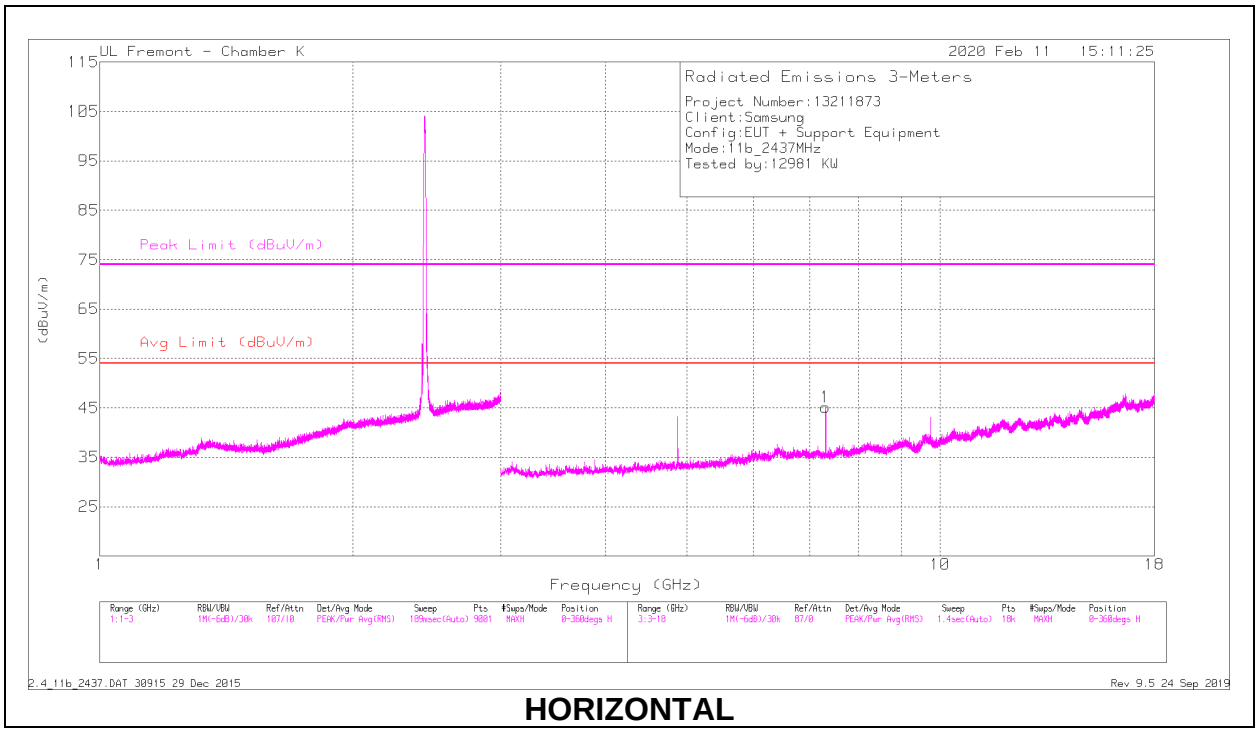
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4294 (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	* 2.48351	44.49	Pk	32.5	-24.6	0	52.39	-	-	74	-21.61	205	368	V
2	* 2.48475	45.66	Pk	32.5	-24.6	0	53.56	-	-	74	-20.44	205	368	V
3	* 2.48351	32.19	RMS	32.5	-24.6	.11	40.2	54	-13.8	-	-	205	368	V
4	* 2.48408	33.78	RMS	32.5	-24.6	.11	41.79	54	-12.21	-	-	205	368	V

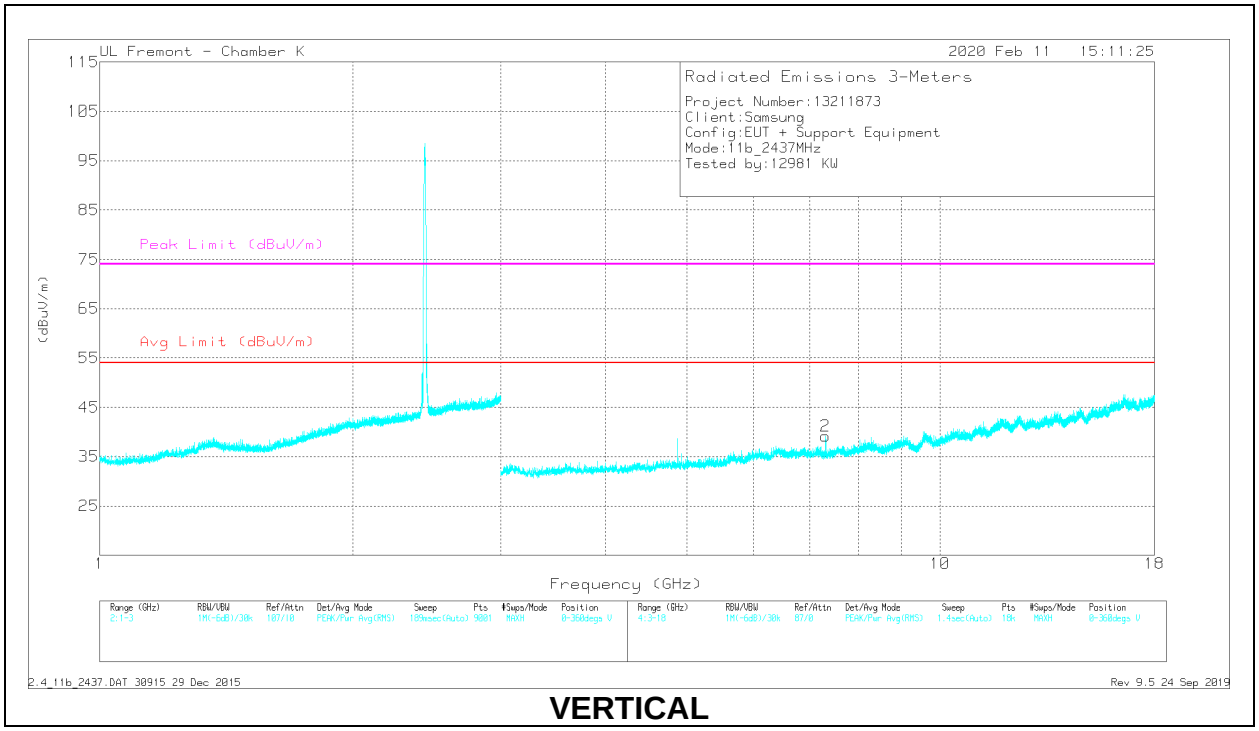
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4294 (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	* 7.31315	39.57	PK2	35.6	-25.3	0	49.87	-	-	74	-24.13	31	205	H
	* 7.31172	33.39	MAv1	35.6	-25.2	.11	43.9	54	-10.1	-	-	31	205	H
2	* 7.31115	35.96	PK2	35.6	-25.2	0	46.36	-	-	74	-27.64	84	261	V
	* 7.31015	26.95	MAv1	35.6	-25.2	.11	37.46	54	-16.54	-	-	84	261	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

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2.4. REFERENCE DETAIL

Reference application that contains the reused reference data

Equipment Class	Reference FCC ID	Type Grant/ Permissive Change	Reference Application	Folder Test/RF Exposure	Report Title/Section
DTS	A3LSMA715F	Grant	13096868-E4	Test	FCC Report DTS WLAN / All sections

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3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2013, KDB 558074 D01 15.247 Meas Guidance v05r02, KDB 414788 D01 Radiated Test Site v01r01, and KDB 484596 D01 Referencing Test Data v01.

4. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, and 47658 Kato Road, 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	47658 Kato Rd
☐ Chamber A	☐ Chamber D	☒ Chamber I
☐ Chamber B	☐ Chamber E	☒ Chamber J
☐ Chamber C	☐ Chamber F	☒ Chamber K
	☐ Chamber G	☐ Chamber L
	☐ Chamber H	☐ Chamber M

The above test sites and facilities are covered under FCC Test Firm Registration # 208313. Chambers above are covered under Industry Canada company address and respective code: 2324A.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0

5. CALIBRATION AND UNCERTAINTY

5.1. 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.

5.2. SAMPLE CALCULATION

RADIATED EMISSIONS

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

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:
Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss.
36.5 dBuV + 0 dB +10.1 dB+ 0 dB = 46.6 dBuV

5.3. MEASUREMENT UNCERTAINTY

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.).

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

PARAMETER	UNCERTAINTY
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.84 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.65 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.52 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	4.88 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.24 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.37 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.17 dB

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

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6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The EUT is a GSM/WCDMA/LTE Phablet with BT/BLE, DTS/UNII a/b/g/n/ac, NFC and ANT+. The test report addresses the DTS (802.11b/g/n HT20) operational mode.

6.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
1Tx			
2412 - 2472	802.11b	18.43	69.66
2412 - 2472	802.11g	17.72	59.16
2412 - 2472	802.11n HT20	17.81	60.39

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an internal antenna, with a maximum peak gain of -7.52 dBi.

Note: Antenna 1 = Chain 0

6.4. SOFTWARE

The test utility software used during testing was A715F.001.

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6.5. WORST-CASE CONFIGURATION AND MODE

Radiated emissions below 1GHz, above 18GHz, and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

Band edge and radiated emissions between 1GHz and 18GHz were performed with the EUT set to transmit at the highest power on low, middle and high channels.

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

Worst-case data rates as provided by the client were:

802.11b mode: 1 Mbps
802.11g mode: 6 Mbps
802.11n HT20mode: MCS0

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6.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	Samsung	EP-TA800	R37M8PH3JN2SE3	N/A
Earphone	Samsung	N/A	N/A	N/A

I/O CABLES (CONDUCTED TEST)

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	Antenna	1	RF	Shielded	0.2	To spectrum Analyzer
2	USB	1	USB	Un-shielded	1	EUT to AC Mains

I/O CABLES (RADIATED AND CONDUCTED EMISSIONS)

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	USB	1	USB	Shielded	1	N/A
2	Earphone	1	3.5mm	Un-shielded	1	N/A

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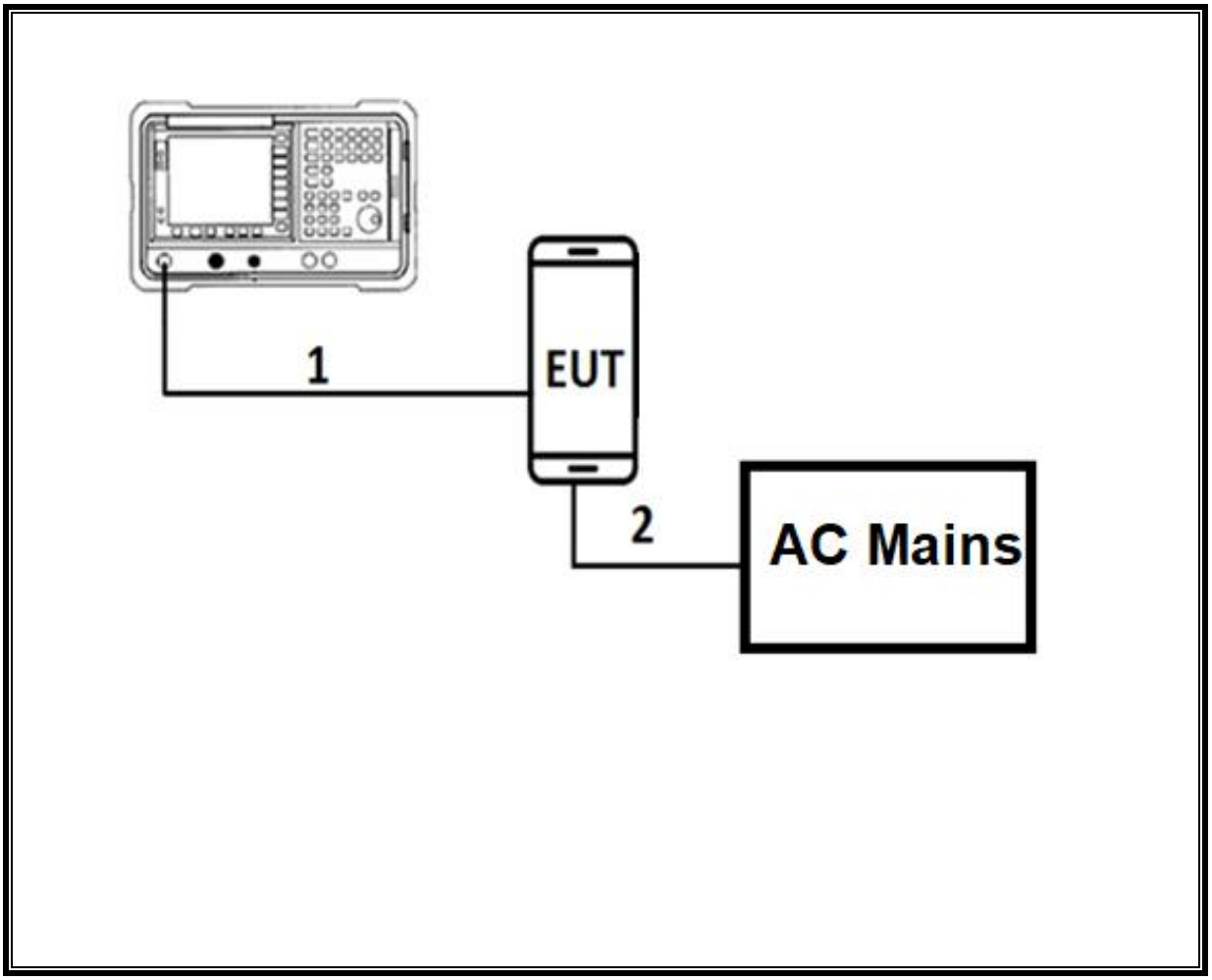
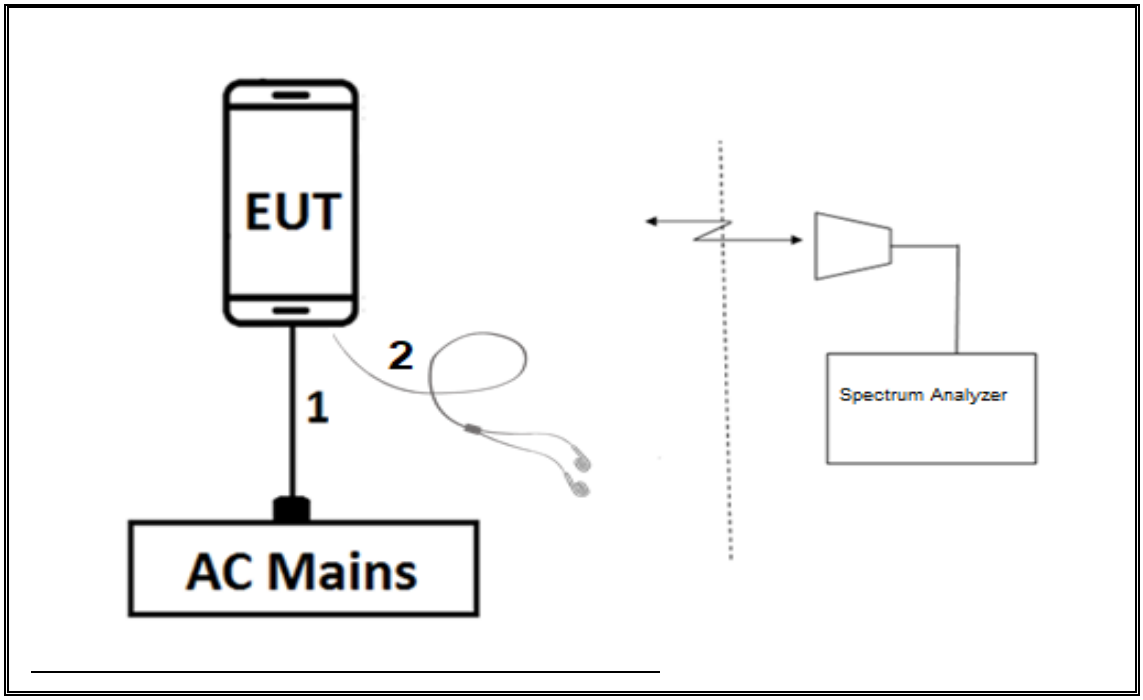
CONDUCTED TEST SETUP DIAGRAM



TEST SETUP

For conducted tests: the EUT was stand alone. The test software exercises the radio.

RADIATED AND AC LINE CONDUCTED EMISSIONS SETUP DIAGRAM



TEST SETUP

For radiated tests: EUT is connected to earphone. The test software exercises the radio.

7. MEASUREMENT METHOD

On Time and Duty Cycle: ANSI C63.10 Section 11.6

6 dB BW: ANSI C63.10 Section -11.8.1 RBW ≥ DTS BW

Output Power: ANSI C63.10 Section -11.9.2.3.2 Method AVGPM-G (Measurement using a gated RF average-reading power meter)

Conducted emissions in restricted frequency bands: ANSI C63.10 Section -11.12.2

PSD: ANSI C63.10 Section -11.10.2 Method PKPSD (peak PSD)

Band-edge: ANSI C63.10 Section 6.10

Radiated emissions non-restricted frequency bands: ANSI C63.10 Section -11.11

Radiated emissions restricted frequency bands: ANSI C63.10 Section -11.12.1

Radiated Spurious Emissions Below 30MHz: ANSI C63.10-2013 Section 6.4

AC Power Line Conducted Emissions: ANSI C63.10-2013, Section 6.2.

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8. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Asset**	**Cal Due**
Antenna, Passive Loop 30Hz to 1MHz	ELETRO METRICS	EM-6871	PRE0179466	05/31/2020
Antenna, Passive Loop 100KHz to 30MHz	ELETRO METRICS	EM-6872	PRE0179468	05/31/2020
Antenna, Horn 1-18GHz	ETS Lindgren	3117	EMC4249 / PRE0100034	06/14/2020
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T862	06/05/2020
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T344	05/07/2020
Amplifier, 1 to 18GHz	Amplical	AMP1G18-35	T1569	05/04/2020
RF Amplifier, 1-18GHz	MITEQ	AFS42-00101800-25-S-42	171460	08/24/2020
Amplifier, 1 to 18GHz	Amplical	AMP1G18-35	T1571	05/28/2020
Antenna, Broadband Hybrid, 30MHz to 3GHz	Sunol Sciences	JB3	PRE0181574	10/14/2020
Amplifier, 9KHz to 1GHz, 32dB	SONOMA INSTRUMENT	310	PRE175953	12/13/2019
Spectrum Analyzer, PSA, 3Hz to 44GHz	Keysight	E4446A	T146	01/28/2020
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight	N9030A	T917	01/24/2020
Antenna Horn, 18 to 26.5GHz	ARA	MWH-1826/B	T447	08/13/2020
Pre-Amp 1-26.5 GHz	AMPLICAL	AMP18G26.5-60	PRE0181238	05/01/2020
EMI Test Receiver	Rohde & Schwarz	ESW44	PRE0179372	02/16/2020
EMI Test Receiver	Rohde & Schwarz	ESW44	PRE0179367	05/16/2020
EMI Test Receiver	Rohde & Schwarz	ESW44	PRE0179376	02/14/2020
Filter, HPF 3.0GHz	MICRO-TRONICS	HPM17543	T897	05/04/2020
Power Meter, P-series single channel	Agilent (Keysight) Technologies	N1911A	T229	01/31/2020
Power Sensor, P-series, 50MHz to 18GHz, Wideband	Agilent (Keysight) Technologies	N1921A	T1226	02/06/2020
AC Line Conducted				
EMI Receiver	Rohde & Schwarz	ESR	T1436	02/14/2020
LISN for Conducted Emissions CISPR-16	FCC INC.	FCC LISN 50/250	T1310	01/24/2020
UL AUTOMATION SOFTWARE				
Radiated Software	UL	UL EMC	Ver 9.5, June 15, 2019	
Antenna Port Software	UL	UL RF	Ver 11.13, Nov 13, 2019	
AC Line Conducted Software	UL	UL EMC	Ver 9.5, May 26, 2015	

NOTES:

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.
2. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

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SPOTCHECK TEST EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Asset**	**Cal Due**
Antenna, Horn 1-18GHz	ETS Lindgren	3117	EMC4249 / PRE0100034	06/14/2020
Amplifier, 1 to 18GHz	Amplical	AMP1G18-35	T1569	01/30/2021
EMI Test Receiver	Rohde & Schwarz	ESW44	PRE0179367	05/16/2020
UL AUTOMATION SOFTWARE				
Radiated Software	UL	UL EMC	Ver 9.5, June 15, 2019	

NOTES:

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.
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9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method.

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/B Minimum VBW (kHz)
2.4GHz Band						
802.11b 1TX	8.606	8.819	0.976	97.58	0.11	0.116
802.11g CDD	1.431	1.469	0.974	97.41	0.11	0.699
802.11n HT20 CDD	1.339	1.377	0.972	97.24	0.12	0.747

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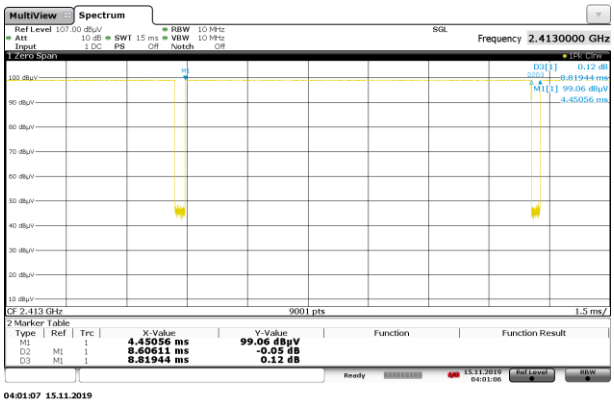
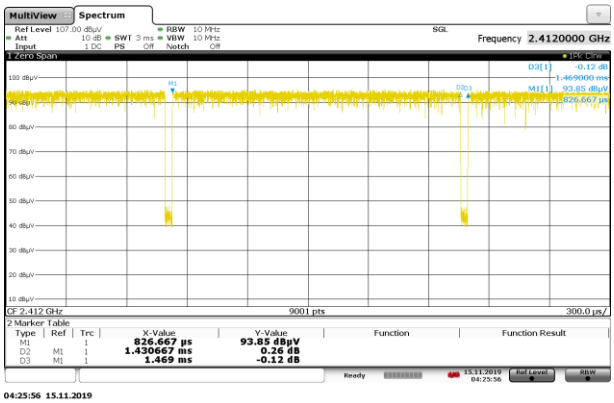
DUTY CYCLE PLOTS



802.11b 1TX MODE



802.11g 1TX MODE

802.11n HT20 1TX MODE

9.2. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

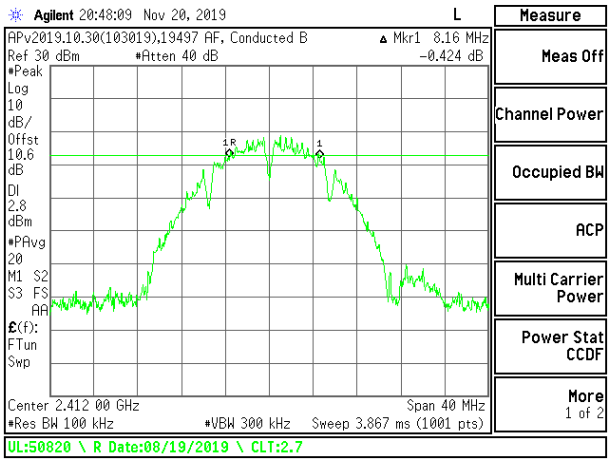
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

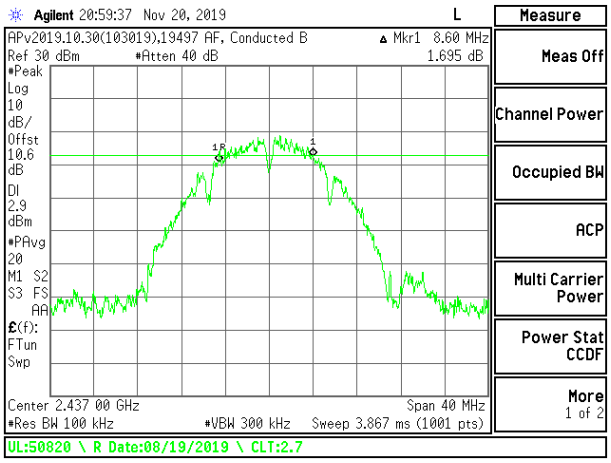
9.2.1. 802.11b MODE

1TX CHAIN 0 MODE

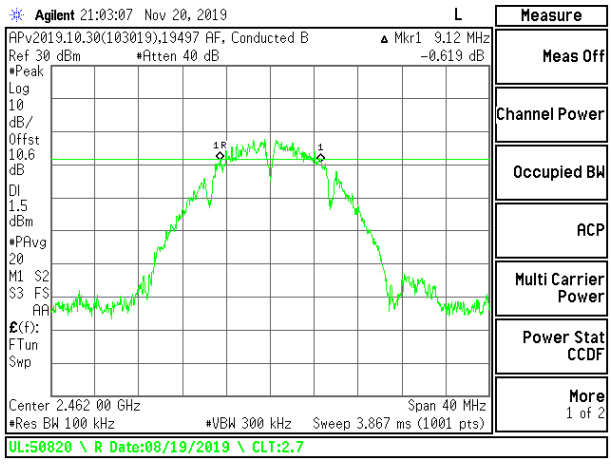
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	8.16	0.5
Mid 6	2437	8.60	0.5
High 11	2462	9.12	0.5



