CERTIFICATION TEST REPORT

Report Number. : 12720909-E3V3

Applicant	:	VeriFone, Inc. 1400 WEST STANFORD RANCH ROAD ROCKLIN, CA, 95765, U.S.A.
Model	:	M440
FCC ID	:	B32M440
IC	:	787C-M440
EUT Description	:	Point-of-Interaction Terminal
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART C ISED RSS-247 ISSUE 2 ISED RSS-GEN ISSUE 5

Date of Issue:
August 06, 2019

Prepared by:
UL Verification Services Inc.
47173 Benicia Street
Fremont, CA 94538 U.S.A.
TEL: (510) 319-4000
FAX: (510) 661-0888

NVLAP Lab code: 200065-0

REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	7/9/2019	Initial Issue	--
V2	7/24/2019	Updated Company name	Tri Pham
V3	8/6/2019	Updated XYZ statement	Tri Pham

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: VeriFone, Inc.
1400 WEST STANFORD RANCH ROAD
ROCKLIN, CA, 95765, U.S.A.

EUT DESCRIPTION: Point-of-Interaction Terminal

MODEL: M440

SERIAL NUMBER: 346522674 (Radiated), 346522625 (Conducted)

DATE TESTED: May 15, 2019 to June 10, 2019

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart C	Complies
ISED RSS-247 Issue 2	Complies
ISED RSS-GEN Issue 5	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.

Approved & Released For
UL Verification Services Inc. By:

Frank Ibrahim
Operations Leader
Consumer Technology Division
UL Verification Services Inc.

Reviewed By:

Tri Pham
Project Engineer
Consumer Technology Division
UL Verification Services Inc.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2013, KDB 558074 D01 15.247 Meas Guidance v05r02, RSS-GEN Issue 5, and RSS-247 Issue 2.

3. 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 Road
☐ 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

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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

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

4.3. MEASUREMENT UNCERTAINTY

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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5. EQUIPMENT UNDER TEST

5.1. EUT DESCRIPTION

The M440 is an integrated countertop Point-of-Interaction (POI) terminal designed to process online and offline transactions in an attended environment. The Multi-Lane (M440) product is part of the two-chip Carbon family (Android applications and Engage payment engine). It accepts all payment methods - MSR, PSCR, Contactless, and wallets. The radio communication mechanisms available in the system include WiFi dual band 802.11 a/b/g/n and Bluetooth 4.1 BLE (BT4.2 on Android 7.1 or later versions), and CTLS (NFC).

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
1Tx			
2412 - 2462	802.11b	14.79	30.13
2412 - 2462	802.11g	12.2	16.60
2412 - 2462	802.11n HT20	11.96	15.70

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a dual band stamped metal antenna., with a maximum gain of 2.47 dBi.

5.4. SOFTWARE AND FIRMWARE

The test utility software used during testing was Qualcomm Radio Control Tool, Version 4.0.00123.

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5.5. WORST-CASE CONFIGURATION AND MODE

Radiated bandedge, harmonics, and spurious emissions from 1 GHz to 18GHz were performed. The EUT was set to transmit at the Low/Middle/High channels.

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

The fundamental of the EUT was investigated in two orthogonal orientations X and Z, it was determined that X-axis was the worst case orientation, therefore all final radiated testing was performed with the EUT in X(flatbed) position.

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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5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID/ DoC
Laptop AC/DC Adapter	Dell	LA65NM130	CN-0JNKWD-72438-61M-0728-A03	DoC
Laptop	Dell	Latitude E7450	H24JN72	DoC
AC/DC Adapter	Verifone	2AAJ012F US	A1914000013	DoC
Base Plug	Verifone	M400 BAS	445-101-01-A REV:A00	DoC
Debug Board	Verifone	LBL445-003-01-A	445-113-01-A	DoC

I/O CABLES (CONDUCTED TEST)

I/O Cable List						
Cable No	Port	# of identical	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	1	AC	Unshielded	0.9	AC Mains to AC/DC Adapter
2	DC	1	DC	Unshielded	1.85	AC/DC Adapter to Laptop
3	USB	1	USB Type-C to Type-A	Shielded	1	Laptop to Debug Board
4	USB	1	USB Type-C	Shielded	1.5	Base Plug to EUT
5	DC	5	DC	Unshielded	1.8	AC/DC Adapter to Base Plug
6	Antenna	1	SMA	Unshielded	0.08	To spectrum analyzer

I/O CABLES (AC POWER CONDUCTED TEST AND RADIATED TEST)

I/O Cable List						
Cable No	Port	# of identical	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	1	AC	Unshielded	0.9	AC Mains to AC/DC Adapter
2	DC	1	DC	Unshielded	1.85	AC/DC Adapter to Laptop
3	USB	1	USB Type-C to Type-A	Shielded	1	Laptop to Debug Board
4	USB	1	USB Type-C	Shielded	1.5	Base Plug to EUT
5	DC	5	DC	Unshielded	1.8	AC/DC Adapter to Base Plug

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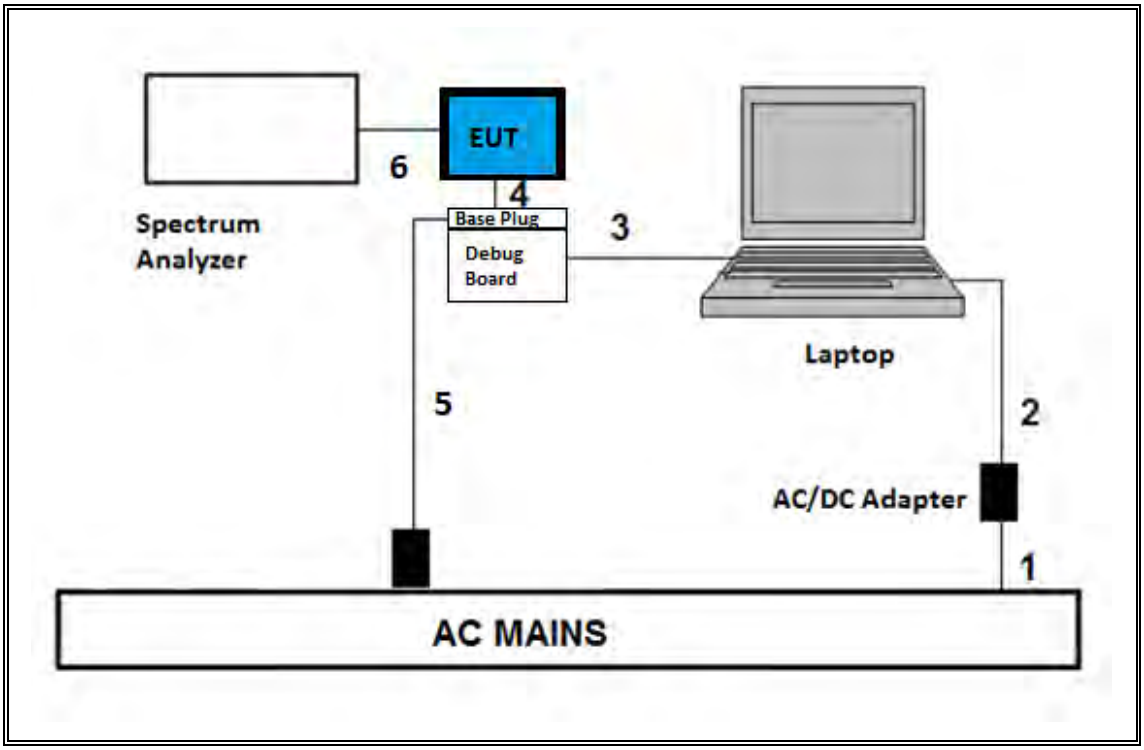
TEST SETUP-CONDUCTED TEST

The EUT was connected to a Base Plug and powered by the Base Plug. Test software exercised the EUT.

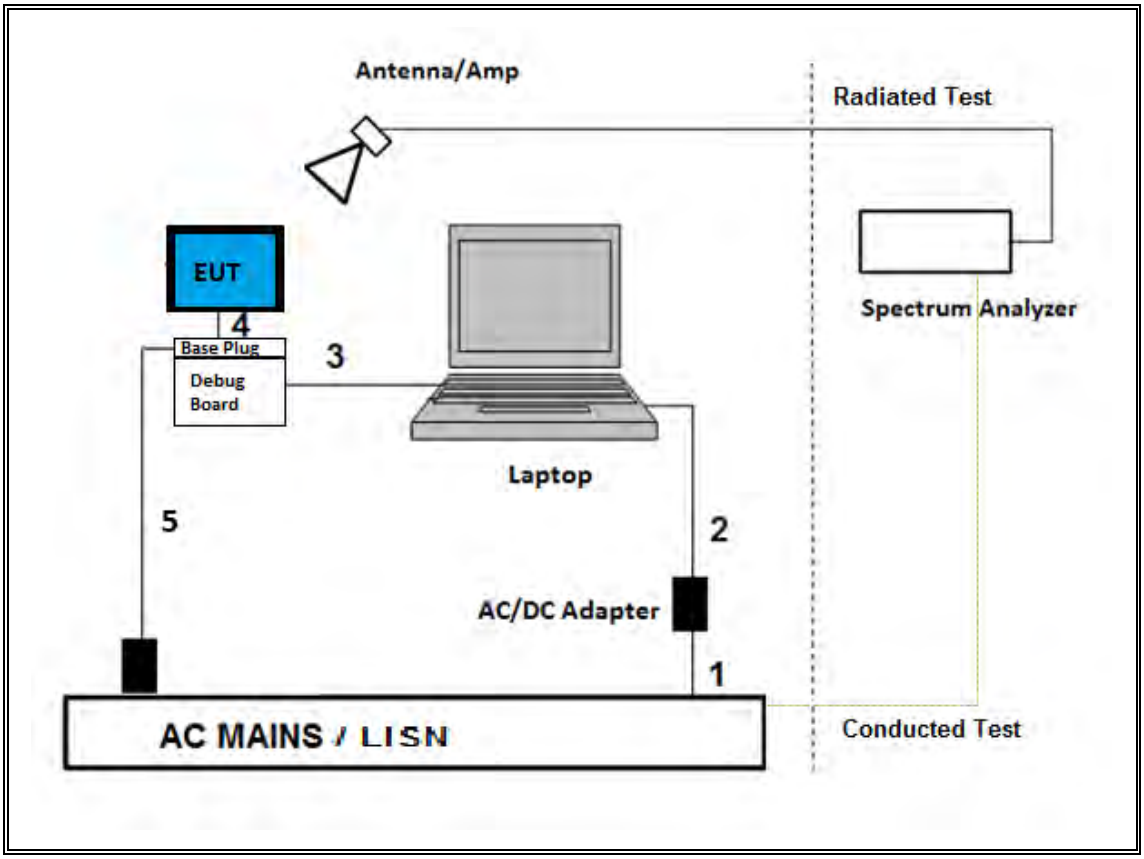
SETUP DIAGRAM



TEST SETUP- AC LINE CONDUCTED TEST AND RADIATED TEST

The EUT was connected to a Base Plug and powered by the Base Plug. Test software exercised the EUT.

SETUP DIAGRAM



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6. MEASUREMENT METHOD

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

6 dB BW: ANSI C63.10 Section 11.8.1

99% BW: ANSI C63.10-2013, Section 6.9.3.

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

PSD: ANSI C63.10 Subclause -11.10.3 Method AVGPSD-1

Band-edge: ANSI C63.10 Section 11.13.3.4 Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction factor

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

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

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

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7. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST					
Description	**Manufacturer**	**Model**	**ID Num**	**Cal Due**	**Last Cal**
6 port rf switch, 1-18GHz	Pasternack	PE7159	171455	08/01/2019	08/01/2018
Power Meter, P-series single channel	Agilent (Keysight) Technologies	N1911A	T1271	07/26/2019	07/26/2018
Power Sensor, P-series, 50MHz to 18GHz, Wideband	Agilent (Keysight) Technologies	N1921A	T1224	10/09/2019	10/09/2018
Antenna, Passive Loop 30Hz – 1MHz	Electro-Metrics	EM-6871	PRE0179465	05/31/2020	05/31/2019
Antenna, Passive Loop 100kHz – 30MHz	Electro-Metrics	EM-6872	PRE0179467	05/31/2020	05/31/2019
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	T862	05/25/2019	05/25/2018
Antenna, Horn 700MHz-18GHz	AH Systems Inc.	SAS-571	PRE0190810	07/10/2019	07/10/2017
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	PRE0179377	02/15/2020	02/15/2019
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	PRE0179376	02/14/2020	02/14/2019
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A	T1450	01/24/2020	01/24/2019
Amplifier, 1-18GHz	MITIQ	AFS42-00101800-25-S-42	PRE0181078	08/01/2019	08/01/2018
Amplifier, 9kHz to 1GHz, 32 dB	Sonoma Instrument	310	PRE0186650	12/13/2019	12/13/2018
Hybrid Antenna, 30MHz to 3GHz	SunAR rf motion	JB3	PRE0184052	10/24/2019	10/24/2018
Antenna, Horn 18 to 26.5GHz	ARA	MWH-1826/B	PRE0182188	08/29/2019	08/29/2018
Pre-Amp, 18-26.5GHz	AMPLICAL	AMP18G26.5-60	PRE0181238	05/01/2020	05/01/2019
AC Line Conducted					
EMI Receiver	Rohde & Schwarz	ESR	T1436	02/14/2020	02/14/2019
LISN for Conducted Emissions CISPR-16	FCC INC.	FCC LISN 50/250	T1310	06/15/2019	06/15/2018
Test Software List					
Radiated Software	UL	UL EMC		Ver 9.5, June 22, 2018	
Antenna Port Software	UL	UL RF		Ver 9.6, April 18, 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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8. ANTENNA PORT TEST RESULTS

8.1. 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	8.220	8.420	0.976	97.62%	0.10	0.122
802.11g 1TX	1.365	1.565	0.872	87.22%	0.59	0.733
802.11n HT20 1TX	1.274	1.472	0.865	86.55%	0.63	0.785

DUTY CYCLE PLOTS

DUTY CYCLE 802.11b MODE

DUTY CYCLE 802.11g MODE

DUTY CYCLE 802.11n HT20 MODE

8.2. 99% BANDWIDTH

LIMITS

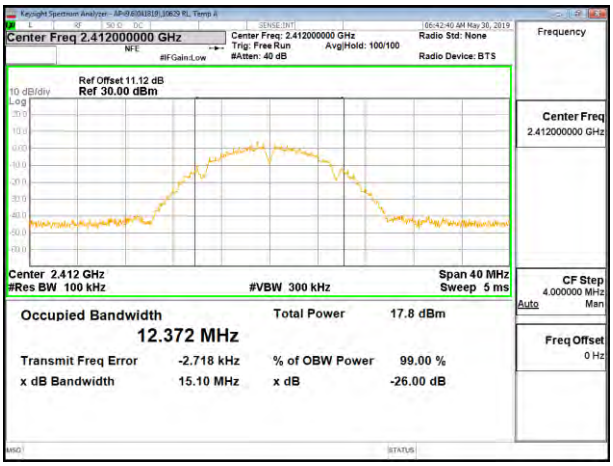
None; for reporting purposes only.

RESULTS

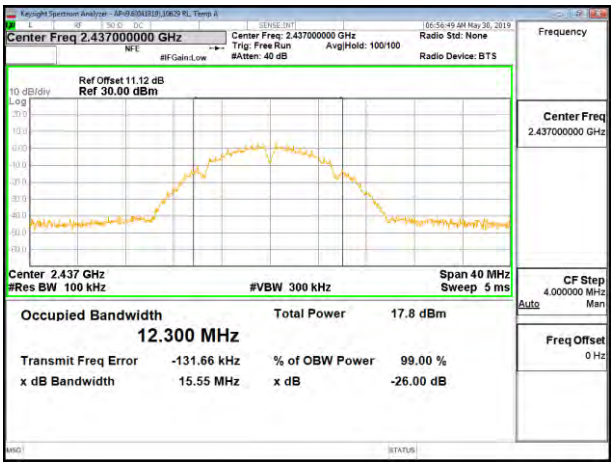
8.2.1. 802.11b MODE

1TX Antenna 1 MODE

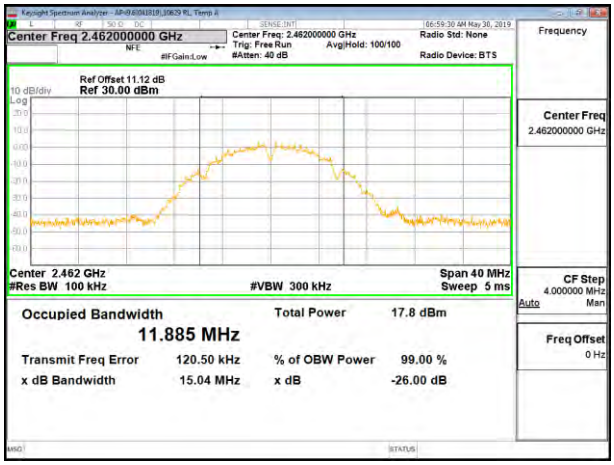
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 1	2412	12.3720
Mid 6	2437	12.3000
High 11	2462	11.8850



LOW CHANNEL 1



MID CHANNEL 6

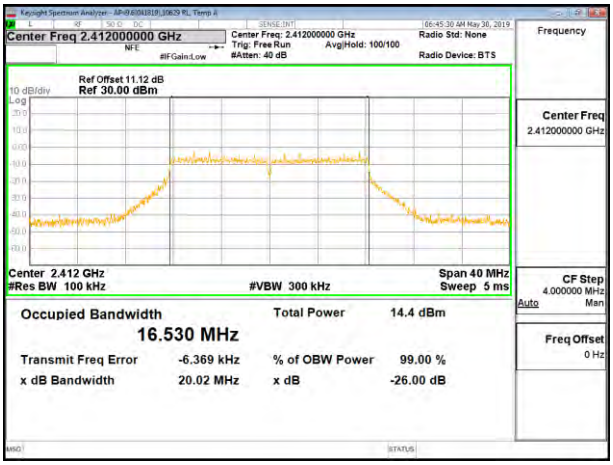


HIGH CHANNEL 11

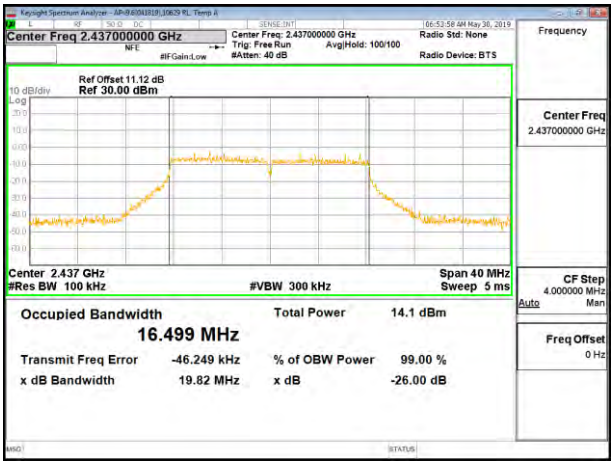
8.2.2. 802.11g MODE

1TX Antenna 1 MODE

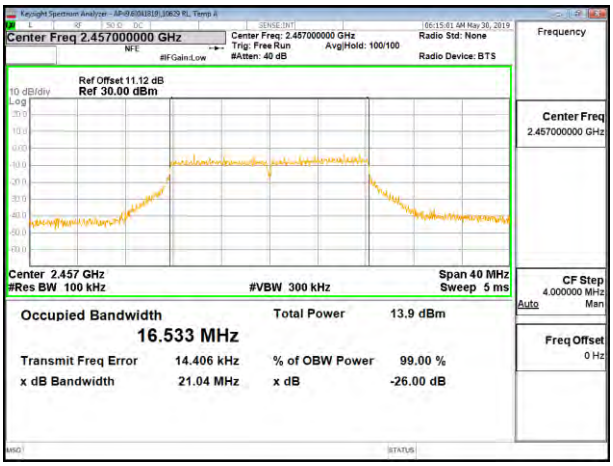
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 1	2412	16.5300
Mid 6	2437	16.4990
High 10	2457	16.5330
High 11	2462	16.4860



LOW CHANNEL 1



MID CHANNEL 6



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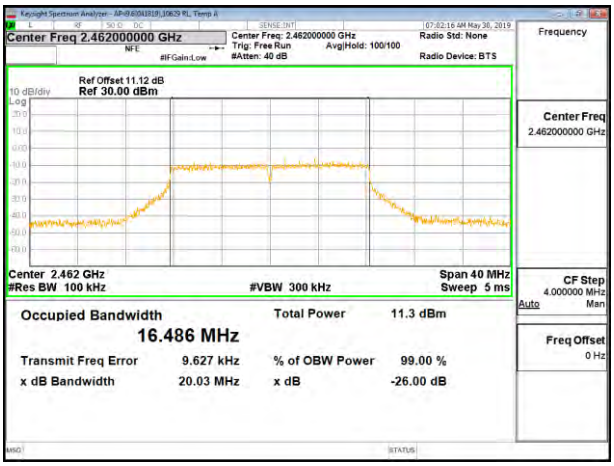
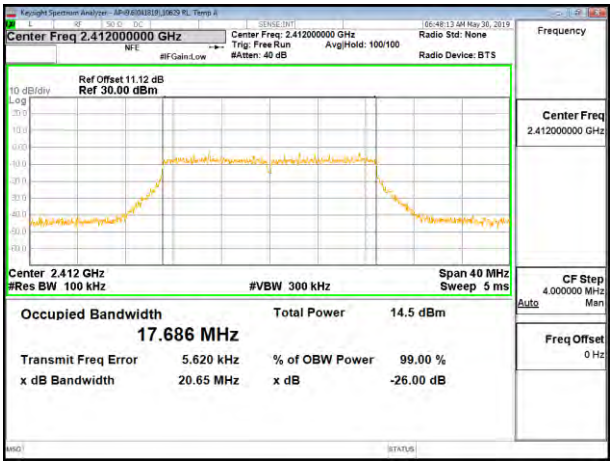


HIGH CHANNEL 11

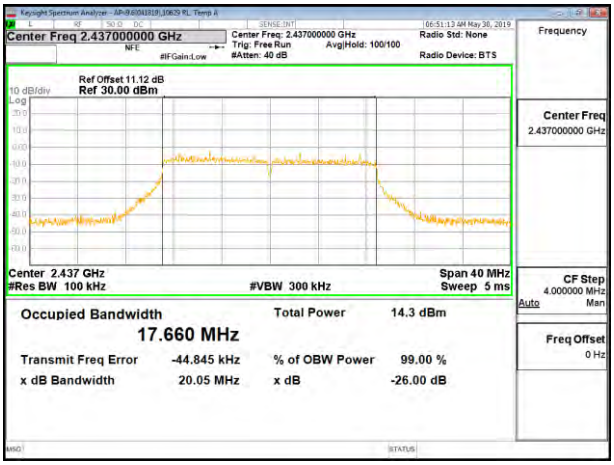
8.2.3. 802.11n HT20 MODE

1TX Antenna 1 MODE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 1	2412	17.6860
Mid 6	2437	17.6600
High 10	2457	17.7030
High 11	2462	17.6700



LOW CHANNEL 1



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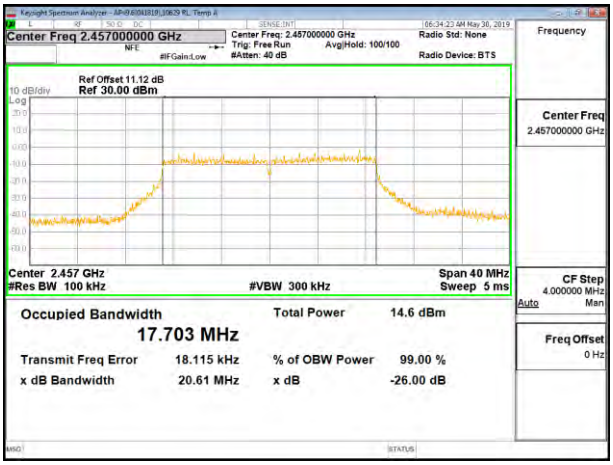

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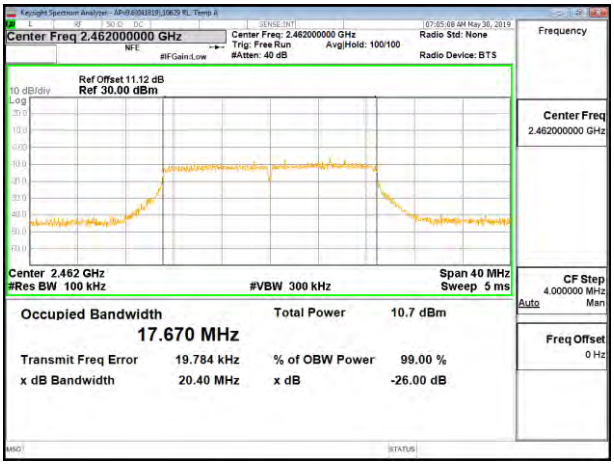


