



TEST REPORT

Report Number. : 13231014-E1V2

Applicant : MakuSafe Corp.
1201 Maple Street,
West Des Moines, IA 50265 USA

Model : WRD-100

FCC ID : 2AC7Z-ESPWROOM02

IC : 21098-ESPWROOM02

EUT Description : Wi-Fi Internet of Things Module ESPWROOM02 installed in
WRD-100

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C
ISED RSS-247 ISSUE 2
ISED RSS-GEN ISSUE 5

Date Of Issue:

July 23, 2020

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	5/26/2020	Initial Issue	
V2	7/23/2020	Updated Cover page, Section 1,2 5.2 and 7	K.Kedida

REPORT REVISION HISTORY2

1. ATTESTATION OF TEST RESULTS5

2. TEST METHODOLOGY7

3. FACILITIES AND ACCREDITATION7

4. DECISION RULES AND MEASUREMENT UNCERTAINTY8

 4.1. METROLOGICAL TRACEABILITY8

 4.2. DECISION RULES.....8

 4.3. MEASUREMENT UNCERTAINTY.....8

 4.4. SAMPLE CALCULATION8

5. EQUIPMENT UNDER TEST9

 5.1. EUT DESCRIPTION9

 5.2. DESCRIPTION OF CLASS II PERMISSIVE CHANGE9

 5.3. MAXIMUM OUTPUT POWER.....9

 5.4. DESCRIPTION OF AVAILABLE ANTENNAS9

 5.5. SOFTWARE AND FIRMWARE..... 10

 5.6. WORST-CASE CONFIGURATION AND MODE..... 10

 5.7. DESCRIPTION OF TEST SETUP..... 11

6. MEASUREMENT METHOD.....12

7. TEST AND MEASUREMENT EQUIPMENT13

8. ANTENNA PORT TEST RESULTS14

 8.1. ON TIME AND DUTY CYCLE..... 14

 8.2. OUTPUT POWER..... 16

 8.2.1. 802.11b MODE17

 8.2.2. 802.11g MODE18

 8.2.3. 802.11n HT20 MODE19

 8.3. AVERAGE POWER.....20

 8.3.1. 802.11b MODE21

 8.3.2. 802.11g MODE21

 8.3.3. 802.11n HT20 MODE21

9. RADIATED TEST RESULTS.....22

 9.1. TRANSMITTER ABOVE 1 GHz24

 9.1.1. TX ABOVE 1 GHz 802.11b MODE IN THE 2.4 GHz BAND24

 9.1.2. TX ABOVE 1 GHz 802.11g MODE IN THE 2.4 GHz BAND34

 9.1.3. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 2.4 GHz BAND.....44

 9.2. WORST CASE BELOW 30MHZ54

 9.3. WORST CASE BELOW 1 GHZ.....56

9.4. WORST CASE 18-26 GHZ	58
10. SETUP PHOTOS.....	60

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: MakuSafe Corp

EUT DESCRIPTION: Wi-Fi Internet of Things Module ESPWROOM02 installed in WRD-100

MODEL: WRD-100

SERIAL NUMBER: 1943NMFA0004 (Radiated)
1943NMFA0011 (Conducted)

DATE TESTED: April 29, 2020 – May 15, 2020

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

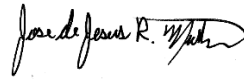
UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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:

Prepared By:



DAN CORONIA
Operations Leader
Consumer Technology Division
UL Verification Services Inc.

JOSE MARTINEZ
Test Engineer
Consumer Technology Division
UL Verification Services Inc.

Reviewed By:



KIYA KEDIDA
Senior 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 D01 v05r02, KDB 414788 D01 Radiated Test Site v01r01, 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 Rd
<input type="checkbox"/> Chamber A	<input type="checkbox"/> Chamber D	<input type="checkbox"/> Chamber I
<input type="checkbox"/> Chamber B	<input type="checkbox"/> Chamber E	<input type="checkbox"/> Chamber J
<input type="checkbox"/> Chamber C	<input type="checkbox"/> Chamber F	<input checked="" type="checkbox"/> Chamber K
	<input type="checkbox"/> Chamber G	<input type="checkbox"/> Chamber L
	<input type="checkbox"/> Chamber H	<input type="checkbox"/> 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.