LOW CHANNEL 1



MID CHANNEL 6

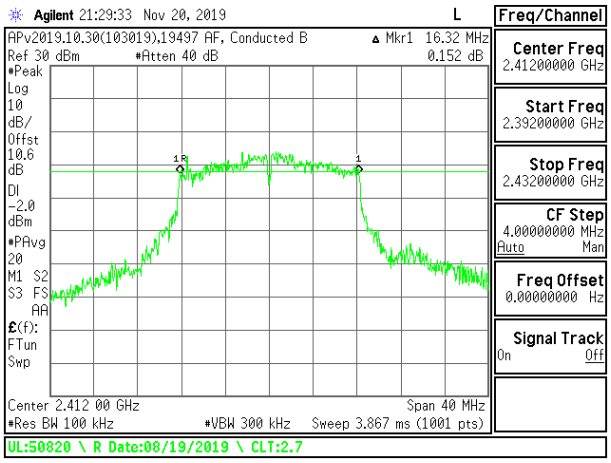


HIGH CHANNEL 11

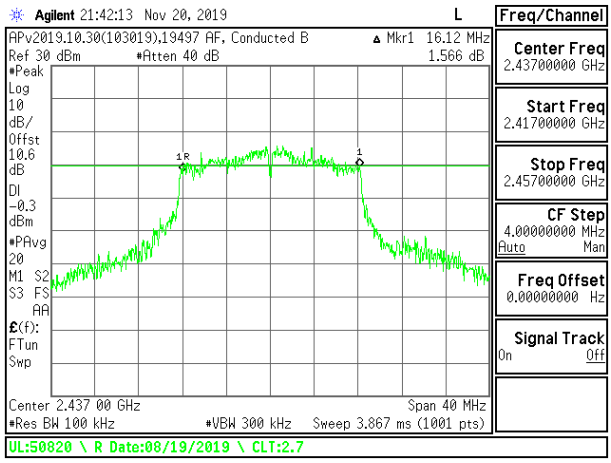
9.2.2. 802.11g MODE

1TX CHAIN 0 MODE

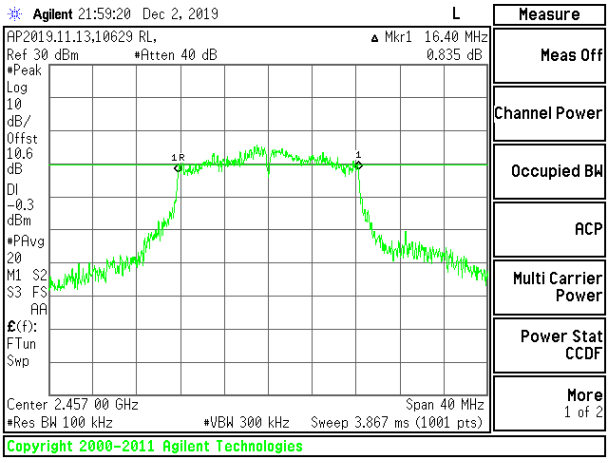
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	16.32	0.5
Mid 6	2437	16.12	0.5
High 10	2457	16.40	0.5
High 11	2462	16.36	0.5



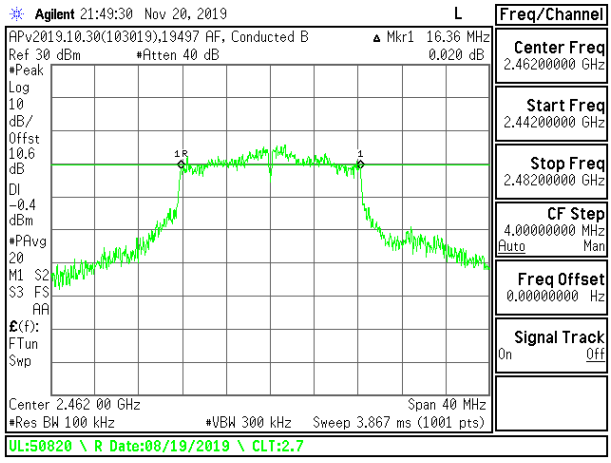
LOW CHANNEL 1



MID CHANNEL 6



HIGH CHANNEL 10

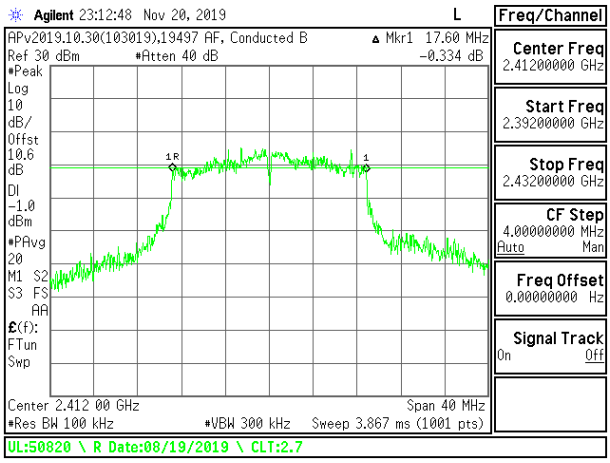


HIGH CHANNEL 11

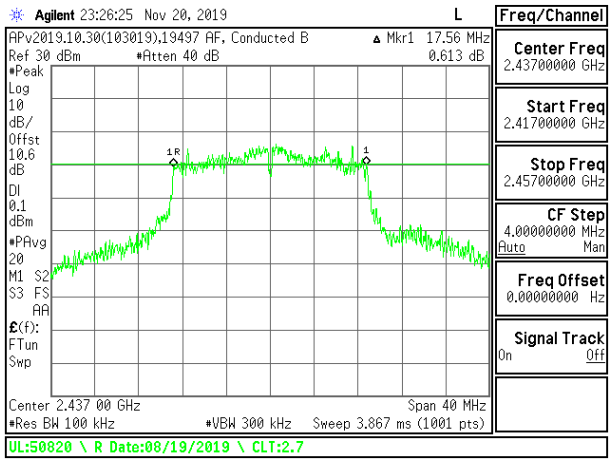
9.2.3. 802.11n HT20 MODE

1TX CHAIN 0 MODE

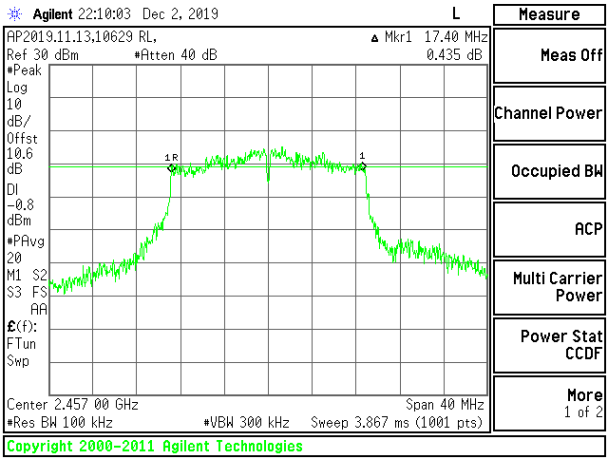
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	17.60	0.5
Mid 6	2437	17.56	0.5
High 10	2457	17.40	0.5
High 11	2462	17.56	0.5



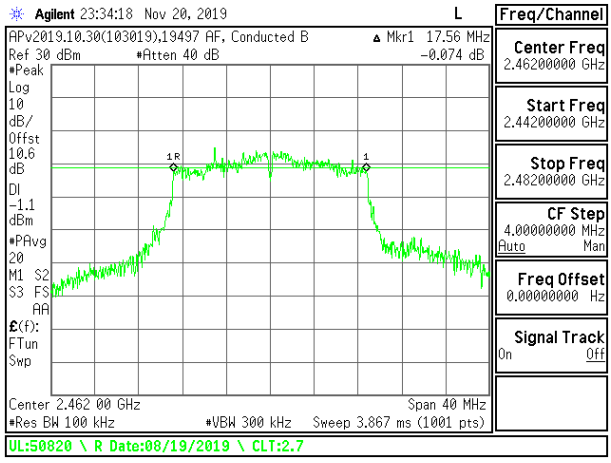
LOW CHANNEL 1



MID CHANNEL 6



HIGH CHANNEL 10



HIGH CHANNEL 11

9.3. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)

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.

TEST PROCEDURE

The transmitter output is connected to a power meter. The cable assembly insertion loss was entered as an offset in the power meter to allow for a peak reading of power.

DIRECTIONAL ANTENNA GAIN

For 1 TX:
There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

Tested By:	19497AF/14980BS/10629RL
Date:	11/11/2019 – 12/02/2019

9.3.1. 802.11b MODE

1TX CHAIN 0 MODE

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	-7.52	30.00	30	36	30.00
Mid 6	2437	-7.52	30.00	30	36	30.00
High 11	2462	-7.52	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	18.26	18.26	30.00	-11.74
Mid 6	2437	18.43	18.43	30.00	-11.57
High 11	2462	17.88	17.88	30.00	-12.12

9.3.2. 802.11g MODE

1TX CHAIN 0 MODE

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	-7.52	30.00	30	36	30.00
Mid 6	2437	-7.52	30.00	30	36	30.00
High 10	2457	-7.52	30.00	30	36	30.00
High 11	2462	-7.52	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	16.57	16.57	30.00	-13.43
Mid 6	2437	17.63	17.63	30.00	-12.37
High 10	2457	17.72	17.72	30.00	-12.28
High 11	2462	14.59	14.59	30.00	-15.41

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9.3.3. 802.11n HT20 MODE

1TX CHAIN 0 MODE

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	-7.52	30.00	30	36	30.00
Mid 6	2437	-7.52	30.00	30	36	30.00
High 10	2457	-7.52	30.00	30	36	30.00
High 11	2462	-7.52	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	15.97	15.97	30.00	-14.03
Mid 6	2437	17.64	17.64	30.00	-12.36
High 10	2457	17.81	17.81	30.00	-12.19
High 11	2462	14.48	14.48	30.00	-15.52

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9.4. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e)

The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

RESULTS

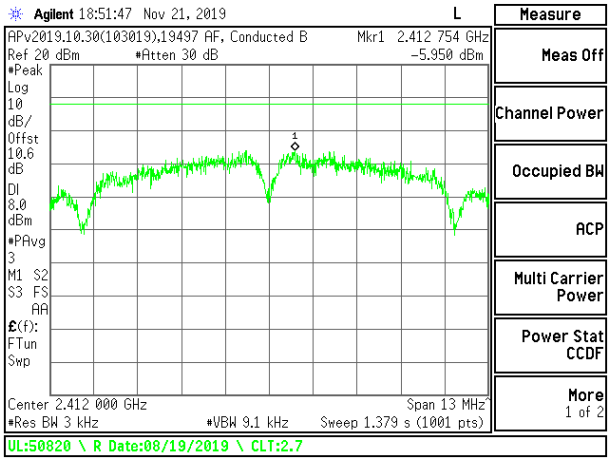
9.4.1. 802.11b MODE

1TX CHAIN 0 MODE

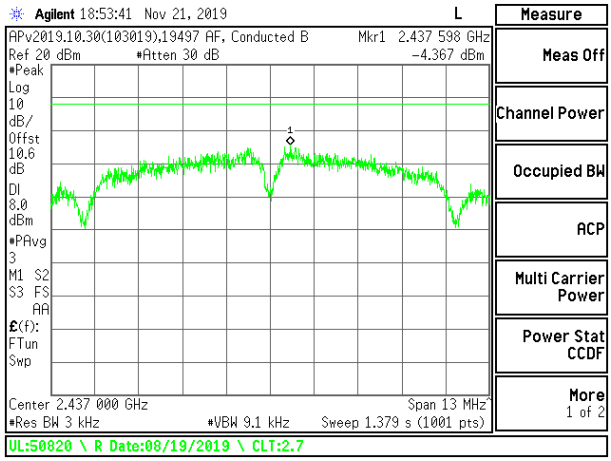
Duty Cycle CF (dB)	0.11	Included in Calculations of Corr'd PSD

PSD Results

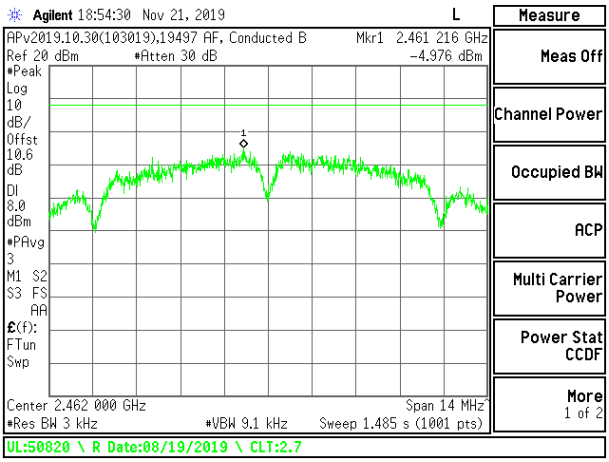
Channel	Frequency (MHz)	Chain 0 Meas (dBm/ 3kHz)	Total Corr'd PSD (dBm/ 3kHz)	Limit (dBm/ 3kHz)	Margin (dB)
Low 1	2412	-5.950	-5.84	8.0	-13.8
Mid 6	2437	-4.367	-4.26	8.0	-12.3
High 11	2462	-4.976	-4.87	8.0	-12.9



LOW CHANNEL 1



MID CHANNEL 6



HIGH CHANNEL 11

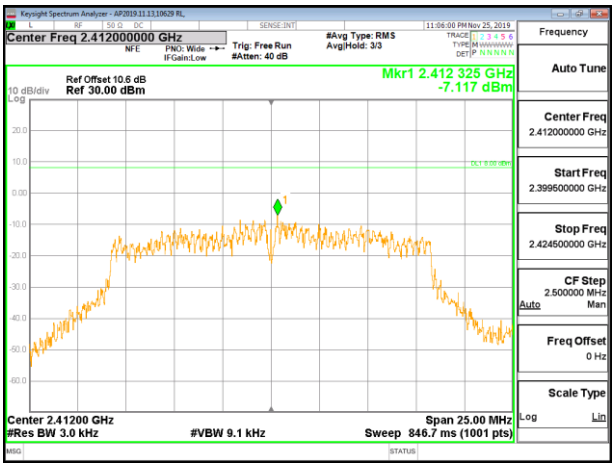
9.4.2. 802.11g MODE

1TX CHAIN 0 MODE

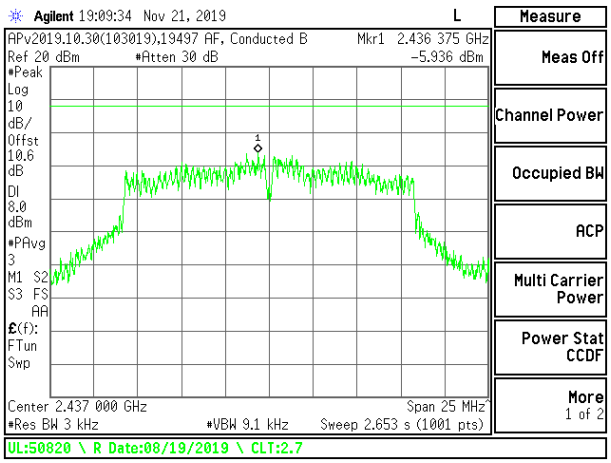
Duty Cycle CF (dB)	0.11	Included in Calculations of Corr'd PSD

PSD Results

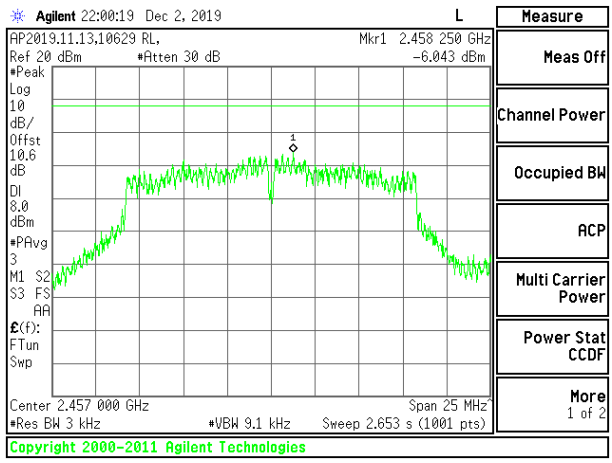
Channel	Frequency (MHz)	Chain 0 Meas (dBm/ 3kHz)	Total Corr'd PSD (dBm/ 3kHz)	Limit (dBm/ 3kHz)	Margin (dB)
Low 1	2412	-7.117	-7.01	8.0	-15.0
Mid 6	2437	-5.936	-5.83	8.0	-13.8
High 10	2457	-6.043	-5.93	8.0	-13.9
High 11	2462	-9.820	-9.71	8.0	-17.7



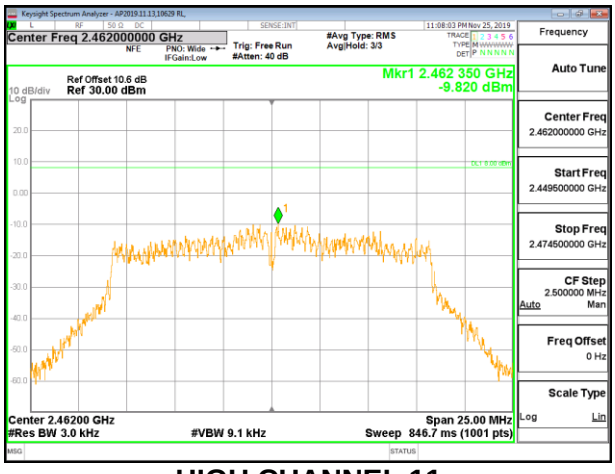
LOW CHANNEL 1



MID CHANNEL 6



HIGH CHANNEL 10



HIGH CHANNEL 11

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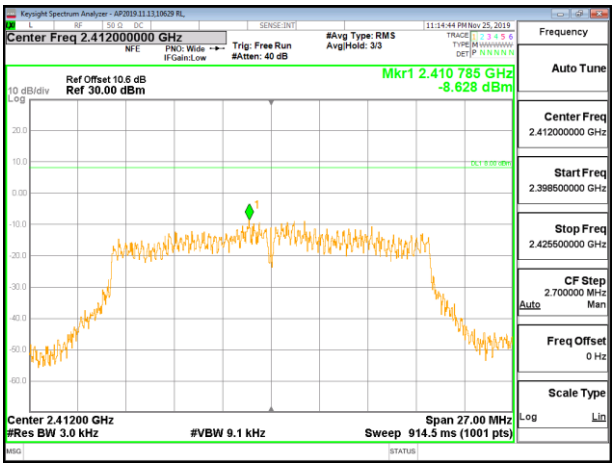
9.4.3. 802.11n HT20 MODE

1TX CHAIN 0 MODE

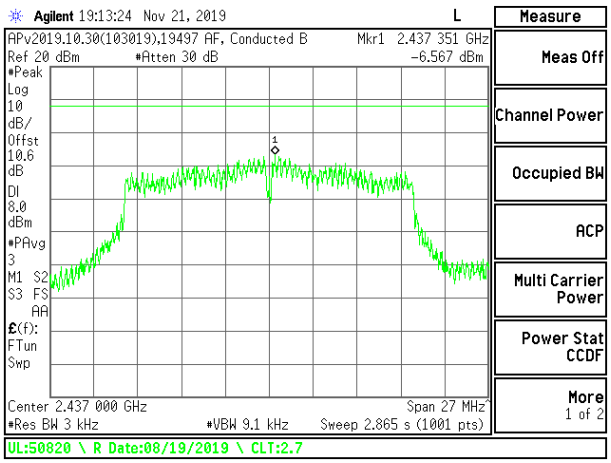
Duty Cycle CF (dB)	0.12	Included in Calculations of Corr'd PSD

PSD Results

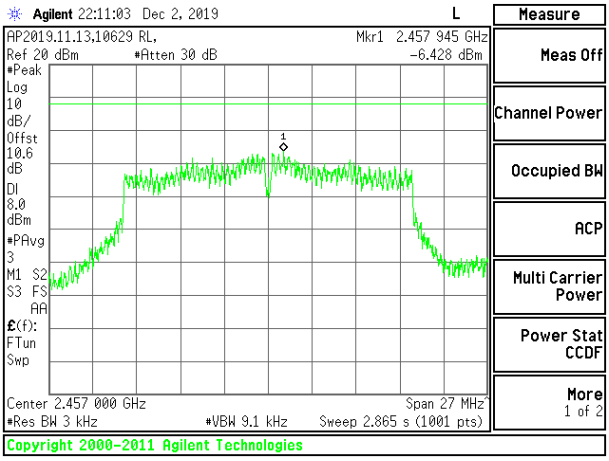
Channel	Frequency (MHz)	Chain 0 Meas (dBm/ 3kHz)	Total Corr'd PSD (dBm/ 3kHz)	Limit (dBm/ 3kHz)	Margin (dB)
Low 1	2412	-8.628	-8.51	8.0	-16.5
Mid 6	2437	-6.567	-6.45	8.0	-14.4
High 10	2457	-6.428	-6.31	8.0	-14.3
High 11	2462	-9.612	-9.49	8.0	-17.5



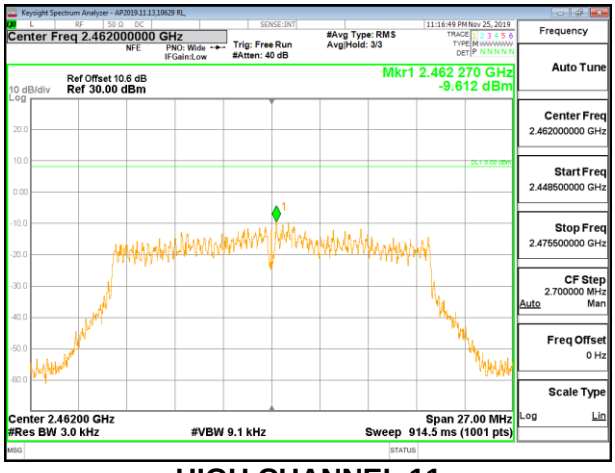
LOW CHANNEL 1



MID CHANNEL 6



HIGH CHANNEL 10



HIGH CHANNEL 11

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9.5. CONDUCTED SPURIOUS EMISSIONS

LIMITS

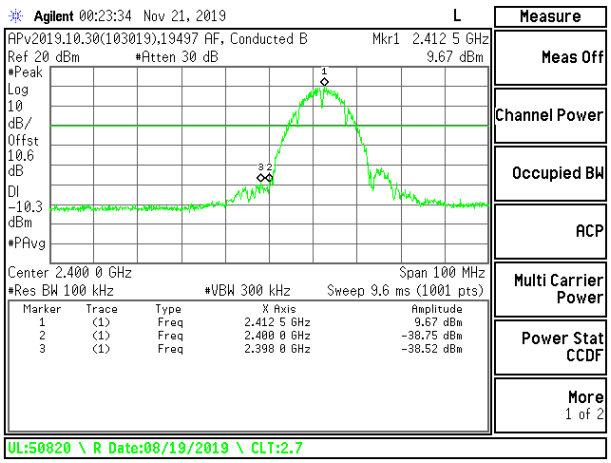
FCC §15.247 (d)

Output power was measured based on the use of peak measurement, therefore the required attenuation is 20 dB.