HIGH CHANNEL 11

8.3. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

RSS-247 5.2 (a)

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

RESULTS

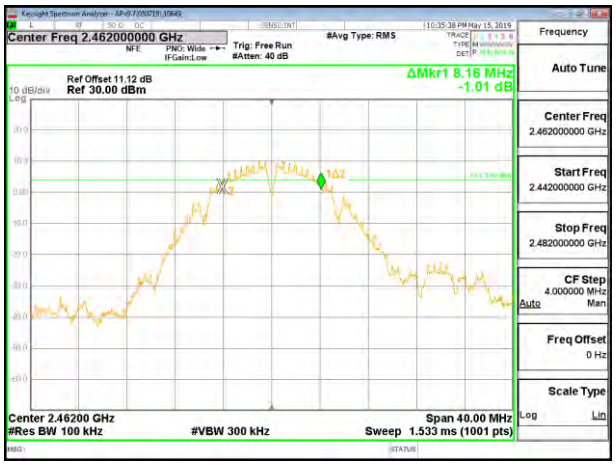
8.3.1. 802.11b MODE

1TX Antenna 1 MODE

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	7.6800	0.5
Mid 6	2437	7.6800	0.5
High 11	2462	8.1600	0.5

LOW CHANNEL 1

MID CHANNEL 6



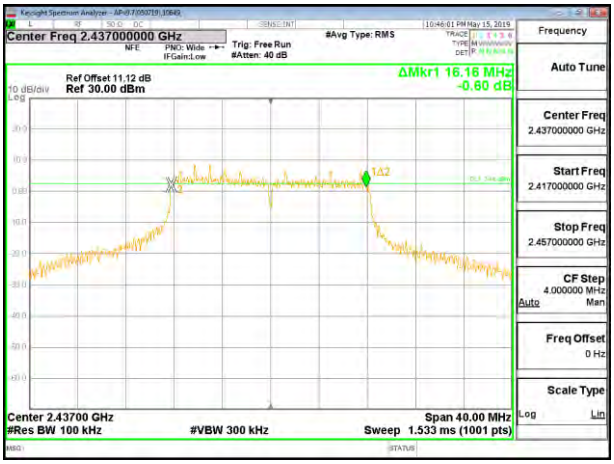
HIGH CHANNEL 11

8.3.2. 802.11g MODE

1TX Antenna 1 MODE

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	16.4400	0.5
Mid 6	2437	16.1600	0.5
High 10	2457	16.6000	0.5
High 11	2462	16.4000	0.5

LOW CHANNEL 1



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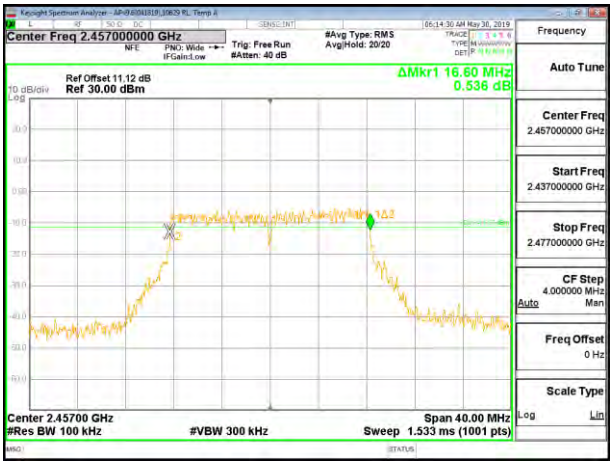

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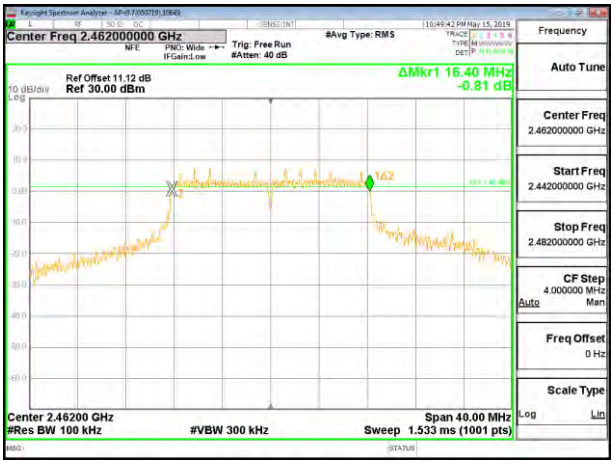
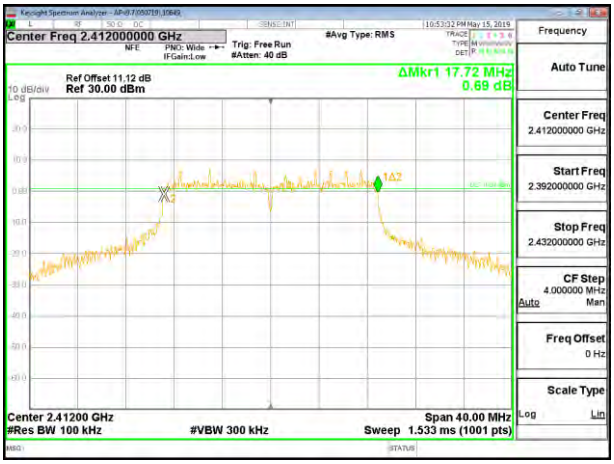


HIGH CHANNEL 11

8.3.3. 802.11n HT20 MODE

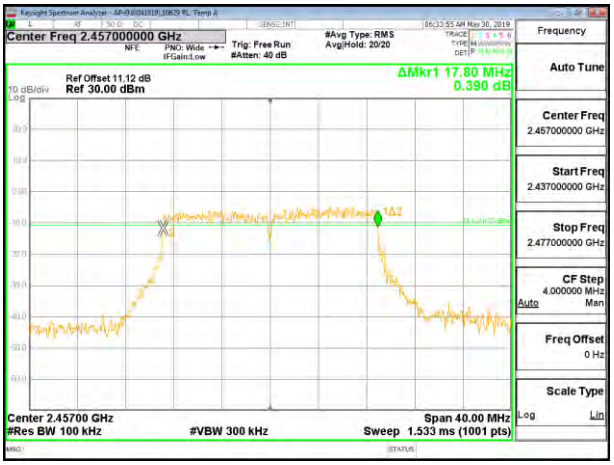
1TX Antenna 1 MODE

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	17.7200	0.5
Mid 6	2437	17.4400	0.5
High 10	2457	17.8000	0.5
High 11	2462	17.6400	0.5

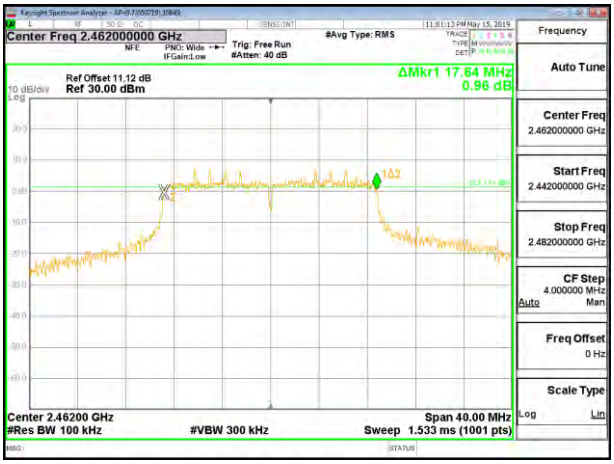


LOW CHANNEL 1

MID CHANNEL 6



HIGH CHANNEL 10



HIGH CHANNEL 11

8.4. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)

RSS-247 5.4 (d)

For systems using digital modulation in the 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 gated average 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.

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RESULTS

8.4.1. 802.11b MODE

1TX Antenna 1 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	2.47	30.00	30	36	30.00
Mid 6	2437	2.47	30.00	30	36	30.00
High 11	2462	2.47	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	14.79	14.79	30.00	-15.21
Mid 6	2437	14.55	14.55	30.00	-15.45
High 11	2462	14.71	14.71	30.00	-15.29

8.4.2. 802.11g MODE

1TX Antenna 1 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	2.47	30.00	30	36	30.00
Mid 6	2437	2.47	30.00	30	36	30.00
High 10	2457	2.47	30.00	30	36	30.00
High 11	2462	2.47	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	11.42	11.42	30.00	-18.58
Mid 6	2437	11.72	11.72	30.00	-18.28
High 10	2457	12.20	12.20	30.00	-17.80
High 11	2462	8.34	8.34	30.00	-21.66

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8.4.3. 802.11n HT20 MODE

1TX Antenna 1 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	2.47	30.00	30	36	30.00
Mid 6	2437	2.47	30.00	30	36	30.00
High 10	2457	2.47	30.00	30	36	30.00
High 11	2462	2.47	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	11.96	11.96	30.00	-18.04
Mid 6	2437	11.01	11.01	30.00	-18.99
High 10	2457	11.55	11.55	30.00	-18.45
High 11	2462	7.31	7.31	30.00	-22.69

8.5. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e)

RSS-247 (5.2) (b)

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

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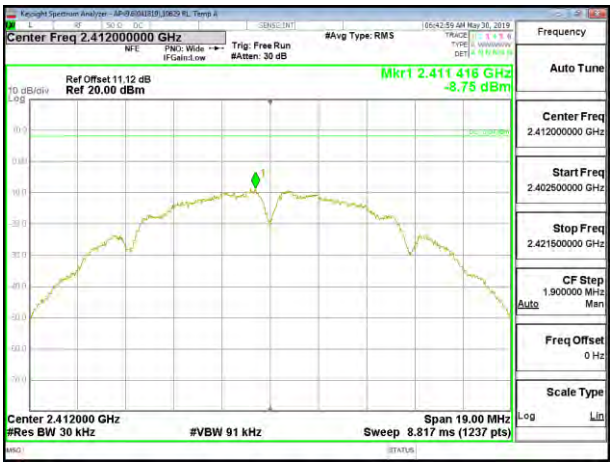
8.5.1. 802.11b MODE

1TX Antenna 1 MODE

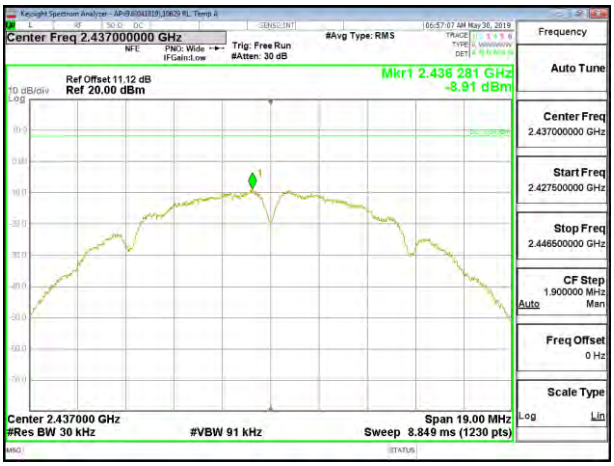
Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd PSD

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm/ 30kHz)	Total Corr'd PSD (dBm/ 30kHz)	Limit (dBm/ 3kHz)	Margin (dB)
Low 1	2412	-8.75	-8.65	8.0	-16.7
Mid 6	2437	-8.91	-8.81	8.0	-16.8
High 11	2462	-9.11	-9.01	8.0	-17.0



LOW CHANNEL 1



MID CHANNEL 6

HIGH CHANNEL 11

8.5.2. 802.11g MODE

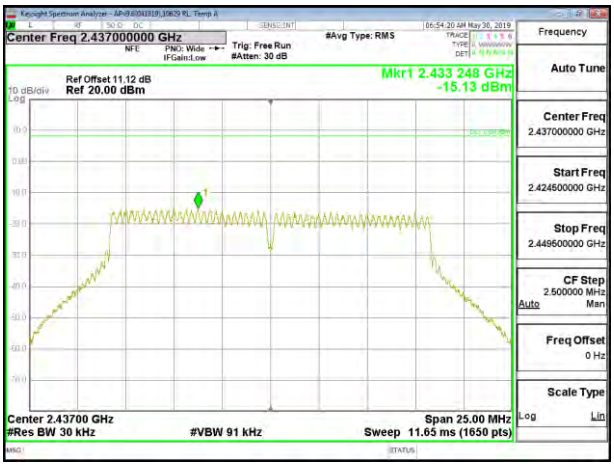
1TX Antenna 1 MODE

Duty Cycle CF (dB)	0.59	Included in Calculations of Corr'd PSD

PSD Results

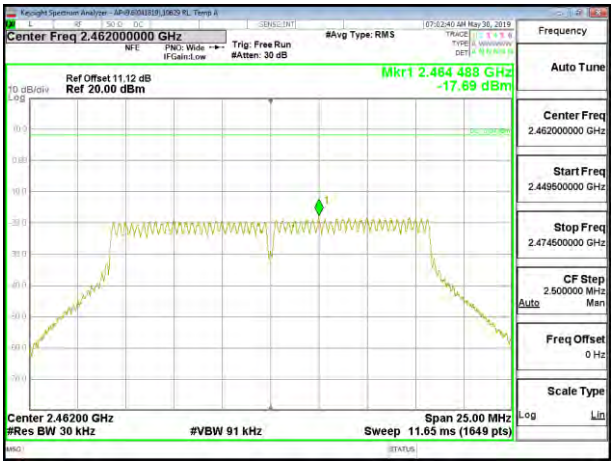
Channel	Frequency (MHz)	Chain 0 Meas (dBm/ 30kHz)	Total Corr'd PSD (dBm/ 30kHz)	Limit (dBm/ 3kHz)	Margin (dB)
Low 1	2412	-15.10	-14.51	8.0	-22.5
Mid 6	2437	-15.13	-14.54	8.0	-22.5
High 10	2457	-15.16	-14.57	8.0	-22.6
High 11	2462	-17.69	-17.10	8.0	-25.1

LOW CHANNEL 1



MID CHANNEL 6

HIGH CHANNEL 10



HIGH CHANNEL 11

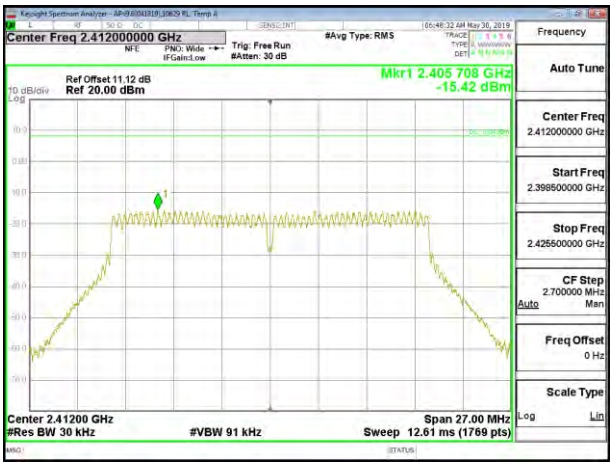
8.5.3. 802.11n HT20 MODE

1TX Antenna 1 MODE

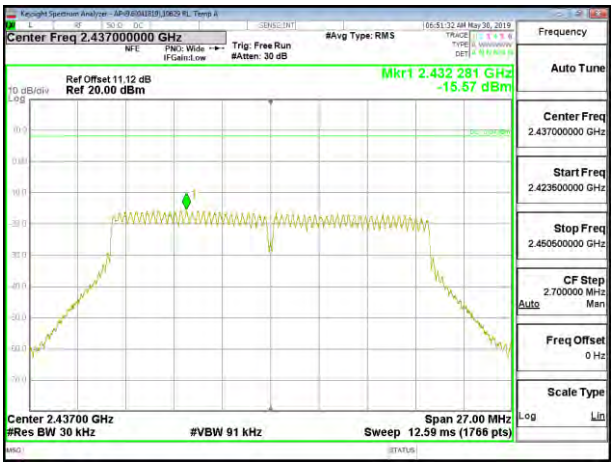
Duty Cycle CF (dB)	0.63	Included in Calculations of Corr'd PSD

PSD Results

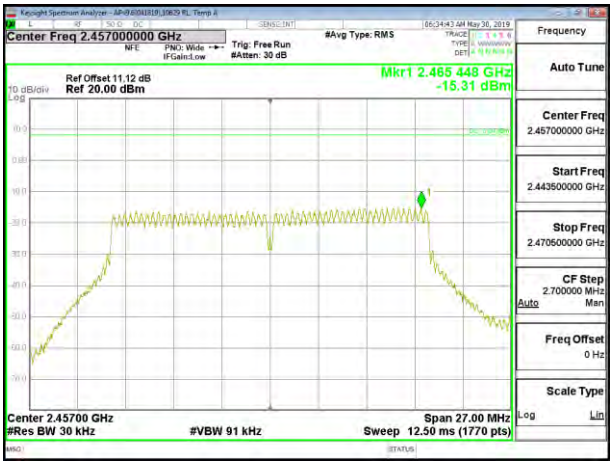
Channel	Frequency (MHz)	Chain 0 Meas (dBm/ 30kHz)	Total Corr'd PSD (dBm/ 30kHz)	Limit (dBm/ 3kHz)	Margin (dB)
Low 1	2412	-15.42	-14.79	8.0	-22.8
Mid 6	2437	-15.57	-14.94	8.0	-22.9
High 10	2457	-15.31	-14.68	8.0	-22.7
High 11	2462	-18.95	-18.32	8.0	-26.3



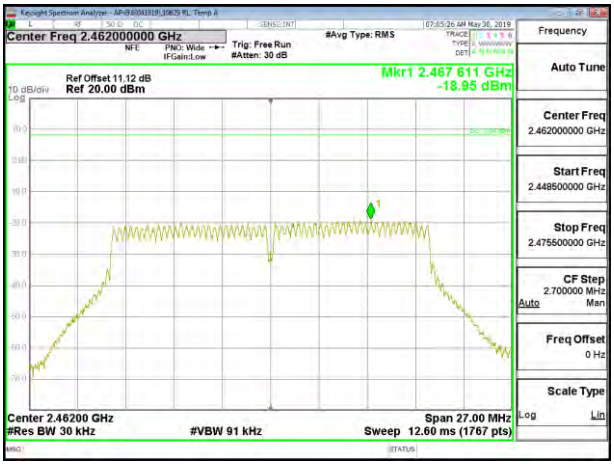
LOW CHANNEL 1



MID CHANNEL 6



HIGH CHANNEL 10



HIGH CHANNEL 11

8.6. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

RSS-247 5.5

Output power was measured based on the use of avg measurement, therefore the required attenuation is 30 dB.

RESULTS

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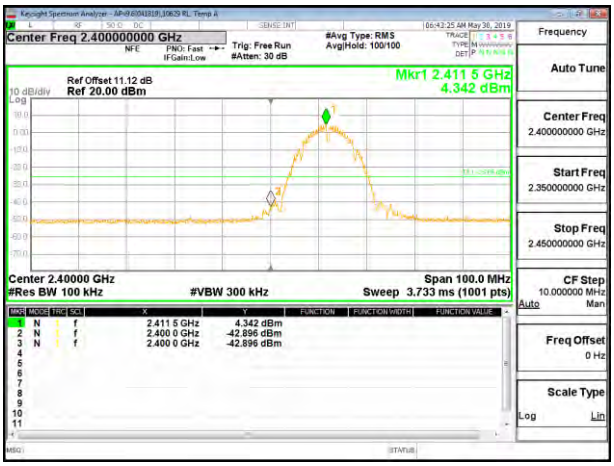
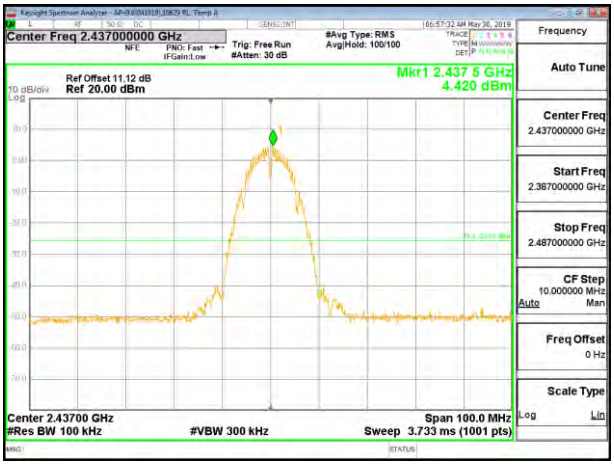
8.6.1. 802.11b MODE