4. DECISION RULES AND MEASUREMENT UNCERTAINTY

4.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

4.2. DECISION RULES

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.)

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	U _{Lab}
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.39 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.07 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%.

4.4. 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

5. EQUIPMENT UNDER TEST

5.1. EUT DESCRIPTION

The EUT is Wi-Fi Internet of Things Module ESPWROOM02 installed in WRD-100 as an arm band sensor with 802.11 b/g/n WLAN radio.

5.2. DESCRIPTION OF CLASS II PERMISSIVE CHANGE

This is to request for a Class II Permissive Change for FCC Certified Transmitter Module FCC ID: 2AC7Z-ESPWROOM02 to add the following Host model numbers:

- WRD-100

As this new host is a portable host RF exposure data to demonstrate compliance with FCC requirements for the host/ module combination has been provided to support this application. Output power is reduced for 802.11 b mode by software (no hardware changes).

The maximum average output powers for the various operating modes are: 802.11b 10.5dBm; 802.11g/n 15dBm. The antenna is the same type and equal or lower gain to the antenna certified for use with the module. Only RF exposure data is provided to support this application. We have performed spot checks to verify that the combination of host and module remain compliant with the FCC standards applicable to the module.

5.3. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

2.4GHz BAND

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
1Tx			
2412 - 2462	802.11b	13.81	24.04
2412 - 2462	802.11g	20.89	122.74
2412 - 2462	802.11n HT20	20.98	125.31

5.4. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes antenna with a maximum gain of 2dBi.

5.5. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was v 200.10.9

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

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

802.11b mode: 11 Mbps

802.11g mode: 6 Mbps

802.11n HT20mode: MCS0

5.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
DC Power Supply	Ametek	XT 15-4	1319A02779	DoC
AC/DC Adapter	Lenovo	ADLX65YDC2A	8SSA10M13944D1SG8C40F1X	DoC
Laptop	Lenovo	L480	PF1H0N0E	DoC

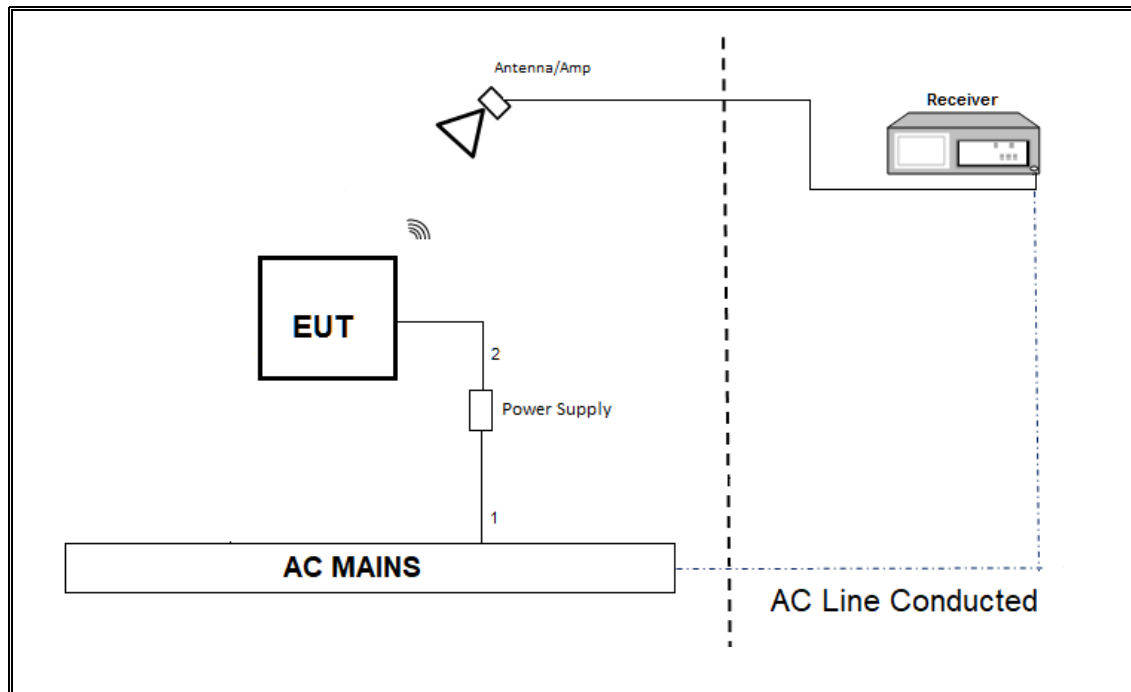
I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	1	AC	Un-Shielded	1	to DC Power Supply
2	DC Power Supply	1	wire	Shielded	2	to EUT