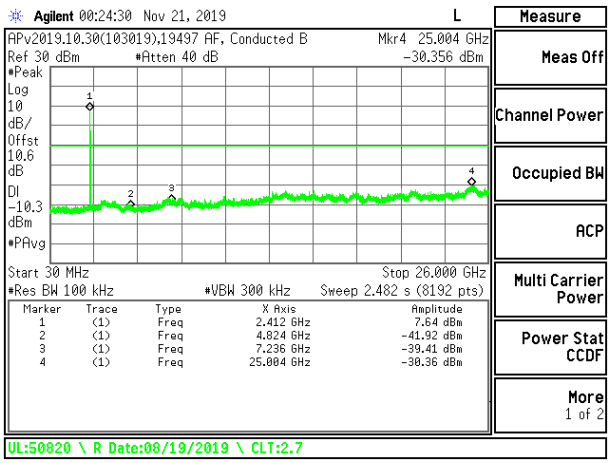
RESULTS

9.5.1. 802.11b MODE

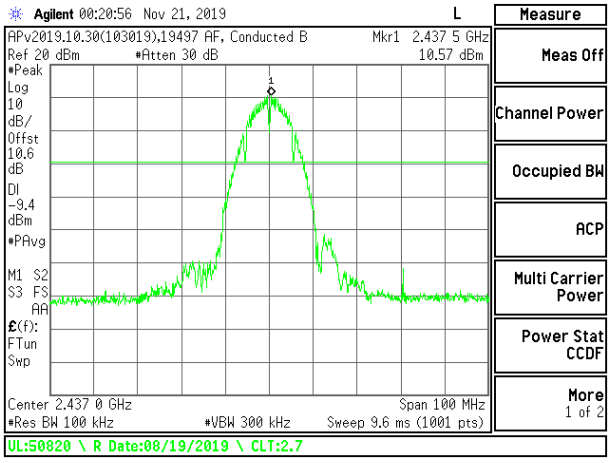
1TX CHAIN 0 MODE



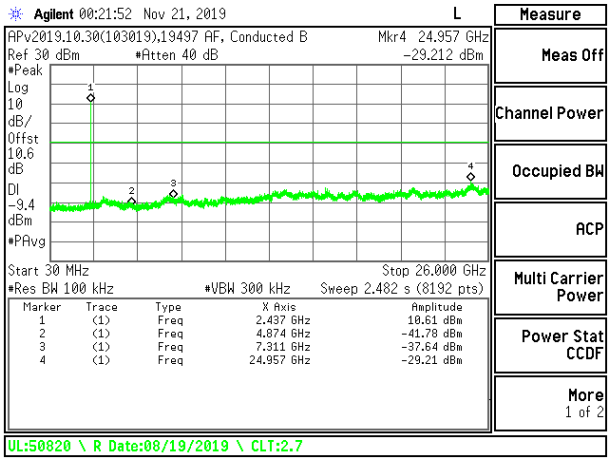
LOW CHANNEL 1 BANDEDGE



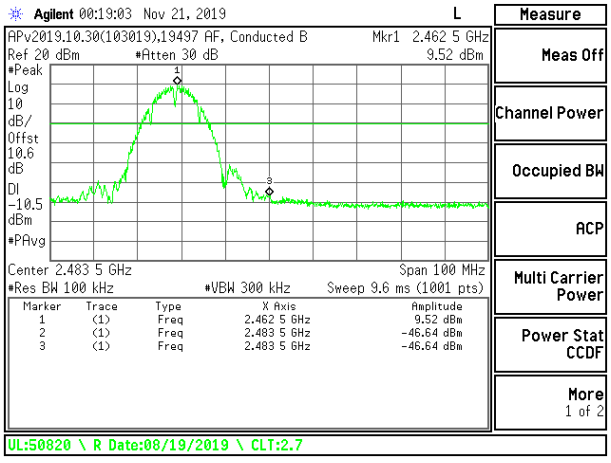
OUT-OF-BAND LOW CHANNEL 1



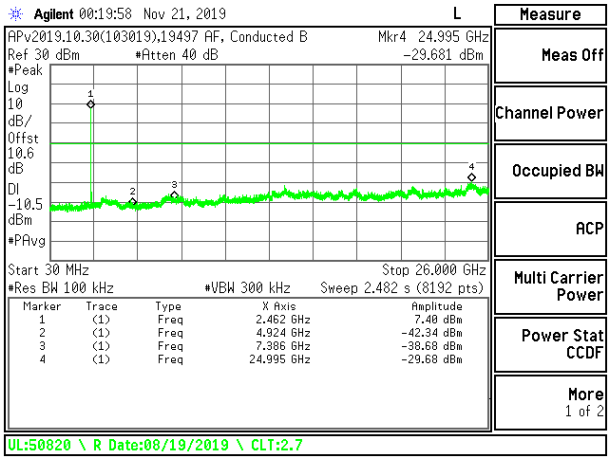
IN-BAND REFERNCE LEVEL



OUT-OF-BAND MID CHANNEL



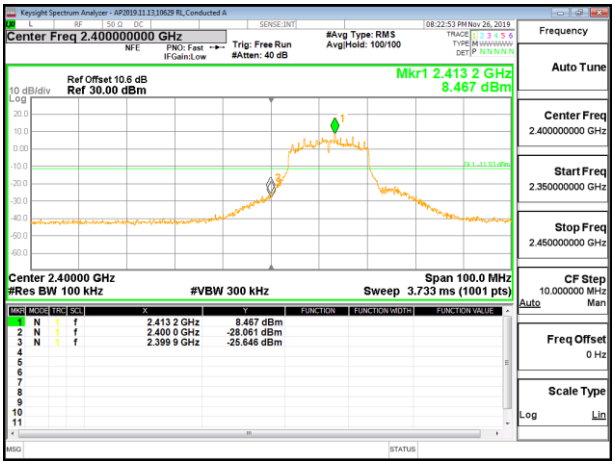
HIGH CHANNEL 11 BANDEDGE



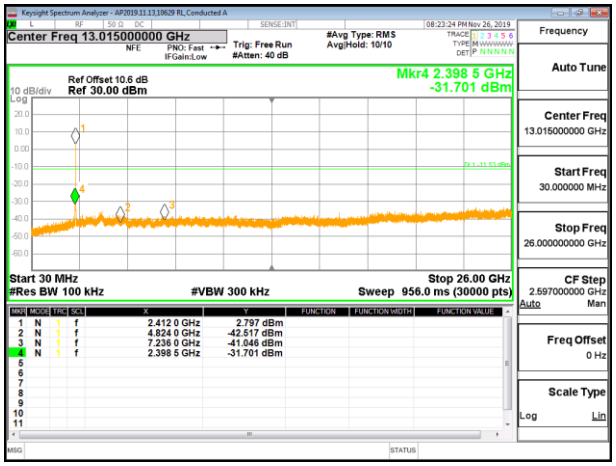
OUT-OF-BAND HIGH CHANNEL 11

9.5.2. 802.11g MODE

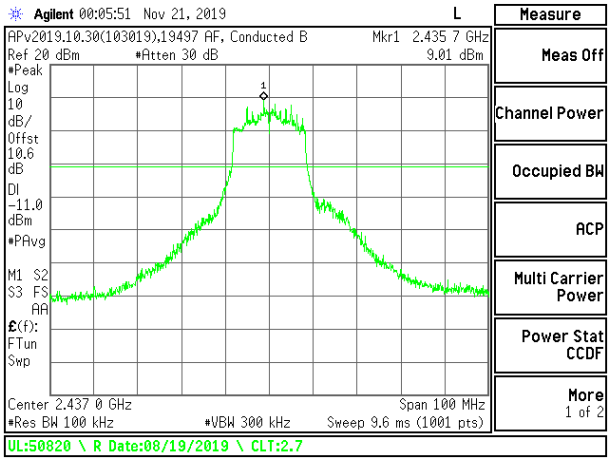
1TX CHAIN 0 MODE



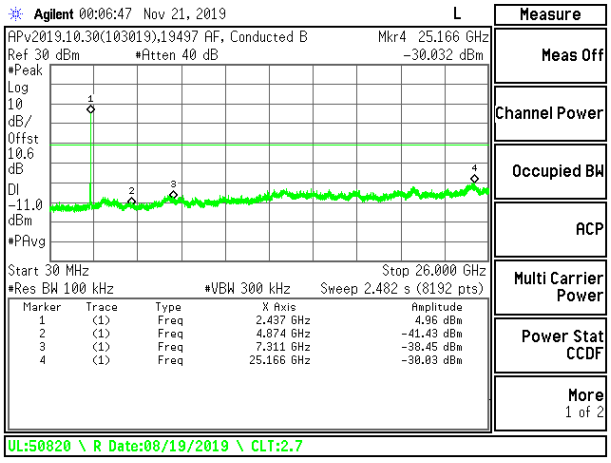
LOW CHANNEL 1 BANDEDGE



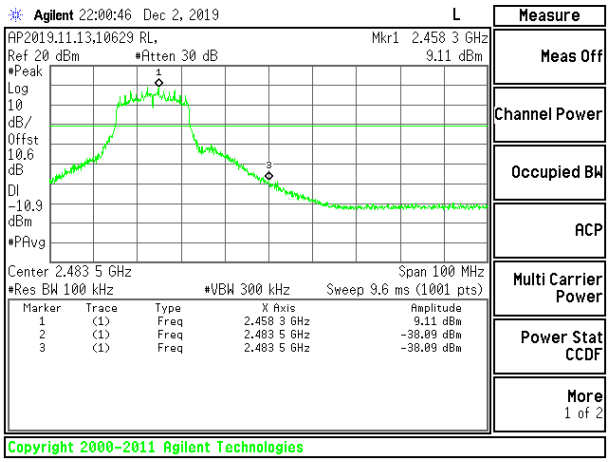
OUT-OF-BAND LOW CHANNEL 1



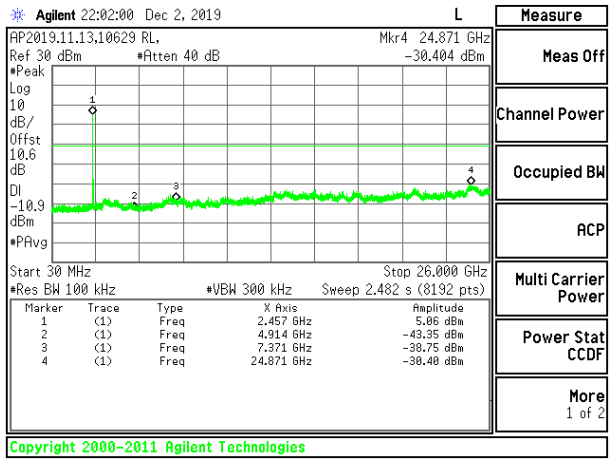
IN-BAND REFERNCE LEVEL



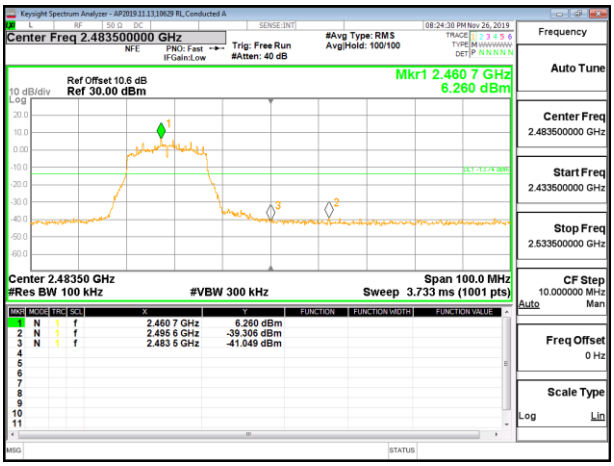
OUT-OF-BAND MID CHANNEL



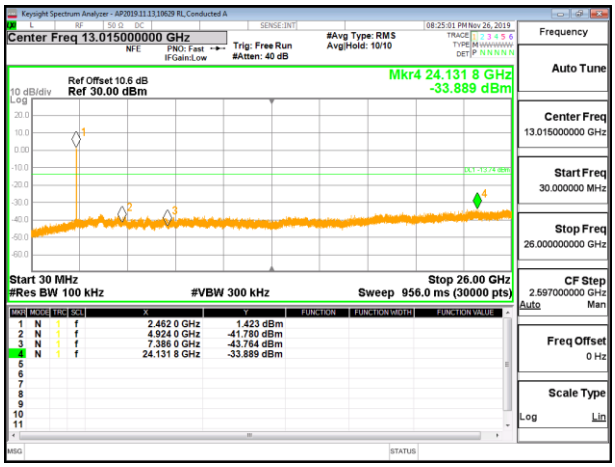
HIGH CHANNEL 10 BANDEDGE



OUT-OF-BAND HIGH CHANNEL 10



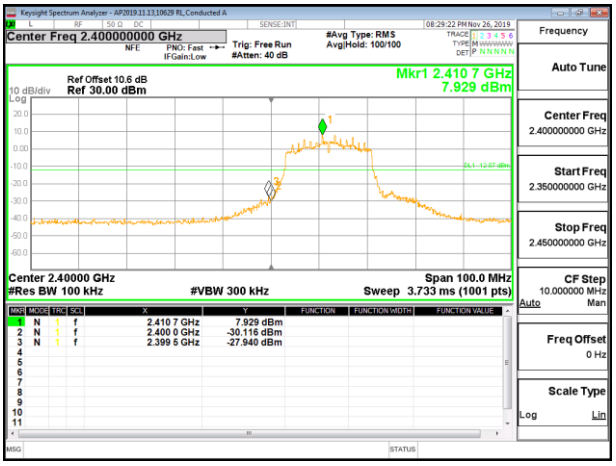
HIGH CHANNEL 11 BANDEDGE



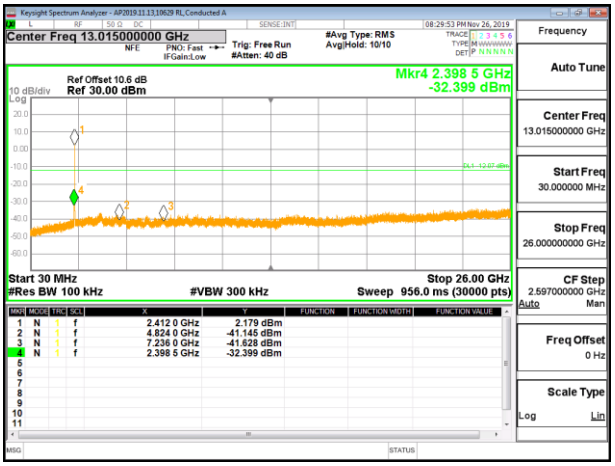
OUT-OF-BAND HIGH CHANNEL 11

9.5.3. 802.11n HT20 MODE

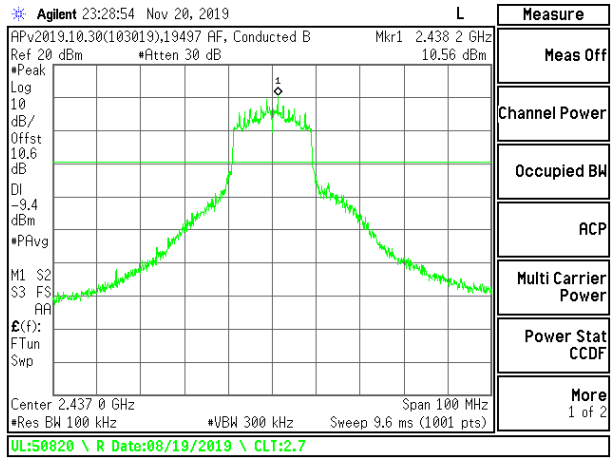
1TX CHAIN 0 MODE



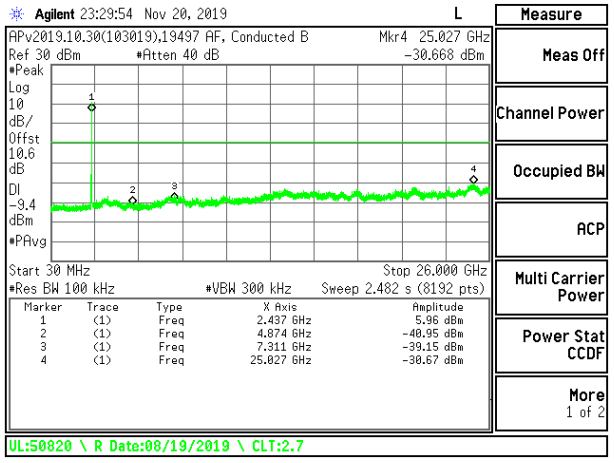
LOW CHANNEL 1 BANDEDGE



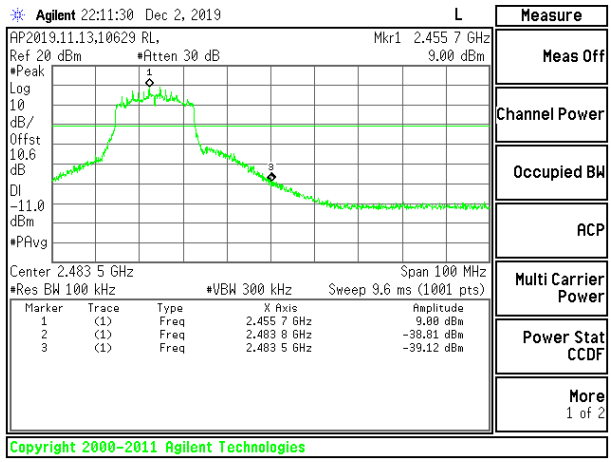
OUT-OF-BAND LOW CHANNEL 1



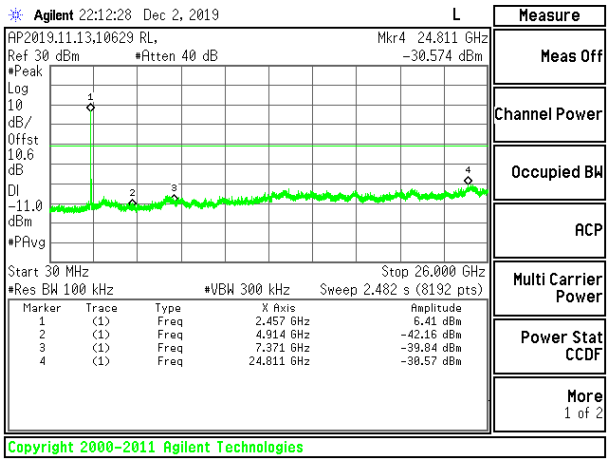
IN-BAND REFERNCE LEVEL



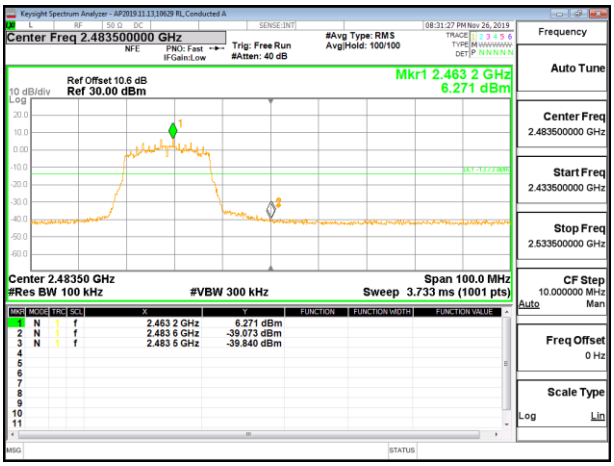
OUT-OF-BAND MID CHANNEL



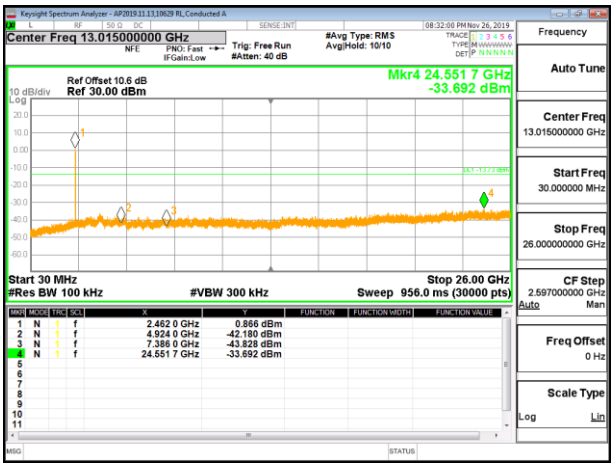
HIGH CHANNEL 10 BANDEDGE



OUT-OF-BAND HIGH CHANNEL 10



HIGH CHANNEL 11 BANDEDGE



OUT-OF-BAND HIGH CHANNEL 11

10. RADIATED TEST RESULTS

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
0.009-0.490	2400/F(kHz) @ 300 m	-
0.490-1.705	24000/F(kHz) @ 30 m	-
1.705 - 30	30 @ 30m	-
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 for measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

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 pre-scans above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 KHz for peak measurements.

For final measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements.

The spectrum from 1 GHz to 18 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band. Below 1GHz and above 18GHz emissions, the channel with the highest output power was tested.

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.

2D antenna use - For below 30MHz testing, investigation was done on three antenna orientations (parallel, perpendicular, and ground-parallel), parallel and perpendicular are the worst orientations, therefore testing was performed on these two orientations only.

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KDB 414788 Open Field Site(OFS) and Chamber Correlation Justification

Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

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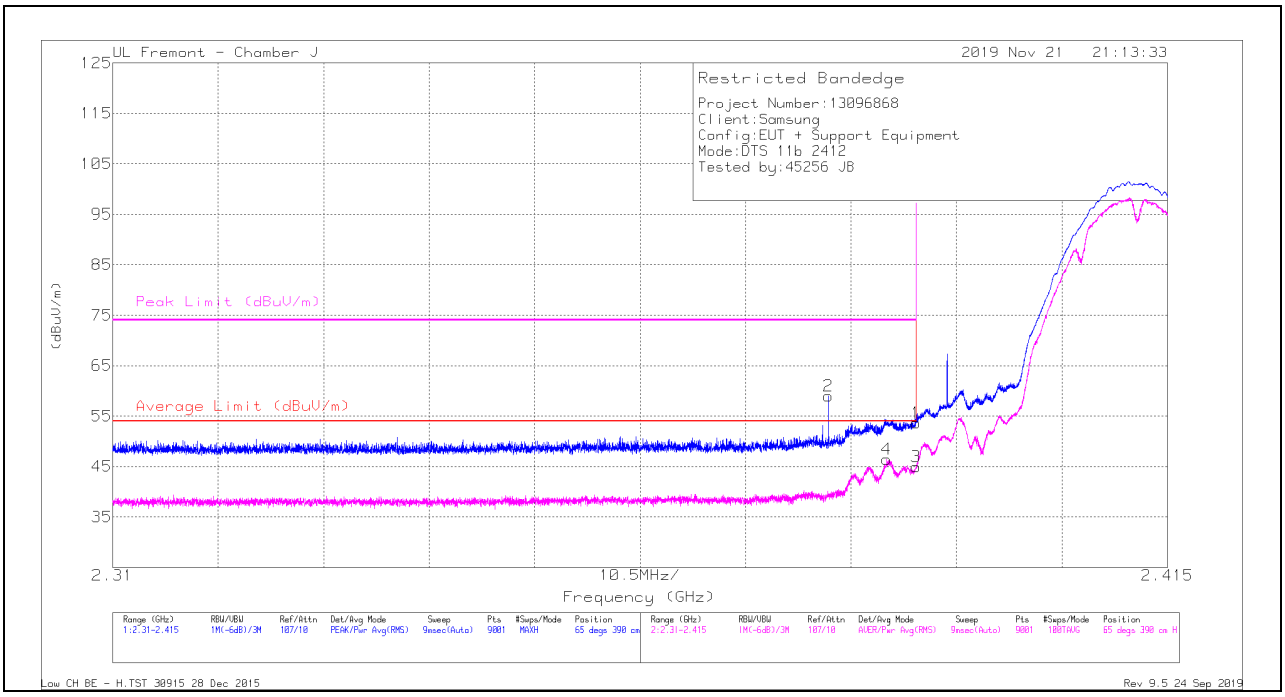
10.1. TRANSMITTER ABOVE 1 GHz

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

1TX CHAIN 0 MODE

BANDEDGE (LOW CHANNEL, CH 1)

HORIZONTAL RESULT

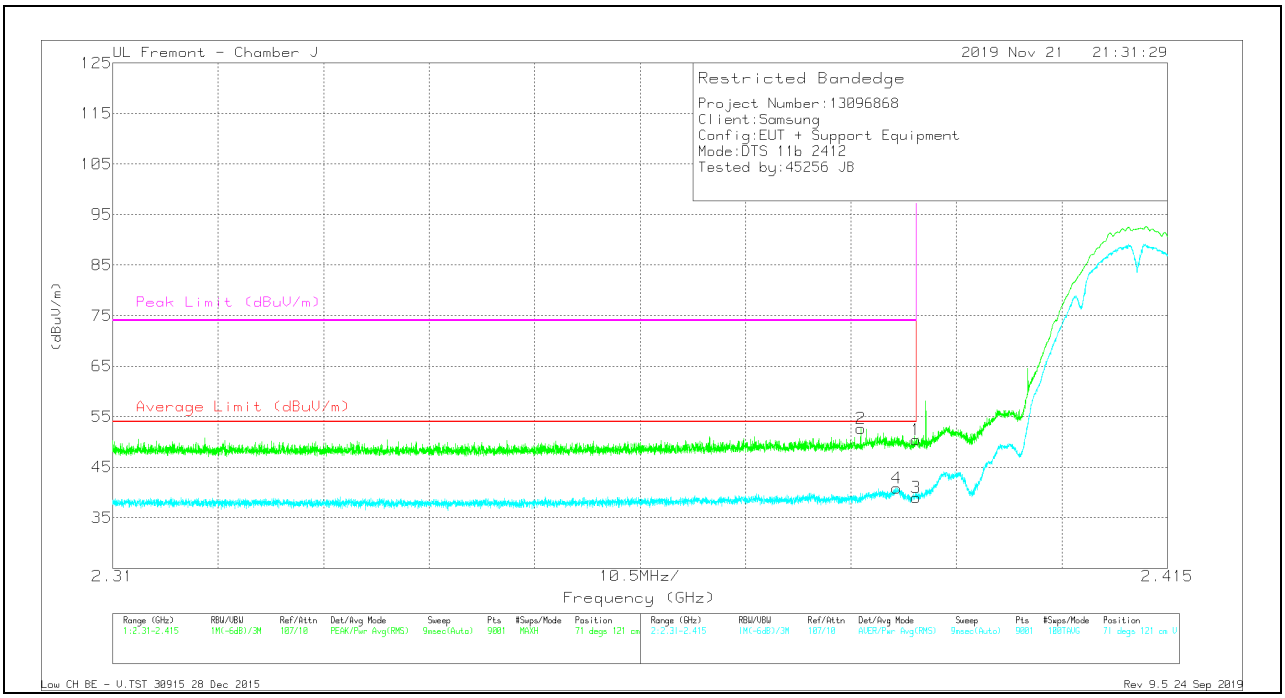


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (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	* 2.38999	47.27	Pk	31.9	-25.5	0	53.67	-	-	74	-20.33	65	390	H
2	* 2.38125	52.64	Pk	31.8	-25.5	0	58.94	-	-	74	-15.06	65	390	H
3	* 2.38999	38.42	RMS	31.9	-25.5	.11	44.93	54	-9.07	-	-	65	390	H
4	* 2.38705	39.99	RMS	31.8	-25.5	.11	46.4	54	-7.6	-	-	65	390	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

VERTICAL RESULT



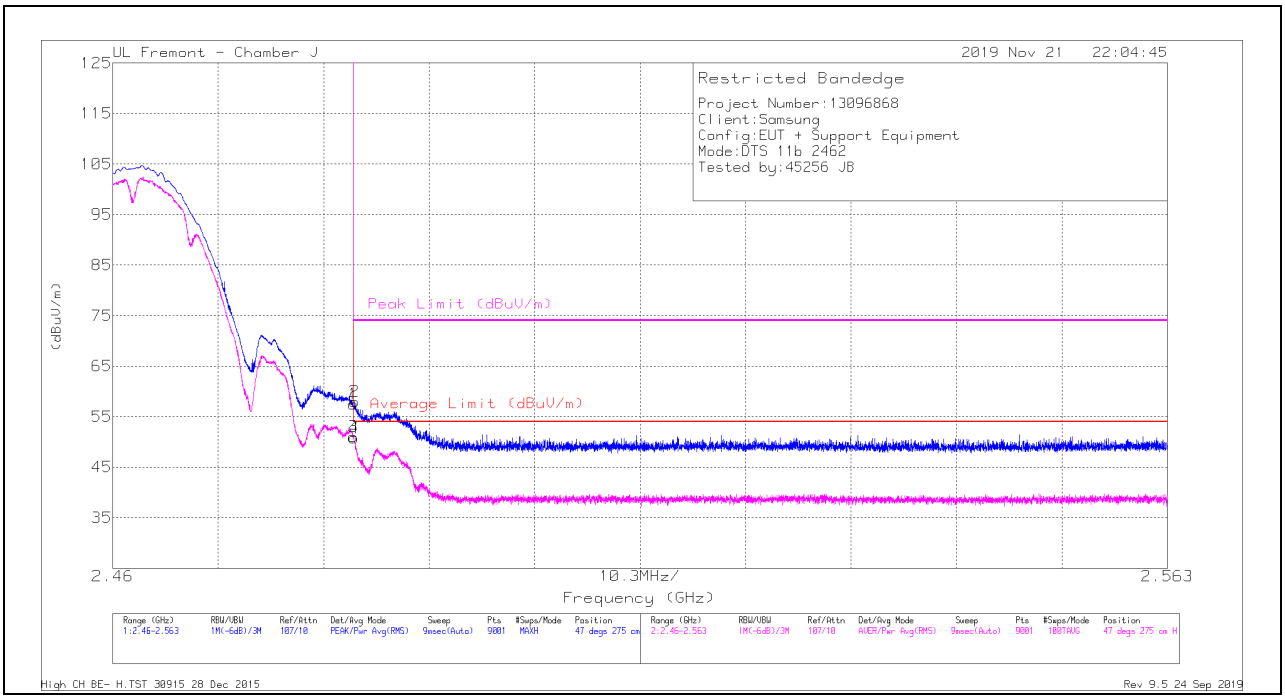
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (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	* 2.38999	43.98	Pk	31.9	-25.5	0	50.38	-	-	74	-23.62	71	121	V
2	* 2.38446	46.35	Pk	31.8	-25.5	0	52.65	-	-	74	-21.35	71	121	V
3	* 2.38999	32.53	RMS	31.9	-25.5	.11	39.04	54	-14.96	-	-	71	121	V
4	* 2.38805	34.39	RMS	31.9	-25.5	.11	40.9	54	-13.1	-	-	71	121	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