1TX Antenna 1 MODE



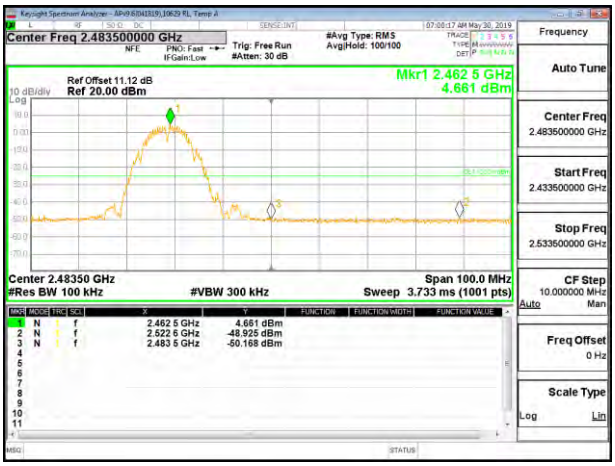
LOW CHANNEL 1 BANDEDGE

OUT-OF-BAND LOW CHANNEL 1



IN-BAND REFERNCE LEVEL

OUT-OF-BAND MID CHANNEL

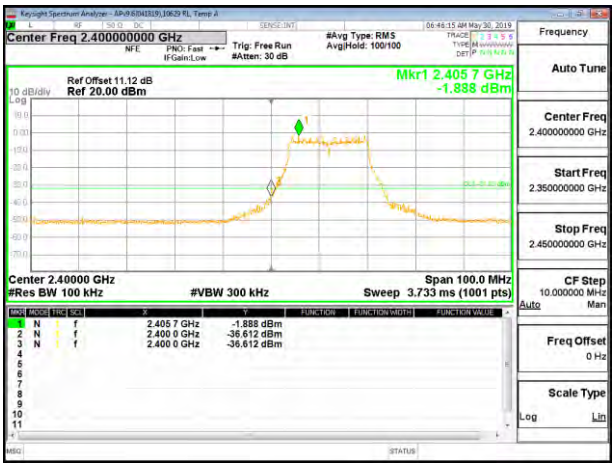


HIGH CHANNEL 11 BANDEDGE

OUT-OF-BAND HIGH CHANNEL 11

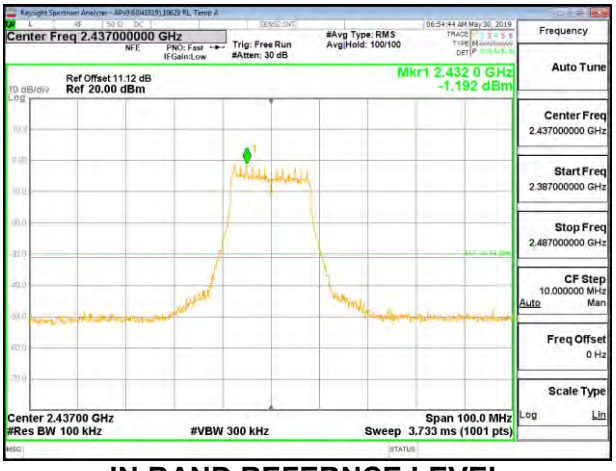
8.6.2. 802.11g MODE

1TX Antenna 1 MODE

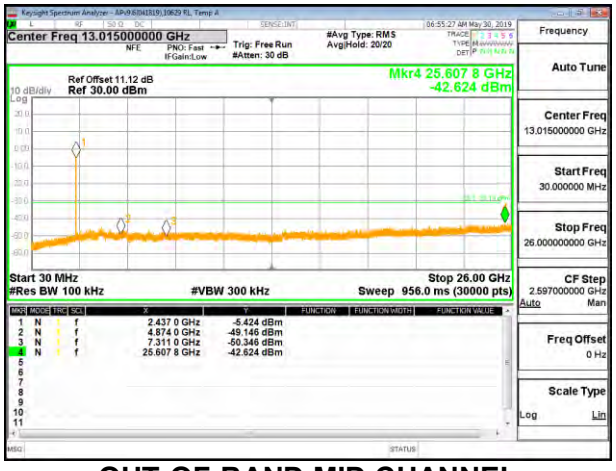


LOW CHANNEL 1 BANDEDGE

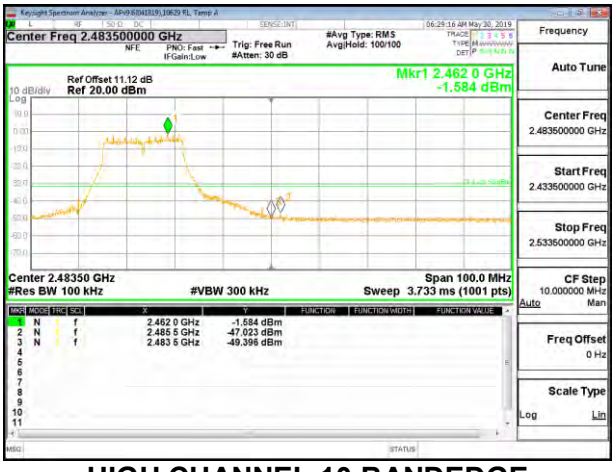
OUT-OF-BAND LOW CHANNEL 1



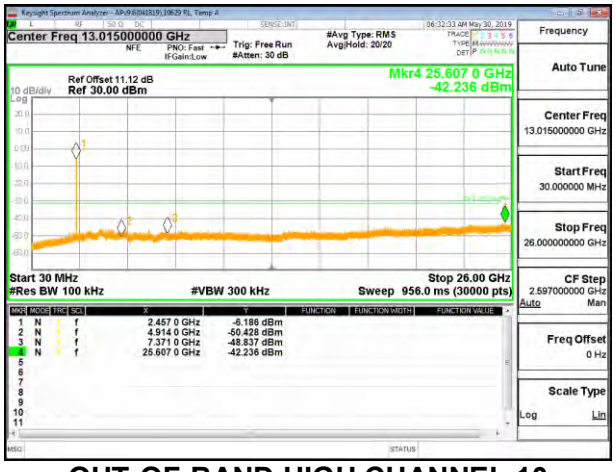
IN-BAND REFERNCE LEVEL



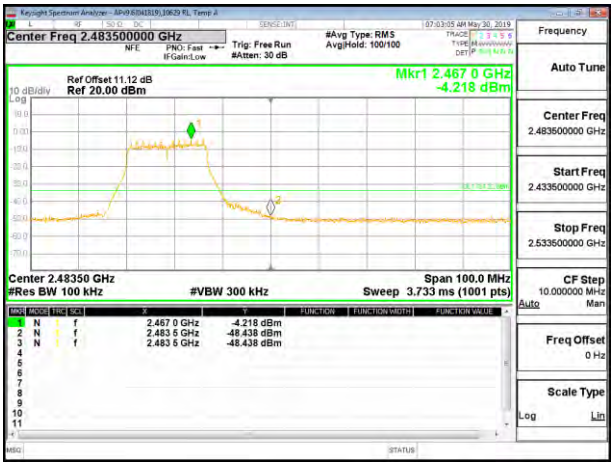
OUT-OF-BAND MID CHANNEL



HIGH CHANNEL 10 BANDEDGE



OUT-OF-BAND HIGH CHANNEL 10

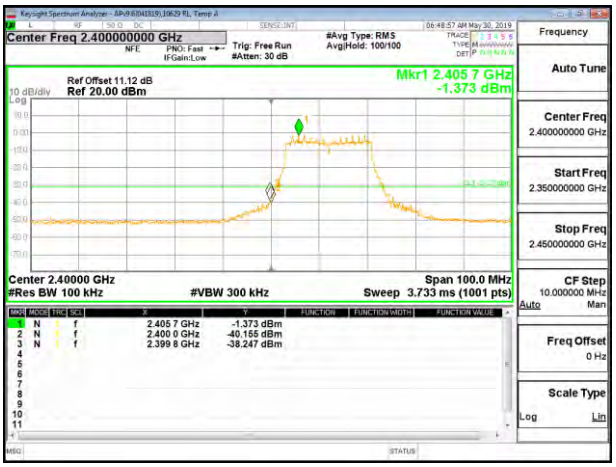


HIGH CHANNEL 11 BANDEDGE

OUT-OF-BAND HIGH CHANNEL 11

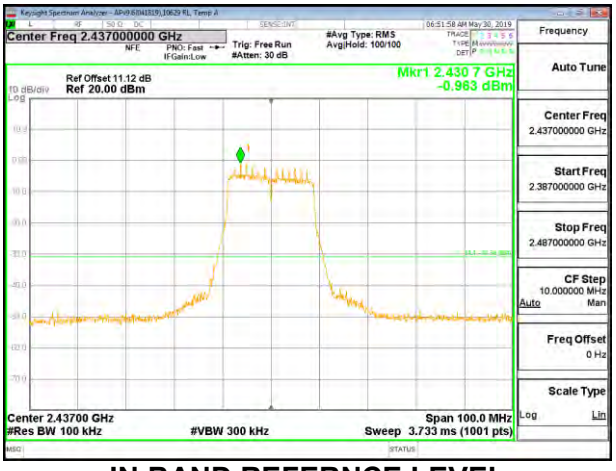
8.6.3. 802.11n HT20 MODE

1TX Antenna 1 MODE

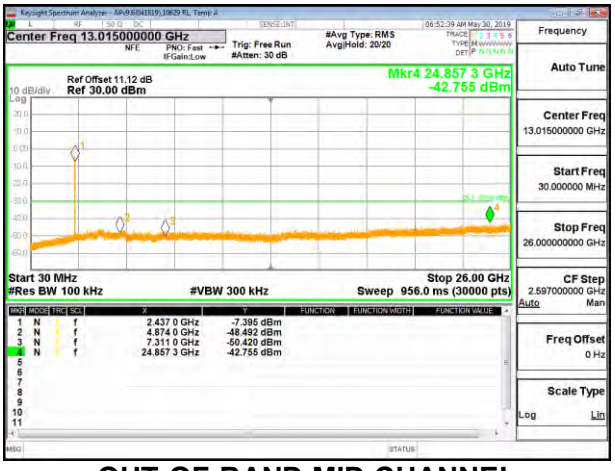


LOW CHANNEL 1 BANDEDGE

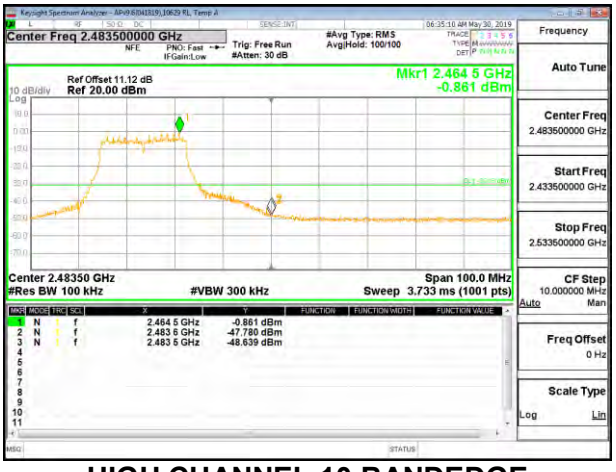
OUT-OF-BAND LOW CHANNEL 1



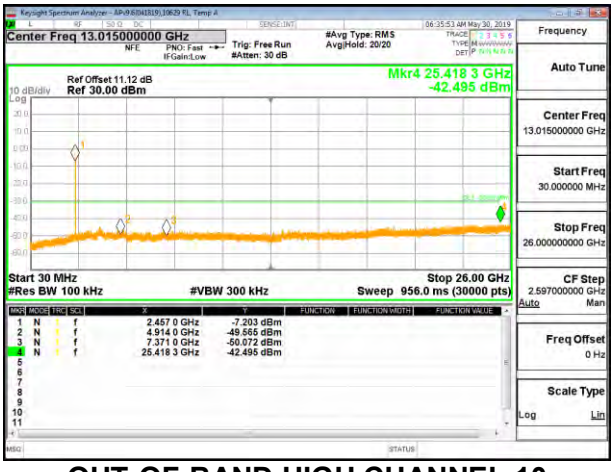
IN-BAND REFERNCE LEVEL



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. RADIATED TEST RESULTS

LIMITS

FCC §15.205 and §15.209

RSS-GEN, Section 8.9 and 8.10

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.

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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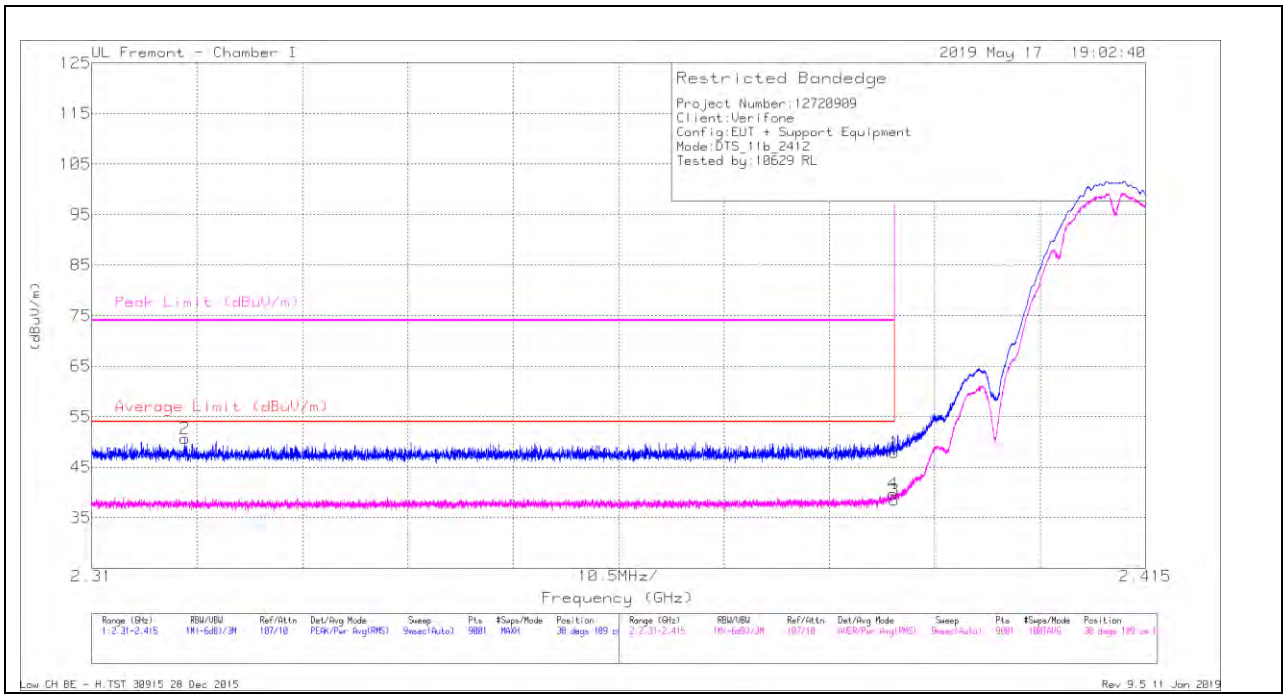
9.1. TRANSMITTER ABOVE 1 GHz

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

1TX Antenna 1 MODE

BANDEDGE (LOW CHANNEL, CH 1)

HORIZONTAL RESULT

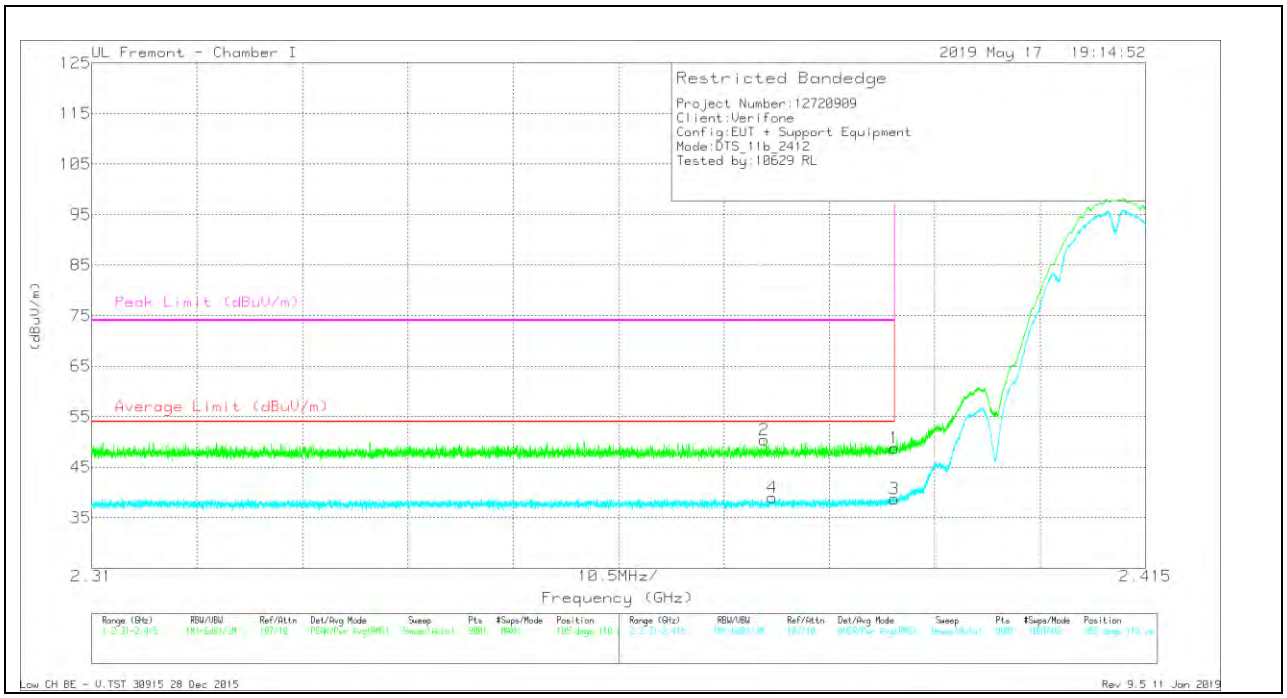


Trace Markers

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	* 2.39	37.71	Pk	31.8	-21.6	0	47.91	-	-	74	-26.09	38	189	H
2	* 2.319	40.52	Pk	31.5	-21.4	0	50.62	-	-	74	-23.38	38	189	H
3	* 2.39	28.15	RMS	31.8	-21.6	.1	38.45	54	-15.55	-	-	38	189	H
4	* 2.39	29.43	RMS	31.8	-21.6	.1	39.73	54	-14.27	-	-	38	189	H

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

VERTICAL RESULT



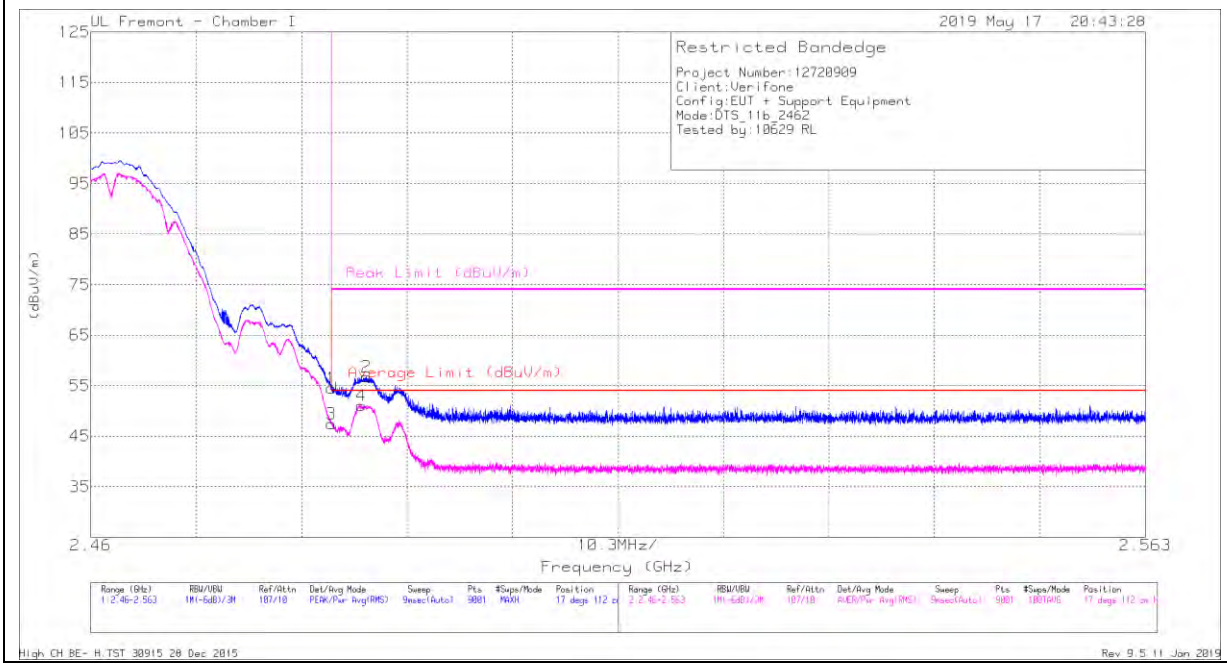
Trace Markers

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	*2.39	38.61	Pk	31.8	-21.6	0	48.81	-	-	74	-25.19	105	118	V
2	*2.377	40.24	Pk	31.7	-21.5	0	50.44	-	-	74	-23.56	105	118	V
3	*2.39	28.39	RMS	31.8	-21.6	.1	38.69	54	-15.31	-	-	105	118	V
4	*2.378	28.69	RMS	31.7	-21.5	.1	38.99	54	-15.01	-	-	105	118	V

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

BANDEDGE (HIGH CHANNEL, CH 11)

HORIZONTAL RESULT

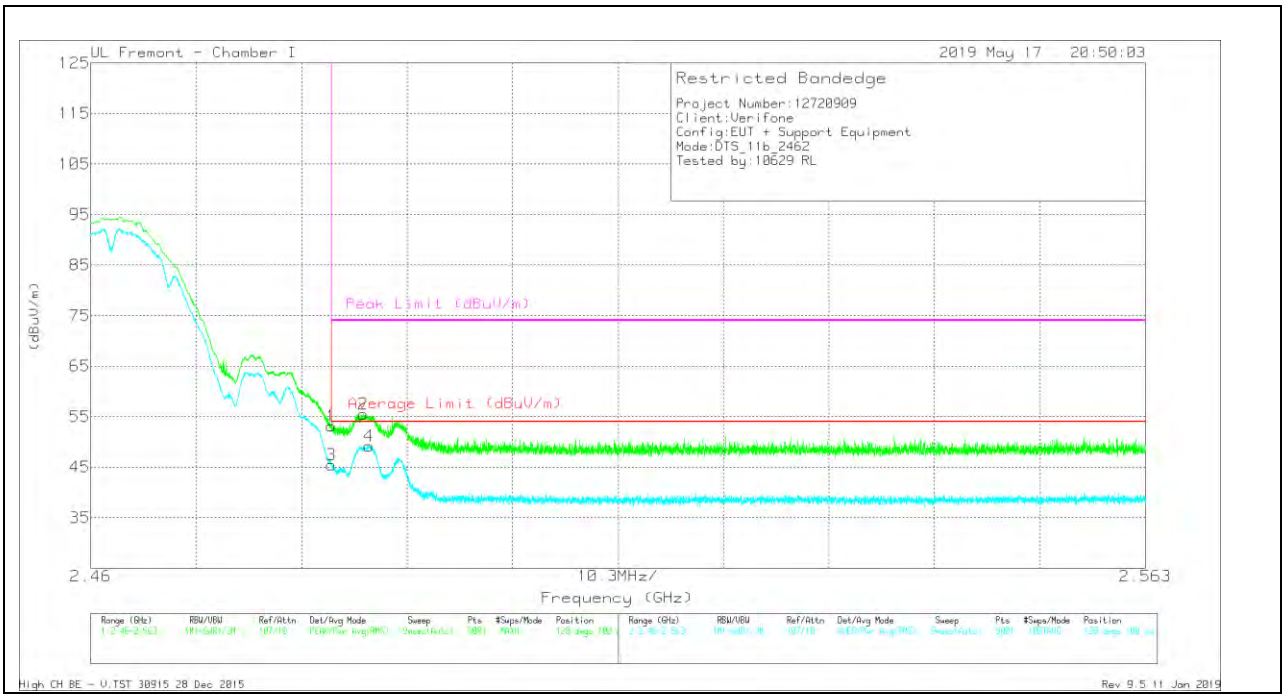


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*2.484	43.78	Pk	32.4	-21.7	0	54.48	-	-	74	-19.52	17	112	H
2	*2.487	46.02	Pk	32.4	-21.7	0	56.72	-	-	74	-17.28	17	112	H
3	*2.484	36.62	RMS	32.4	-21.7	.1	47.42	54	-6.58	-	-	17	112	H
4	*2.486	40.28	RMS	32.4	-21.7	.1	51.08	54	-2.92	-	-	17	112	H

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

VERTICAL RESULT



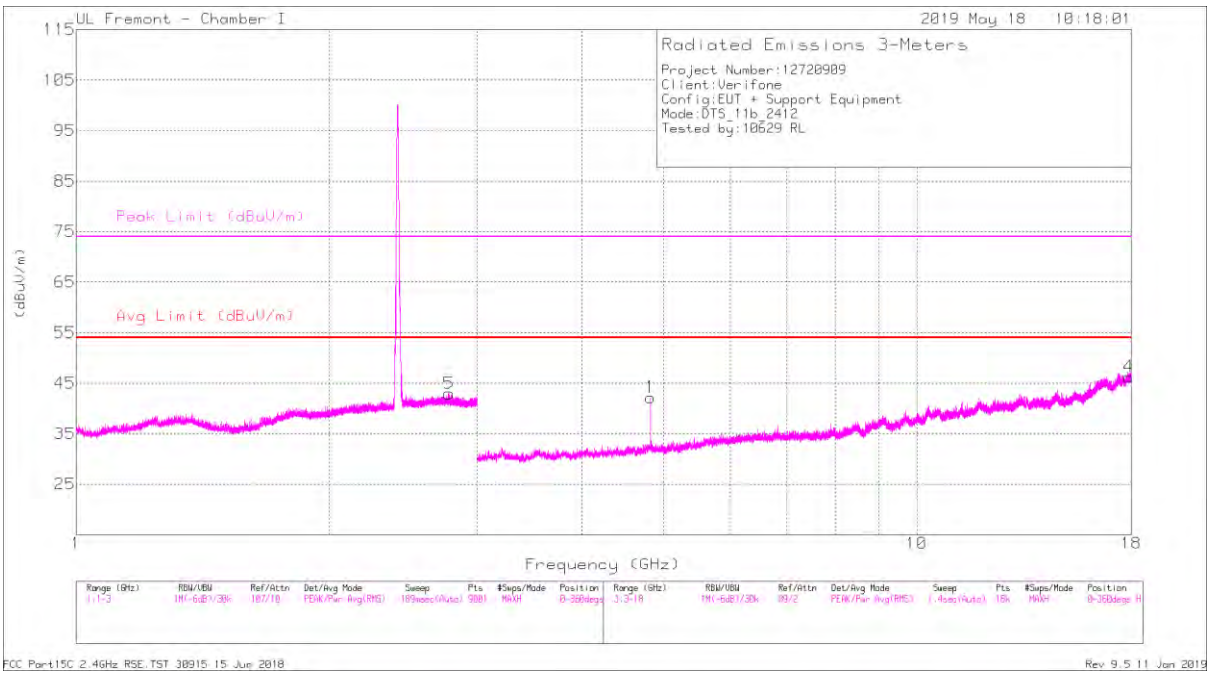
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*2.484	42.4	Pk	32.4	-21.7	0	53.1	-	-	74	-20.9	128	100	V
2	*2.487	44.78	Pk	32.4	-21.7	0	55.48	-	-	74	-18.52	128	100	V
3	*2.484	34.6	RMS	32.4	-21.7	.1	45.4	54	-8.6	-	-	128	100	V
4	*2.487	38.38	RMS	32.4	-21.7	.1	49.18	54	-4.82	-	-	128	100	V