TEST SETUP

EUT is connected to all support equipment. The test software exercises the radio. Support laptop was removed after EUT was configured.

SETUP DIAGRAM



6. MEASUREMENT METHOD

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

Output Power: ANSI C63.10 Section -11.9.1.3 Method PKPM1 Peak-reading power meter

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

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

7. 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	ID Num	Cal Due	Last Cal
Amplifier, 9KHz to 1GHz, 32dB	SONOMA INSTRUMENT	310	175953	01/23/2021	01/23/2020
Antenna, BroadBand Hybrid, 30MHz to 3GHz	Sunol Sciences Corp.	JB3	PRE0181574	05/04/2021	05/04/2020
Amplifier, 100MHz-18GHz	AMPLICAL	AMP0.1G18-47-20	PRE0197319	05/04/2021	05/04/2020
Amplifier, 100MHz-18GHz	AMPLICAL	AMP0.1G18-47-20	PRE0197319	05/04/2020	05/04/2019
Antenna	ETS-Lindgren	3117	EMC4294	06/14/2020	06/14/2019
Antenna, Passive Loop 30Hz - 1MHz	ELECTRO METRICS	EM-6871	PRE0179466	05/31/2020	05/31/2019
Antenna, Passive Loop 100KHz - 30MHz	ELECTRO METRICS	EM-6872	PRE0179468	05/31/2020	05/31/2019
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	PRE0179377	02/23/2021	02/23/2020
Power Meter, P-series single channel	Keysight Technologies Inc	N1911A	T1269	01/21/2021	01/21/2020
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Keysight Technologies Inc	N1921A	T1225	02/13/2021	02/13/2020

Test Software List			
Description	Manufacturer	Model	Version
Radiated Software	UL	UL EMC	Ver 9.5, Apr 30, 2020
Radiated Software	UL	UL EMC	Ver 9.5, Oct 20, 2019

8. ANTENNA PORT TEST RESULTS

8.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

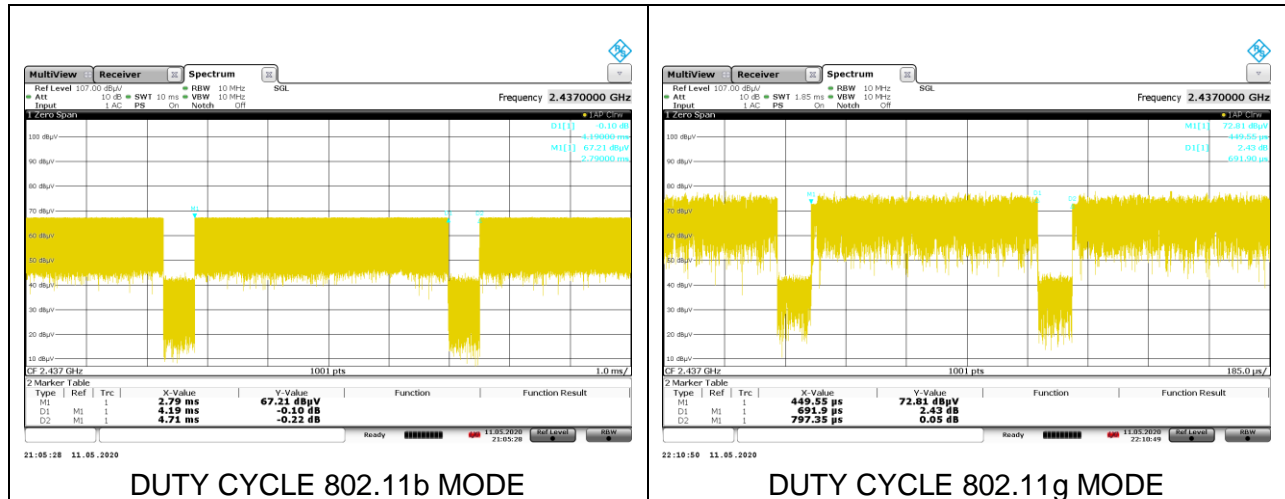
PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method.