BANDEDGE (HIGH CHANNEL, CH 11)

HORIZONTAL RESULT

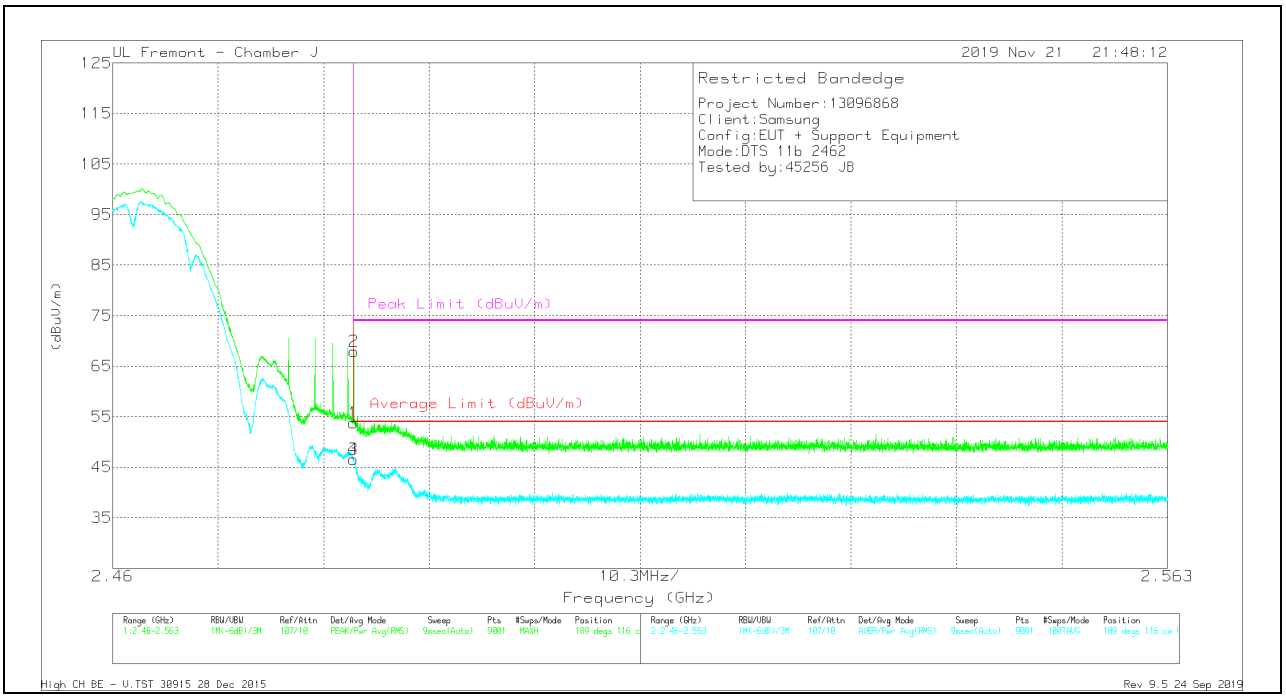


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (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	* 2.48351	50.7	Pk	32.3	-25.5	0	57.5	-	-	74	-16.5	47	275	H
2	* 2.48362	51.14	Pk	32.3	-25.5	0	57.94	-	-	74	-16.06	47	275	H
3	* 2.48351	44.07	RMS	32.3	-25.5	.11	50.98	54	-3.02	-	-	47	275	H
4	* 2.48357	43.84	RMS	32.3	-25.5	.11	50.75	54	-3.25	-	-	47	275	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

VERTICAL RESULT



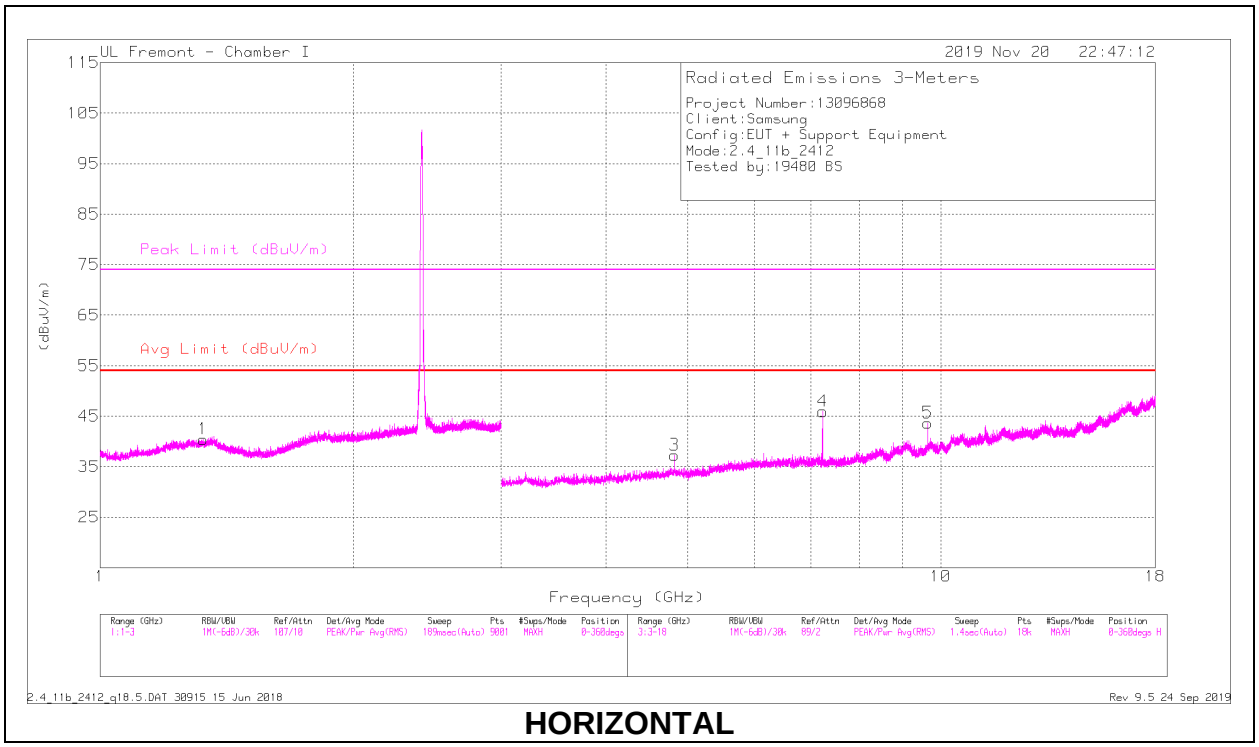
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (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	* 2.48351	46.96	Pk	32.3	-25.5	0	53.76	-	-	74	-20.24	189	116	V
2	* 2.48355	61.17	Pk	32.3	-25.5	0	67.97	-	-	74	-6.03	189	116	V
3	* 2.48351	39.65	RMS	32.3	-25.5	.11	46.56	54	-7.44	-	-	189	116	V
4	* 2.48352	39.67	RMS	32.3	-25.5	.11	46.58	54	-7.42	-	-	189	116	V

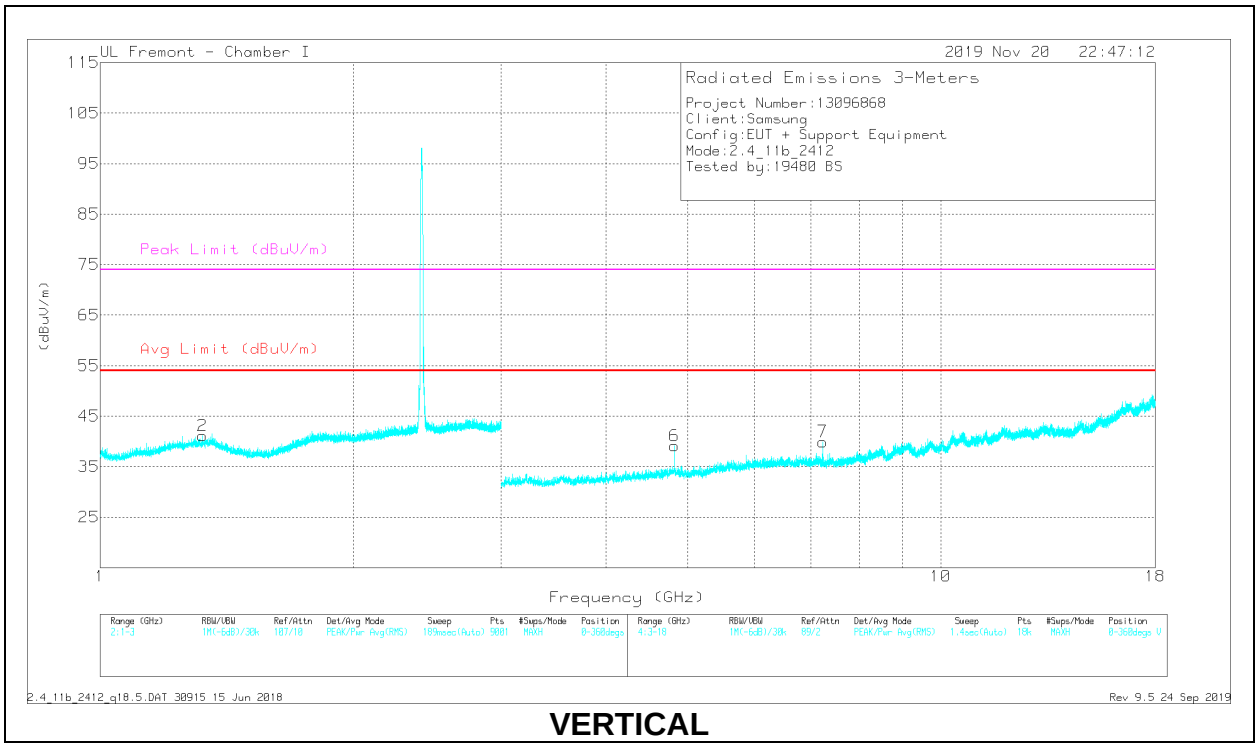
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 1 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

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	* 1.32554	39.85	PK2	29.4	-20.8	0	48.45	-	-	74	-25.55	123	139	H
	* 1.32565	29.17	MAv1	29.3	-20.8	.11	37.78	54	-16.22	-	-	123	139	H
2	* 1.3249	39.54	PK2	29.4	-20.8	0	48.14	-	-	74	-25.86	135	150	V
	* 1.32189	29.17	MAv1	29.3	-20.6	.11	37.98	54	-16.02	-	-	135	150	V
3	* 4.82395	37.91	PK2	34.1	-25.9	0	46.11	-	-	74	-27.89	52	386	H
	* 4.824	31.07	MAv1	34.1	-25.9	.11	39.38	54	-14.62	-	-	52	386	H
4	7.23677	41.46	PK2	35.6	-24	0	53.06	-	-	-	-	85	119	H
5	9.64787	32.37	PK2	36.8	-20.2	0	48.97	-	-	-	-	22	244	H
6	* 4.82391	36.54	PK2	34.1	-25.9	0	44.74	-	-	74	-29.26	84	175	V
	* 4.82401	29.63	MAv1	34.1	-25.9	.11	37.94	54	-16.06	-	-	84	175	V
7	7.23702	36.99	PK2	35.6	-24	0	48.59	-	-	-	-	17	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

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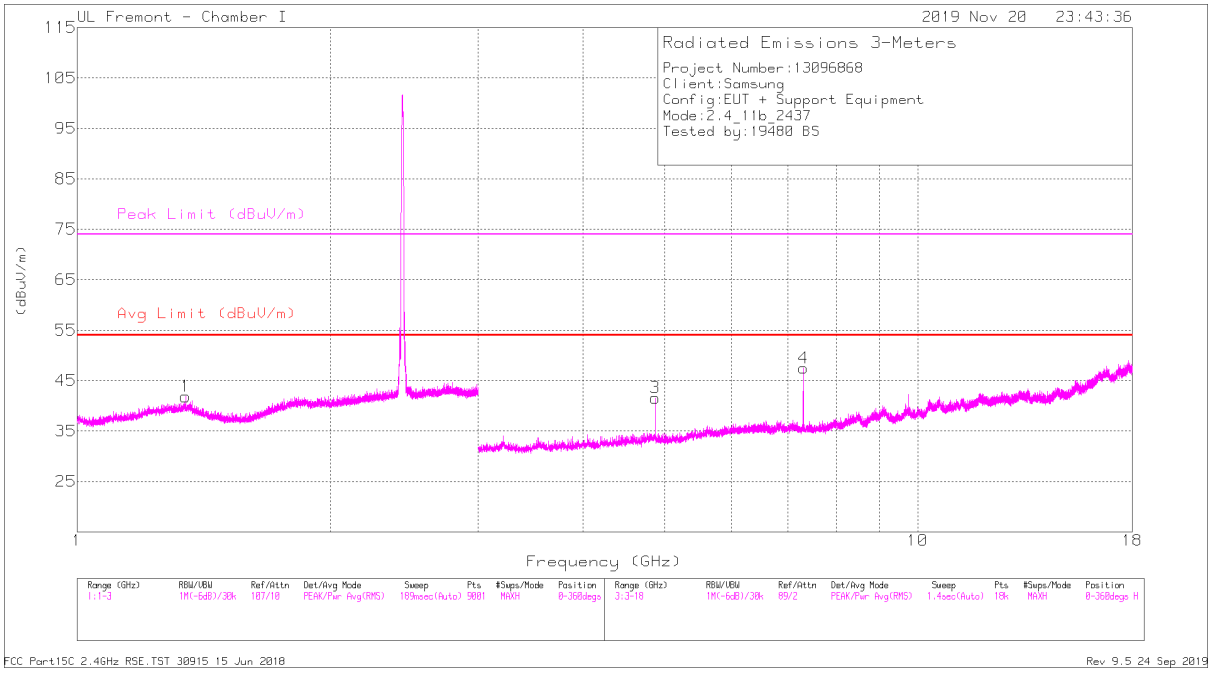
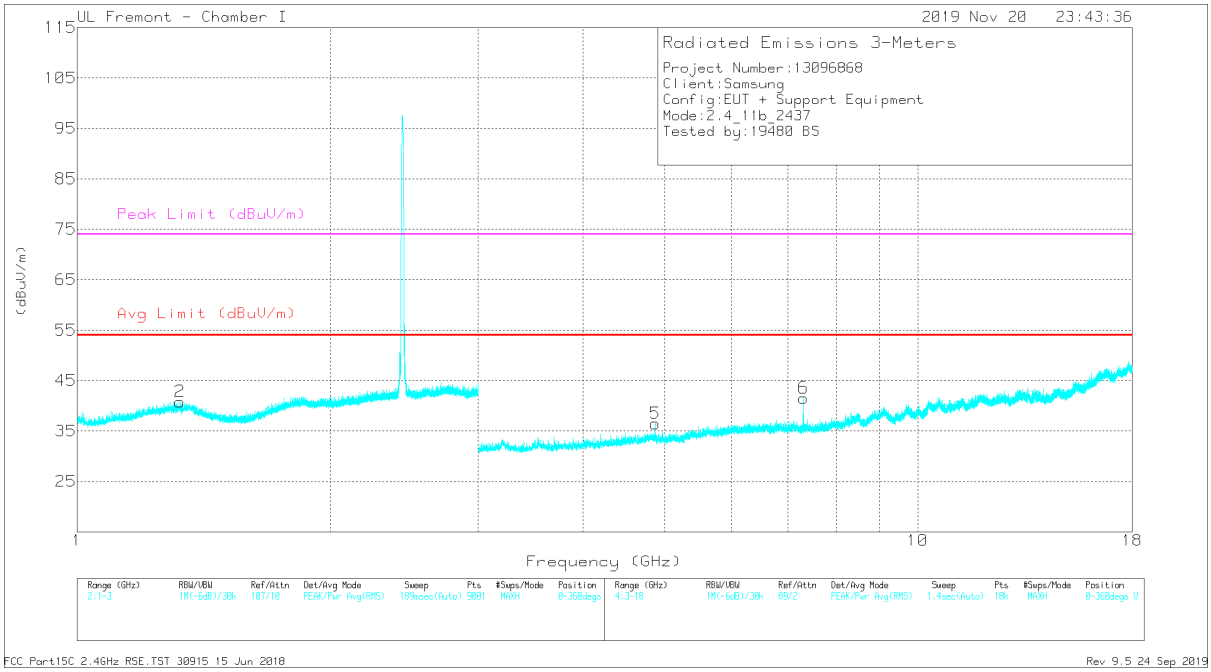
MID CHANNEL, CH 6 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

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	* 1.34517	39.65	PK2	29.5	-20.8	0	48.35	-	-	74	-25.65	115	226	H
	* 1.34755	29.4	MAv1	29.5	-20.9	.11	38.11	54	-15.89	-	-	115	226	H
2	* 1.32685	39.24	PK2	29.3	-20.7	0	47.84	-	-	74	-26.16	341	151	V
	* 1.32301	29.06	MAv1	29.4	-20.7	.11	37.87	54	-16.13	-	-	341	151	V
3	* 4.87389	37.4	PK2	34.1	-26.3	0	45.2	-	-	74	-28.8	70	104	H
	* 4.87398	31.92	MAv1	34.1	-26.3	.11	39.83	54	-14.17	-	-	70	104	H
4	* 7.31122	41.47	PK2	35.6	-24.1	0	52.97	-	-	74	-21.03	88	104	H
	* 7.3118	36.11	MAv1	35.5	-24.1	.11	47.62	54	-6.38	-	-	88	104	H
5	* 4.87411	35.73	PK2	34.1	-26.3	0	43.53	-	-	74	-30.47	37	135	V
	* 4.87399	26.56	MAv1	34.1	-26.3	.11	34.47	54	-19.53	-	-	37	135	V
6	* 7.31144	37.47	PK2	35.5	-24.1	0	48.87	-	-	74	-25.13	28	102	V
	* 7.31168	29.42	MAv1	35.5	-24.1	.11	40.93	54	-13.07	-	-	28	102	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

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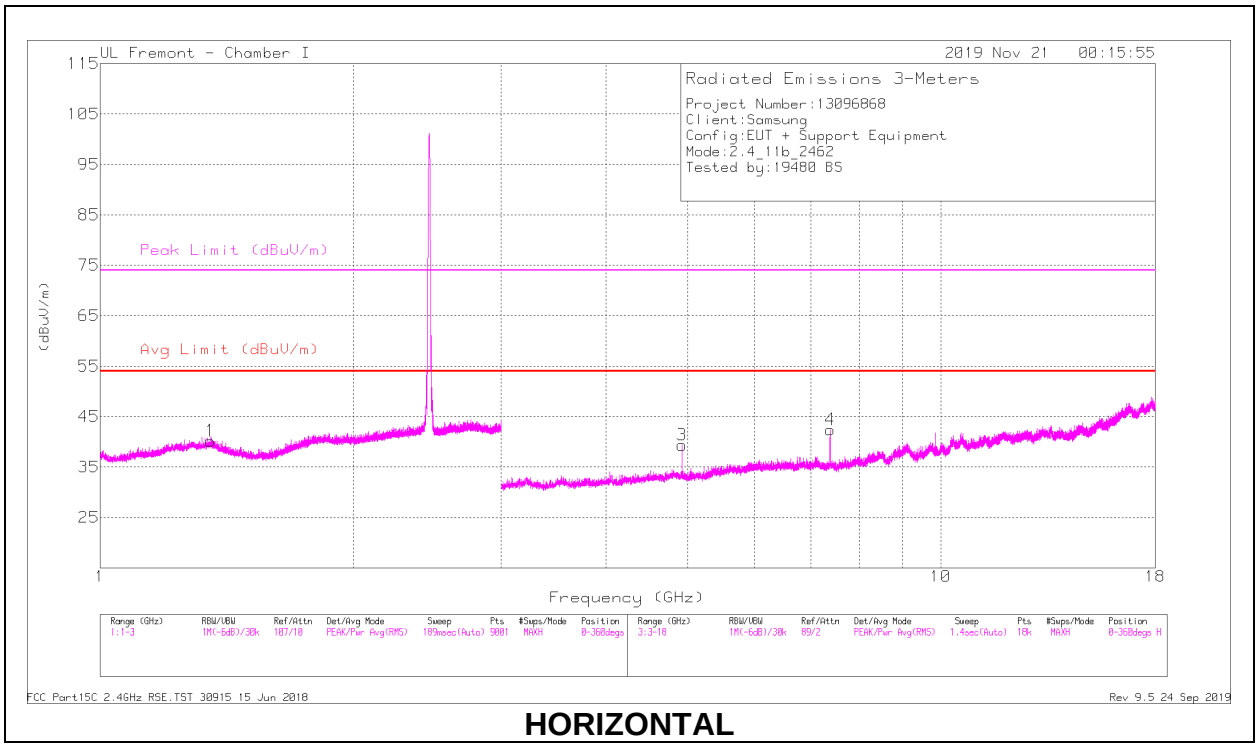
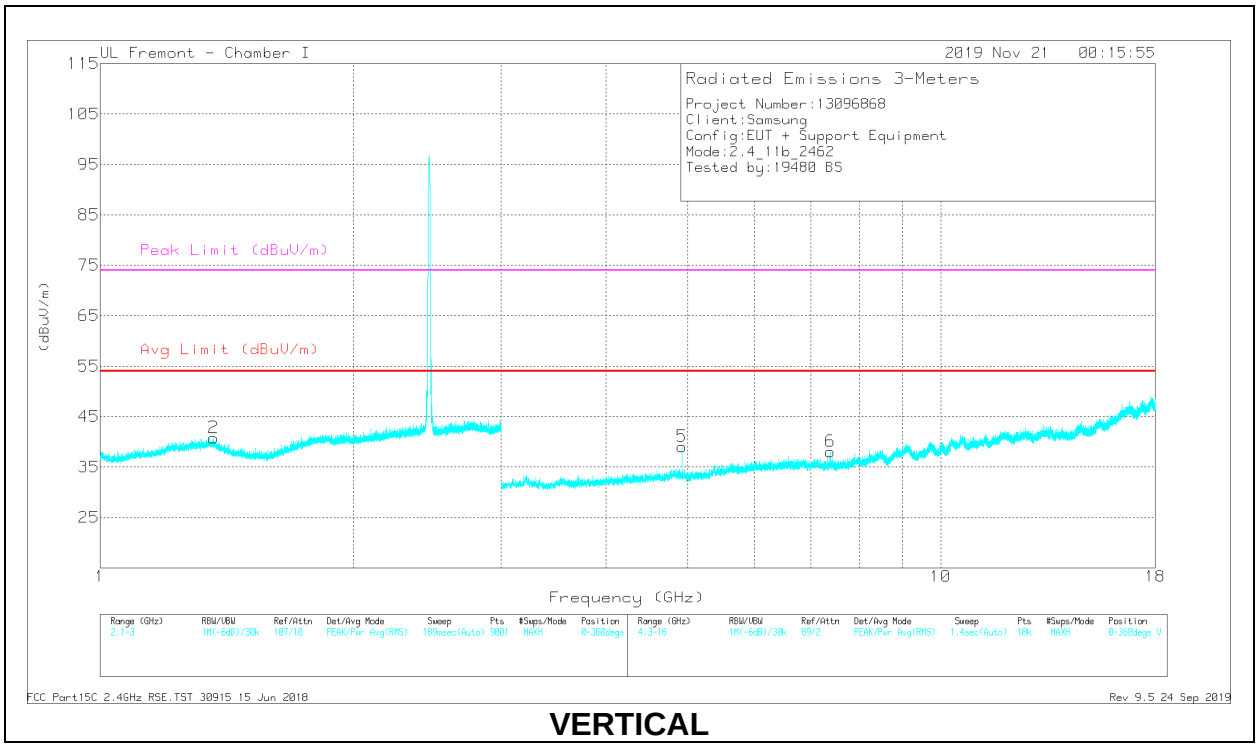
HIGH CHANNEL, CH 11 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

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	* 1.3505	39.53	PK2	29.7	-20.9	0	48.33	-	-	74	-25.67	257	162	H
	* 1.35122	29.5	MAv1	29.7	-20.9	.11	38.41	54	-15.59	-	-	257	162	H
2	* 1.36192	39.14	PK2	29.6	-20.9	0	47.84	-	-	74	-26.16	307	317	V
	* 1.36482	28.6	MAv1	29.7	-21	.11	37.41	54	-16.59	-	-	307	317	V
3	* 4.92414	36.99	PK2	34.1	-26.8	0	44.29	-	-	74	-29.71	358	109	H
	* 4.92398	29.62	MAv1	34.1	-26.8	.11	37.03	54	-16.97	-	-	358	109	H
4	* 7.38743	37.51	PK2	35.5	-23.2	0	49.81	-	-	74	-24.19	343	225	H
	* 7.38669	30.59	MAv1	35.6	-23.2	.11	43.1	54	-10.9	-	-	343	225	H
5	* 4.92399	36.97	PK2	34.1	-26.8	0	44.27	-	-	74	-29.73	86	108	V
	* 4.92399	30.19	MAv1	34.1	-26.8	.11	37.6	54	-16.4	-	-	86	108	V
6	* 7.38657	35.16	PK2	35.6	-23.2	0	47.56	-	-	74	-26.44	319	102	V
	* 7.38671	24.94	MAv1	35.6	-23.2	.11	37.45	54	-16.55	-	-	319	102	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