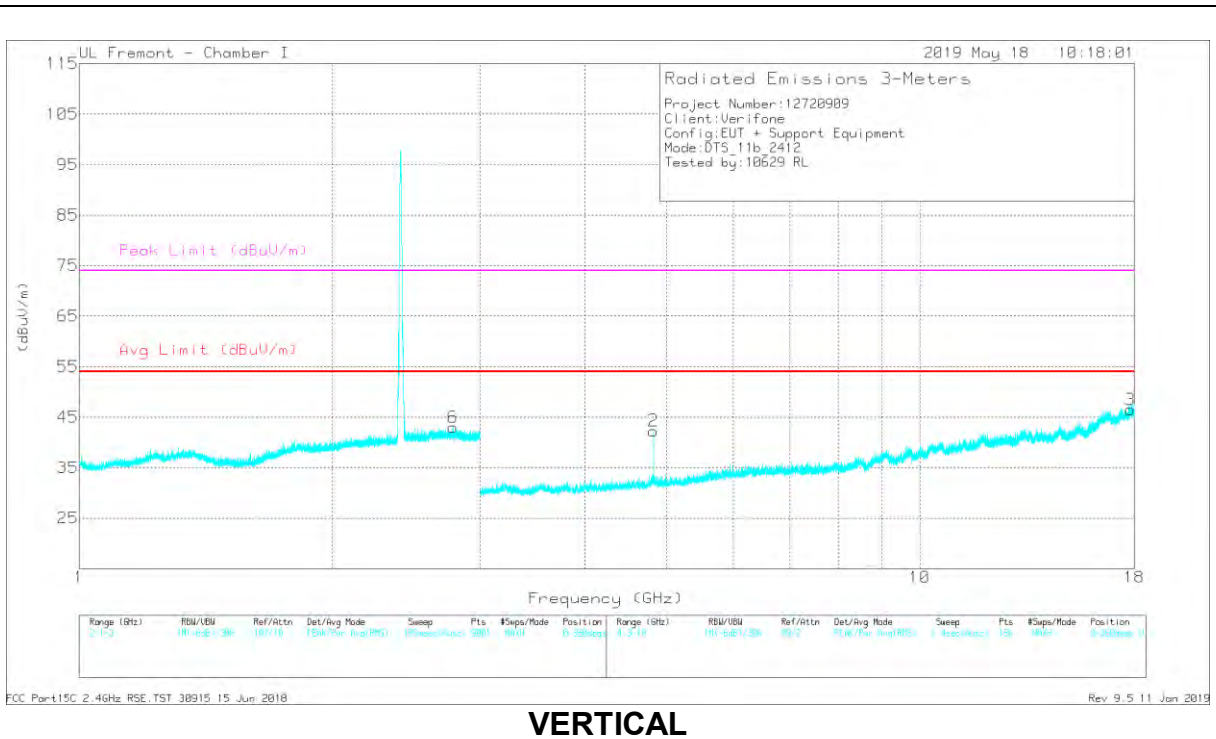
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 1 RESULTS



HORIZONTAL



VERTICAL

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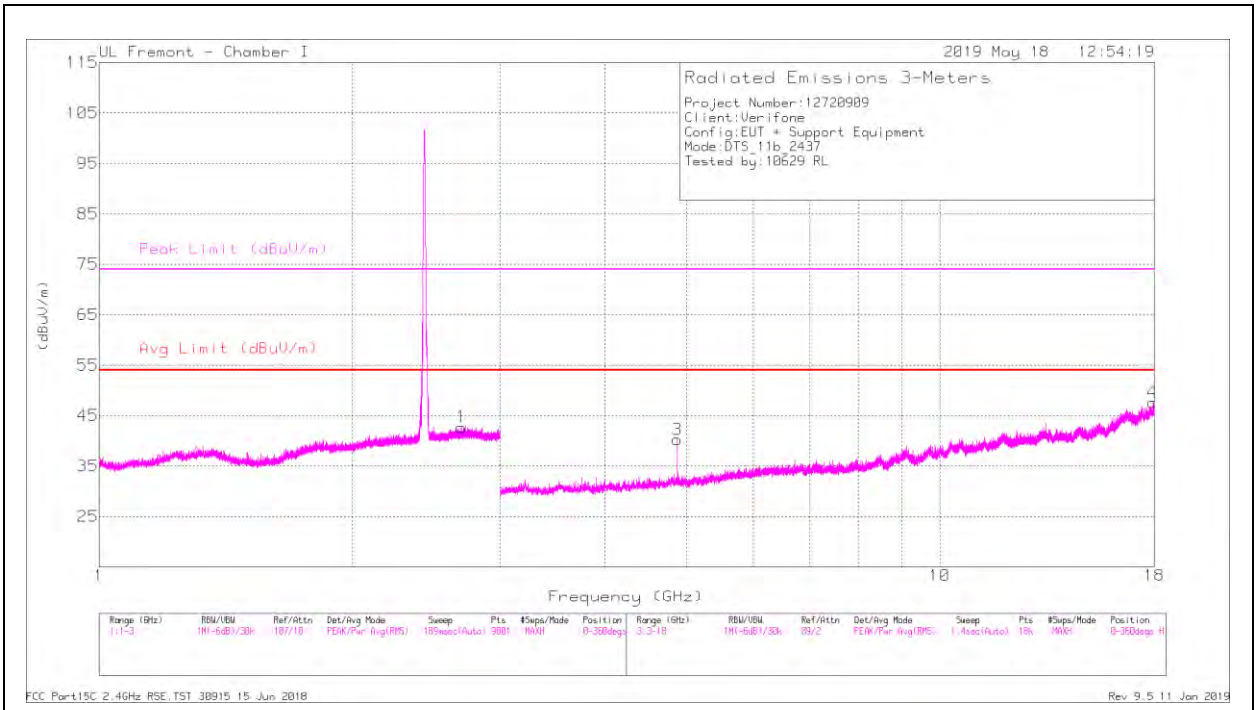
RADIATED EMISSIONS

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
5	* 2.776	35.42	PK2	32.4	-20.9	0	46.92	-	-	74	-27.08	80	178	H
	* 2.778	28.6	MAv1	32.4	-20.9	.1	40.2	54	-13.8	-	-	80	178	H
6	* 2.784	36.84	PK2	32.4	-20.9	0	48.34	-	-	74	-25.66	196	278	V
	* 2.779	28.1	MAv1	32.4	-20.9	.1	39.7	54	-14.3	-	-	196	278	V
1	* 4.824	41.33	PK2	34.2	-28.2	0	47.33	-	-	74	-26.67	61	114	H
	* 4.824	36.11	MAv1	34.2	-28.2	.1	42.21	54	-11.79	-	-	61	114	H
4	* 17.871	26.7	PK2	41.6	-14.7	0	53.6	-	-	74	-20.4	150	303	H
	* 17.871	17.39	MAv1	41.6	-14.7	.1	44.39	54	-9.61	-	-	150	303	H
2	* 4.824	41.15	PK2	34.2	-28.3	0	47.05	-	-	74	-26.95	173	100	V
	* 4.824	35.66	MAv1	34.2	-28.3	.1	41.66	54	-12.34	-	-	173	100	V
3	* 17.816	25.57	PK2	41.7	-14.6	0	52.67	-	-	74	-21.33	126	108	V
	* 17.815	17.62	MAv1	41.7	-14.6	.1	44.82	54	-9.18	-	-	126	108	V

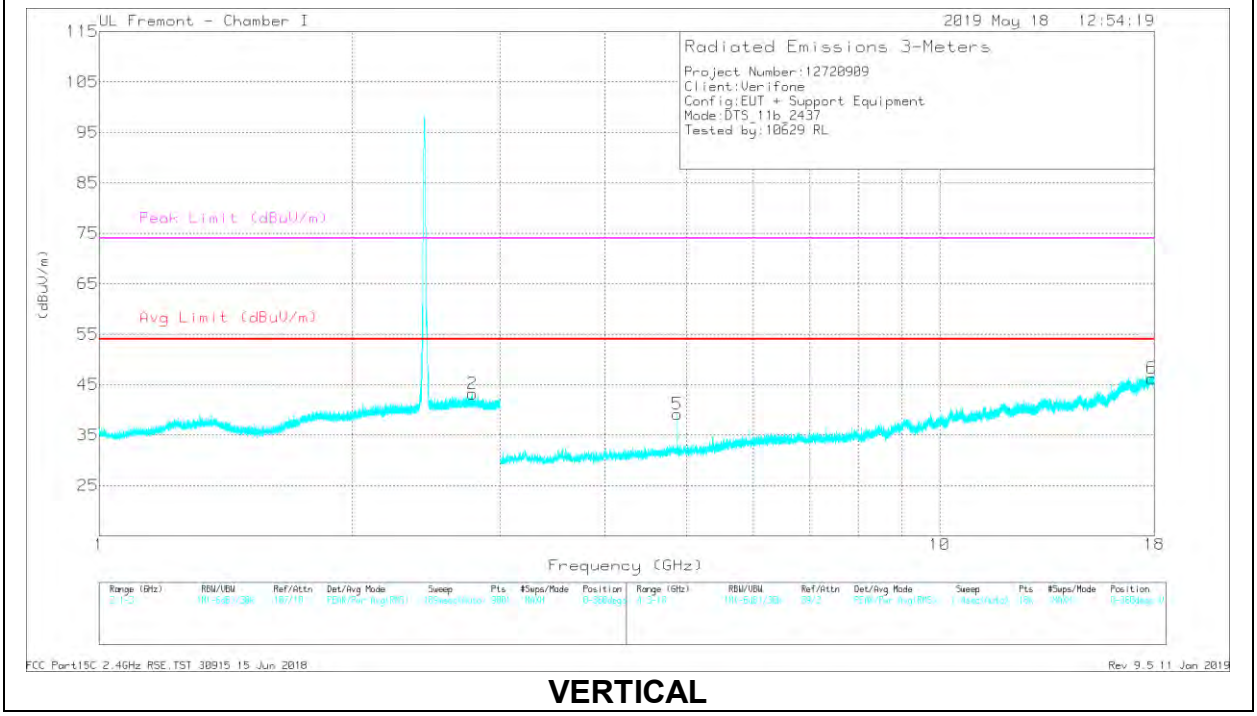
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

MID CHANNEL, CH 6 RESULTS



HORIZONTAL



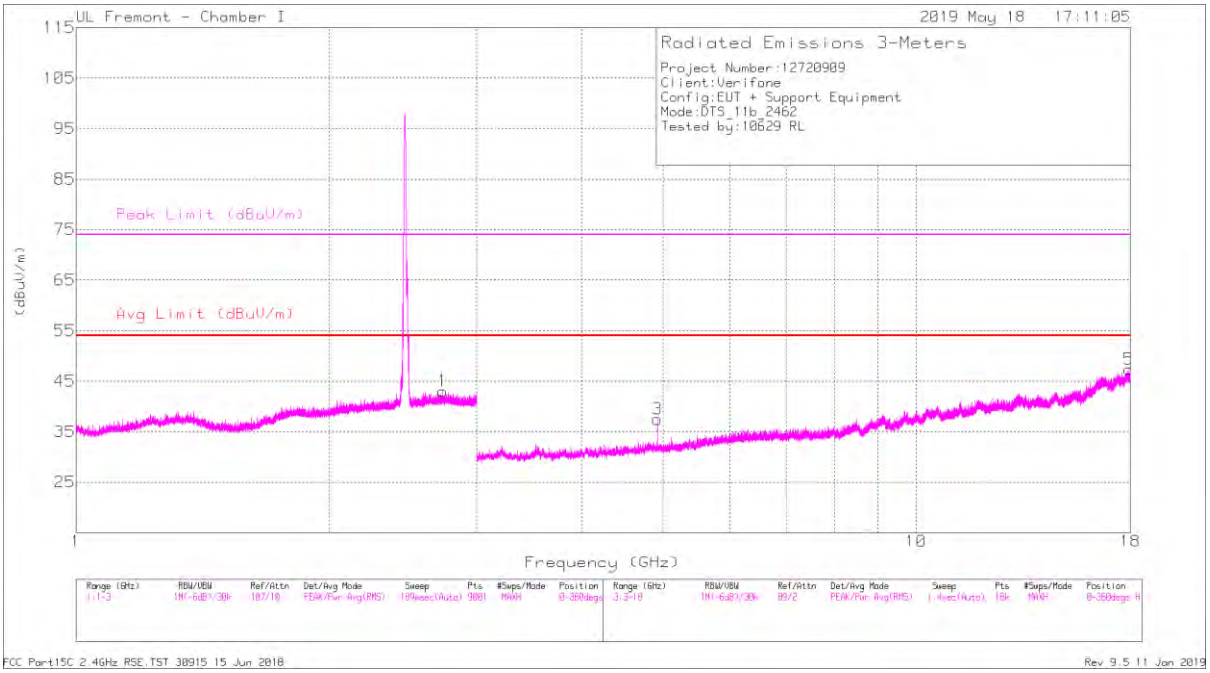
VERTICAL

RADIATED EMISSIONS

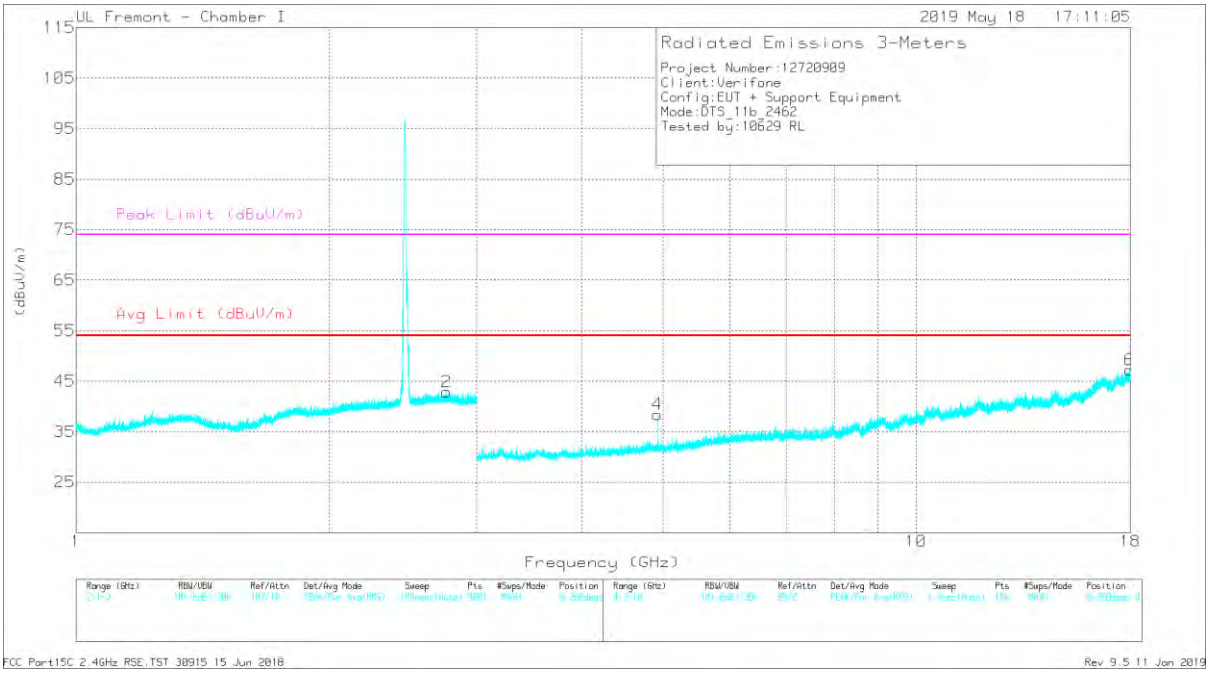
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.697	36.6	PK2	32.4	-21.2	0	47.8	-	-	74	-26.2	266	138	H
	* 2.698	28.61	MAv1	32.4	-21.1	.1	40.01	54	-13.99	-	-	266	138	H
2	* 2.781	35.83	PK2	32.4	-20.9	0	47.33	-	-	74	-26.67	146	252	V
	* 2.783	28.75	MAv1	32.4	-20.9	.1	40.35	54	-13.65	-	-	146	252	V
3	* 4.874	38.47	PK2	34.2	-28.6	0	44.07	-	-	74	-29.93	61	102	H
	* 4.874	33.42	MAv1	34.2	-28.6	.1	39.12	54	-14.88	-	-	61	102	H
4	* 17.93	26.43	PK2	41.4	-15.4	0	52.43	-	-	74	-21.57	292	345	H
	* 17.927	18.1	MAv1	41.4	-15.4	.1	44.2	54	-9.8	-	-	292	345	H
5	* 4.874	40.01	PK2	34.2	-28.6	0	45.61	-	-	74	-28.39	204	111	V
	* 4.874	33.62	MAv1	34.2	-28.6	.1	39.32	54	-14.68	-	-	204	111	V
6	* 17.873	25.67	PK2	41.8	-14.8	0	52.67	-	-	74	-21.33	80	278	V
	* 17.874	17.51	MAv1	41.8	-14.8	.1	44.61	54	-9.39	-	-	80	278	V

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

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	* 2.73	37.74	PK2	32.3	-21	0	49.04	-	-	74	-24.96	73	147	H
	* 2.732	28.36	MAv1	32.4	-21	.1	39.86	54	-14.14	-	-	73	147	H
2	* 2.76	36.99	PK2	32.4	-20.9	0	48.49	-	-	74	-25.51	241	222	V
	* 2.761	27.85	MAv1	32.4	-20.9	.1	39.45	54	-14.55	-	-	241	222	V
3	* 4.924	40.84	PK2	34.2	-29	0	46.04	-	-	74	-27.96	65	104	H
	* 4.924	34.51	MAv1	34.2	-29	.1	39.81	54	-14.19	-	-	65	104	H
5	* 17.933	27.17	PK2	41.7	-15.4	0	53.47	-	-	74	-20.53	209	280	H
	* 17.933	18.02	MAv1	41.7	-15.4	.1	44.42	54	-9.58	-	-	209	280	H
4	* 4.924	38.93	PK2	34.2	-29	0	44.13	-	-	74	-29.87	307	105	V
	* 4.924	34.47	MAv1	34.2	-29	.1	39.77	54	-14.23	-	-	307	105	V
6	* 17.977	25.87	PK2	41.5	-15.5	0	51.87	-	-	74	-22.13	321	165	V
	* 17.976	18.06	MAv1	41.5	-15.5	.1	44.16	54	-9.84	-	-	321	165	V

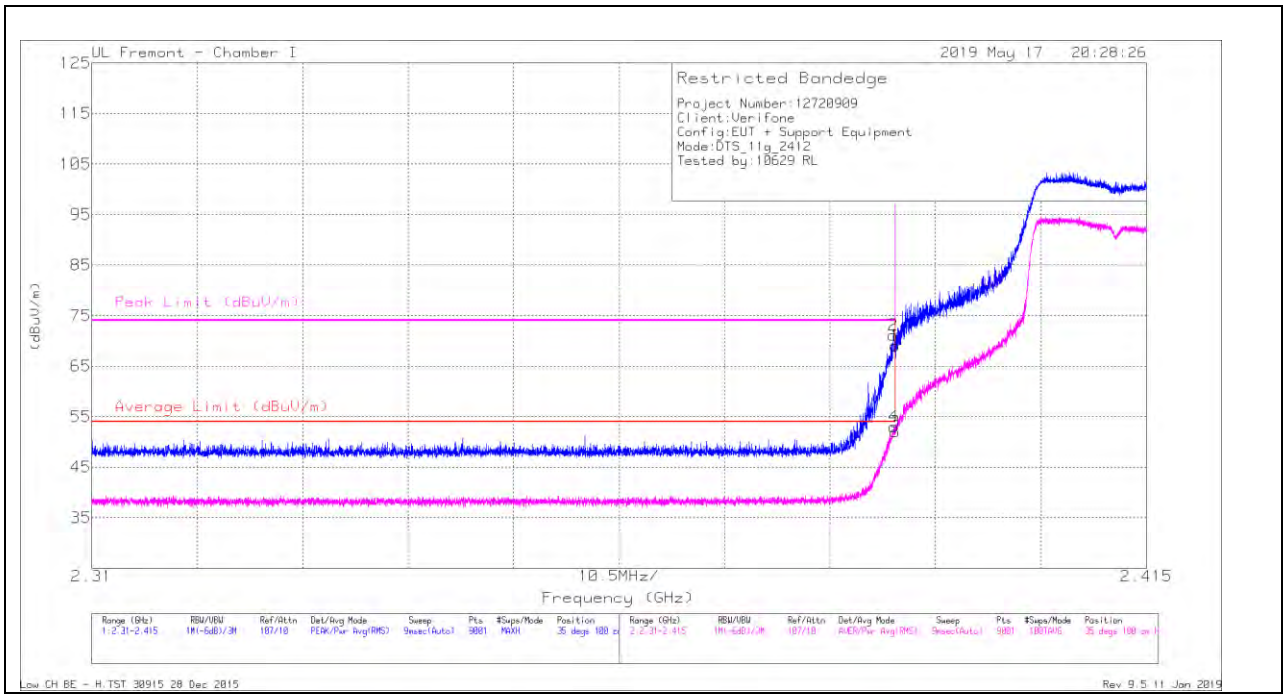
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

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

1TX Antenna 1 MODE

BANDEDGE (LOW CHANNEL, CH 1)

HORIZONTAL RESULT

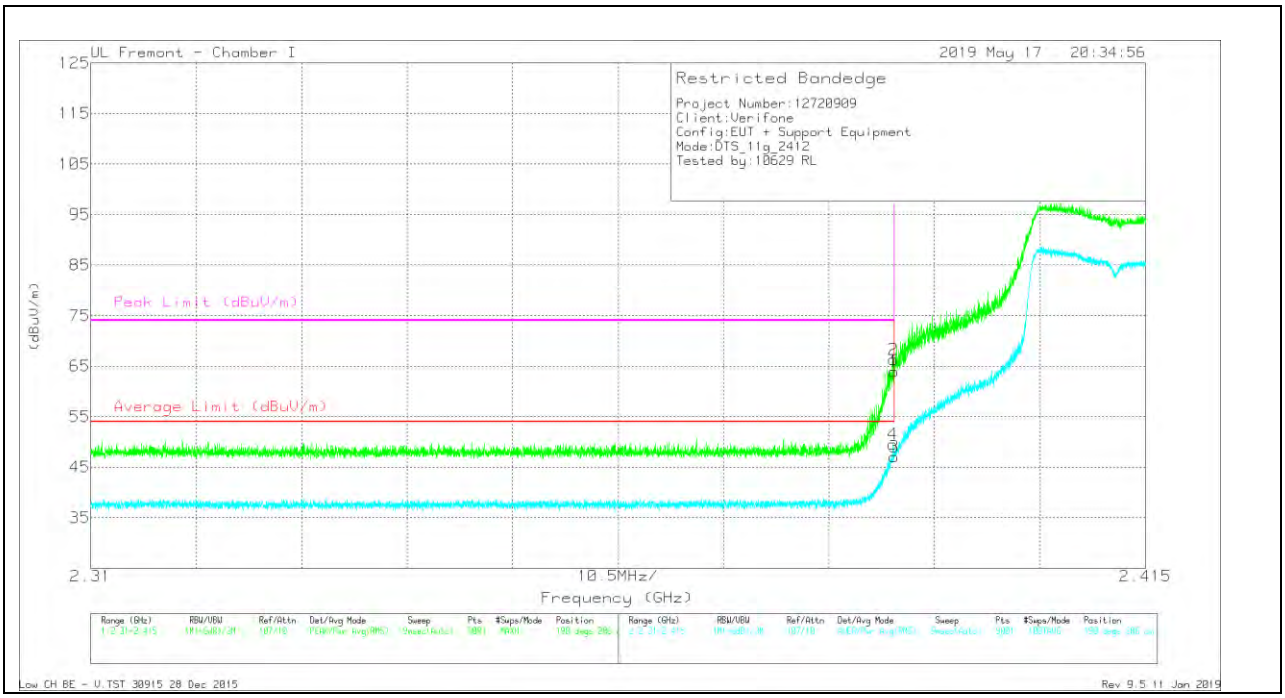


Trace Markers

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	*2.39	58.86	Pk	31.8	-21.6	0	69.06	-	-	74	-4.94	35	100	H
2	*2.39	60.95	Pk	31.8	-21.6	0	71.15	-	-	74	-2.85	35	100	H
3	*2.39	41.23	RMS	31.8	-21.6	.59	52.02	54	-1.98	-	-	35	100	H
4	*2.39	42.26	RMS	31.8	-21.6	.59	53.05	54	-.95	-	-	35	100	H