ON TIME AND DUTY CYCLE RESULTS

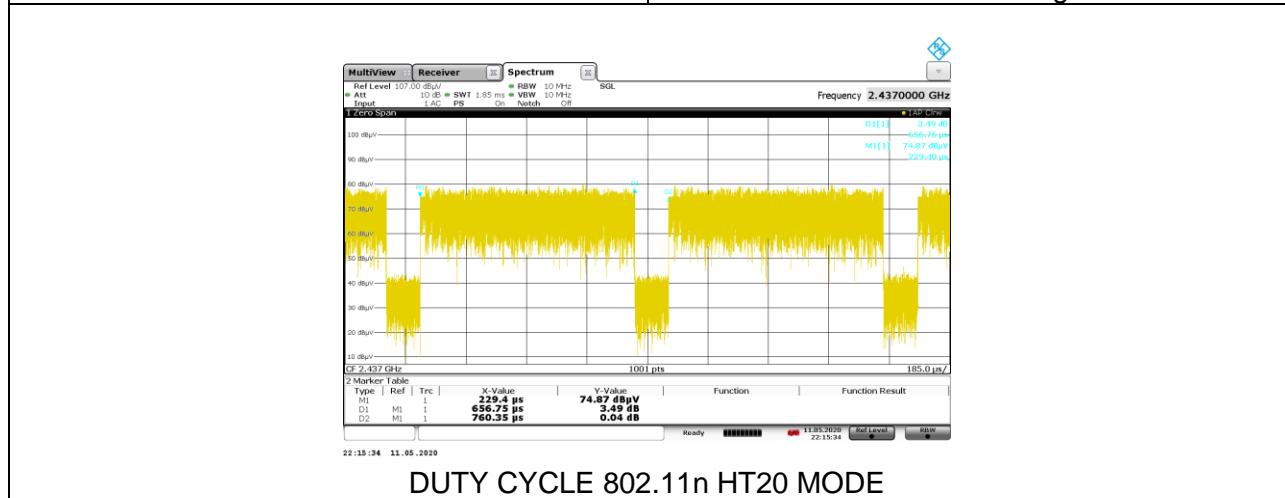
Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
2.4GHz Band						
802.11b 1TX	4.190	4.710	0.890	88.96%	0.51	0.239
802.11g 1TX	0.692	0.797	0.868	86.77%	0.62	1.445
802.11n HT20 1TX	0.657	0.760	0.864	86.37%	0.64	1.523

DUTY CYCLE PLOTS



DUTY CYCLE 802.11b MODE

DUTY CYCLE 802.11g MODE



DUTY CYCLE 802.11n HT20 MODE

8.2. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)

RSS-247 5.4 (d)

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

8.2.1. 802.11b MODE

Test Engineer:	20756
Test Date:	5/15/2020

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	2.00	30.00	30	36	30.00
Mid 6	2437	2.00	30.00	30	36	30.00
High 11	2462	2.00	30.00	30	36	30.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power
---------------------------	------	---

Results

Channel	Frequency (MHz)	Peak Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	13.81	13.81	30.00	-16.19
Mid 6	2437	12.96	12.96	30.00	-17.04
High 11	2462	12.72	12.72	30.00	-17.28