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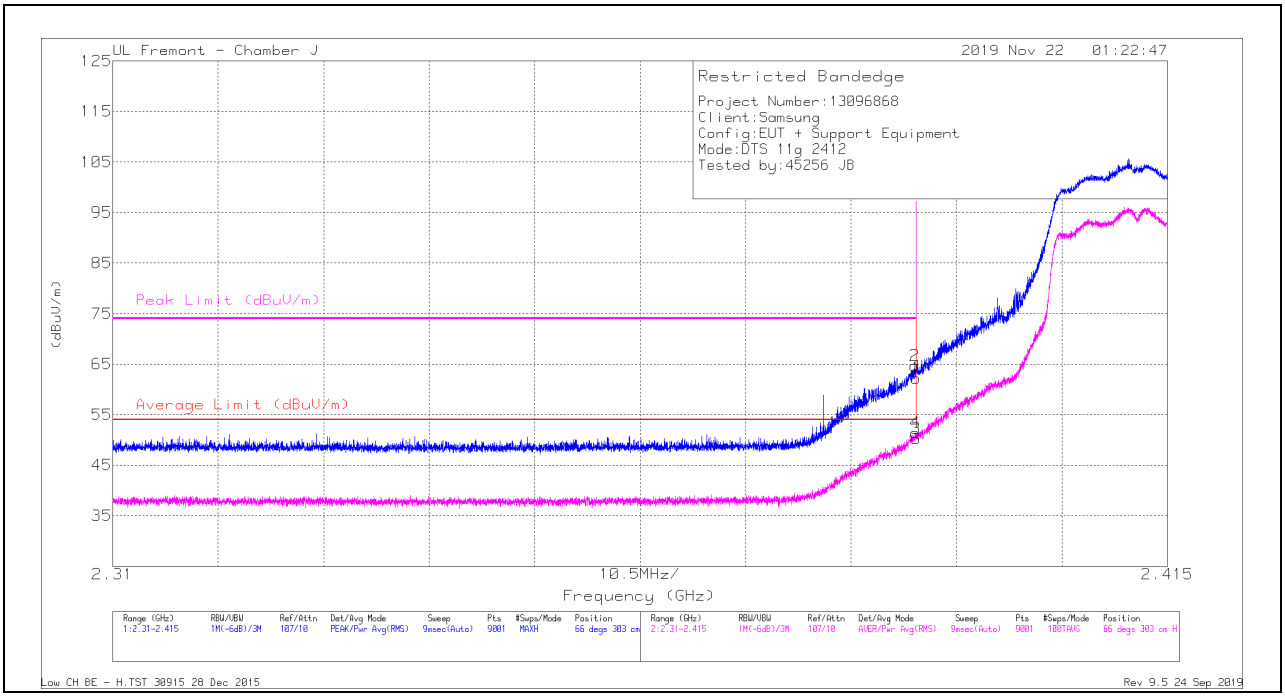
10.1.2. TX ABOVE 1 GHz 802.11g MODE IN THE 2.4 GHz BAND

1TX CHAIN 0 MODE

BANDEDGE (LOW CHANNEL, CH 1)

HORIZONTAL RESULT

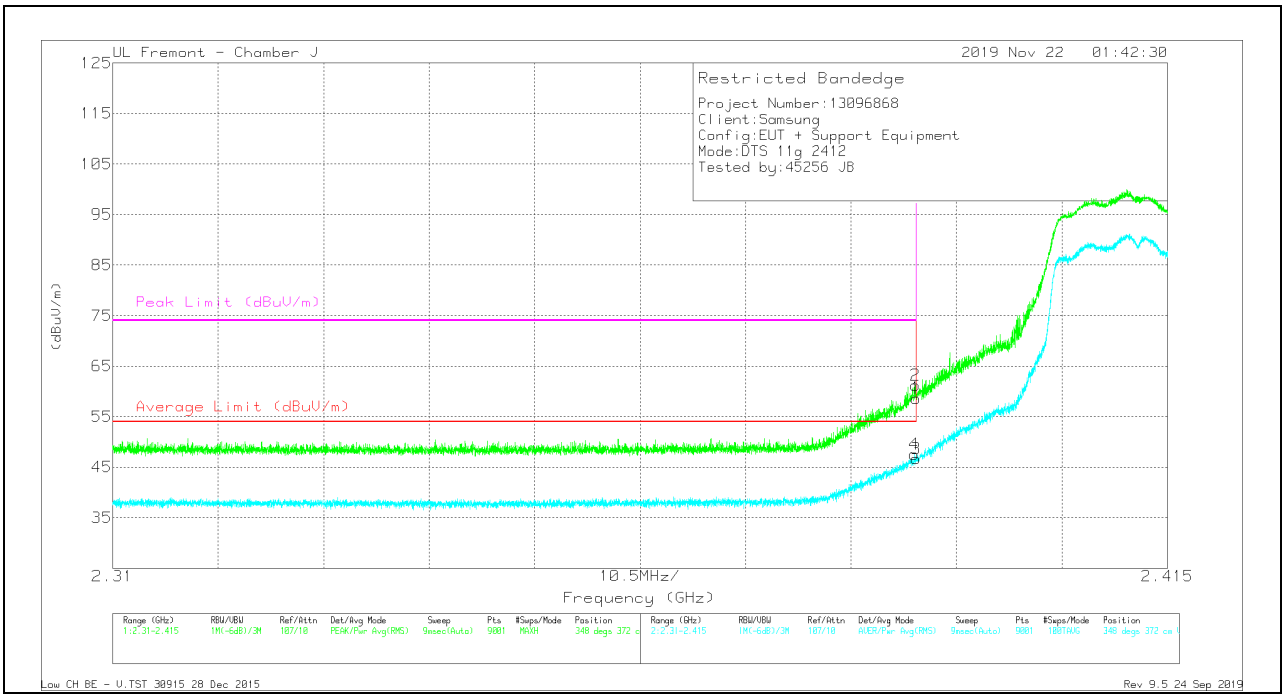


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (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	* 2.38999	55.77	Pk	31.9	-25.5	0	62.17	-	-	74	-11.83	66	303	H
2	* 2.38985	58.24	Pk	31.9	-25.5	0	64.64	-	-	74	-9.36	66	303	H
3	* 2.38999	43.74	RMS	31.9	-25.5	.11	50.25	54	-3.75	-	-	66	303	H
4	* 2.38994	44.87	RMS	31.9	-25.5	.11	51.38	54	-2.62	-	-	66	303	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

VERTICAL RESULT



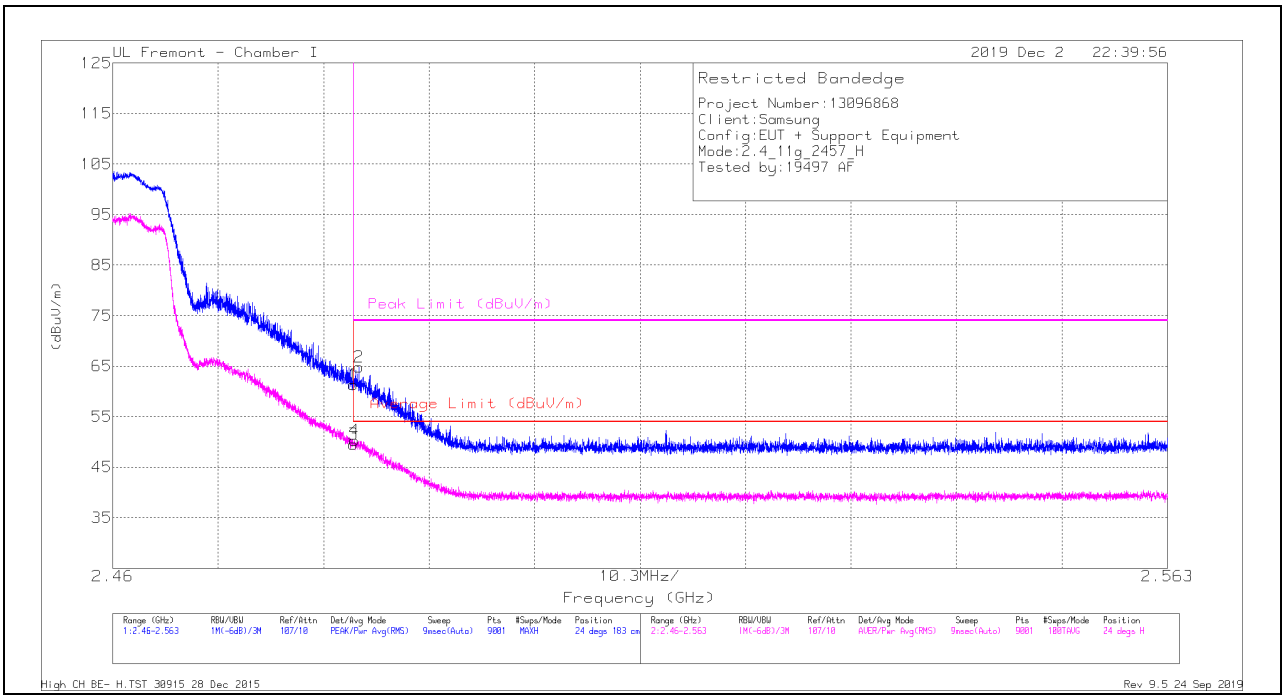
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (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	* 2.38999	52.27	Pk	31.9	-25.5	0	58.67	-	-	74	-15.33	348	372	V
2	* 2.38994	54.81	Pk	31.9	-25.5	0	61.21	-	-	74	-12.79	348	372	V
3	* 2.38999	40.18	RMS	31.9	-25.5	.11	46.69	54	-7.31	-	-	348	372	V
4	* 2.38981	40.99	RMS	31.9	-25.5	.11	47.5	54	-6.5	-	-	348	372	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

BANDEDGE (HIGH CHANNEL, CH 10)

HORIZONTAL RESULT

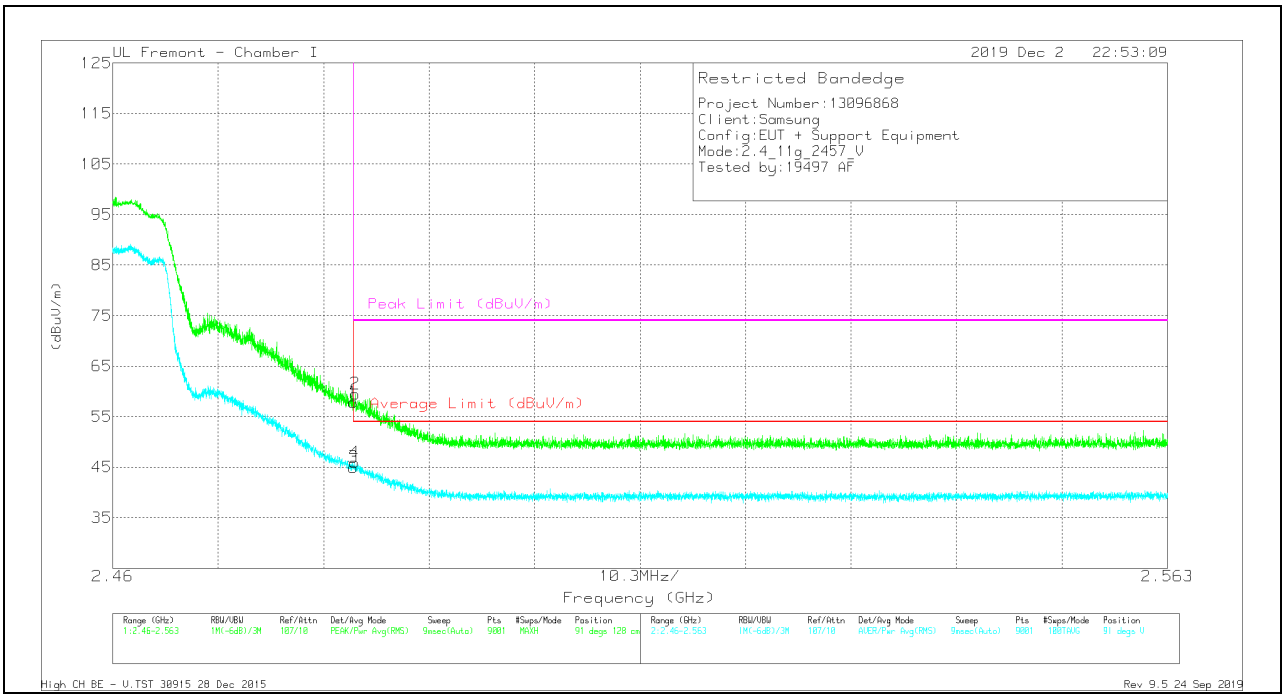


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.48351	48.94	Pk	32.4	-20	0	61.34	-	-	74	-12.66	24	183	H
2	* 2.48406	52.47	Pk	32.4	-20	0	64.87	-	-	74	-9.13	24	183	H
3	* 2.48351	37	RMS	32.4	-20	.11	49.51	54	-4.49	-	-	24	183	H
4	* 2.48361	37.81	RMS	32.4	-20	.11	50.32	54	-3.68	-	-	24	183	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

VERTICAL RESULT



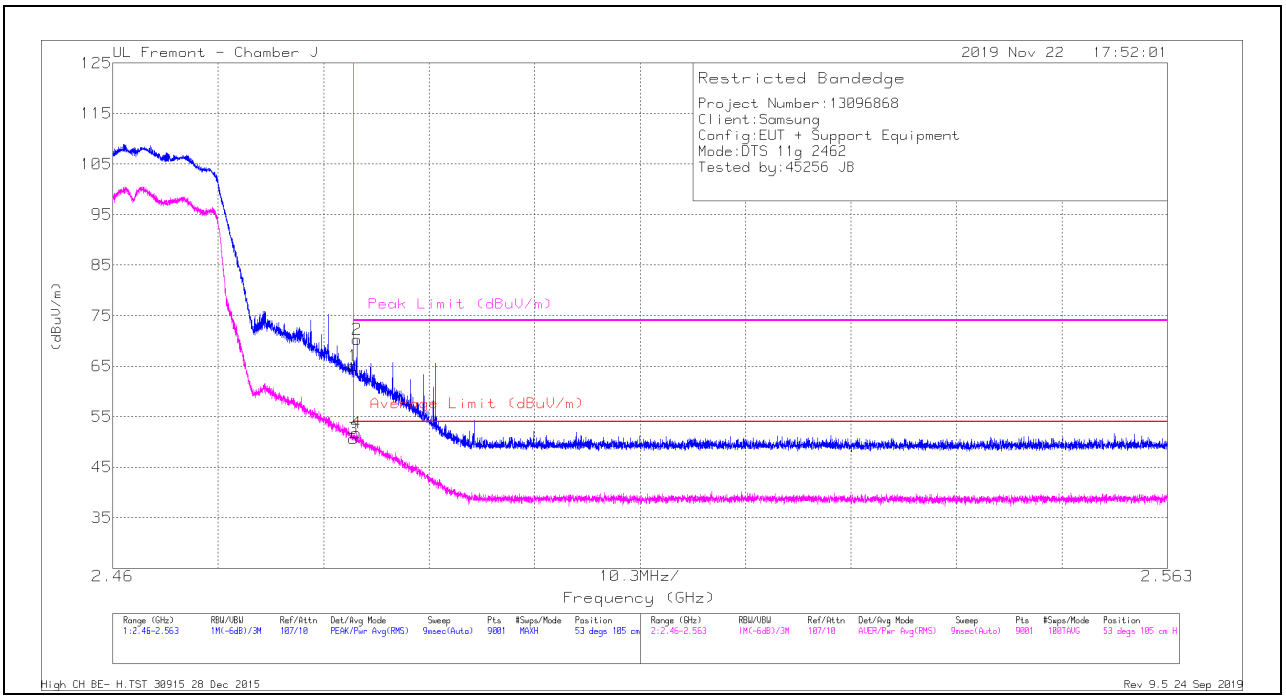
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.48351	45.43	Pk	32.4	-20	0	57.83	-	-	74	-16.17	91	128	V
2	* 2.48367	47.14	Pk	32.4	-20	0	59.54	-	-	74	-14.46	91	128	V
3	* 2.48351	32.5	RMS	32.4	-20	.11	45.01	54	-8.99	-	-	91	128	V
4	* 2.48361	33.41	RMS	32.4	-20	.11	45.92	54	-8.08	-	-	91	128	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

BANDEDGE (HIGH CHANNEL, CH 11)

HORIZONTAL RESULT

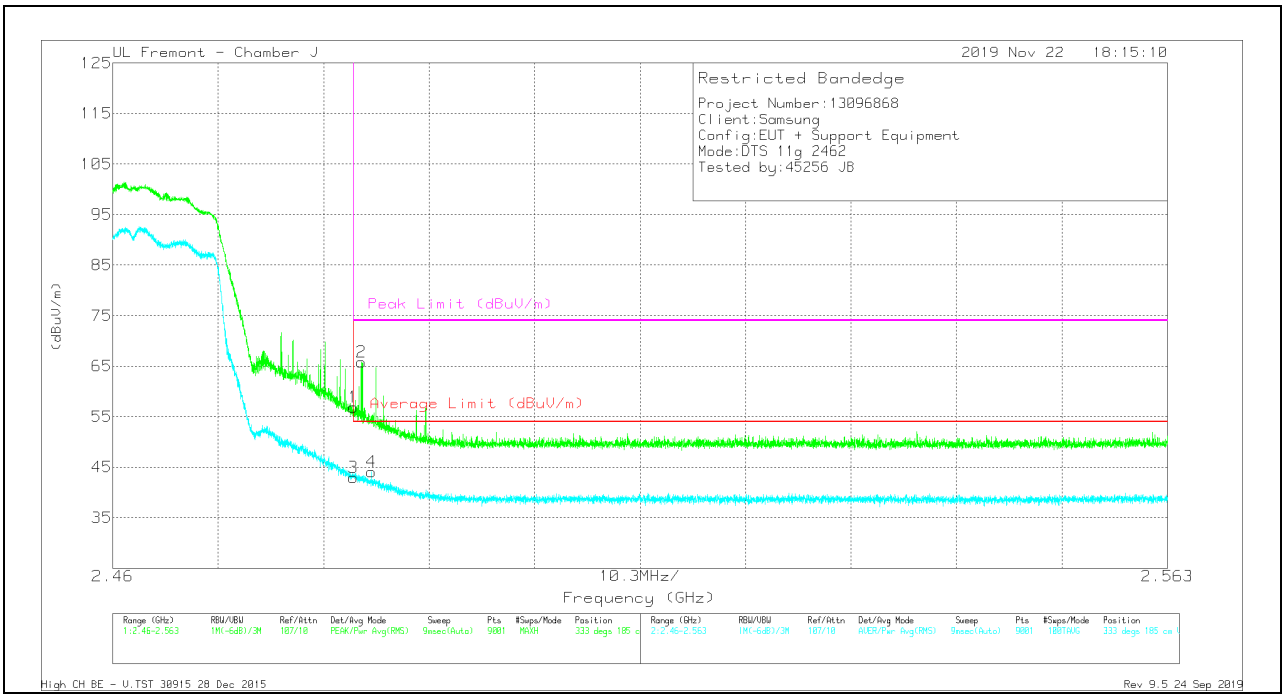


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (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	* 2.48351	58.31	Pk	32.3	-25.5	0	65.11	-	-	74	-8.89	53	105	H
2	* 2.48384	63.5	Pk	32.3	-25.5	0	70.3	-	-	74	-3.7	53	105	H
3	* 2.48351	43.8	RMS	32.3	-25.5	.11	50.71	54	-3.29	-	-	53	105	H
4	* 2.4838	44.82	RMS	32.3	-25.5	.11	51.73	54	-2.27	-	-	53	105	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

VERTICAL RESULT



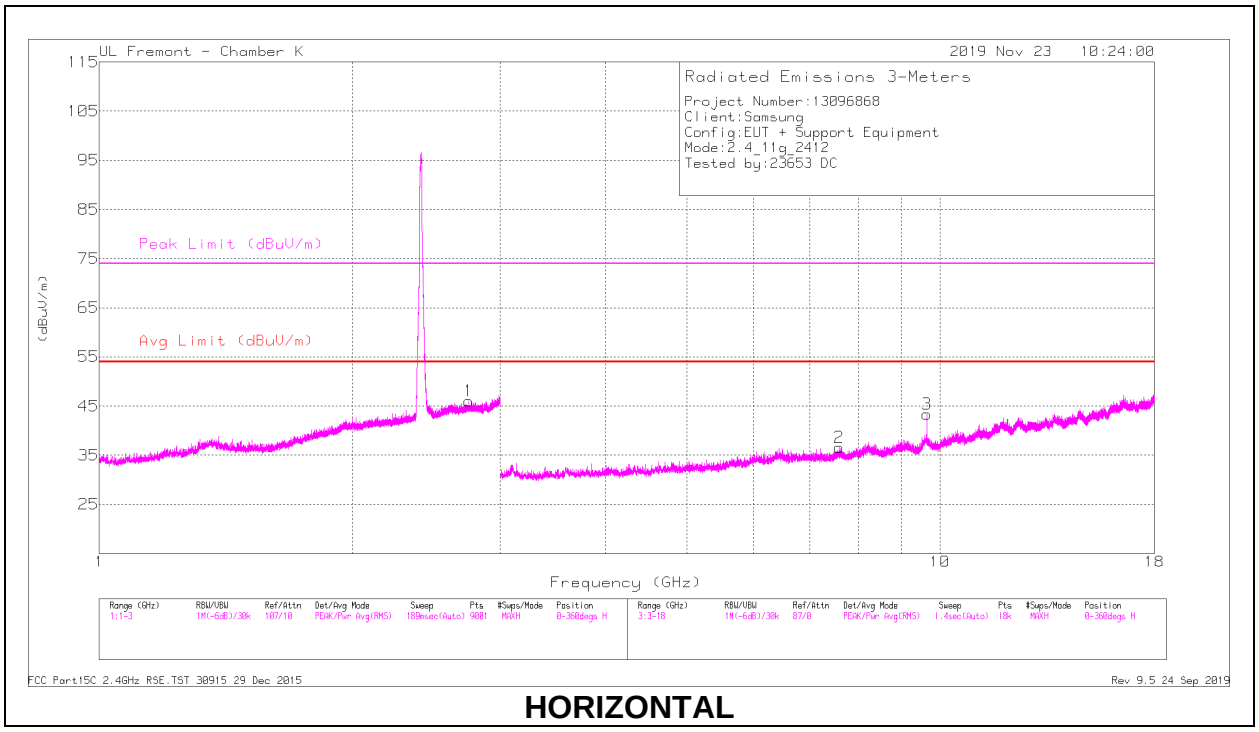
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (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	* 2.48351	50.05	Pk	32.3	-25.5	0	56.85	-	-	74	-17.15	333	185	V
2	* 2.48426	59.01	Pk	32.3	-25.5	0	65.81	-	-	74	-8.19	333	185	V
3	* 2.48351	36.01	RMS	32.3	-25.5	.11	42.92	54	-11.08	-	-	333	185	V
4	* 2.48527	37.17	RMS	32.3	-25.5	.11	44.08	54	-9.92	-	-	333	185	V

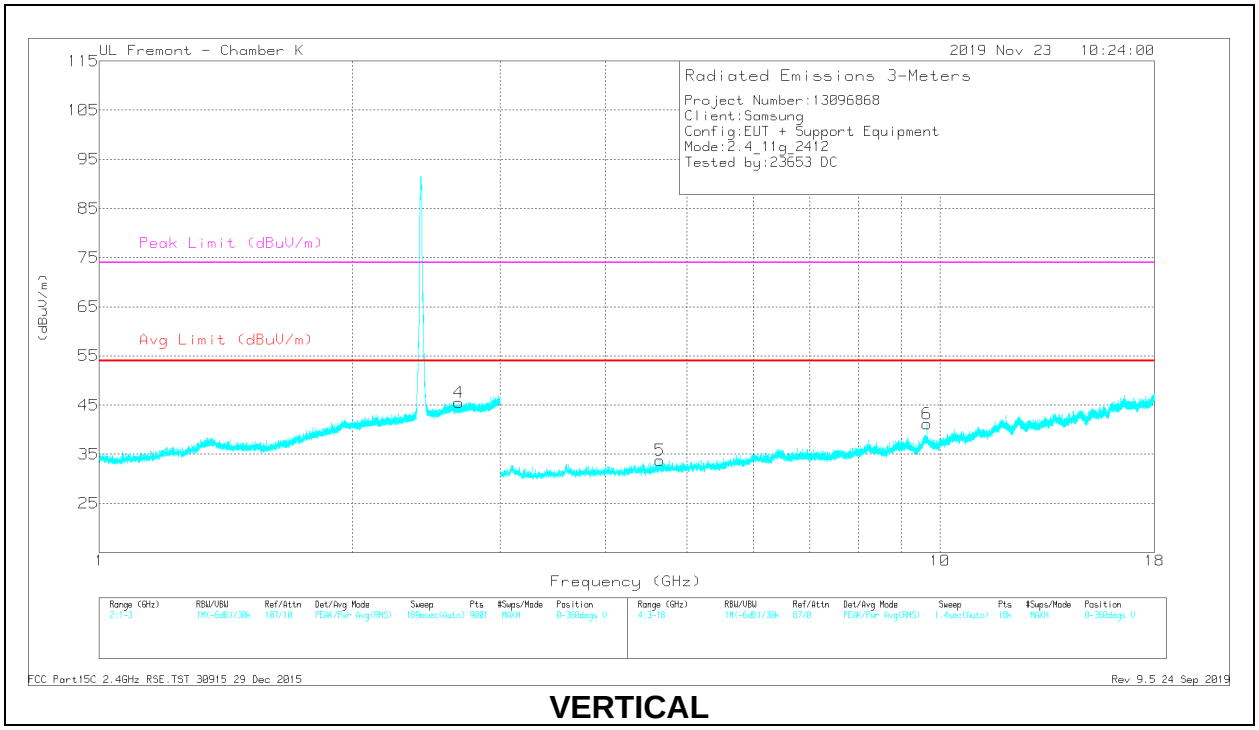
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 1 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4294 (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	* 2.75441	33.42	PK2	32.5	-13.2	0	52.72	-	-	74	-21.28	158	230	H
	* 2.75067	22.91	MAv1	32.5	-13.2	.11	42.32	54	-11.68	-	-	158	230	H
4	* 2.67952	32	PK2	32.6	-13.6	0	51	-	-	74	-23	158	231	V
	* 2.67846	22.79	MAv1	32.6	-13.6	.11	41.9	54	-12.1	-	-	158	231	V
3	9.64796	35.51	PK2	37.1	-23.4	0	49.21	-	-	-	-	351	100	H
2	* 7.59685	32.99	PK2	35.6	-25.5	0	43.09	-	-	74	-30.91	158	231	H
	* 7.596	23.3	MAv1	35.6	-25.5	.11	33.51	54	-20.49	-	-	158	231	H
6	9.64794	34.44	PK2	37.1	-23.4	0	48.14	-	-	-	-	312	98	V
5	* 4.64337	37.23	PK2	33.9	-30.9	0	40.23	-	-	74	-33.77	158	231	V
	* 4.64248	27.42	MAv1	33.9	-30.9	.11	30.53	54	-23.47	-	-	158	231	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