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

VERTICAL RESULT



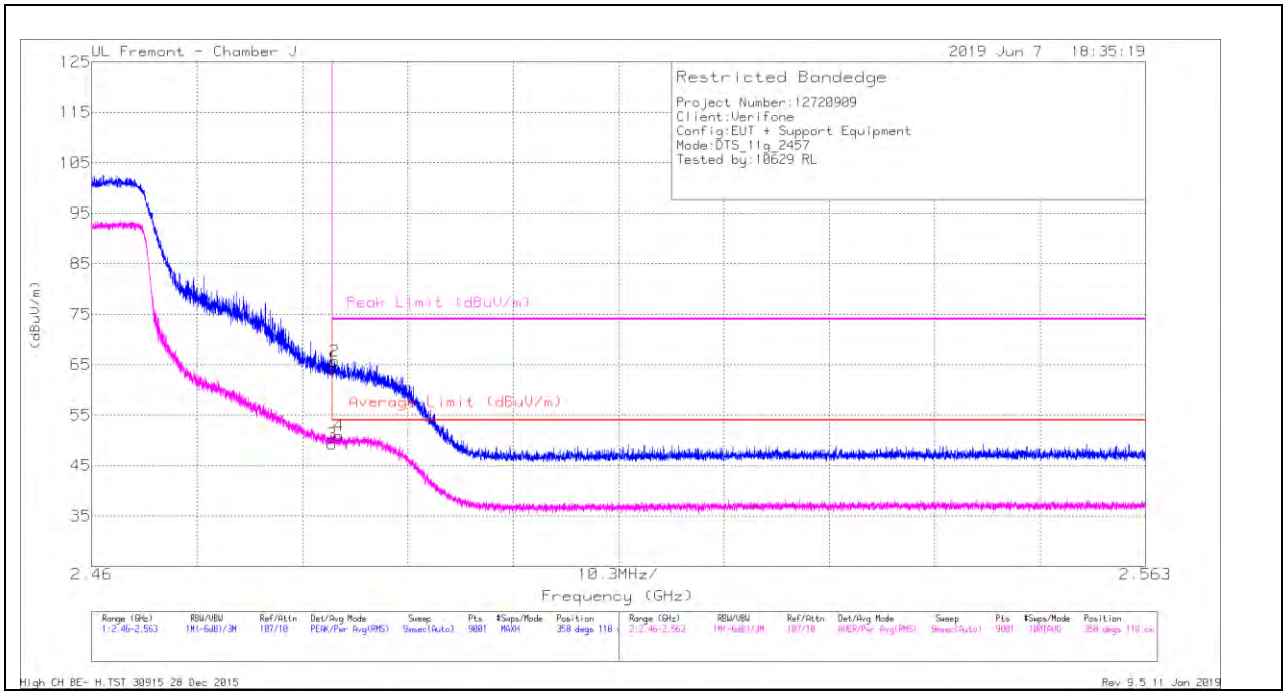
Trace Markers

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	*2.39	53.71	Pk	31.8	-21.6	0	63.91	-	-	74	-10.09	190	286	V
2	*2.39	56.08	Pk	31.8	-21.6	0	66.28	-	-	74	-7.72	190	286	V
3	*2.39	36.83	RMS	31.8	-21.6	.59	47.62	54	-6.38	-	-	190	286	V
4	*2.39	39.36	RMS	31.8	-21.6	.59	50.15	54	-3.85	-	-	190	286	V

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

BANDEDGE (HIGH CHANNEL, CH 10)

HORIZONTAL RESULT

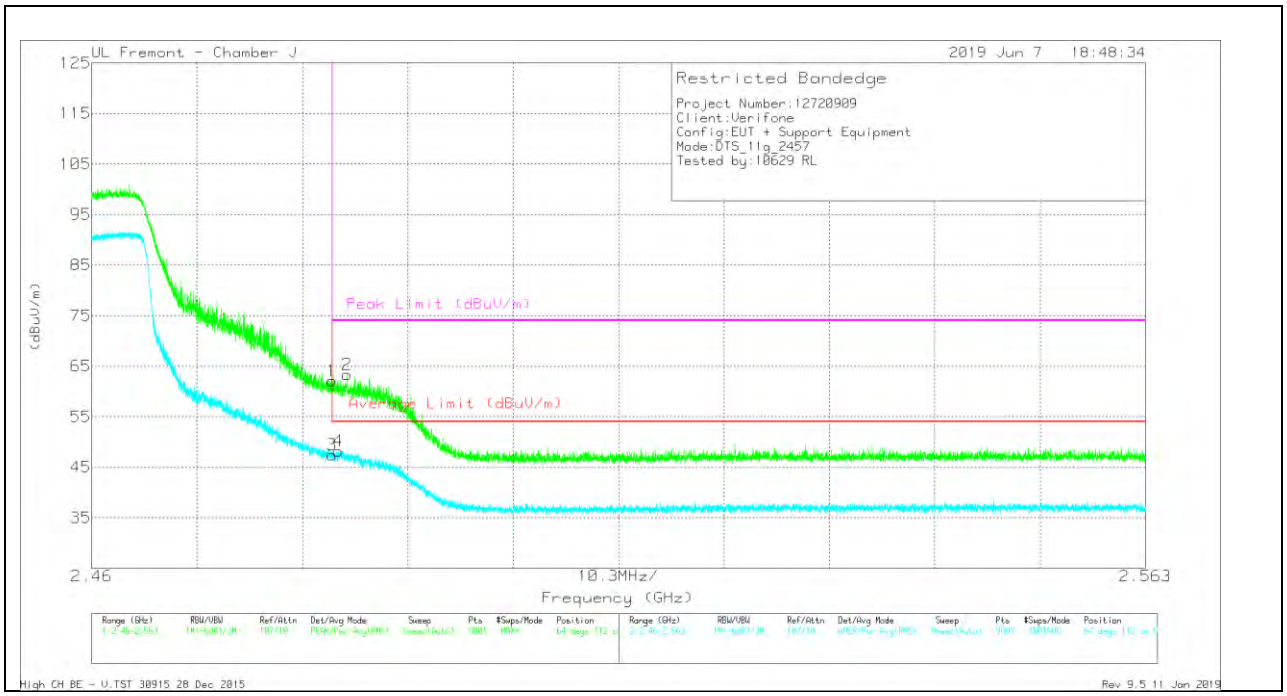


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0189055 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*2.484	59.94	Pk	29.9	-25.5	0	64.34	-	-	74	-9.66	358	118	H
2	*2.484	61.25	Pk	29.9	-25.5	0	65.65	-	-	74	-8.35	358	118	H
3	*2.484	44.27	RMS	29.9	-25.5	.59	49.26	54	-4.74	-	-	358	118	H
4	*2.484	45.95	RMS	29.9	-25.5	.59	50.94	54	-3.06	-	-	358	118	H

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

VERTICAL RESULT



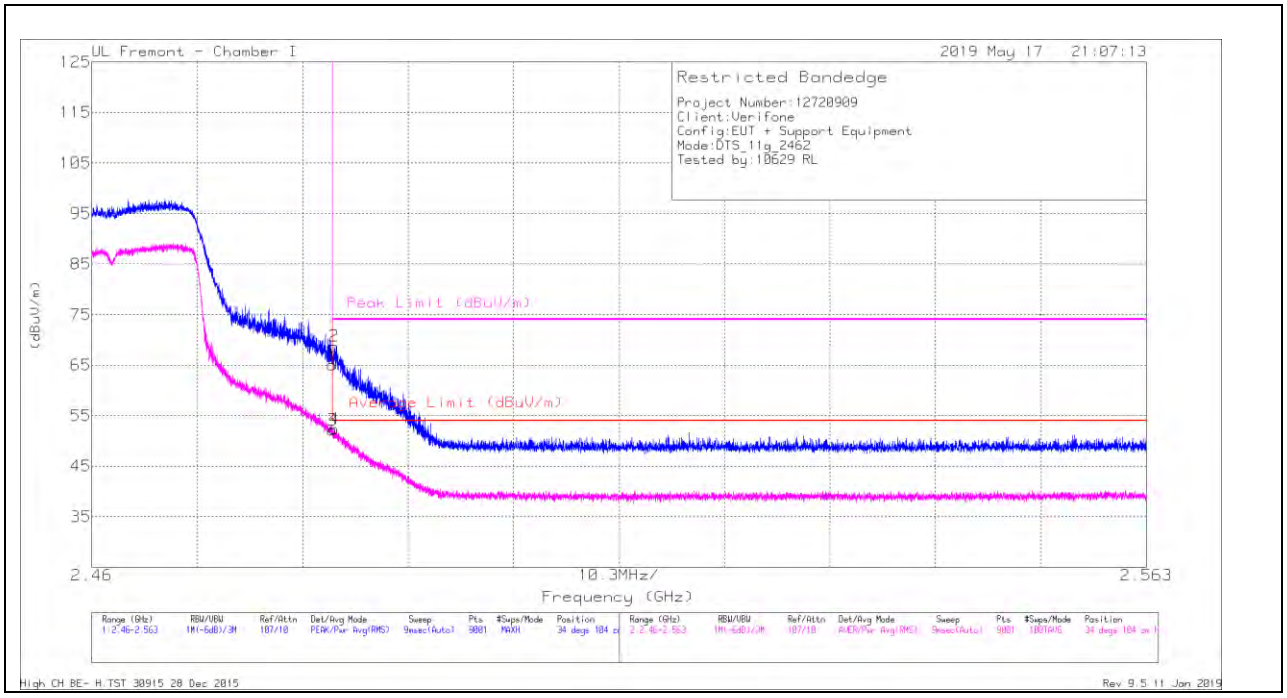
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0189055 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*2.484	57.63	Pk	29.9	-25.5	0	62.03	-	-	74	-11.97	64	112	V
2	*2.485	58.89	Pk	29.9	-25.5	0	63.29	-	-	74	-10.71	64	112	V
3	*2.484	42.47	RMS	29.9	-25.5	.59	47.46	54	-6.54	-	-	64	112	V
4	*2.484	43.16	RMS	29.9	-25.5	.59	48.15	54	-5.85	-	-	64	112	V

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

BANDEDGE (HIGH CHANNEL, CH 11)

HORIZONTAL RESULT

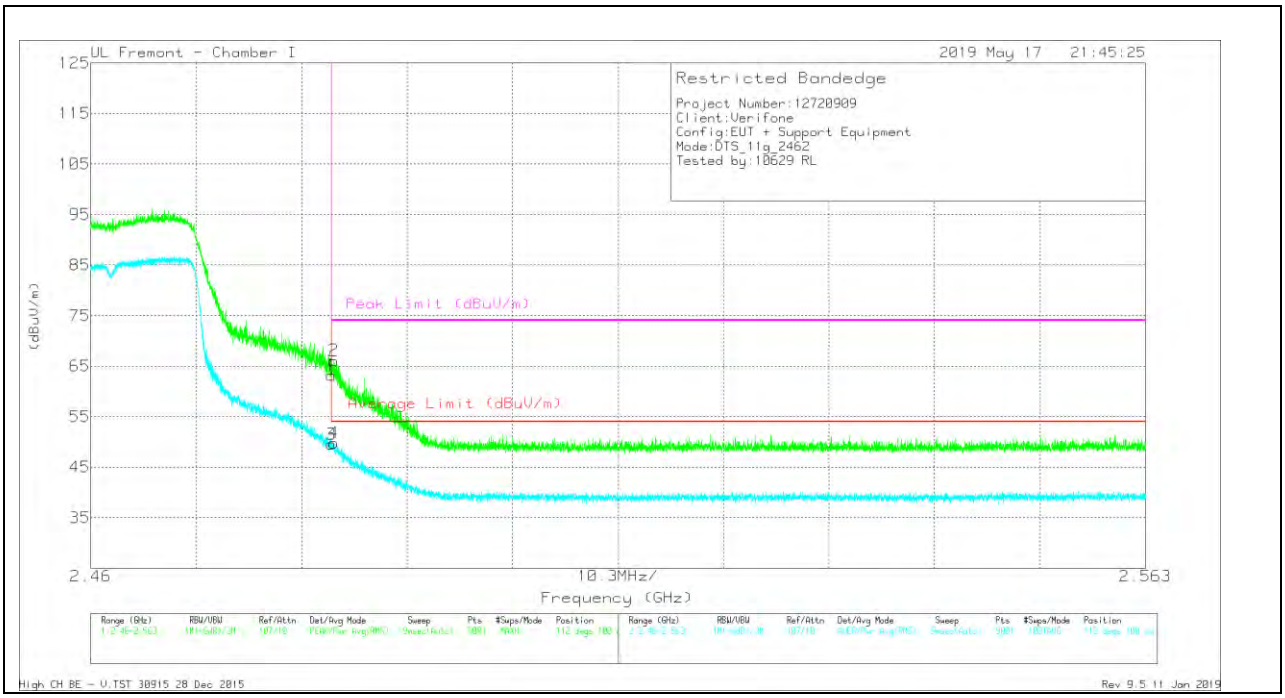


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*2.484	54.39	Pk	32.4	-21.7	0	65.09	-	-	74	-8.91	34	104	H
2	*2.484	58.03	Pk	32.4	-21.7	0	68.73	-	-	74	-5.27	34	104	H
3	*2.484	40.87	RMS	32.4	-21.7	.59	52.16	54	-1.84	-	-	34	104	H
4	*2.484	41.12	RMS	32.4	-21.7	.59	52.41	54	-1.59	-	-	34	104	H

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

VERTICAL RESULT



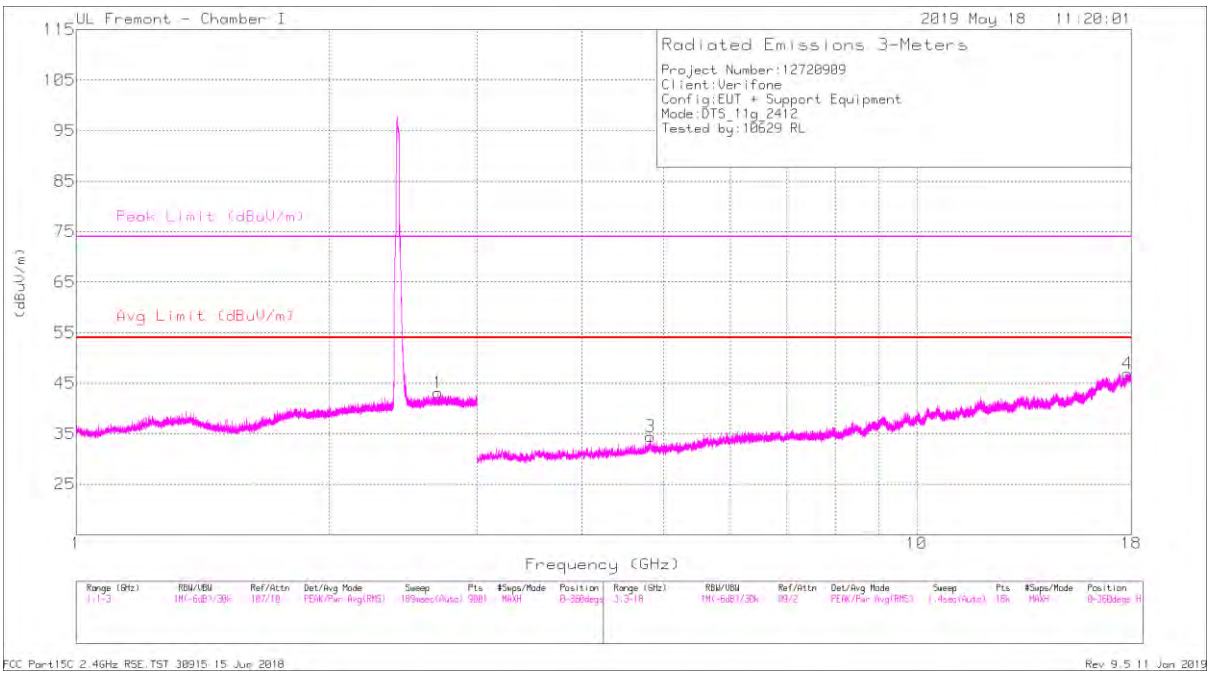
Trace Markers

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	*2.484	52.45	Pk	32.4	-21.7	0	63.15	-	-	74	-10.85	112	100	V
2	*2.484	55.42	Pk	32.4	-21.7	0	66.12	-	-	74	-7.88	112	100	V
3	*2.484	38.21	RMS	32.4	-21.7	.59	49.5	54	-4.5	-	-	112	100	V
4	*2.484	38.56	RMS	32.4	-21.7	.59	49.85	54	-4.15	-	-	112	100	V

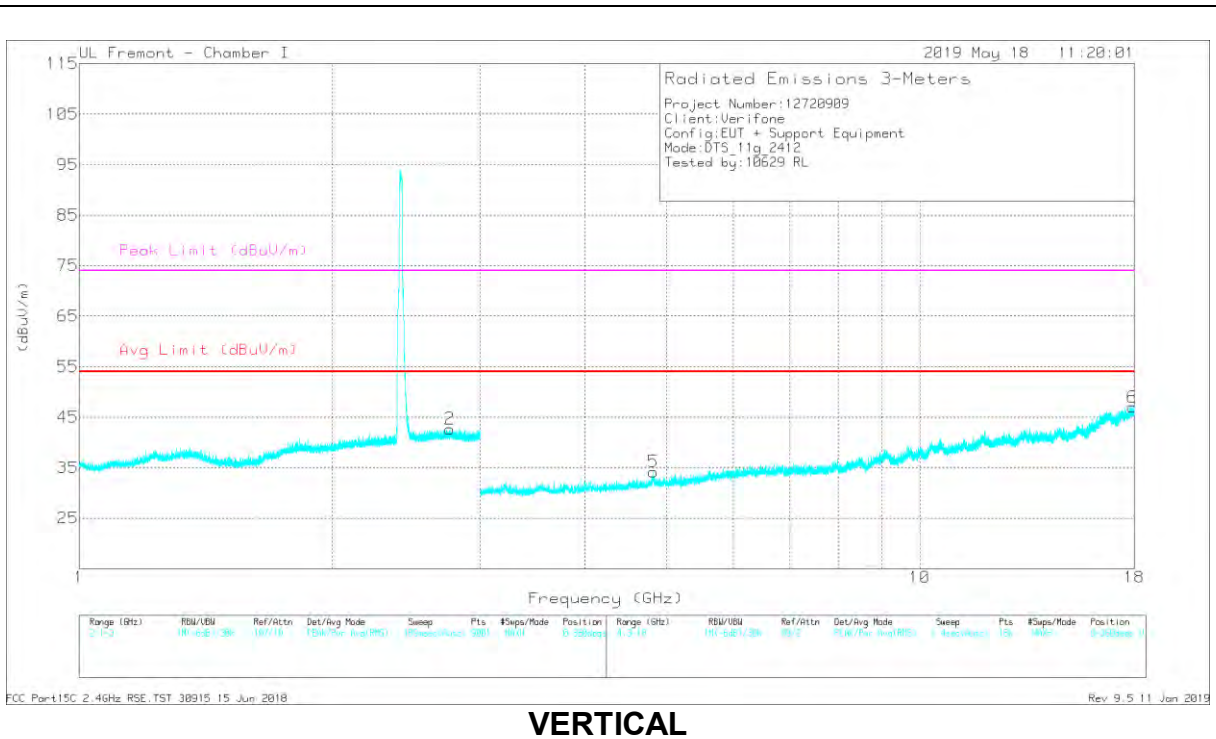
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 1 RESULTS



HORIZONTAL



VERTICAL

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

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	* 2.692	36.28	PK2	32.4	-21.2	0	47.48	-	-	74	-26.52	241	193	H
	* 2.693	27.73	MAv1	32.4	-21.2	.59	39.52	54	-14.48	-	-	241	193	H
2	* 2.76	36.56	PK2	32.4	-20.9	0	48.06	-	-	74	-25.94	163	144	V
	* 2.759	28.05	MAv1	32.4	-20.9	.59	40.14	54	-13.86	-	-	163	144	V
3	* 4.825	39.35	PK2	34.2	-28.3	0	45.25	-	-	74	-28.75	63	104	H
	* 4.825	27.46	MAv1	34.2	-28.2	.59	34.05	54	-19.95	-	-	63	104	H
4	* 17.816	25.35	PK2	41.7	-14.6	0	52.45	-	-	74	-21.55	127	193	H
	* 17.818	18.08	MAv1	41.7	-14.6	.59	45.77	54	-8.23	-	-	127	193	H
5	* 4.826	34.28	PK2	34.2	-28.2	0	40.28	-	-	74	-33.72	135	159	V
	* 4.819	25.07	MAv1	34.2	-28.2	.59	31.66	54	-22.34	-	-	135	159	V
6	* 17.914	26.8	PK2	41.6	-15.4	0	53	-	-	74	-21	5	295	V
	* 17.912	18.38	MAv1	41.6	-15.4	.59	45.17	54	-8.83	-	-	5	295	V

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

UL VERIFICATION SERVICES INC.
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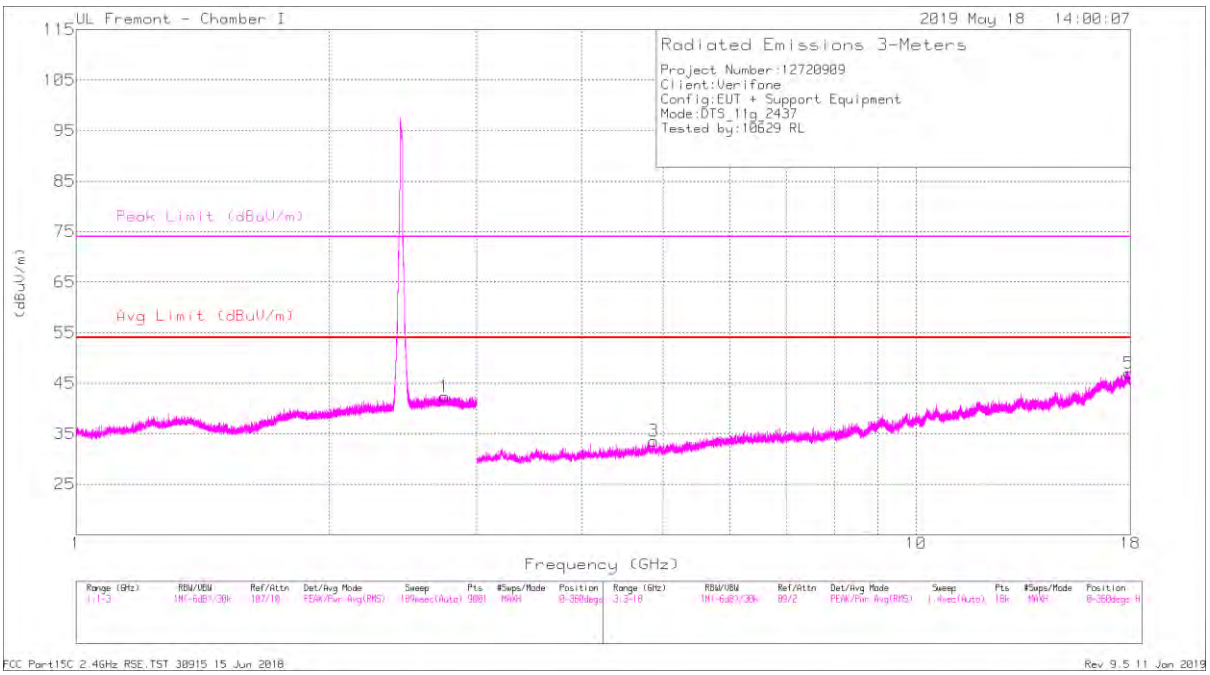
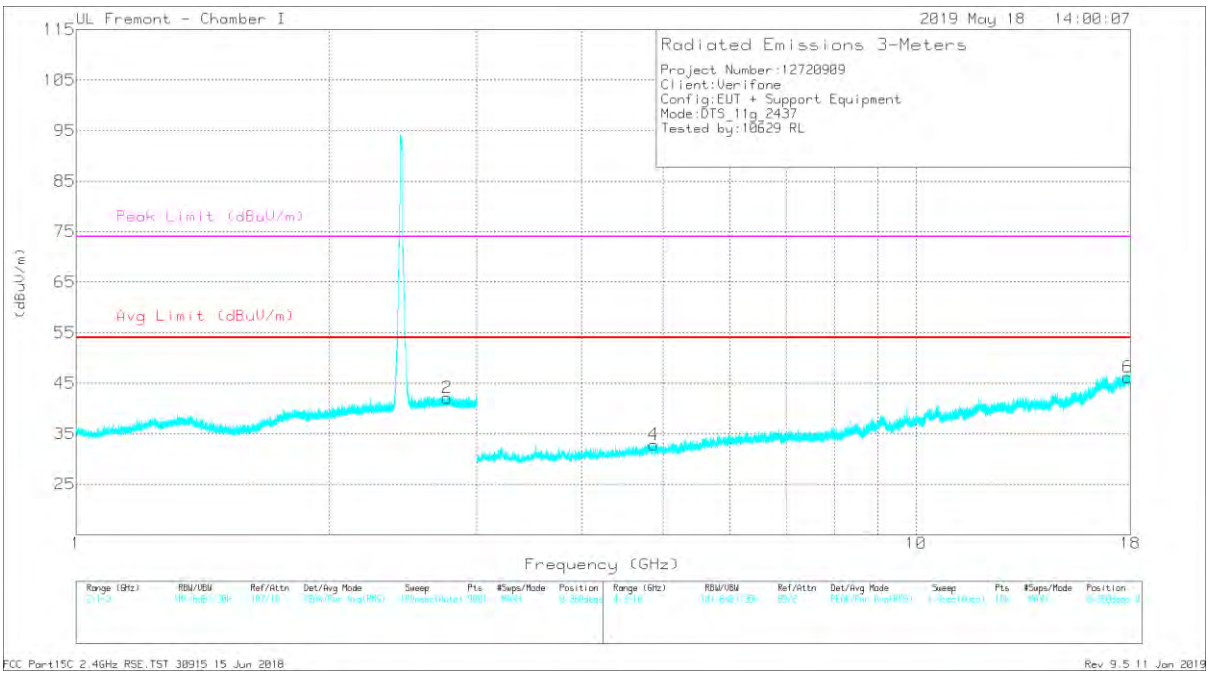
MID CHANNEL, CH 6 RESULTS