8.2.2. 802.11g MODE

Test Engineer:	20756
Test Date:	5/15/2020

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	2.00	30.00	30	36	30.00
Mid 6	2437	2.00	30.00	30	36	30.00
High 11	2462	2.00	30.00	30	36	30.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power
---------------------------	------	---

Results

Channel	Frequency (MHz)	Peak Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	20.70	20.70	30.00	-9.30
Mid 6	2437	20.89	20.89	30.00	-9.11
High 11	2462	20.47	20.47	30.00	-9.53

8.2.3. 802.11n HT20 MODE

Test Engineer:	20756
Test Date:	5/15/2020

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Max Power (dBm)
Low 1	2412	2.00	30.00	30	36	30.00
Mid 6	2437	2.00	30.00	30	36	30.00
High 11	2462	2.00	30.00	30	36	30.00

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power
---------------------------	------	---

Results

Channel	Frequency (MHz)	Peak Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low 1	2412	20.96	20.96	30.00	-9.04
Mid 6	2437	20.98	20.98	30.00	-9.02
High 11	2462	21.09	21.09	30.00	-8.91

8.3. AVERAGE POWER

LIMITS

None; for reporting purposes only

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss was entered as an offset in the power meter to allow for a gated average reading of power

RESULTS

8.3.1. 802.11b MODE

Test Engineer:	20756
Test Date:	5/15/2020

Channel	Frequency (MHz)	Avg Power (dBm)
Low 1	2412	10.32
Mid 6	2437	9.30
High 11	2462	9.10

8.3.2. 802.11g MODE

Channel	Frequency (MHz)	Avg Power (dBm)
Low 1	2412	14.54
Mid 6	2437	14.27
High 11	2462	13.94

8.3.3. 802.11n HT20 MODE

Channel	Frequency (MHz)	Avg Power (dBm)
Low 1	2412	14.12
Mid 6	2437	14.21
High 11	2462	14.06

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.

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.

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.

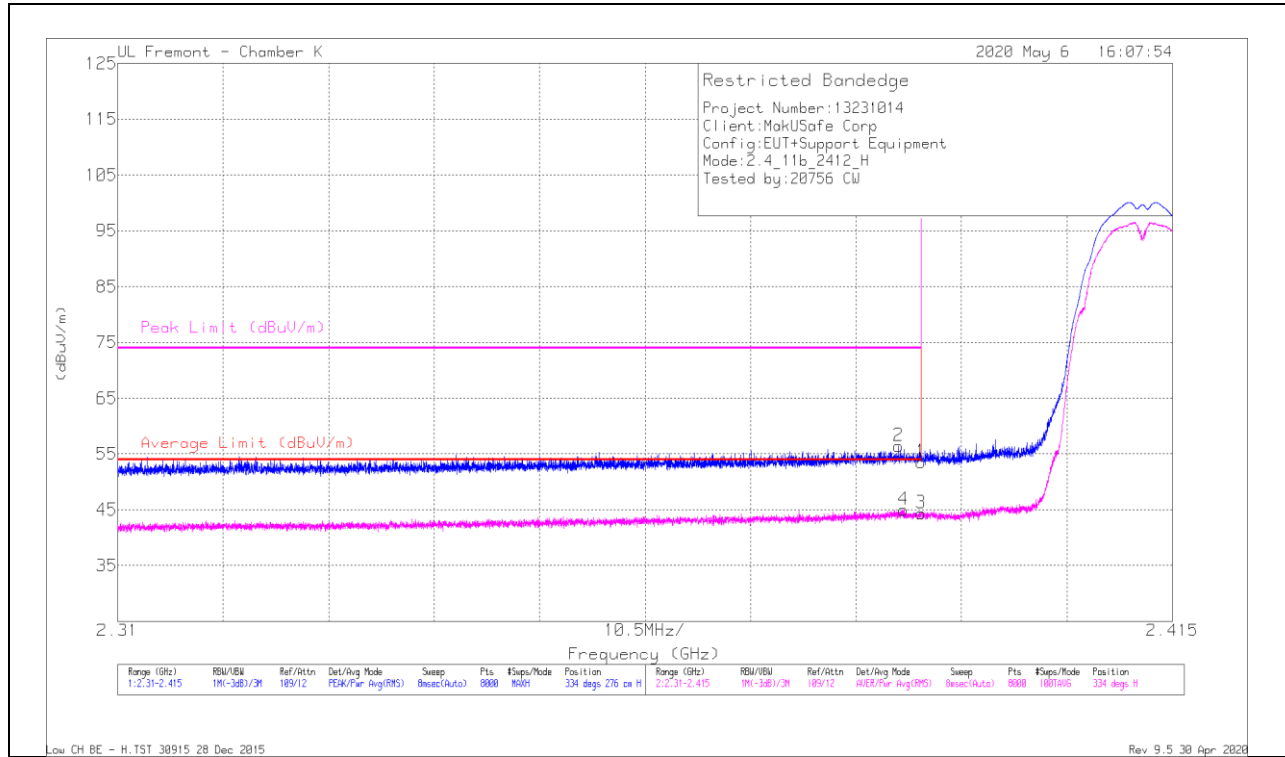
OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