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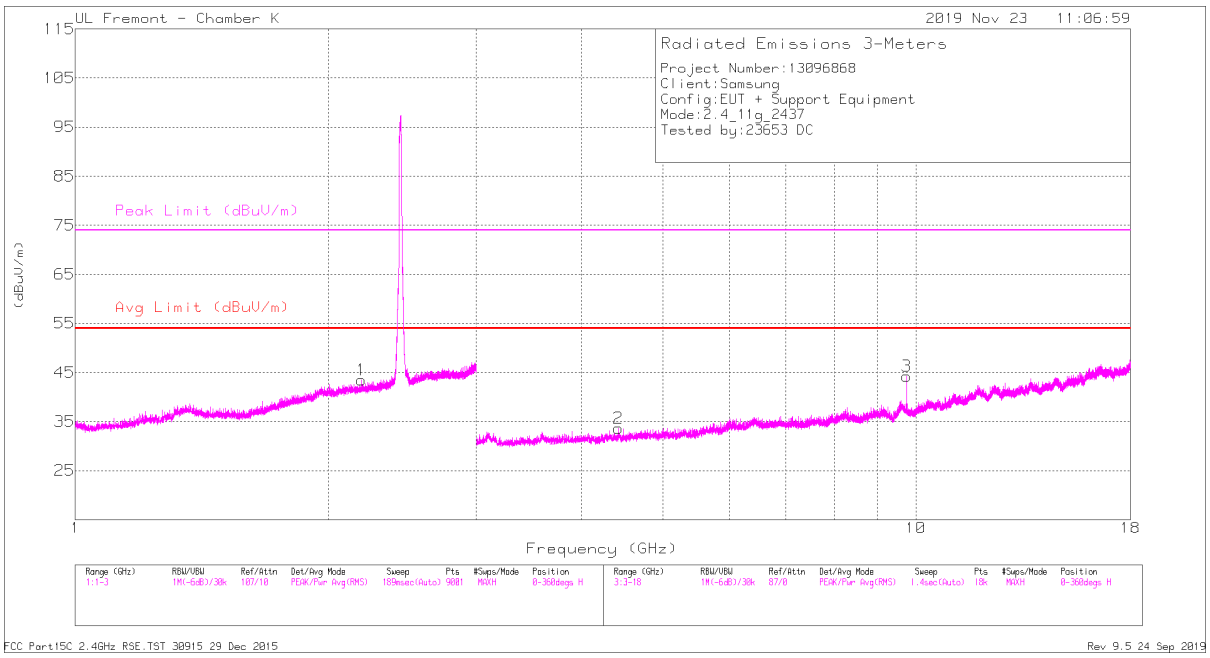
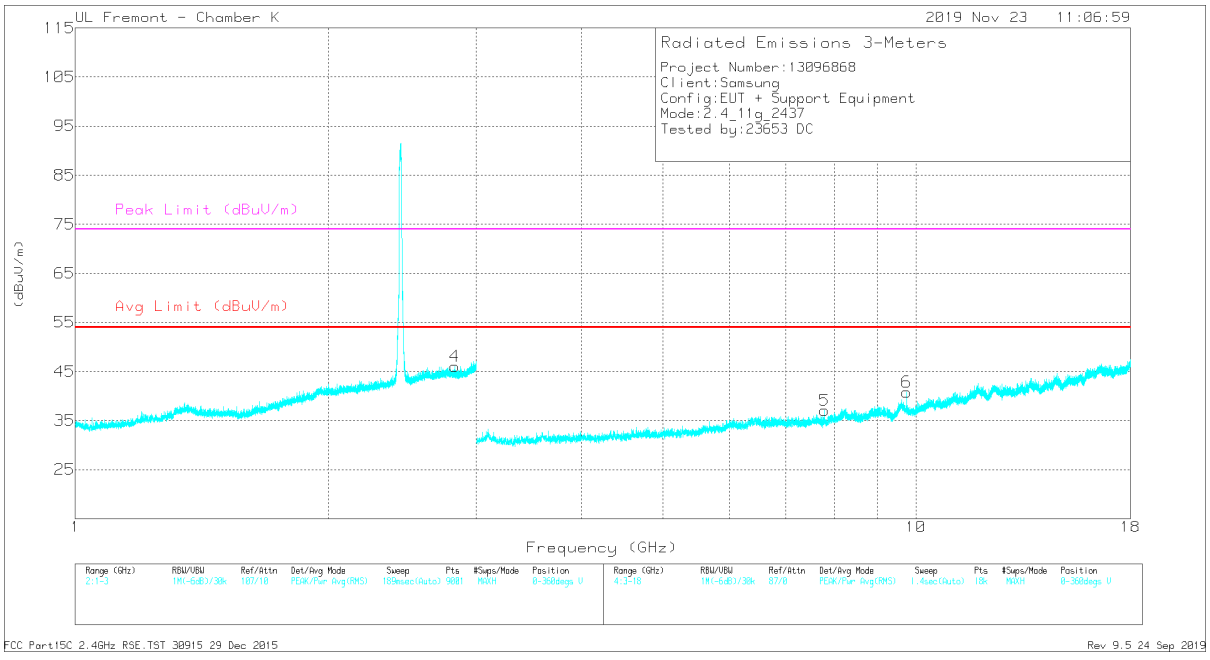
MID CHANNEL, CH 6 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4294 (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	2.19146	33.13	PK2	31.3	-14.6	0	49.83	-	-	-	-	164	231	H
4	* 2.82848	33.37	PK2	32.3	-13.1	0	52.57	-	-	74	-21.43	157	230	V
	* 2.83044	23.13	MAv1	32.3	-13.1	.11	42.44	54	-11.56	-	-	157	230	V
2	4.42975	38.36	PK2	33.6	-30.7	0	41.26	-	-	-	-	164	230	H
3	9.74793	34.76	PK2	37.1	-23.6	0	48.26	-	-	-	-	357	96	H
5	7.7931	33.32	PK2	35.9	-26	0	43.22	-	-	-	-	158	231	V
6	9.748	33.68	PK2	37.1	-23.6	0	47.18	-	-	-	-	315	240	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

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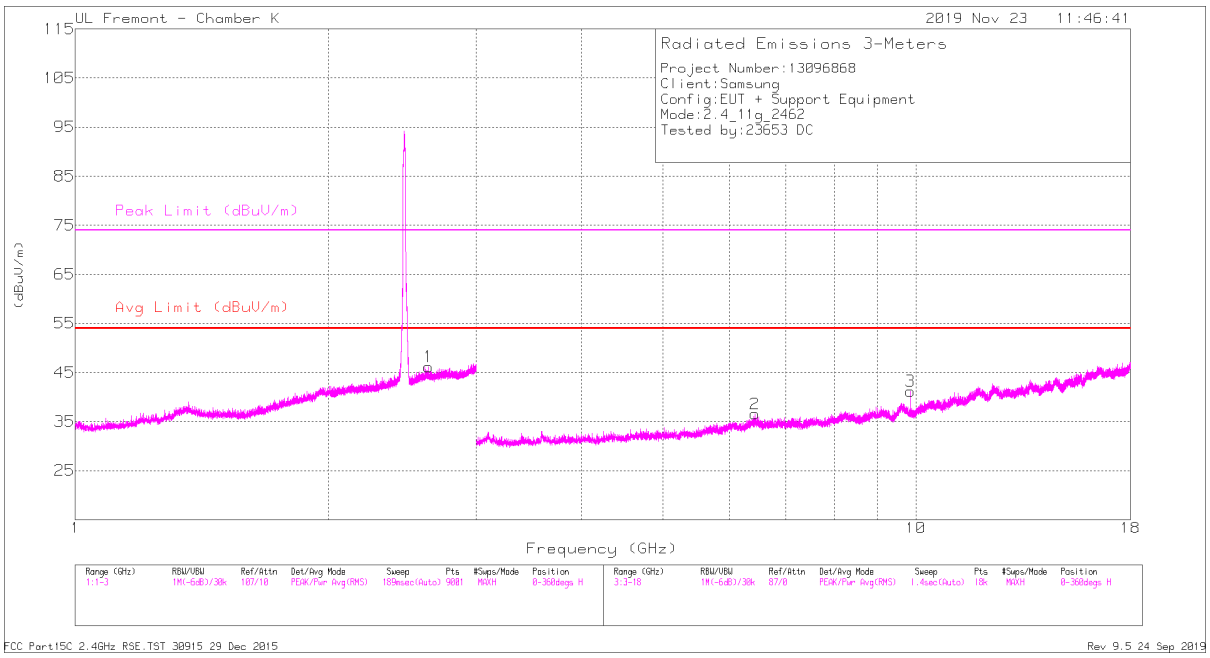
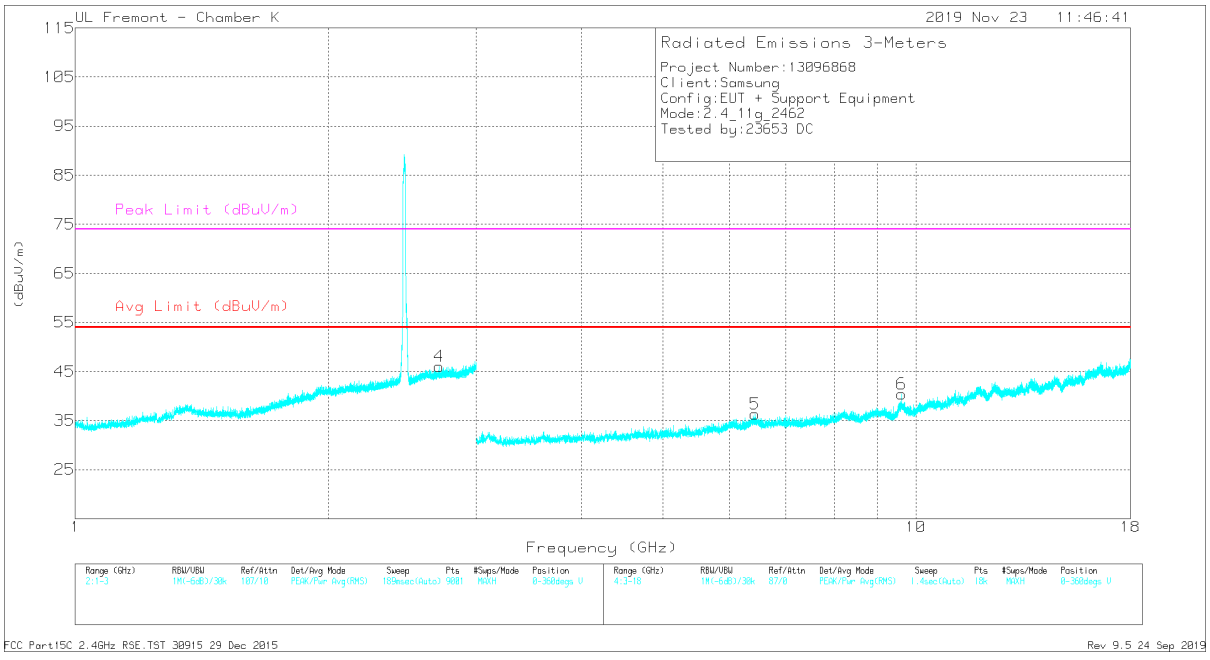
HIGH CHANNEL, CH 11 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4294 (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	2.63384	32.86	PK2	32.7	-13.7	0	51.86	-	-	-	-	159	230	H
4	* 2.70883	32.29	PK2	32.7	-13.5	0	51.49	-	-	74	-22.51	160	230	V
	* 2.71133	22.85	MAv1	32.7	-13.5	.11	42.16	54	-11.84	-	-	160	230	V
2	6.44129	32.89	PK2	35.7	-26.3	0	42.29	-	-	-	-	159	231	H
3	9.84794	33.39	PK2	37	-23.2	0	47.19	-	-	-	-	6	132	H
5	6.43254	33.75	PK2	35.8	-26.3	0	43.25	-	-	-	-	158	230	V
6	9.61495	32.85	PK2	37.1	-22.9	0	47.05	-	-	-	-	32	179	V

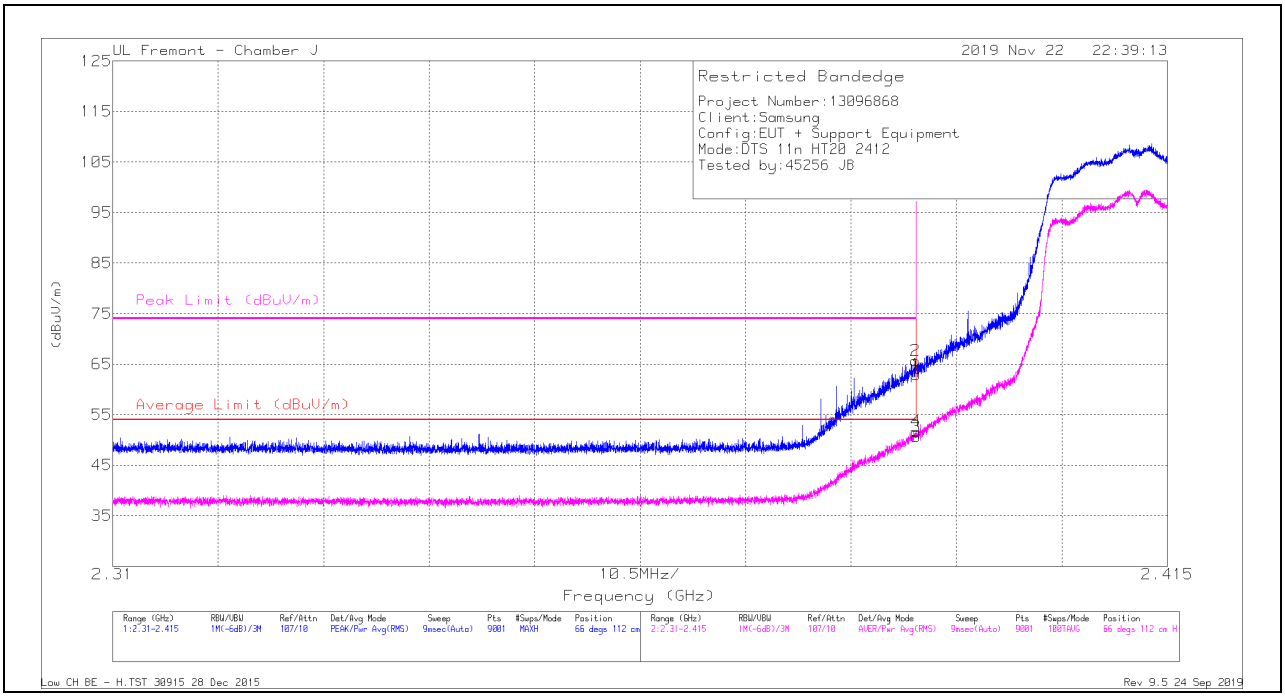
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

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

1TX CHAIN 0 MODE

BANDEDGE (LOW CHANNEL, CH 1)

HORIZONTAL RESULT

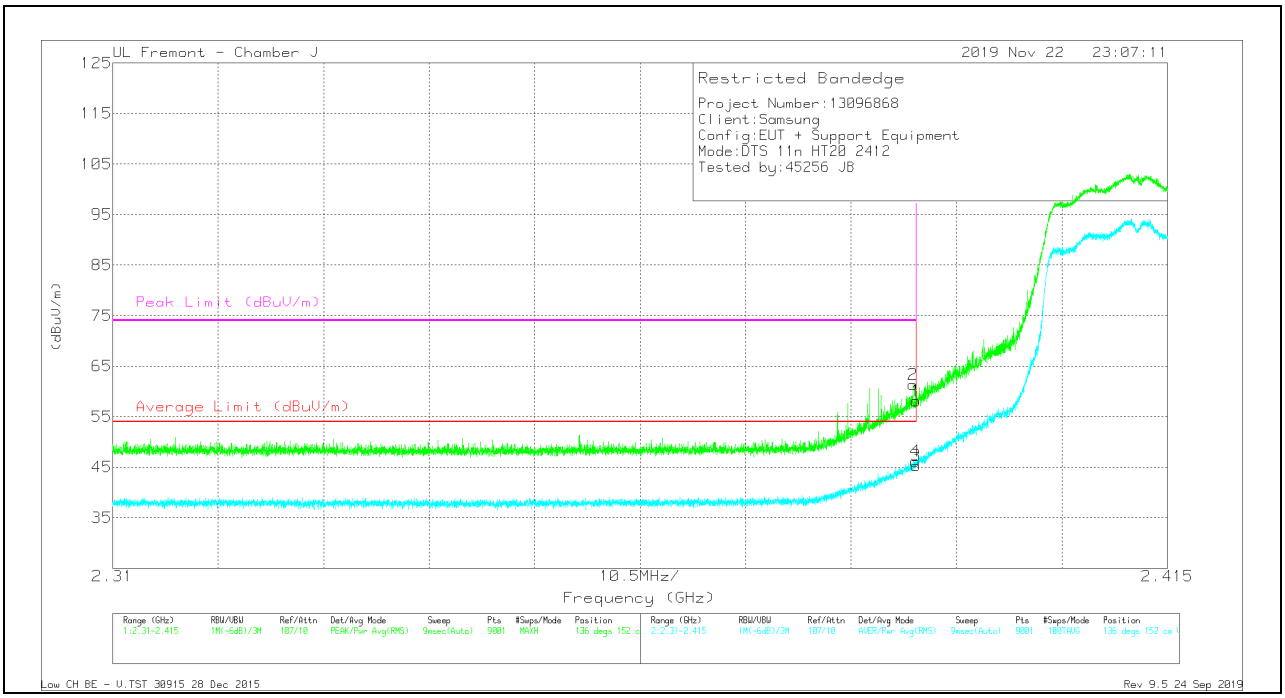


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (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	* 2.38999	56.52	Pk	31.9	-25.5	0	62.92	-	-	74	-11.08	66	112	H
2	* 2.3899	59.23	Pk	31.9	-25.5	0	65.63	-	-	74	-8.37	66	112	H
3	* 2.38999	44.11	RMS	31.9	-25.5	.12	50.63	54	-3.37	-	-	66	112	H
4	* 2.38998	45.1	RMS	31.9	-25.5	.12	51.62	54	-2.38	-	-	66	112	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

VERTICAL RESULT



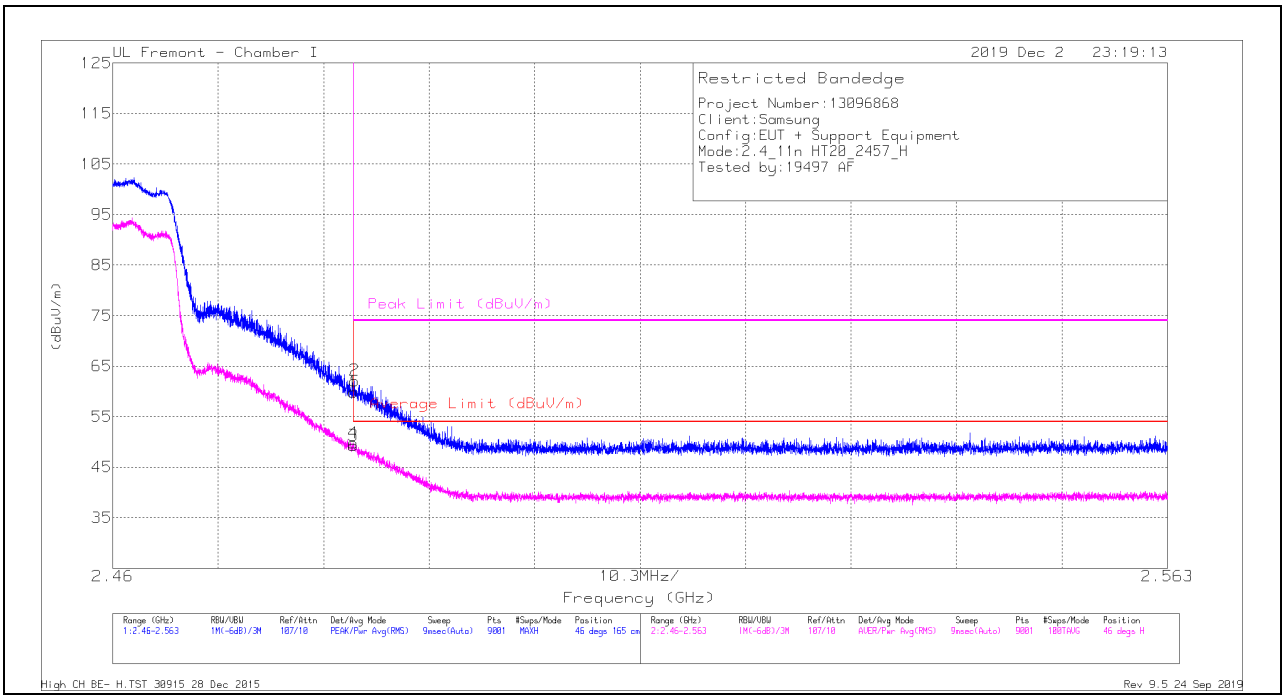
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (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	* 2.38999	51.67	Pk	31.9	-25.5	0	58.07	-	-	74	-15.93	136	152	V
2	* 2.38965	54.95	Pk	31.9	-25.5	0	61.35	-	-	74	-12.65	136	152	V
3	* 2.38999	38.79	RMS	31.9	-25.5	.12	45.31	54	-8.69	-	-	136	152	V
4	* 2.38994	39.62	RMS	31.9	-25.5	.12	46.14	54	-7.86	-	-	136	152	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

BANDEDGE (HIGH CHANNEL, CH 10)

HORIZONTAL RESULT

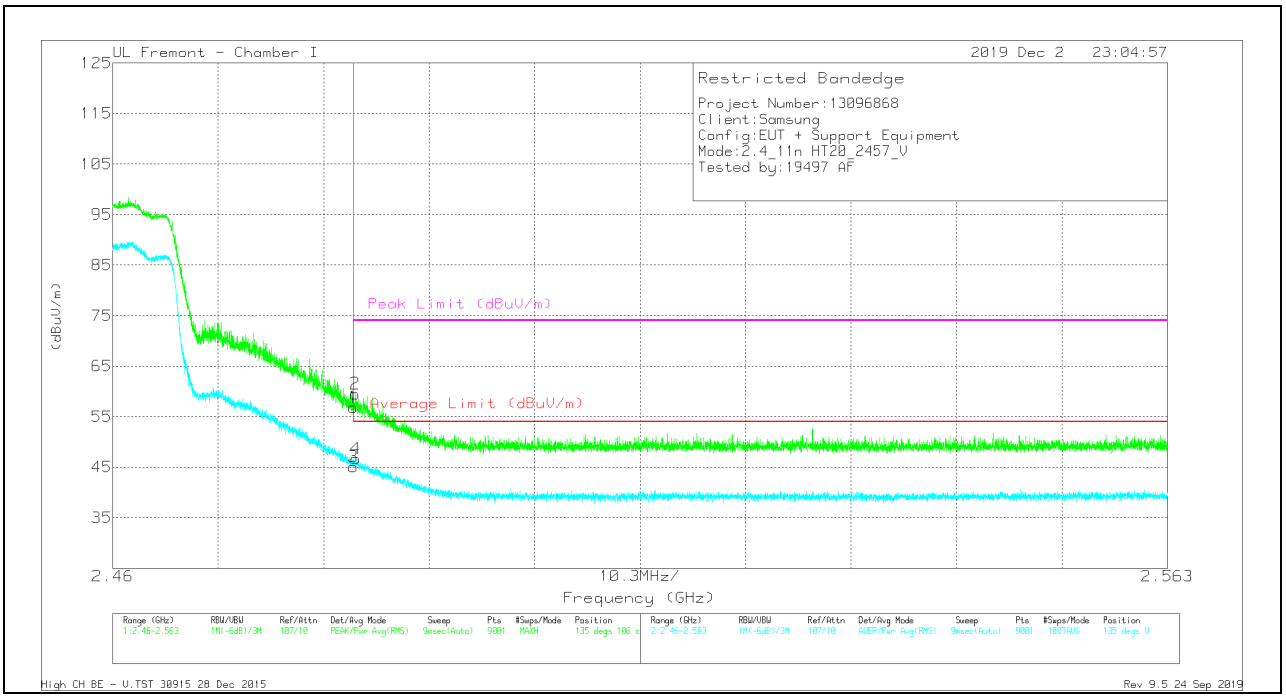


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.48351	47.5	Pk	32.4	-20	0	59.9	-	-	74	-14.1	46	165	H
2	* 2.4836	49.75	Pk	32.4	-20	0	62.15	-	-	74	-11.85	46	165	H
3	* 2.48351	36.82	RMS	32.4	-20	.12	49.34	54	-4.66	-	-	46	165	H
4	* 2.48352	37.25	RMS	32.4	-20	.12	49.77	54	-4.23	-	-	46	165	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