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	* 2.743	36.58	PK2	32.4	-21	0	47.98	-	-	74	-26.02	10	133	H
	* 2.749	28.21	MAv1	32.4	-21	.59	40.2	54	-13.8	-	-	10	133	H
2	* 2.763	38.12	PK2	32.4	-20.9	0	49.62	-	-	74	-24.38	94	288	V
	* 2.763	28.28	MAv1	32.4	-20.9	.59	40.37	54	-13.63	-	-	94	288	V
3	* 4.875	32.43	PK2	34.2	-28.7	0	37.93	-	-	74	-36.07	73	243	H
	* 4.877	25.2	MAv1	34.2	-28.7	.59	31.29	54	-22.71	-	-	73	243	H
5	* 17.939	27.45	PK2	41.6	-15.4	0	53.65	-	-	74	-20.35	235	379	H
	* 17.938	17.88	MAv1	41.7	-15.4	.59	44.77	54	-9.23	-	-	235	379	H
4	* 4.872	34.23	PK2	34.1	-28.6	0	39.73	-	-	74	-34.27	149	185	V
	* 4.871	24.69	MAv1	34.1	-28.6	.59	30.78	54	-23.22	-	-	149	185	V
6	* 17.884	25.44	PK2	41.7	-15.1	0	52.04	-	-	74	-21.96	42	155	V
	* 17.88	17.55	MAv1	41.5	-15	.59	44.64	54	-9.36	-	-	42	155	V

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

UL VERIFICATION SERVICES INC.
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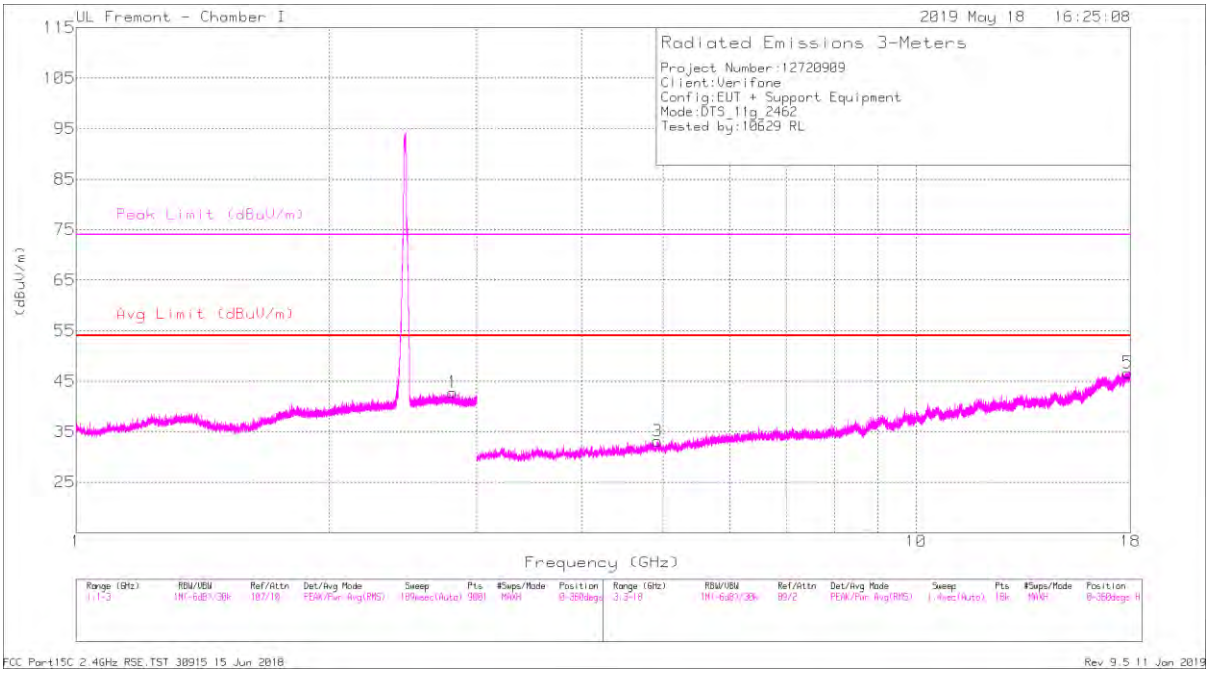
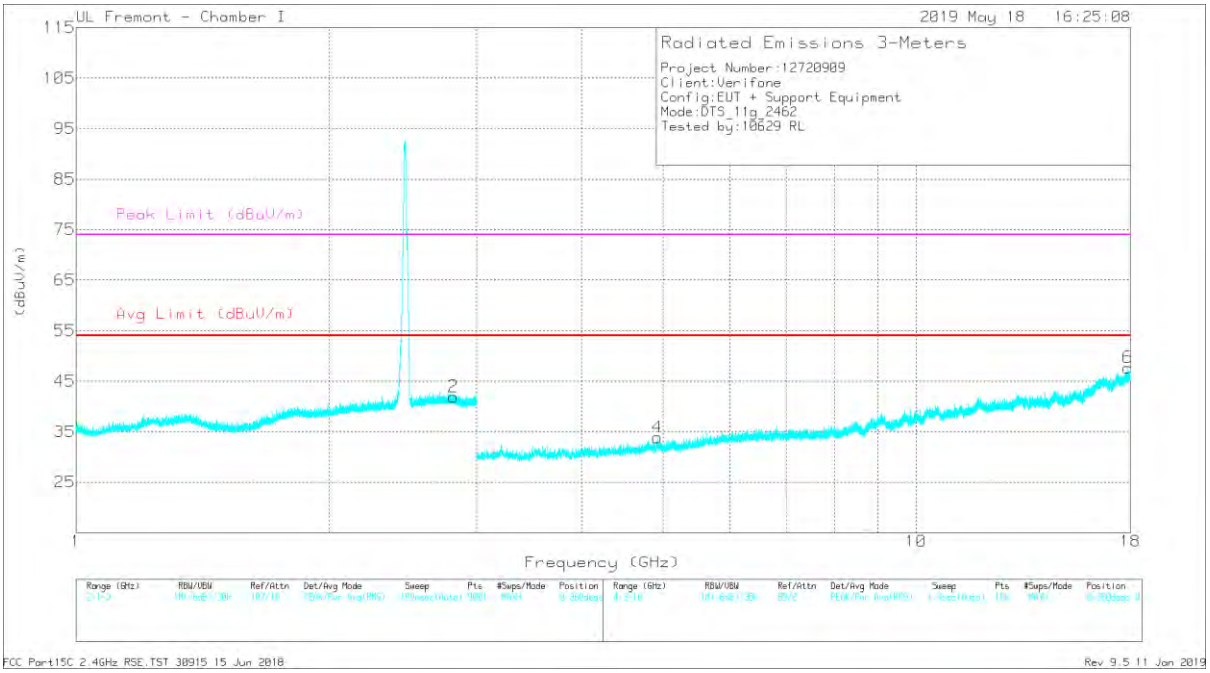
HIGH CHANNEL, CH 11 RESULTS



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	* 2.806	35.41	PK2	32.3	-20.9	0	46.81	-	-	74	-27.19	253	106	H
	* 2.805	28.26	MAv1	32.3	-20.9	.59	40.25	54	-13.75	-	-	253	106	H
2	* 2.814	38.46	PK2	32.3	-20.9	0	49.86	-	-	74	-24.14	54	200	V
	* 2.813	28.63	MAv1	32.3	-20.9	.59	40.62	54	-13.38	-	-	54	200	V
3	* 4.923	32.69	PK2	34.1	-29	0	37.79	-	-	74	-36.21	89	120	H
	* 4.921	25.51	MAv1	34.1	-29	.59	31.2	54	-22.8	-	-	89	120	H
5	* 17.863	25.28	PK2	41.7	-14.8	0	52.18	-	-	74	-21.82	162	242	H
	* 17.864	18.04	MAv1	41.6	-14.8	.59	45.43	54	-8.57	-	-	162	242	H
4	* 4.926	33.76	PK2	34.2	-29.1	0	38.86	-	-	74	-35.14	71	389	V
	* 4.925	25.52	MAv1	34.2	-29	.59	31.31	54	-22.69	-	-	71	389	V
6	* 17.876	26.84	PK2	41.6	-14.9	0	53.54	-	-	74	-20.46	206	325	V
	* 17.873	17.22	MAv1	41.8	-14.8	.59	44.81	54	-9.19	-	-	206	325	V

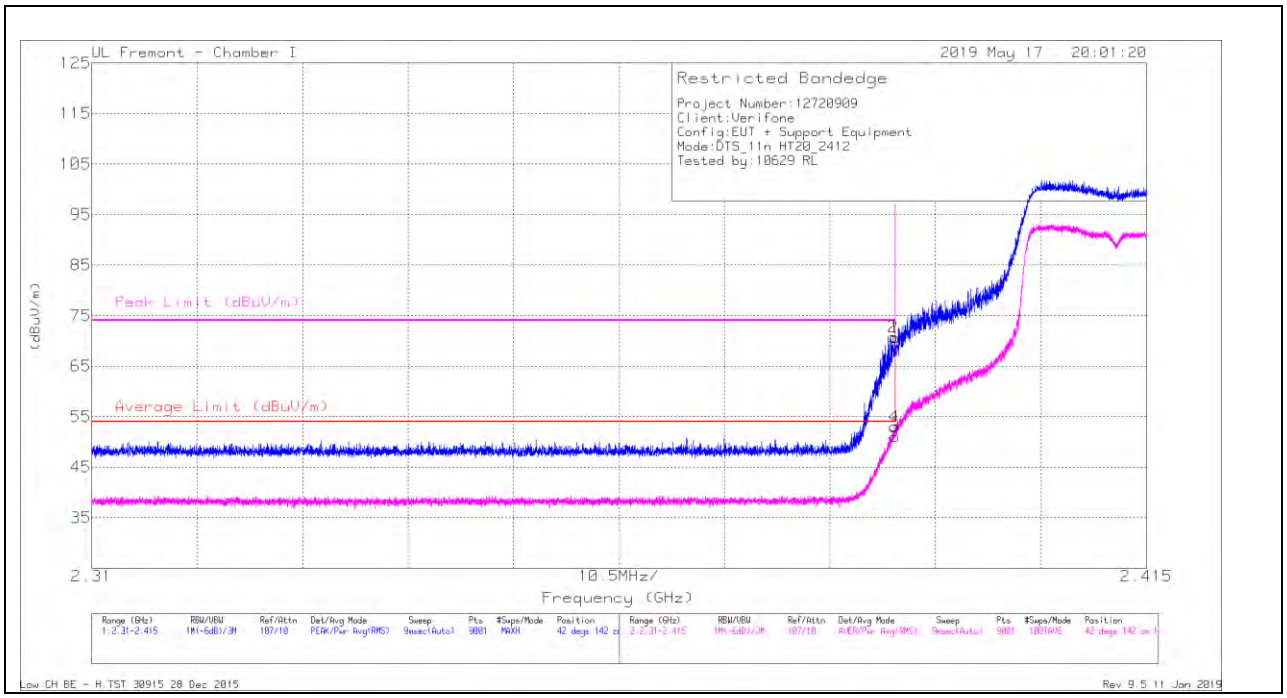
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

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

1TX Antenna 1 MODE

BANDEDGE (LOW CHANNEL, CH 1)

HORIZONTAL RESULT

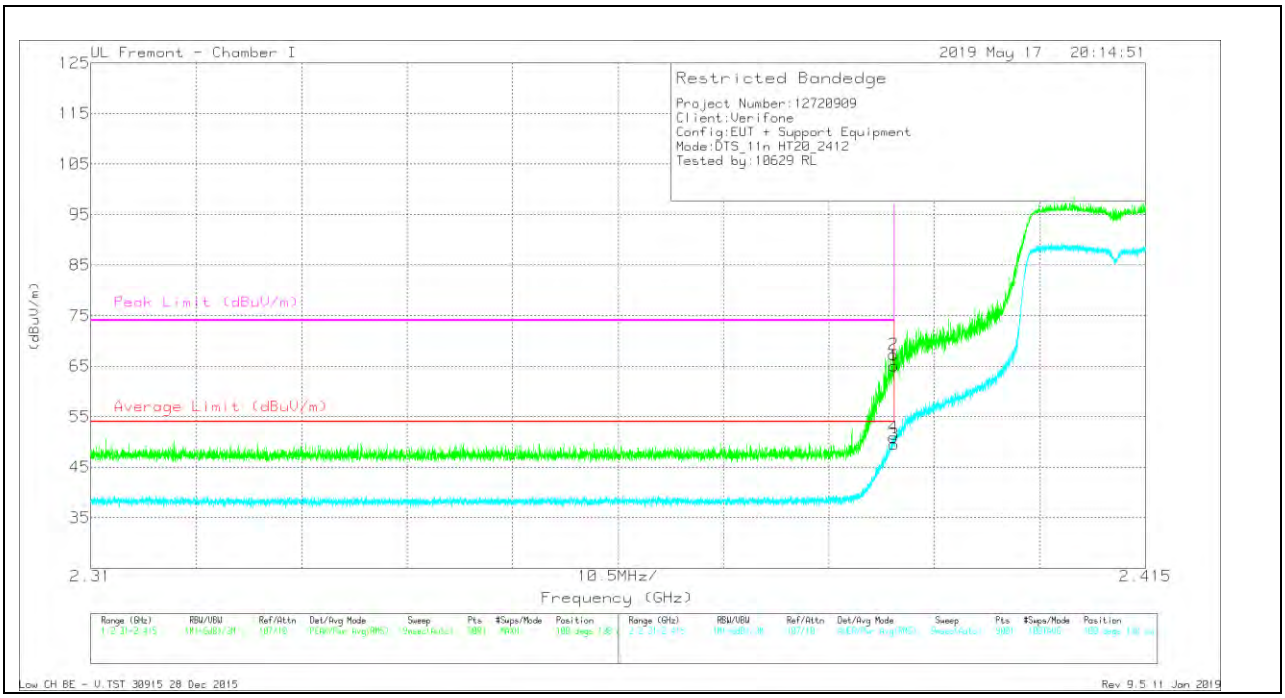


Trace Markers

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	*2.39	60.4	Pk	31.8	-21.6	0	70.6	-	-	74	-3.4	42	142	H
2	*2.39	60.53	Pk	31.8	-21.6	0	70.73	-	-	74	-3.27	42	142	H
3	*2.39	40.27	RMS	31.8	-21.6	.63	51.1	54	-2.9	-	-	42	142	H
4	*2.39	42.18	RMS	31.8	-21.6	.63	53.01	54	-.99	-	-	42	142	H

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

VERTICAL RESULT



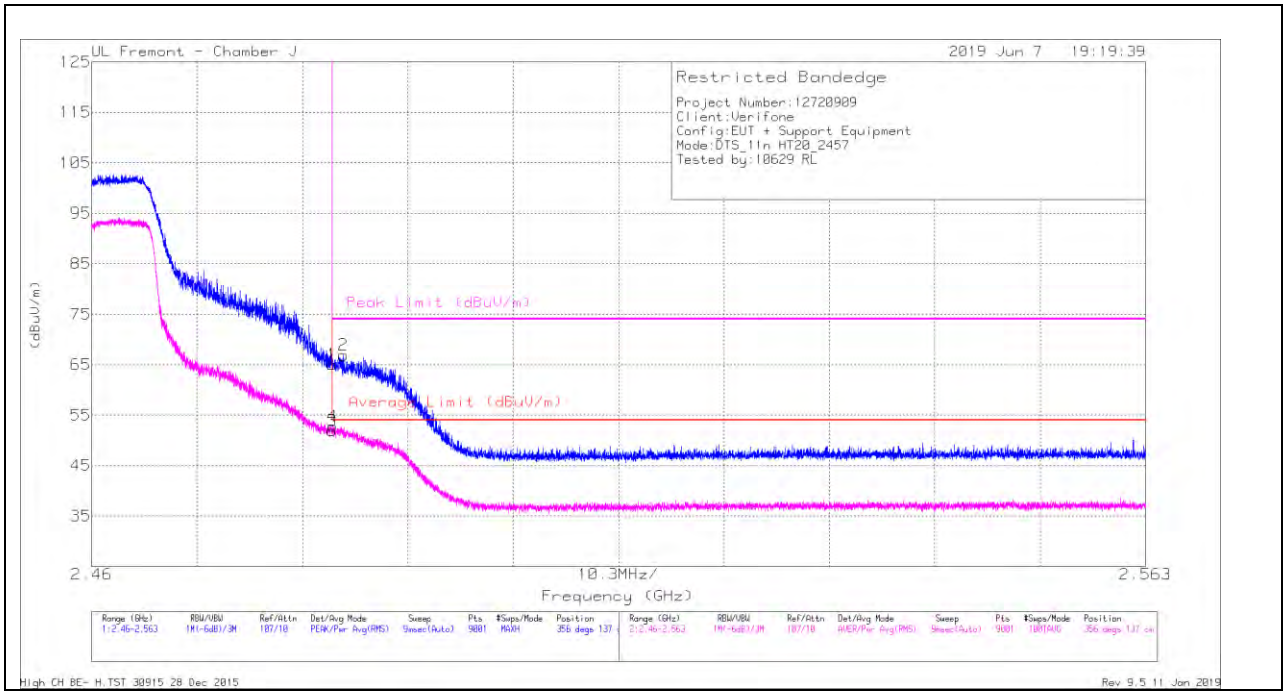
Trace Markers

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	*2.39	54.85	Pk	31.8	-21.6	0	65.05	-	-	74	-8.95	100	138	V
2	*2.39	57.15	Pk	31.8	-21.6	0	67.35	-	-	74	-6.65	100	138	V
3	*2.39	38.68	RMS	31.8	-21.6	.63	49.51	54	-4.49	-	-	100	138	V
4	*2.39	40.07	RMS	31.8	-21.6	.63	50.9	54	-3.1	-	-	100	138	V

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

BANDEDGE (HIGH CHANNEL, CH 10)

HORIZONTAL RESULT

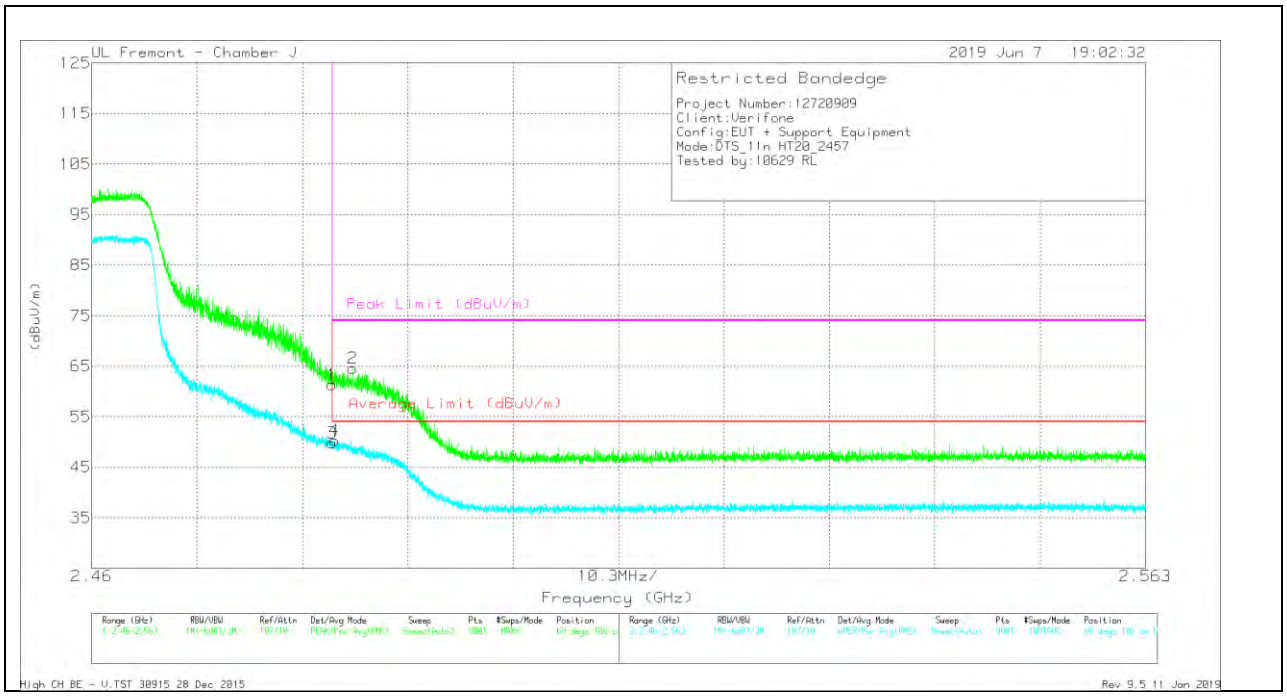


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0189055 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*2.484	60.64	Pk	29.9	-25.5	0	65.04	-	-	74	-8.96	356	137	H
2	*2.485	62.47	Pk	29.9	-25.5	0	66.87	-	-	74	-7.13	356	137	H
3	*2.484	46.92	RMS	29.9	-25.5	.63	51.95	54	-2.05	-	-	356	137	H
4	*2.484	47.73	RMS	29.9	-25.5	.63	52.76	54	-1.24	-	-	356	137	H

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

VERTICAL RESULT



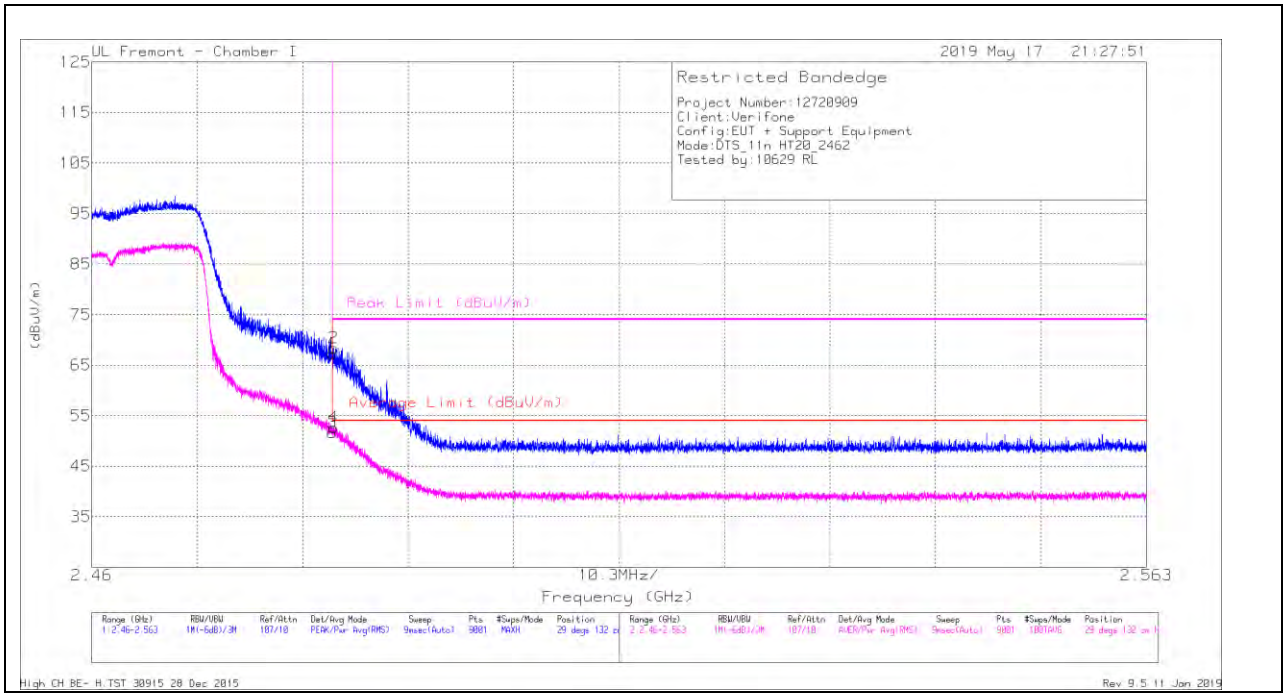
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0189055 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*2.484	56.92	Pk	29.9	-25.5	0	61.32	-	-	74	-12.68	69	106	V
2	*2.485	60.13	Pk	29.9	-25.5	0	64.53	-	-	74	-9.47	69	106	V
3	*2.484	44.71	RMS	29.9	-25.5	.63	49.74	54	-4.26	-	-	69	106	V
4	*2.484	45.21	RMS	29.9	-25.5	.63	50.24	54	-3.76	-	-	69	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