9.1. TRANSMITTER ABOVE 1 GHz

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

BANDEDGE (LOW CHANNEL, CH 1)

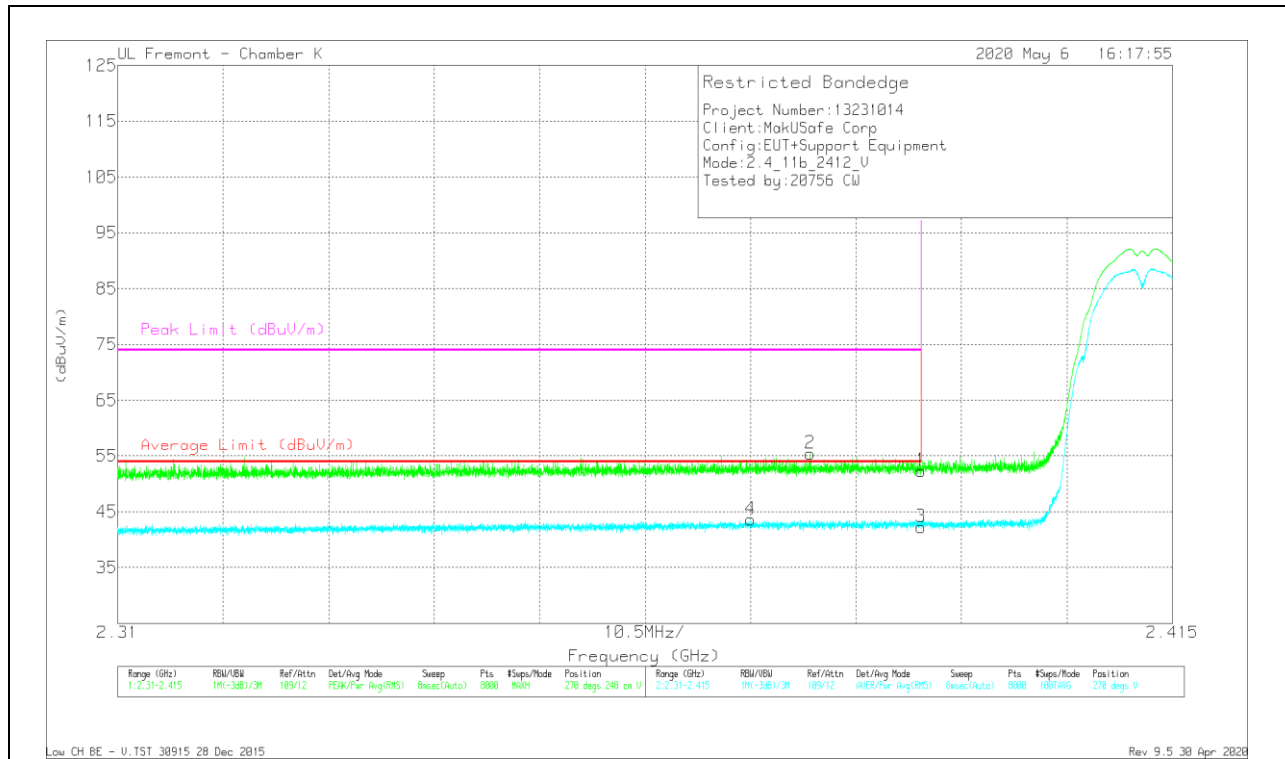
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meas Reading (dBuV)	Det	AF EMC4294 (dBm)	Amp/CM/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	33.23	Pk	31.9	-11.6	0	53.53	-	-	74	-20.47	334	276	H
2	* 2.38775	36.14	Pk	31.9	-11.6	0	56.44	-	-	74	-17.56	334	276	H
3	* 2.39	23.59	RMS	31.9	-11.6	0.51	44.4	54	-9.6	-	-	334	276	H
4	* 2.38821	24.22	RMS	31.9	-11.6	0.51	45.03	54	-8.97	-	-	334	276	H