VERTICAL RESULT



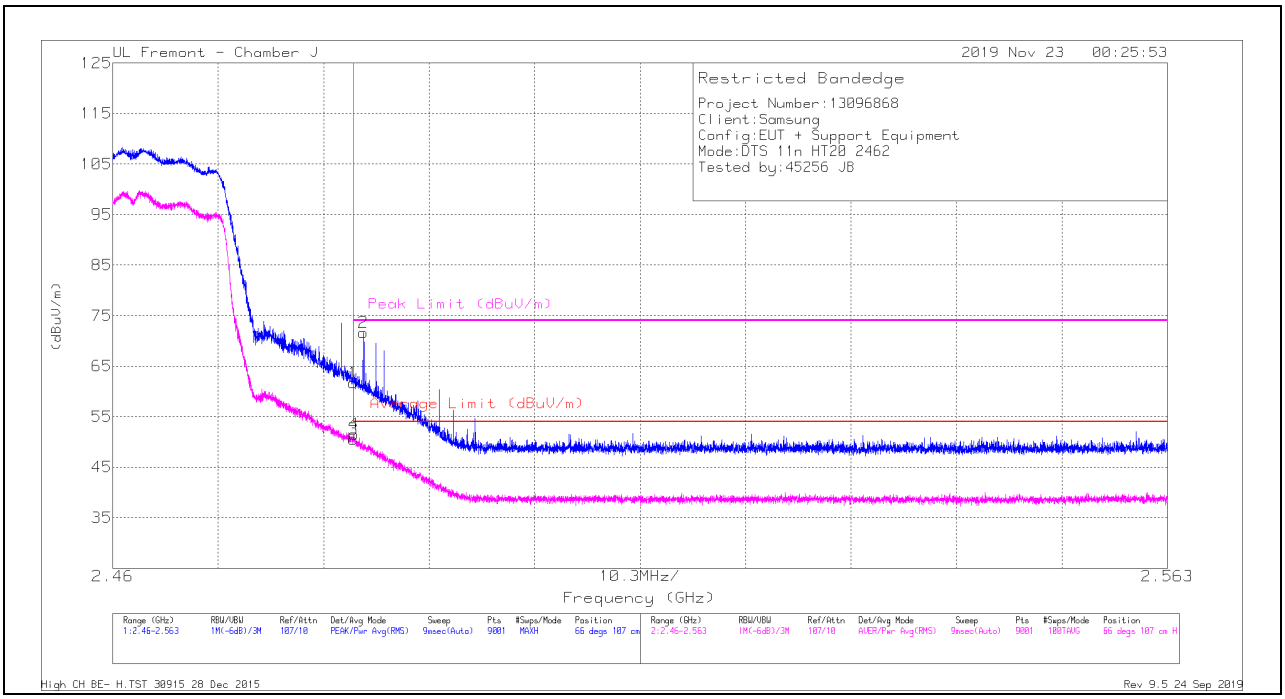
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.48351	44.43	Pk	32.4	-20	0	56.83	-	-	74	-17.17	135	106	V
2	* 2.48368	47.14	Pk	32.4	-20	0	59.54	-	-	74	-14.46	135	106	V
3	* 2.48351	32.58	RMS	32.4	-20	.12	45.1	54	-8.9	-	-	135	106	V
4	* 2.48375	34.16	RMS	32.4	-20	.12	46.68	54	-7.32	-	-	135	106	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

BANDEDGE (HIGH CHANNEL, CH 11)

HORIZONTAL RESULT

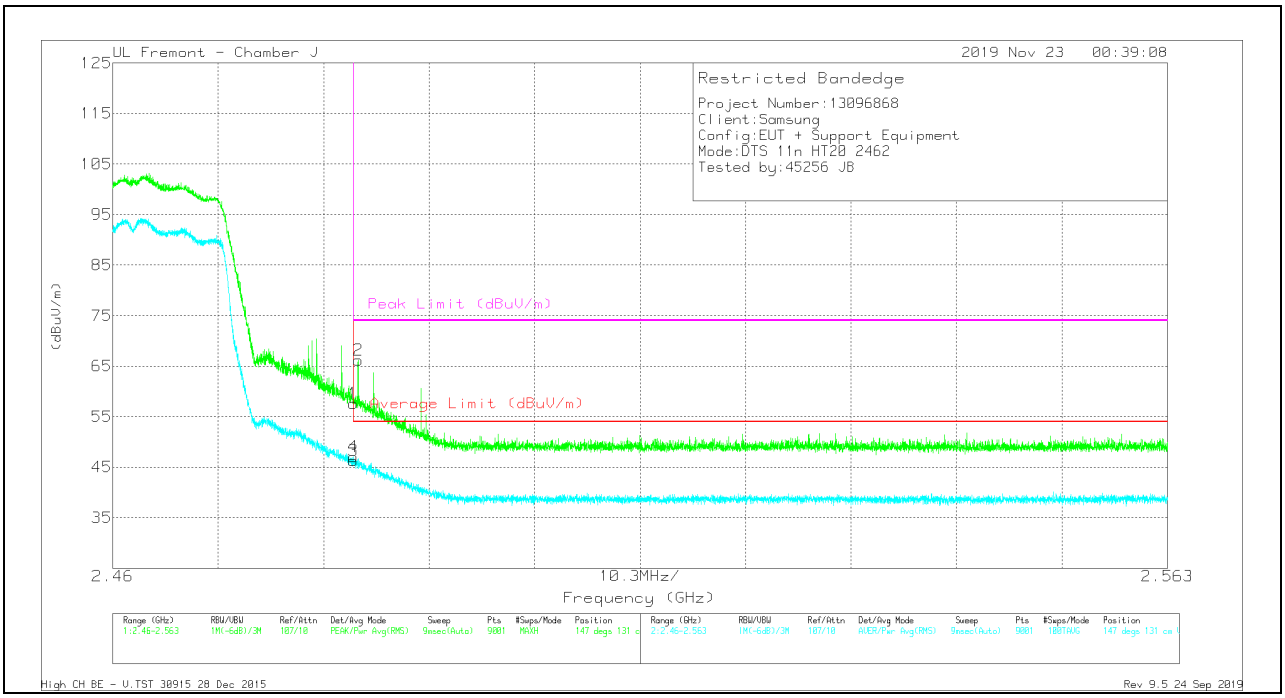


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (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	* 2.48351	54.9	Pk	32.3	-25.5	0	61.7	-	-	74	-12.3	66	107	H
2	* 2.48446	64.89	Pk	32.3	-25.5	0	71.69	-	-	74	-2.31	66	107	H
3	* 2.48351	43.66	RMS	32.3	-25.5	.12	50.58	54	-3.42	-	-	66	107	H
4	* 2.48356	44.59	RMS	32.3	-25.5	.12	51.51	54	-2.49	-	-	66	107	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

VERTICAL RESULT



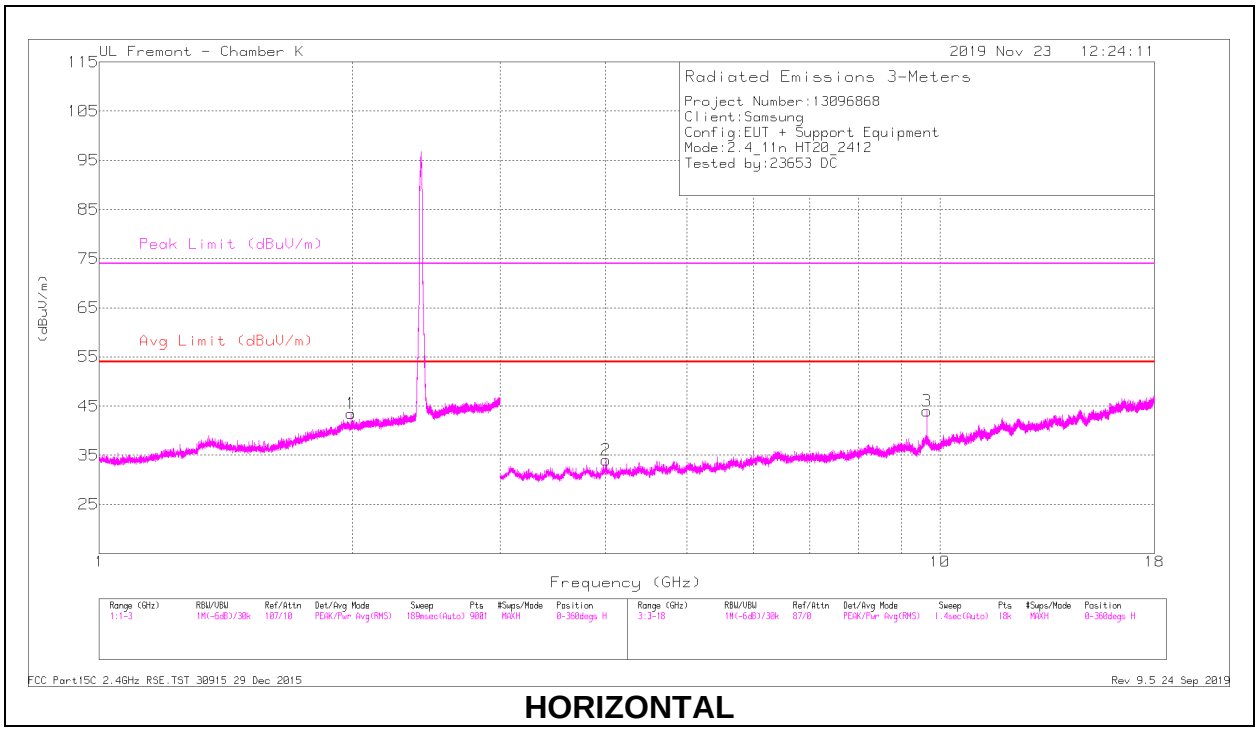
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (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	* 2.48351	50.79	Pk	32.3	-25.5	0	57.59	-	-	74	-16.41	147	131	V
2	* 2.48396	59.42	Pk	32.3	-25.5	0	66.22	-	-	74	-7.78	147	131	V
3	* 2.48351	39.43	RMS	32.3	-25.5	.12	46.35	54	-7.65	-	-	147	131	V
4	* 2.48352	40.19	RMS	32.3	-25.5	.12	47.11	54	-6.89	-	-	147	131	V

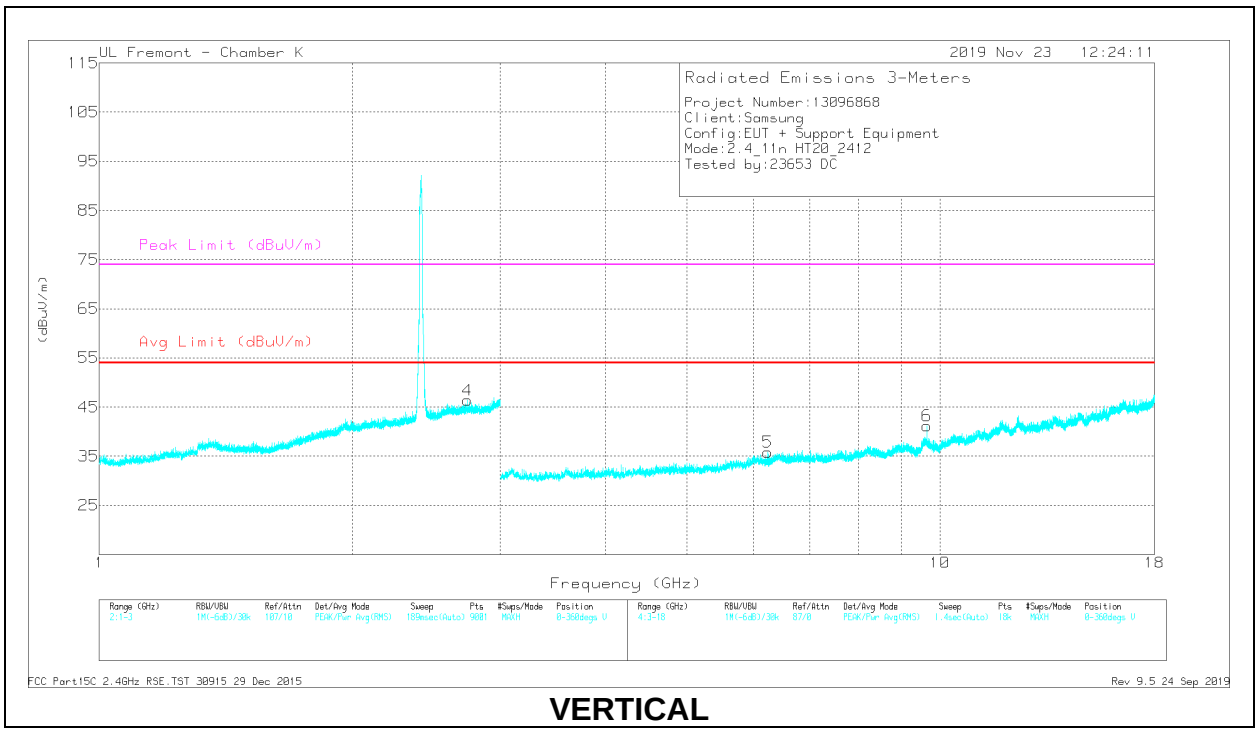
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 1 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4294 (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	1.99166	31.63	PK2	31.6	-15.3	0	47.93	-	-	-	-	159	230	H
4	* 2.74272	32.51	PK2	32.5	-13.3	0	51.71	-	-	74	-22.29	159	231	V
	* 2.73953	23.25	MAv1	32.6	-13.3	.12	42.67	54	-11.33	-	-	159	231	V
3	9.64798	34.83	PK2	37.1	-23.4	0	48.53	-	-	-	-	350	98	H
2	* 4.00365	38.42	PK2	33.4	-31.3	0	40.52	-	-	74	-33.48	159	230	H
	* 4.00226	28.39	MAv1	33.4	-31.4	.12	30.51	54	-23.49	-	-	159	230	H
5	6.24541	34.31	PK2	35.8	-28.1	0	42.01	-	-	-	-	156	231	V
6	9.64813	34.09	PK2	37.1	-23.4	0	47.79	-	-	-	-	315	95	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

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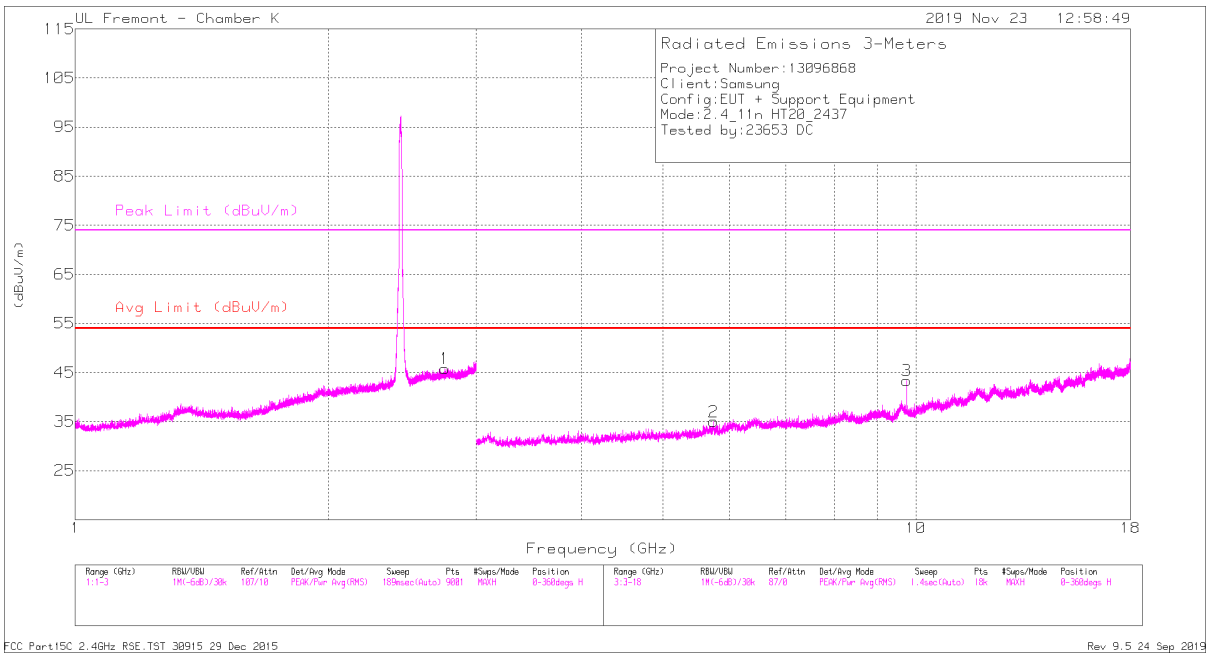
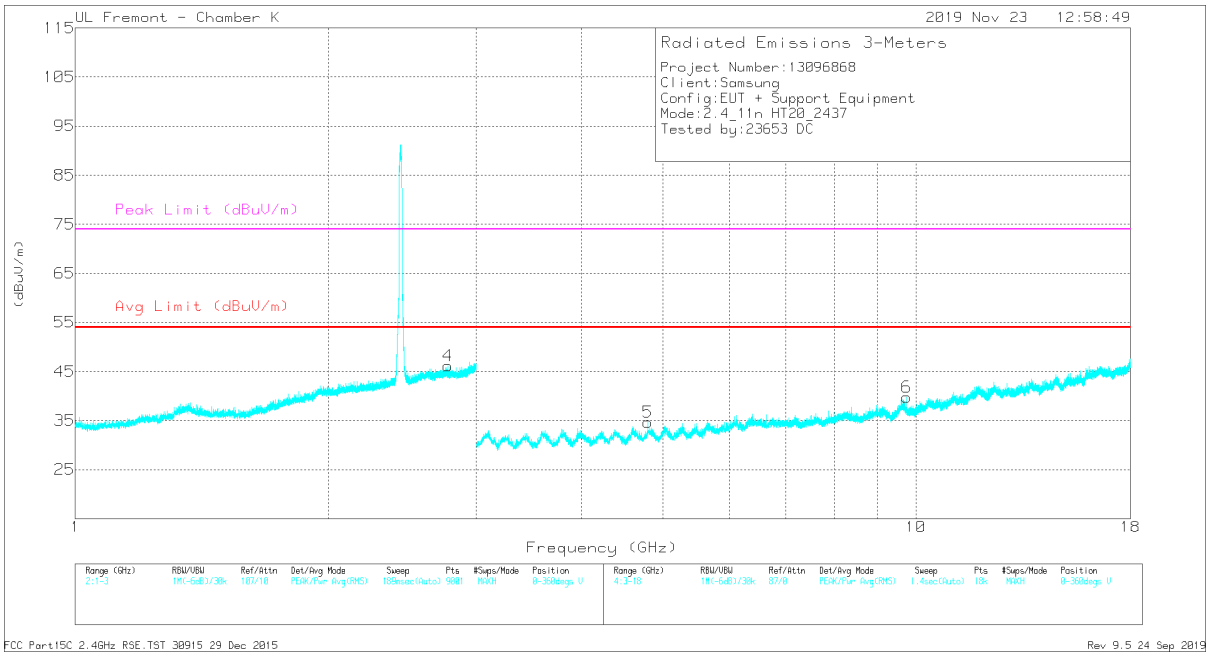
MID CHANNEL, CH 6 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4294 (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	* 2.7501	33.05	PK2	32.5	-13.2	0	52.35	-	-	74	-21.65	155	230	H
	* 2.75055	23.53	MAv1	32.5	-13.2	.12	42.95	54	-11.05	-	-	155	230	H
4	* 2.77155	32.84	PK2	32.4	-13.2	0	52.04	-	-	74	-21.96	155	229	V
	* 2.77353	23.35	MAv1	32.5	-13.1	.12	42.87	54	-11.13	-	-	155	229	V
2	5.75018	35.34	PK2	34.9	-28.2	0	42.04	-	-	-	-	158	230	H
3	9.74806	35.46	PK2	37.1	-23.6	0	48.96	-	-	-	-	338	259	H
6	9.74793	33.07	PK2	37.1	-23.6	0	46.57	-	-	-	-	312	101	V
5	* 4.80178	36.26	PK2	34.2	-30.3	0	40.16	-	-	74	-33.84	155	231	V
	* 4.79983	26.87	MAv1	34.1	-30.3	.12	30.79	54	-23.21	-	-	155	231	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

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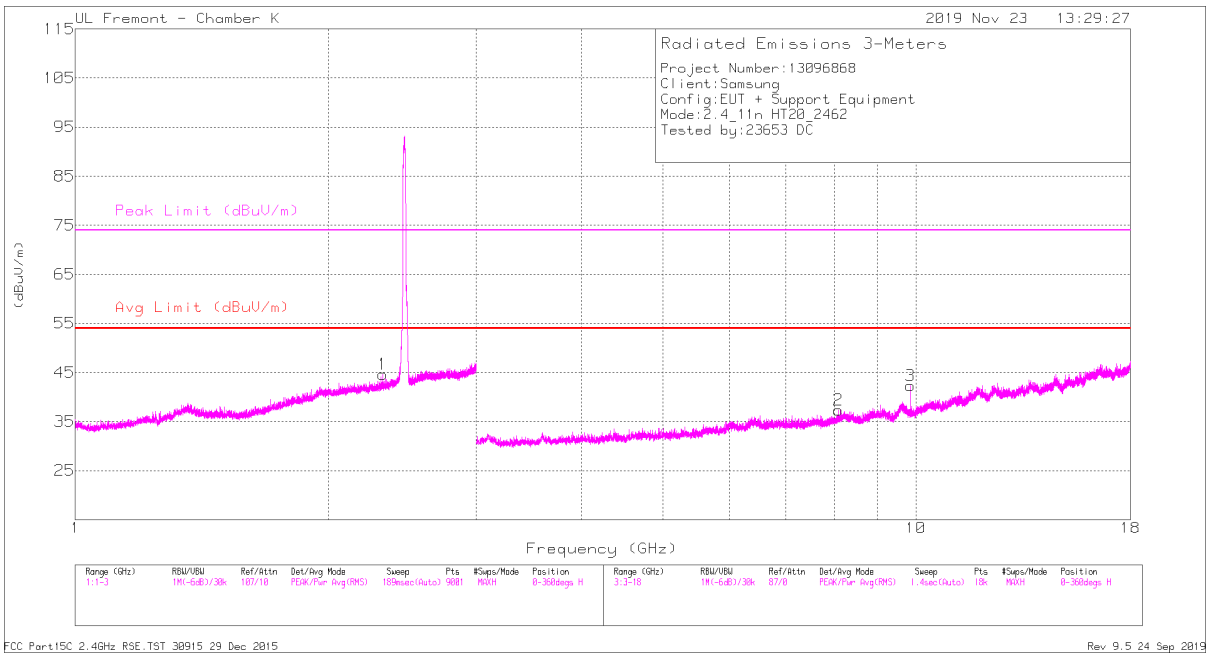
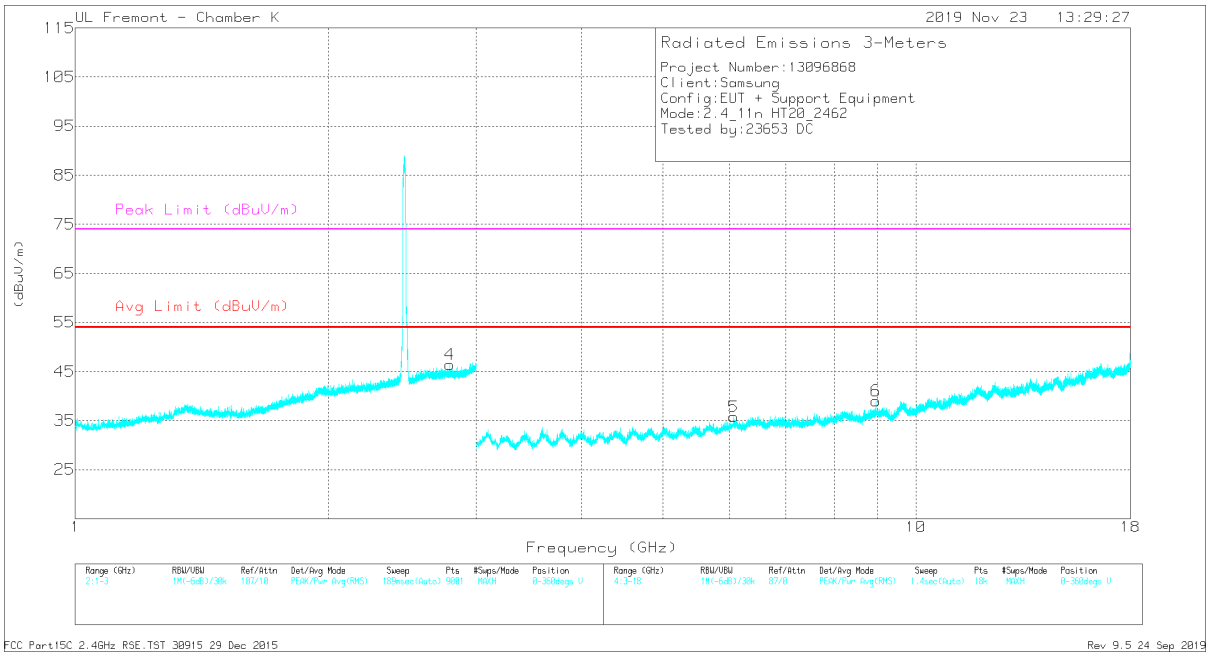
HIGH CHANNEL, CH 11 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4294 (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	* 2.32118	34.15	PK2	31.6	-14.5	0	51.25	-	-	74	-22.75	156	224	H
	* 2.32353	22.93	MAv1	31.6	-14.5	.12	40.15	54	-13.85	-	-	156	224	H
4	* 2.78669	32.96	PK2	32.4	-13.2	0	52.16	-	-	74	-21.84	156	230	V
	* 2.78832	22.98	MAv1	32.4	-13.2	.12	42.3	54	-11.7	-	-	156	230	V
3	9.84791	34.74	PK2	37	-23.2	0	48.54	-	-	-	-	337	255	H
2	* 8.07955	32.9	PK2	35.8	-25.4	0	43.3	-	-	74	-30.7	156	231	H
	* 8.08031	22.98	MAv1	35.8	-25.4	.12	33.5	54	-20.5	-	-	156	231	H
5	6.06915	33.86	PK2	35.4	-27.1	0	42.16	-	-	-	-	156	231	V
6	8.95713	31.7	PK2	36.3	-24.1	0	43.9	-	-	-	-	156	230	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