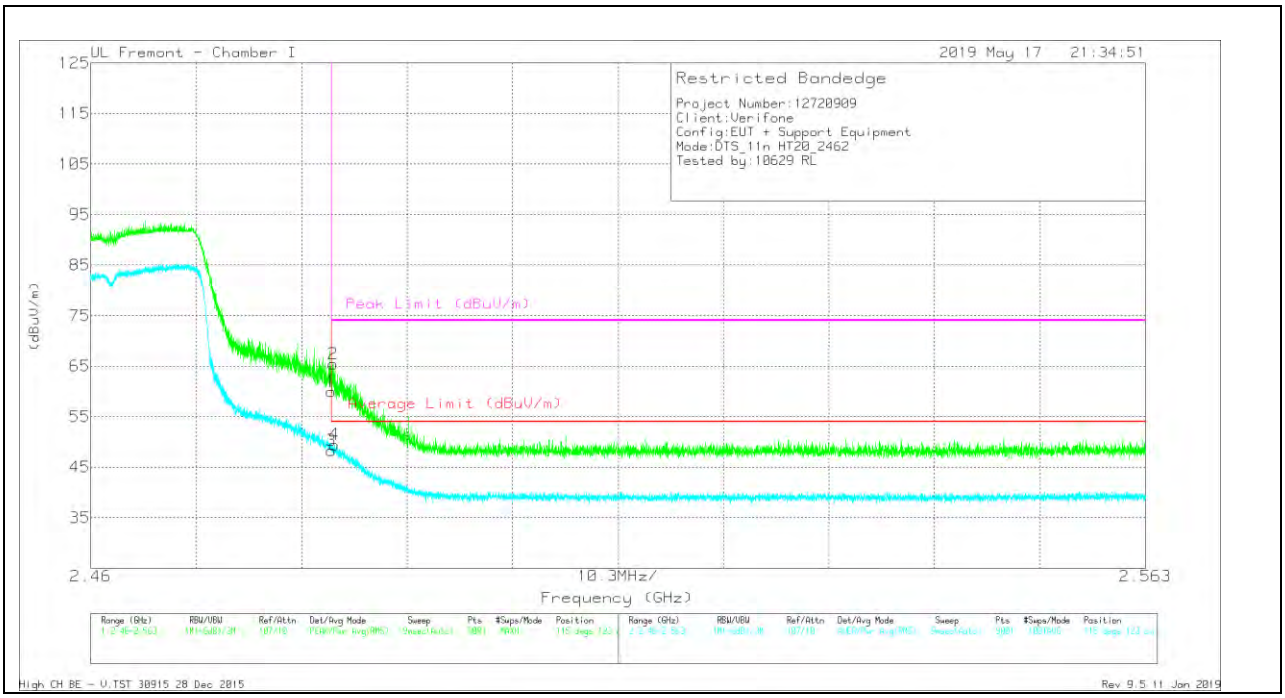


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*2.484	56.65	Pk	32.4	-21.7	0	67.35	-	-	74	-6.65	29	132	H
2	*2.484	57.69	Pk	32.4	-21.7	0	68.39	-	-	74	-5.61	29	132	H
3	*2.484	40.36	RMS	32.4	-21.7	.63	51.69	54	-2.31	-	-	29	132	H
4	*2.484	41.34	RMS	32.4	-21.7	.63	52.67	54	-1.33	-	-	29	132	H

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

VERTICAL RESULT



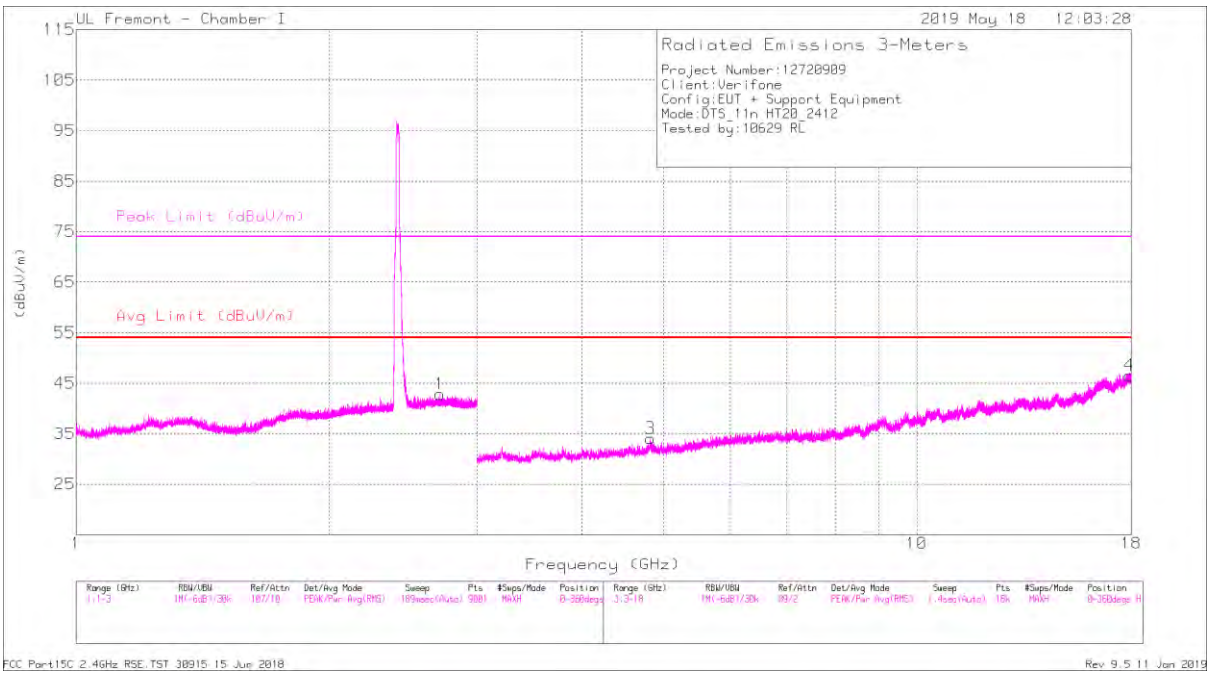
Trace Markers

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	*2.484	49.22	Pk	32.4	-21.7	0	59.92	-	-	74	-14.08	115	123	V
2	*2.484	54.78	Pk	32.4	-21.7	0	65.48	-	-	74	-8.52	115	123	V
3	*2.484	37.02	RMS	32.4	-21.7	.63	48.35	54	-5.65	-	-	115	123	V
4	*2.484	38.15	RMS	32.4	-21.7	.63	49.48	54	-4.52	-	-	115	123	V

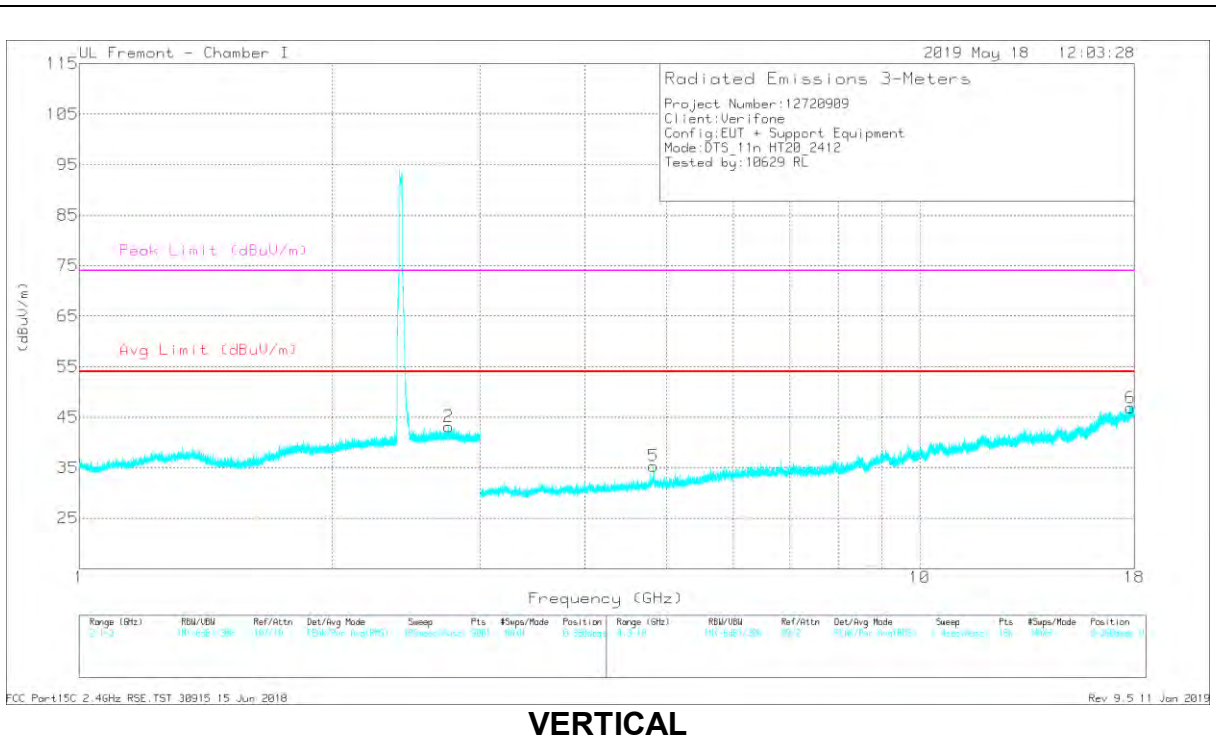
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 1 RESULTS



HORIZONTAL



VERTICAL

UL VERIFICATION SERVICES INC.
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

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	* 2.711	37.16	PK2	32.4	-21.1	0	48.46	-	-	74	-25.54	85	245	H
	* 2.709	28.89	MAv1	32.4	-21.1	.63	40.82	54	-13.18	-	-	85	245	H
2	* 2.749	36.72	PK2	32.4	-21	0	48.12	-	-	74	-25.88	352	212	V
	* 2.749	28.35	MAv1	32.4	-21	.63	40.38	54	-13.62	-	-	352	212	V
3	* 4.824	39.03	PK2	34.2	-28.3	0	44.93	-	-	74	-29.07	58	104	H
	* 4.823	27.14	MAv1	34.2	-28.2	.63	33.77	54	-20.23	-	-	58	104	H
4	* 17.907	25.93	PK2	41.6	-15.4	0	52.13	-	-	74	-21.87	135	281	H
	* 17.907	18.12	MAv1	41.7	-15.4	.63	45.05	54	-8.95	-	-	135	281	H
5	* 4.825	39.46	PK2	34.2	-28.3	0	45.36	-	-	74	-28.64	176	125	V
	* 4.823	27.13	MAv1	34.2	-28.2	.63	33.76	54	-20.24	-	-	176	125	V
6	* 17.812	25.2	PK2	41.8	-14.5	0	52.5	-	-	74	-21.5	41	129	V
	* 17.812	17.63	MAv1	41.8	-14.5	.63	45.56	54	-8.44	-	-	41	129	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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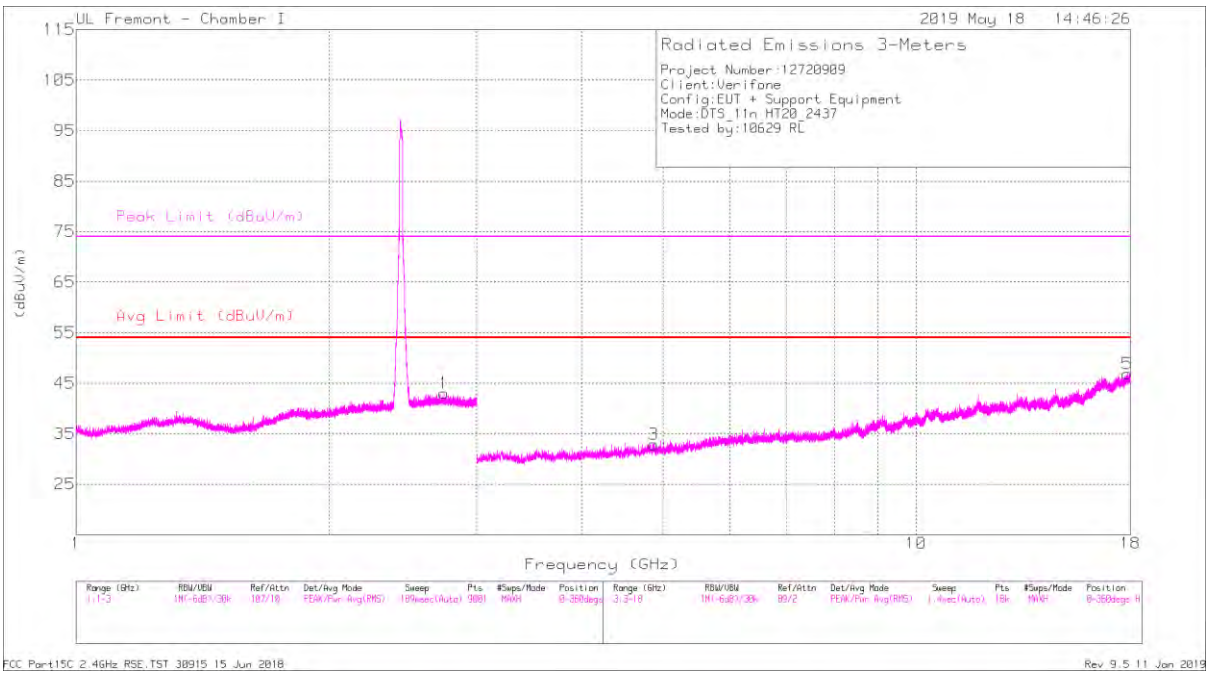
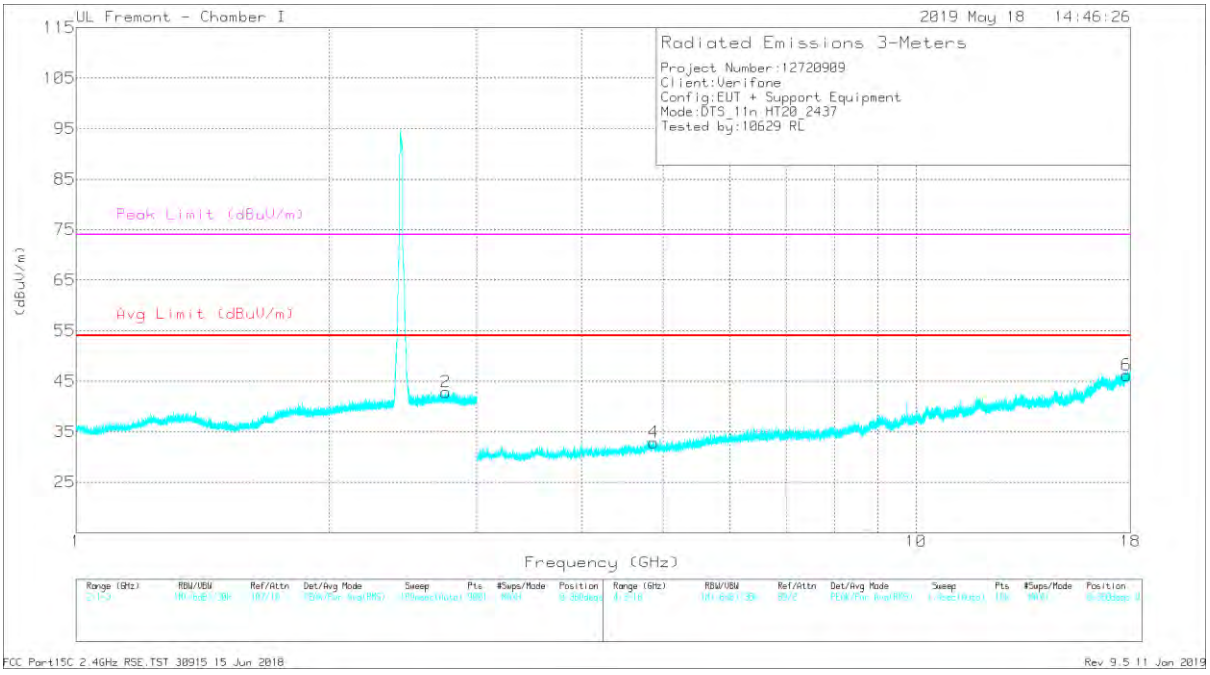
MID CHANNEL, CH 6 RESULTS



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	* 2.741	37.09	PK2	32.4	-21	0	48.49	-	-	74	-25.51	300	132	H
	* 2.741	28.15	MAv1	32.4	-21	.63	40.18	54	-13.82	-	-	300	132	H
2	* 2.756	36.08	PK2	32.4	-21	0	47.48	-	-	74	-26.52	123	359	V
	* 2.756	28.38	MAv1	32.4	-21	.63	40.41	54	-13.59	-	-	123	359	V
3	* 4.872	33.93	PK2	34.1	-28.6	0	39.43	-	-	74	-34.57	213	190	H
	* 4.875	25.07	MAv1	34.2	-28.6	.63	31.3	54	-22.7	-	-	213	190	H
5	* 17.863	26.12	PK2	41.6	-14.8	0	52.92	-	-	74	-21.08	72	356	H
	* 17.859	17.62	MAv1	41.7	-14.7	.63	45.25	54	-8.75	-	-	72	356	H
4	* 4.875	33.56	PK2	34.2	-28.6	0	39.16	-	-	74	-34.84	161	270	V
	* 4.872	25.32	MAv1	34.1	-28.6	.63	31.45	54	-22.55	-	-	161	270	V
6	* 17.822	26.65	PK2	41.6	-14.7	0	53.55	-	-	74	-20.45	213	345	V
	* 17.821	17.82	MAv1	41.7	-14.7	.63	45.45	54	-8.55	-	-	213	345	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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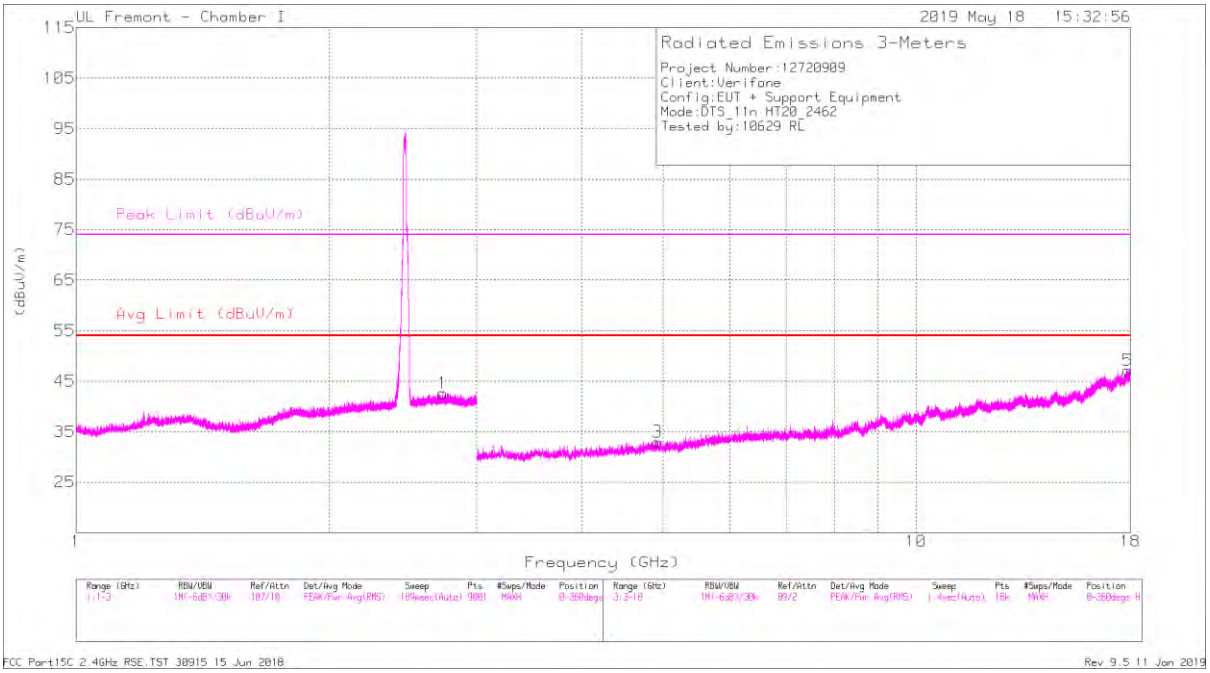
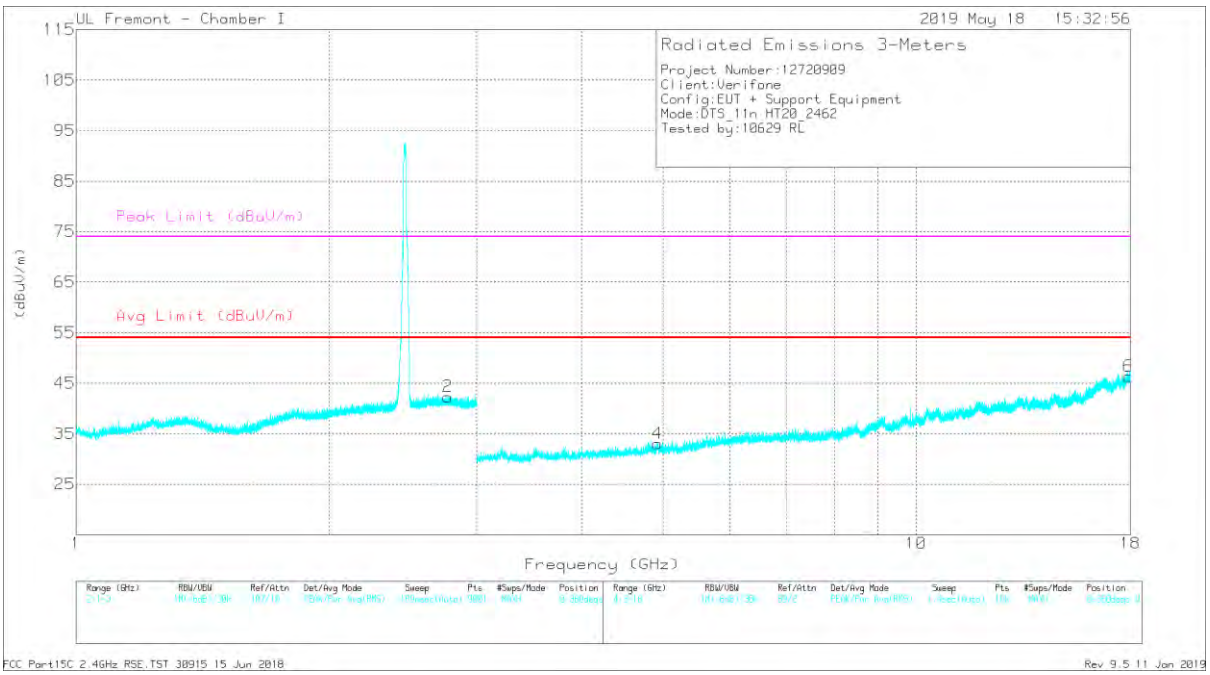
HIGH CHANNEL, CH 11 RESULTS