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

VERTICAL RESULT

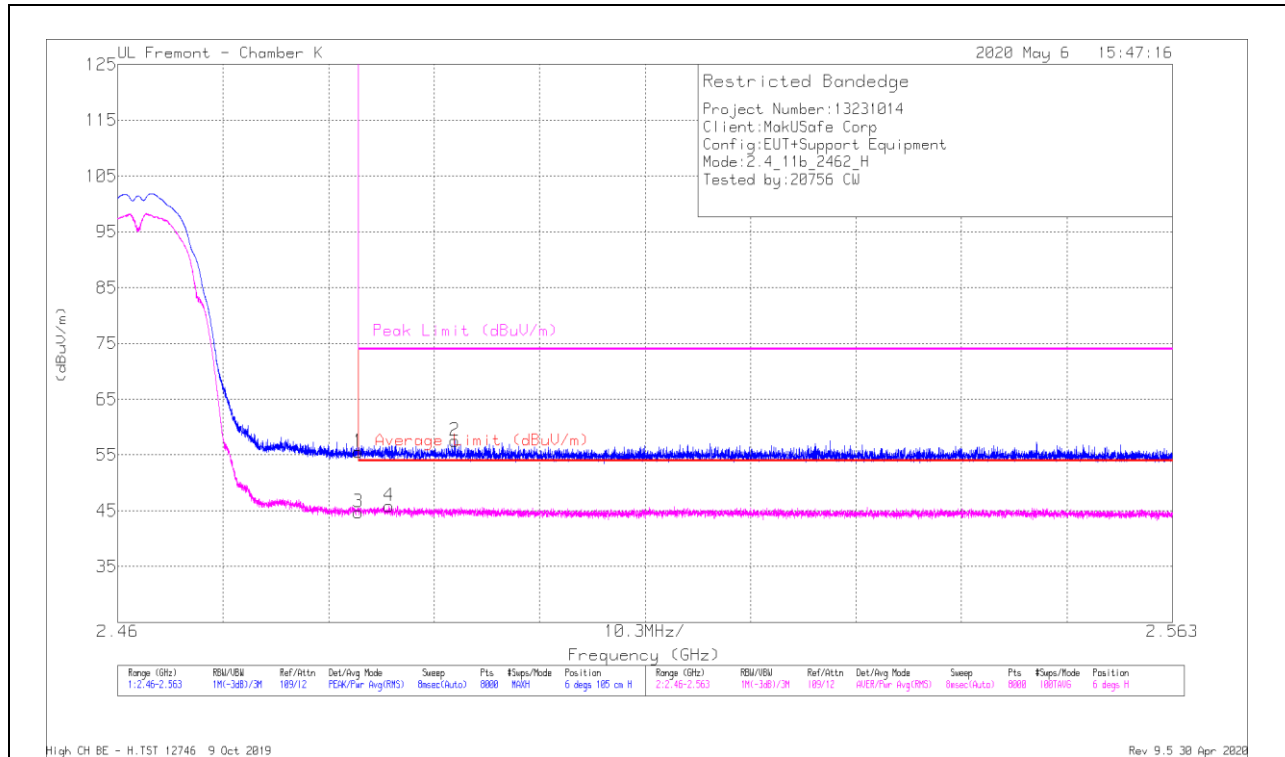


Marker	Frequency (GHz)	Meas Reading (dBuV)	Det	AF EMC4294 (dBm)	Amp/ColFilt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	32.04	Pk	31.9	-11.6	0	52.34	-	-	74	-21.66	270	248	V
2	* 2.37896	35.08	Pk	31.9	-11.6	0	55.38	-	-	74	-18.62	270	248	V