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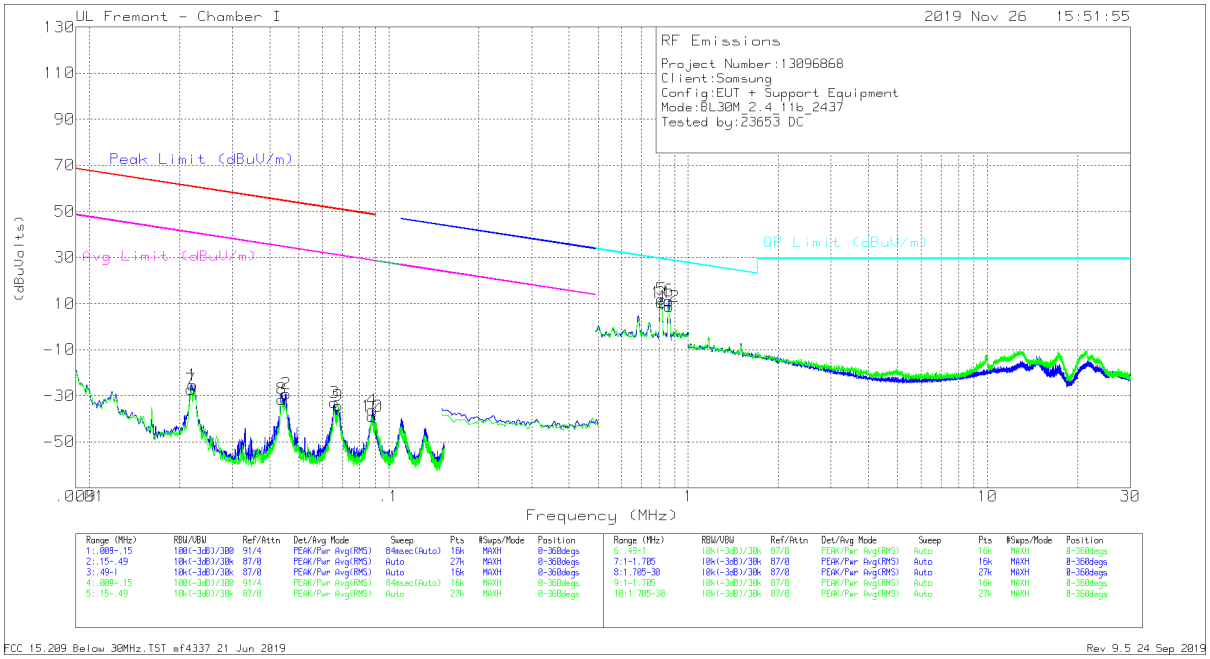
10.2. WORST CASE BELOW 30MHz

SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION)



ANTENNA- TWO ORIENTATIONS FACE ON/FACE OFF

Below 30MHz Data

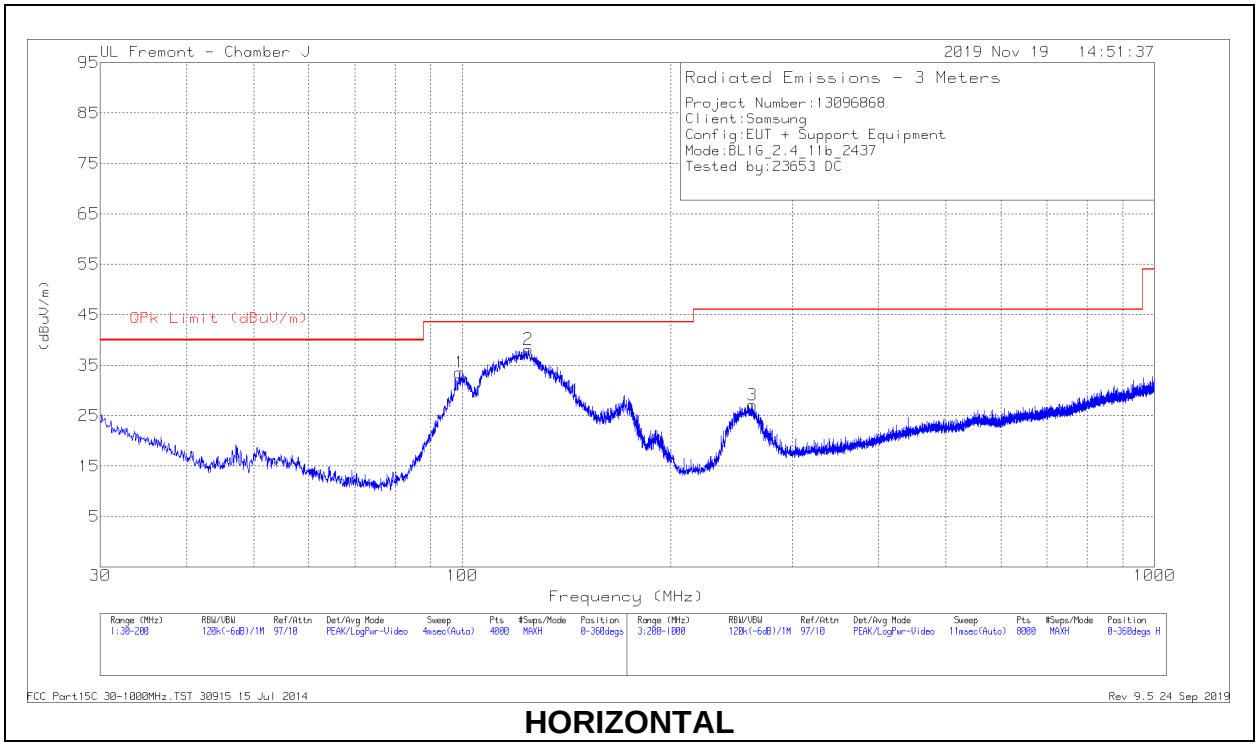
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (ACF)	Cables w/ PRE0180175 (dB)	Dist Corr 300m	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	.02214	28.31	Pk	58.6	-32.3	-80	-25.39	60.68	-86.07	40.68	-66.07	0-360
2	.04533	26.04	Pk	56.9	-32.1	-80	-29.16	54.46	-83.62	34.46	-63.62	0-360
3	.06579	23.16	Pk	55.9	-32	-80	-32.94	51.22	-84.16	31.22	-64.16	0-360
4	.08814	20.08	Pk	55.6	-32	-80	-36.32	48.68	-85	28.68	-65	0-360
7	.02182	26.49	Pk	58.6	-32.3	-80	-27.21	60.81	-88.02	40.81	-68.02	0-360
8	.04393	23.66	Pk	57	-32.1	-80	-31.44	54.73	-86.17	34.73	-66.17	0-360
9	.06785	21.81	Pk	55.8	-32	-80	-34.39	50.95	-85.34	30.95	-65.34	0-360
10	.08785	17.51	Pk	55.6	-32	-80	-38.89	48.71	-87.6	28.71	-67.6	0-360

Pk - Peak detector

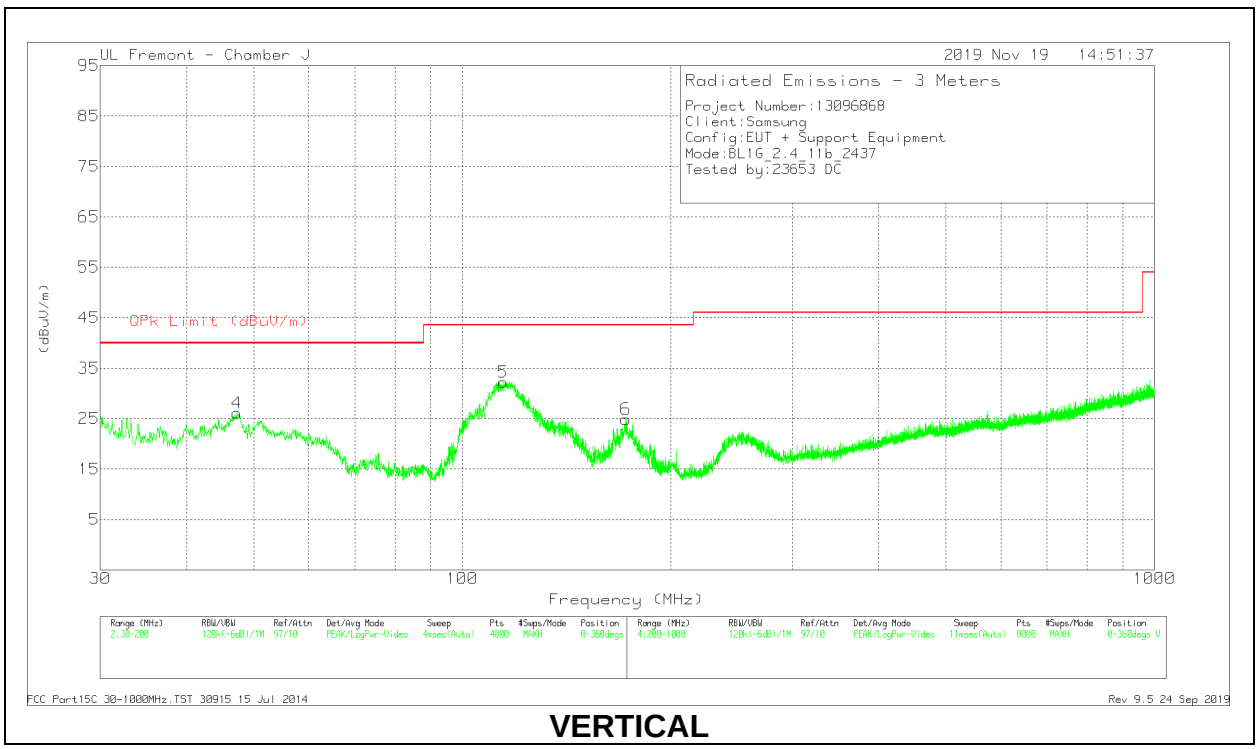
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (ACF)	Cables w/ PRE0180175 (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuVolts)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
5	.81368	27.67	Pk	56.1	-31.8	-40	11.97	29.41	-17.44	0-360
6	.86195	26.98	Pk	56.1	-31.8	-40	11.28	28.91	-17.63	0-360
11	.81368	26.03	Pk	56.1	-31.8	-40	10.33	29.41	-19.08	0-360
12	.86202	24.42	Pk	56.1	-31.8	-40	8.72	28.91	-20.19	0-360

Pk - Peak detector

10.3. WORST CASE BELOW 1 GHz



HORIZONTAL



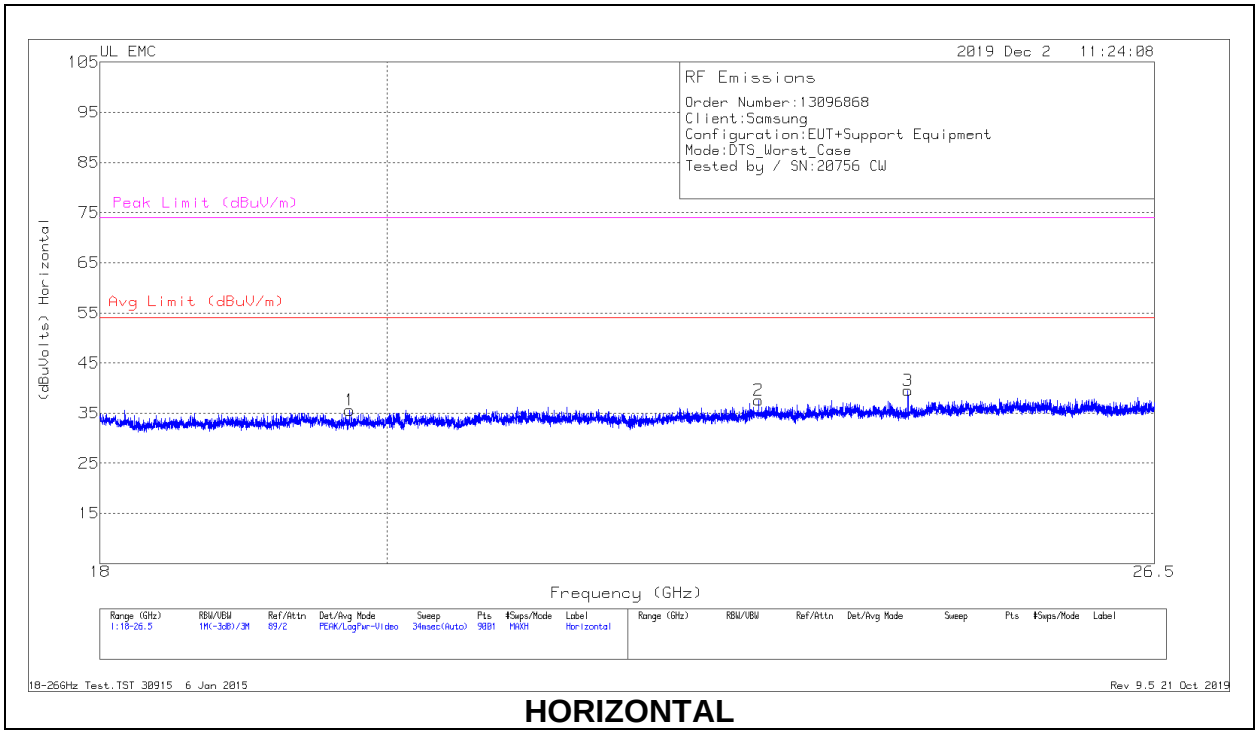
VERTICAL

Below 1GHz DATA

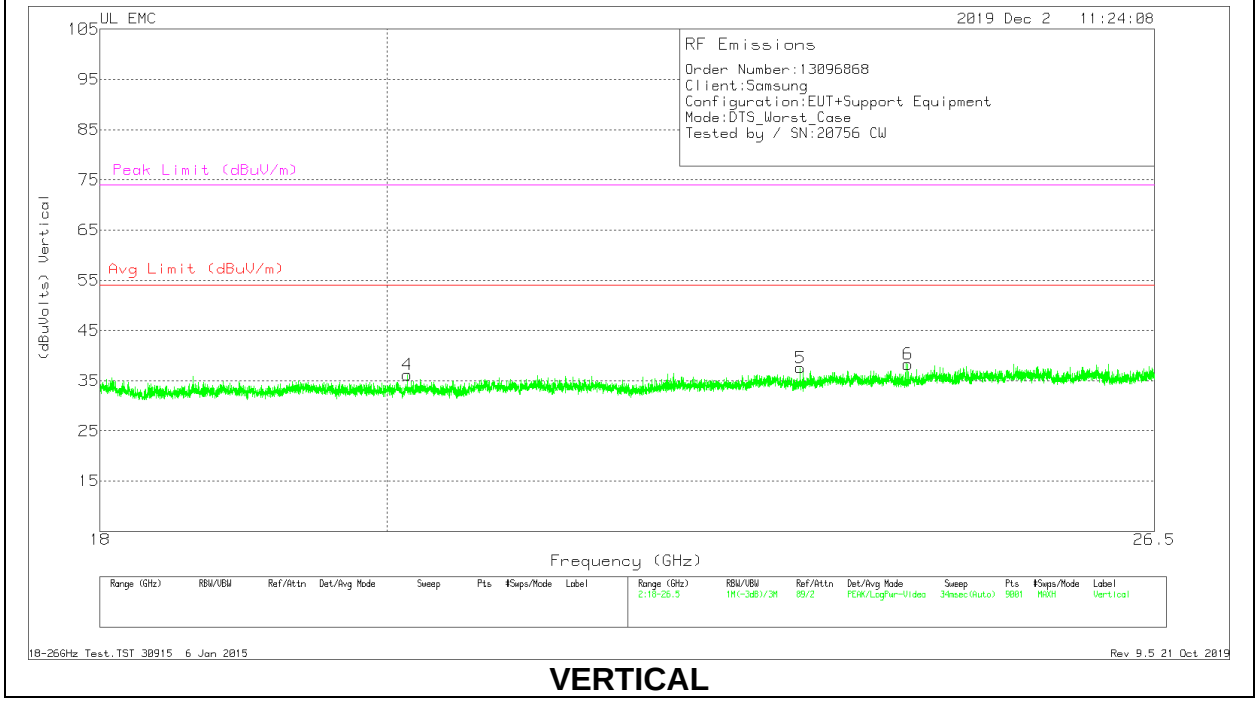
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T899 (dB/m)	Amp Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	99.1654	48.65	Pk	15.9	-31	33.55	43.52	-9.97	0-360	298	H
2	* 124.587	49.41	Pk	19.6	-30.9	38.11	43.52	-5.41	79	202	H
	* 124.637	45.93	Qp	19.6	-30.9	34.63	43.52	-8.89	79	202	H
4	47.302	42.7	Pk	14.8	-31.4	26.1	40	-13.9	0-360	101	V
5	* 114.5969	44.02	Pk	19.1	-30.9	32.22	43.52	-11.3	0-360	101	V
6	* 172.4544	37.8	Pk	17.7	-30.6	24.9	43.52	-18.62	0-360	101	V
3	* 262.6081	38.99	Pk	18.3	-30.2	27.09	46.02	-18.93	0-360	101	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
Qp - Quasi-Peak detector

10.4. WORST CASE 18-26 GHz



HORIZONTAL



VERTICAL

18 – 26GHz DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T447 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	19.7255	69.28	Pk	32.8	-57	-9.5	35.58	54	-18.42	74	-38.42
2	22.91772	70.89	Pk	33.7	-57.5	-9.5	37.59	54	-16.41	74	-36.41
3	24.20877	71.82	Pk	34.2	-57	-9.5	39.52	54	-14.48	74	-34.48
4	20.14861	69.58	Pk	32.9	-56.8	-9.5	36.18	54	-17.82	74	-37.82
5	23.27094	70.28	Pk	33.9	-57.1	-9.5	37.58	54	-16.42	74	-36.42
6	24.20877	70.6	Pk	34.2	-57	-9.5	38.3	54	-15.7	74	-35.7

Pk - Peak detector

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11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

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

* Decreases with the logarithm of the frequency.

TEST PROCEDURE

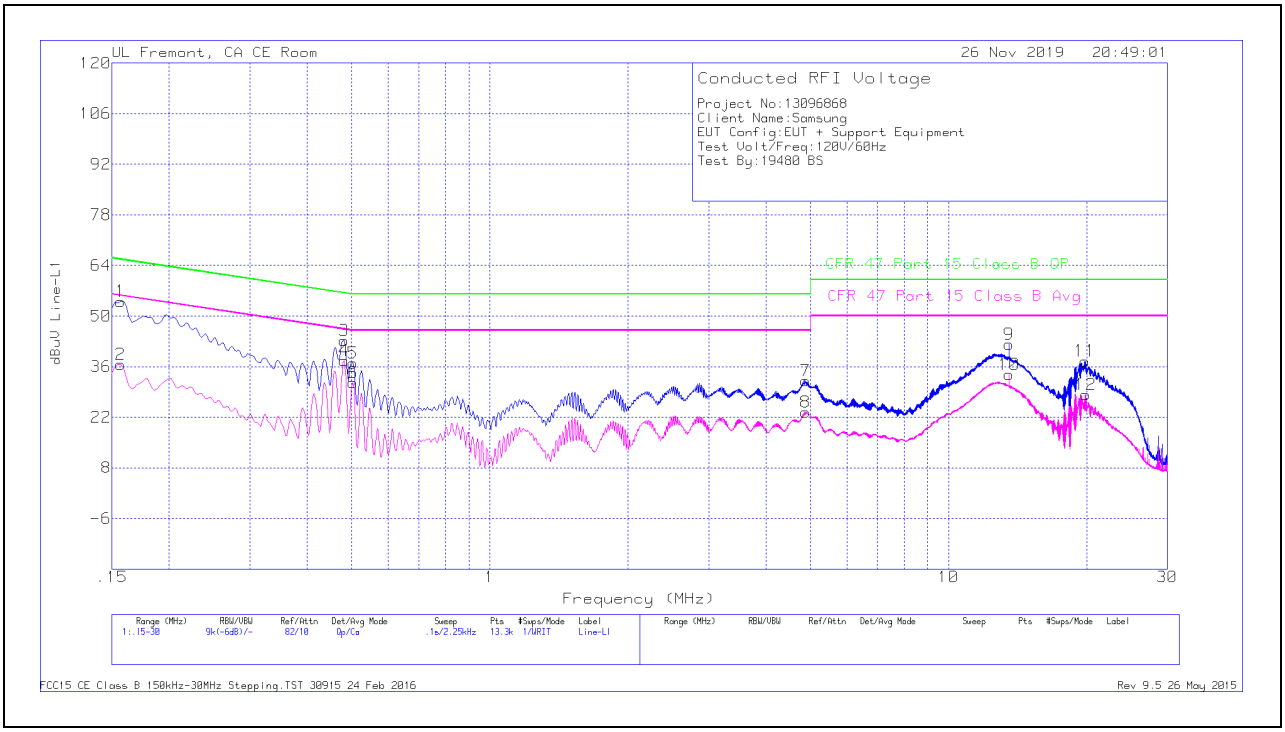
The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

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

LINE 1 RESULTS

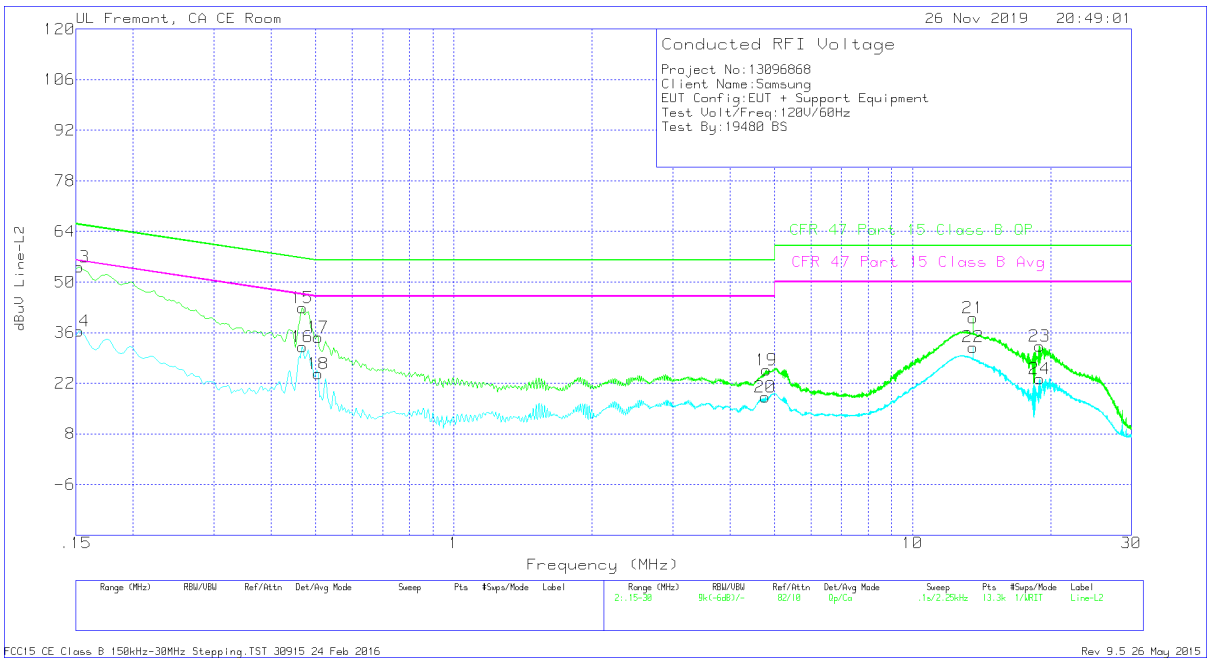


Trace Markers

Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L1	LC Cables C1&C3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
1	.15675	43.88	Qp	.1	0	10.1	54.08	65.63	-11.55	-	-
2	.15675	26.49	Ca	.1	0	10.1	36.69	-	-	55.63	-18.94
3	.48075	33.12	Qp	0	0	10.1	43.22	56.33	-13.11	-	-
4	.48075	27.48	Ca	0	0	10.1	37.58	-	-	46.33	-8.75
5	.50325	26.89	Qp	0	0	10.1	36.99	56	-19.01	-	-
6	.50325	21.46	Ca	0	0	10.1	31.56	-	-	46	-14.44
7	4.8795	21.88	Qp	0	.1	10.1	32.08	56	-23.92	-	-
8	4.87725	13.24	Ca	0	.1	10.1	23.44	-	-	46	-22.56
9	13.56	31.66	Qp	.1	.2	10.2	42.16	60	-17.84	-	-
10	13.56	23.31	Ca	.1	.2	10.2	33.81	-	-	50	-16.19
11	19.86225	26.87	Qp	.1	.3	10.3	37.57	60	-22.43	-	-
12	19.88475	17.63	Ca	.1	.3	10.3	28.33	-	-	50	-21.67

Qp - Quasi-Peak detector
Ca - CISPR average detection
NOTE: Markers 9 and 10, 13.56MHz is an external NFC signal unrelated to the EUT.

LINE 2 RESULTS



Trace Markers

Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L2	LC Cables C2&C3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
13	.15225	44	Qp	.1	0	10.1	54.2	65.88	-11.68	-	-
14	.15225	26.23	Ca	.1	0	10.1	36.43	-	-	55.88	-19.45
15	.46725	32.72	Qp	0	0	10.1	42.82	56.56	-13.74	-	-
16	.46725	22.02	Ca	0	0	10.1	32.12	-	-	46.56	-14.44
17	.5055	24.63	Qp	0	0	10.1	34.73	56	-21.27	-	-
18	.5055	14.47	Ca	0	0	10.1	24.57	-	-	46	-21.43
19	4.7985	15.46	Qp	0	.1	10.1	25.66	56	-30.34	-	-
20	4.7715	7.94	Ca	0	.1	10.1	18.14	-	-	46	-27.86
21	13.56	29.66	Qp	.1	.2	10.2	40.16	60	-19.84	-	-
22	13.56	21.51	Ca	.1	.2	10.2	32.01	-	-	50	-17.99
23	18.9015	21.62	Qp	.1	.3	10.3	32.32	60	-27.68	-	-
24	18.94425	12.6	Ca	.1	.3	10.3	23.3	-	-	50	-26.7

Qp - Quasi-Peak detector
Ca - CISPR average detection
NOTE: Markers 21 and 22, 13.56MHz is an external NFC signal unrelated to the EUT.