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	* 2.73	37.6	PK2	32.3	-21	0	48.9	-	-	74	-25.1	309	108	H
	* 2.729	28.76	MAv1	32.3	-21	.63	40.69	54	-13.31	-	-	309	108	H
2	* 2.77	35.97	PK2	32.4	-20.9	0	47.47	-	-	74	-26.53	49	198	V
	* 2.77	28.16	MAv1	32.4	-20.9	.63	40.29	54	-13.71	-	-	49	198	V
3	* 4.918	34.3	PK2	34.1	-29	0	39.4	-	-	74	-34.6	137	100	H
	* 4.924	25.84	MAv1	34.2	-29	.63	31.67	54	-22.33	-	-	137	100	H
5	* 17.871	25.95	PK2	41.6	-14.7	0	52.85	-	-	74	-21.15	307	345	H
	* 17.872	17.6	MAv1	41.7	-14.7	.63	45.23	54	-8.77	-	-	307	345	H
4	* 4.921	33.09	PK2	34.1	-29	0	38.19	-	-	74	-35.81	247	211	V
	* 4.92	25.11	MAv1	34.1	-29	.63	30.84	54	-23.16	-	-	247	211	V
6	* 17.909	26.61	PK2	41.6	-15.4	0	52.81	-	-	74	-21.19	86	138	V
	* 17.908	17.89	MAv1	41.6	-15.4	.63	44.72	54	-9.28	-	-	86	138	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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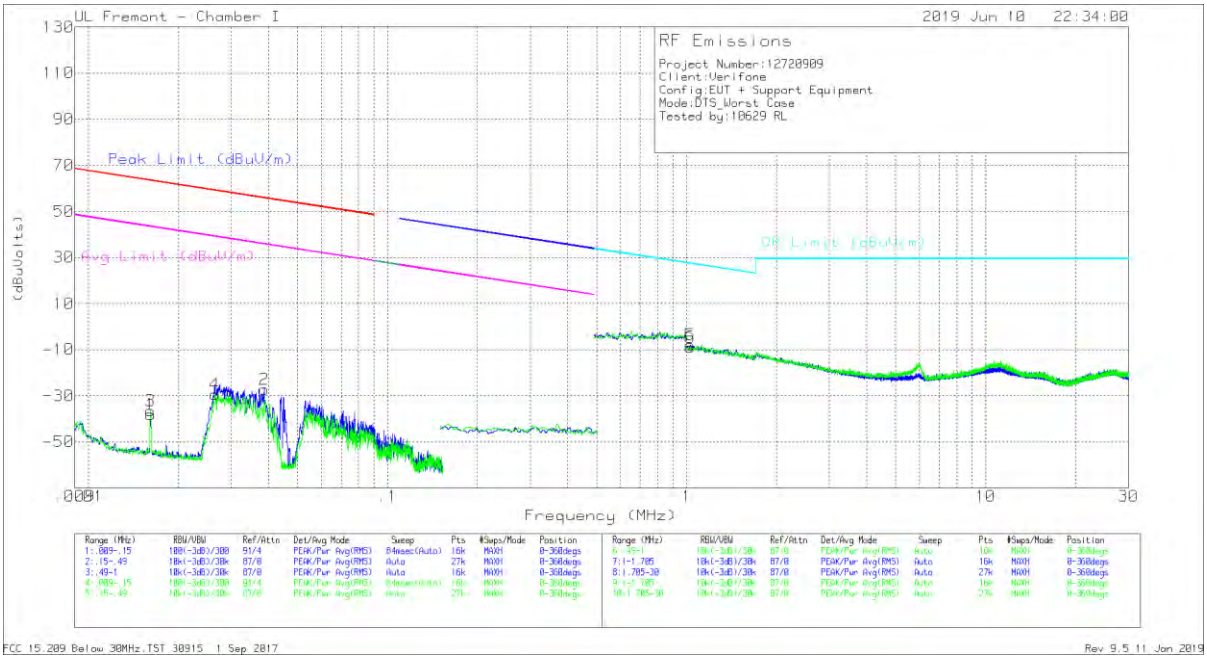
9.2. WORST CASE BELOW 30MHz

SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION)



ANTENNA- TWO ORIENTATIONS FACE ON/FACE OFF

Below 30MHz Data

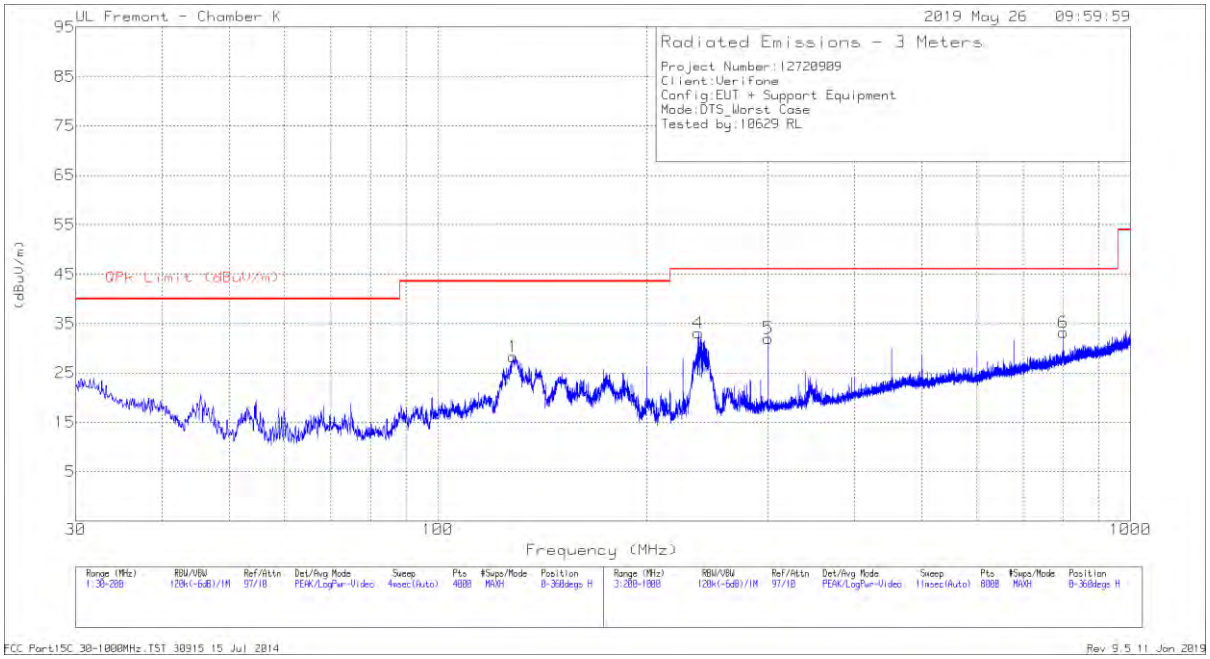
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (ACF)	Cables w/ PRE0180175 (dB)	Dist Corr 300m	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	.01616	15.1	Pk	59.3	-32.4	-80	-38	63.42	-101.42	43.42	-81.42	-	-	0-360
2	.0387	27.78	Pk	57.1	-32.2	-80	-27.32	55.83	-83.15	35.83	-63.15	-	-	0-360
3	.01615	16.55	Pk	59.3	-32.4	-80	-36.55	63.42	-99.97	43.42	-79.97	-	-	0-360
4	.02653	24.7	Pk	58.1	-32.3	-80	-29.5	59.11	-88.61	39.11	-68.61	-	-	0-360

Pk - Peak detector

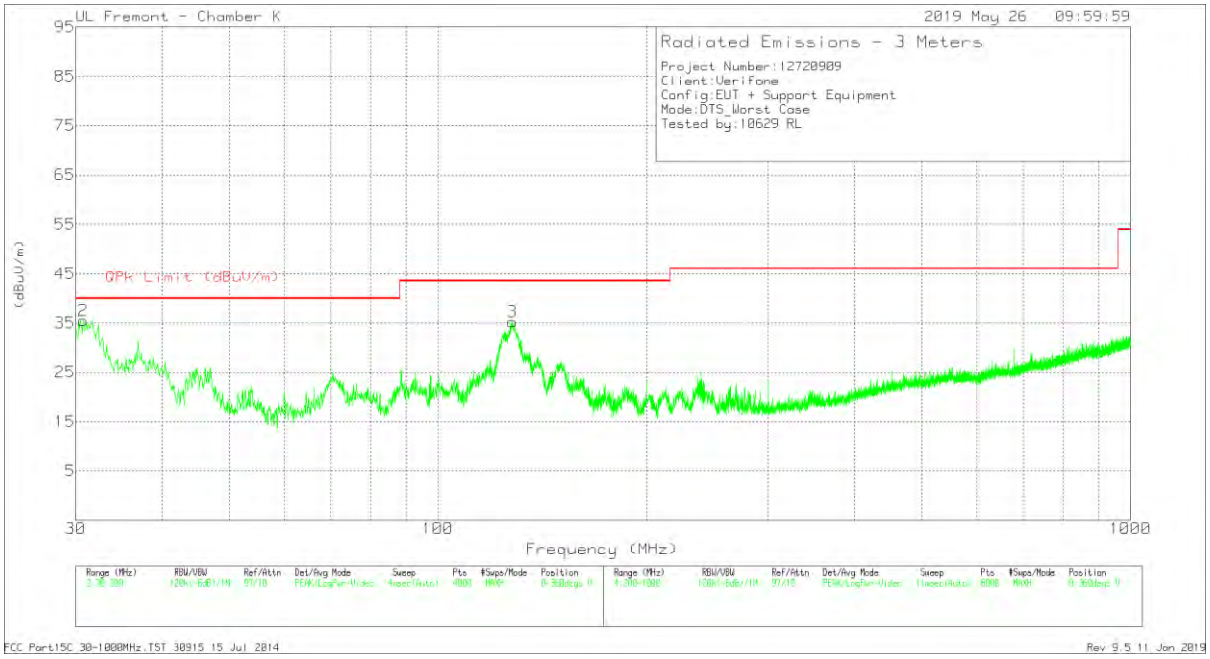
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (ACF)	Cables w/ PRE0180175 (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
5	1.02779	17.18	Pk	46.7	-31.8	-40	-7.92	-	-	-	-	27.38	-35.3	0-360
6	1.02739	16.02	Pk	46.7	-31.8	-40	-9.08	-	-	-	-	27.39	-36.47	0-360

Pk - Peak detector

9.3. WORST CASE BELOW 1 GHZ



HORIZONTAL



VERTICAL

Below 1GHz DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF PRE0184052 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 128.213	40.13	Pk	19.6	-30.8	28.93	43.52	-14.59	284	202	H
	* 128.213	36.58	Qp	19.6	-30.8	25.38	43.52	-18.14	284	202	H
2	30.9853	42.46	Pk	25.9	-31.6	36.76	40	-3.24	6	104	V
	30.9853	35.76	Qp	25.9	-31.6	30.06	40	-9.94	6	104	V
3	* 127.5176	45.16	Pk	19.6	-30.8	33.96	43.52	-9.56	246	128	V
	* 127.5176	42.42	Qp	19.6	-30.8	31.22	43.52	-12.3	246	128	V
4	* 240.0085	33.01	Pk	17.5	-30	20.51	46.02	-25.51	92	130	H
	* 240.0085	29.82	Qp	17.5	-30	17.32	46.02	-28.7	92	130	H
5	295.877	29.87	Pk	19.2	-29.8	19.27	46.02	-26.75	47	177	H
	295.877	21.7	Qp	19.2	-29.8	11.1	46.02	-34.92	47	177	H
6	800.587	35.62	Pk	27.2	-27.8	35.02	46.02	-11	183	100	H
	800.587	30.49	Qp	27.2	-27.8	29.89	46.02	-16.13	183	100	H

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

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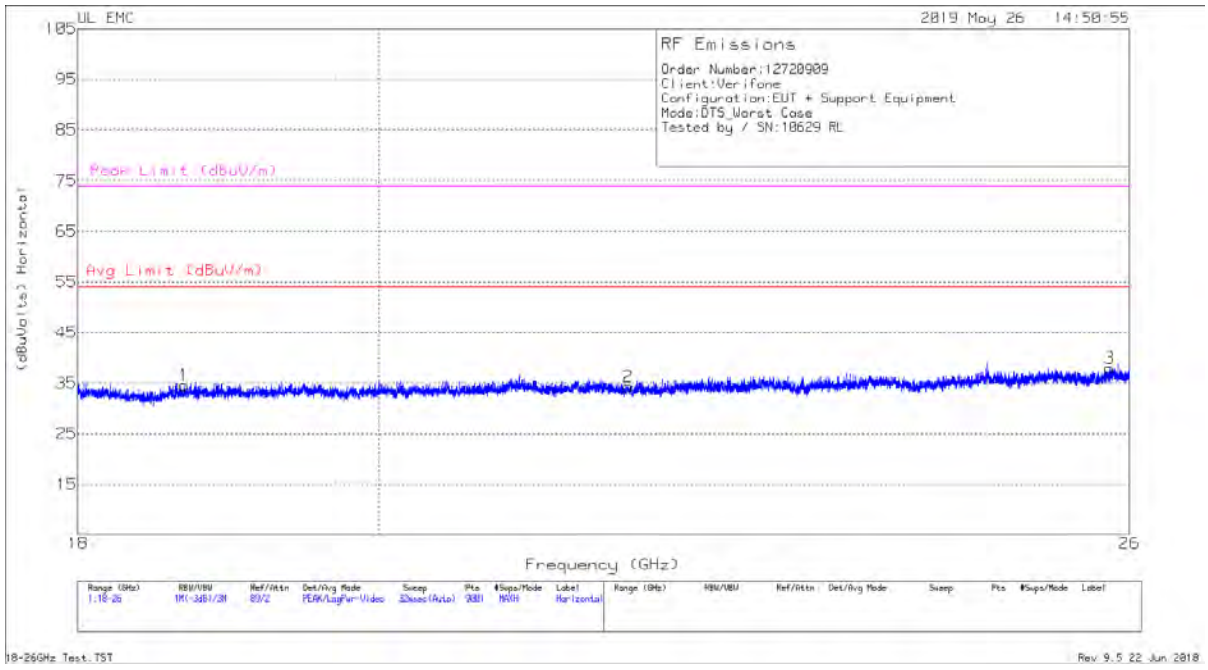
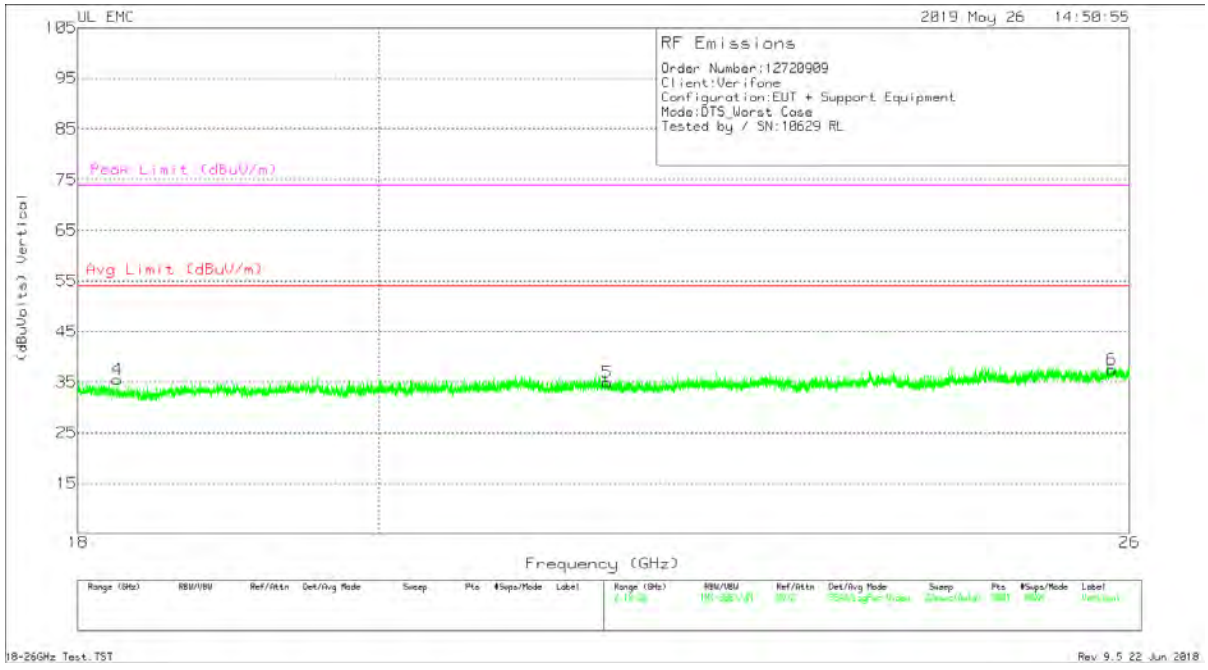
9.4. WORST CASE 18-26 GHZ



HORIZONTAL



VERTICAL

18 – 26GHz DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0182188 (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	18.681	69.72	Pk	33.1	-58.7	-9.5	34.62	54	-19.38	74	-39.38
2	21.82	67.2	Pk	33.9	-57.3	-9.5	34.3	54	-19.7	74	-39.7
3	25.82	67.84	Pk	35	-55.4	-9.5	37.94	54	-16.06	74	-36.06
4	18.252	72.13	Pk	32.8	-59.9	-9.5	35.53	54	-18.47	74	-38.47
5	21.66	67.95	Pk	33.9	-57.4	-9.5	34.95	54	-19.05	74	-39.05
6	25.836	67.37	Pk	35	-55.4	-9.5	37.47	54	-16.53	74	-36.53

Pk - Peak detector

10. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

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

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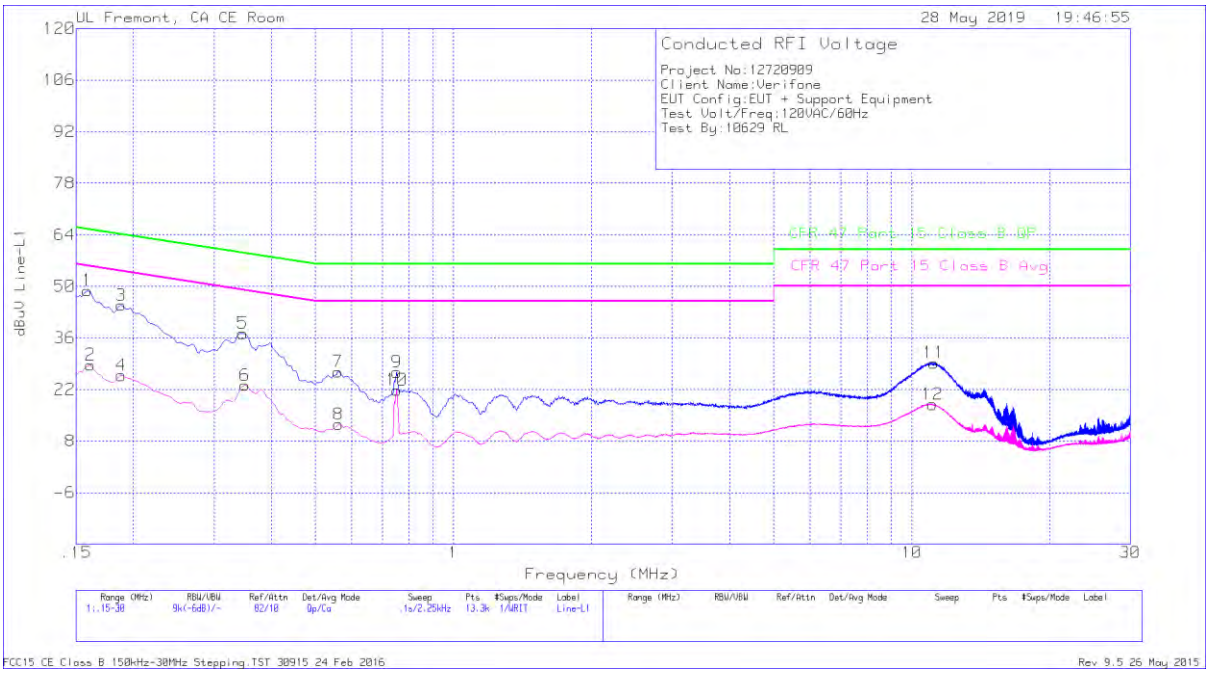
10.1.1. AC Power Line Norm

LINE 1 RESULTS

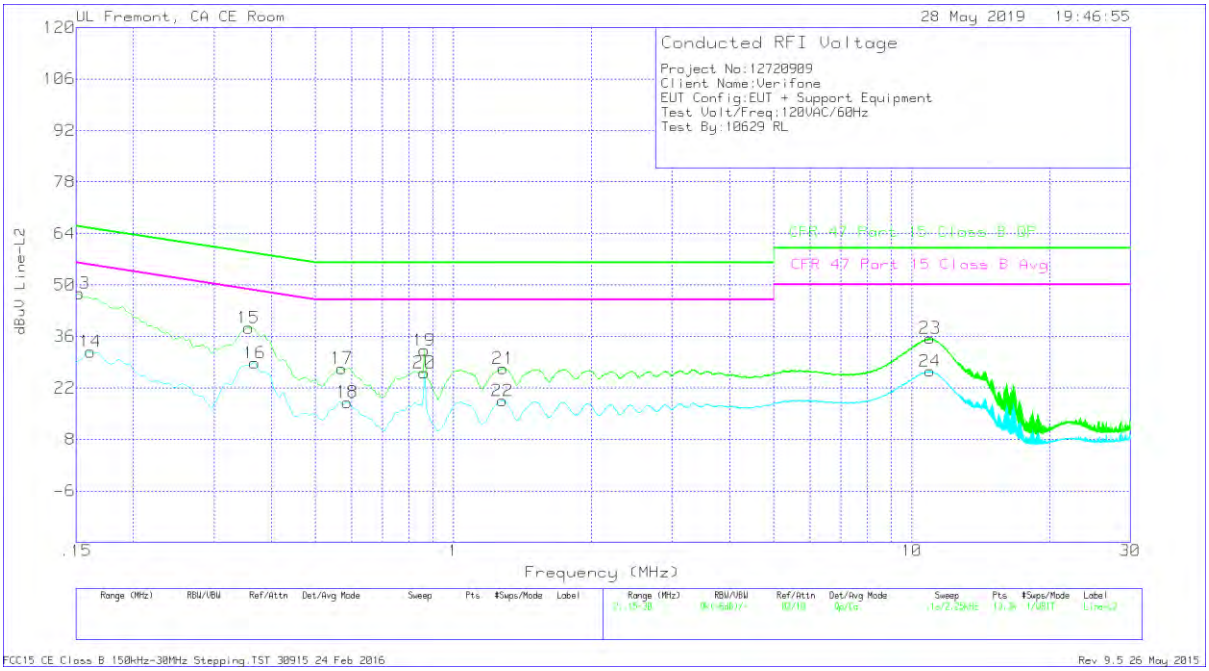


Trace Markers

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	.159	38.66	Qp	.1	0	10.1	48.86	65.52	-16.66	-	-
2	.16125	18.46	Ca	.1	0	10.1	28.66	-	-	55.4	-26.74
3	.18825	34.75	Qp	0	0	10.1	44.85	64.11	-19.26	-	-
4	.18825	15.73	Ca	0	0	10.1	25.83	-	-	54.11	-28.28
5	.34687	27.15	Qp	0	0	10.1	37.25	59.04	-21.79	-	-
6	.35025	13.02	Ca	0	0	10.1	23.12	-	-	48.96	-25.84
7	.5595	16.73	Qp	0	0	10.1	26.83	56	-29.17	-	-
8	.56175	2.41	Ca	0	0	10.1	12.51	-	-	46	-33.49
9	.753	16.59	Qp	0	0	10.1	26.69	56	-29.31	-	-
10	.75187	11.73	Ca	0	0	10.1	21.83	-	-	46	-24.17
11	11.16825	18.72	Qp	.1	.2	10.2	29.22	60	-30.78	-	-
12	11.1075	7.47	Ca	.1	.2	10.2	17.97	-	-	50	-32.03

Qp - Quasi-Peak detector
Ca - CISPR average detection

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	37.51	Qp	.1	0	10.1	47.71	65.88	-18.17	-	-
14	.16125	21.62	Ca	.1	0	10.1	31.82	-	-	55.4	-23.58
15	.357	28.21	Qp	0	0	10.1	38.31	58.8	-20.49	-	-
16	.36825	18.7	Ca	0	0	10.1	28.8	-	-	48.54	-19.74
17	.57075	17.23	Qp	0	0	10.1	27.33	56	-28.67	-	-
18	.5865	7.99	Ca	0	0	10.1	18.09	-	-	46	-27.91
19	.86325	22.1	Qp	0	0	10.1	32.2	56	-23.8	-	-
20	.86325	16.02	Ca	0	0	10.1	26.12	-	-	46	-19.88
21	1.284	17.08	Qp	0	.1	10.1	27.28	56	-28.72	-	-
22	1.27838	8.32	Ca	0	.1	10.1	18.52	-	-	46	-27.48
23	10.959	25.11	Qp	0	.2	10.2	35.51	60	-24.49	-	-
24	10.96125	16.14	Ca	0	.2	10.2	26.54	-	-	50	-23.46

Qp - Quasi-Peak detector
Ca - CISPR average detection