3	* 2.39	21.5	RMS	31.9	-11.6	0.51	42.31	54	-11.69	-	-	270	248	V
4	* 2.37302	22.82	RMS	31.9	-11.6	0.51	43.63	54	-10.37	-	-	270	248	V

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

BANDEGE (HIGH CHANNEL, CH 11)

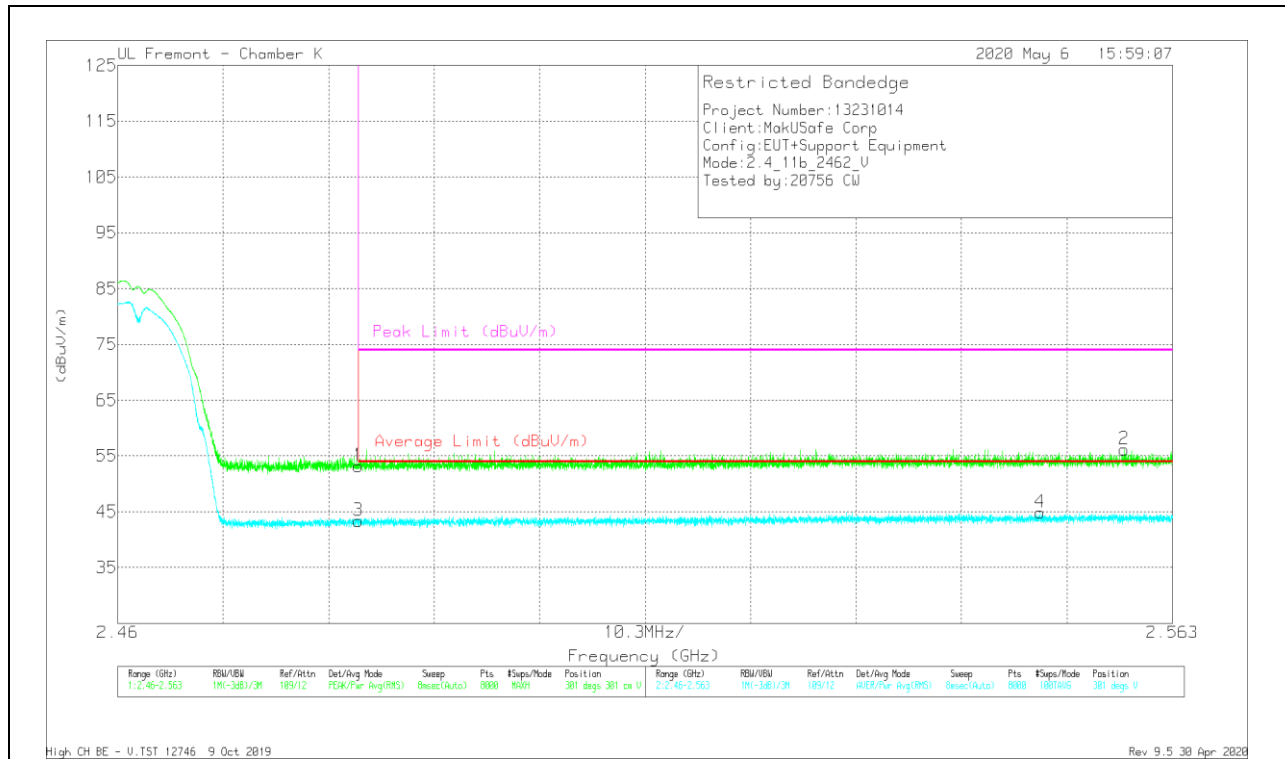
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meas Reading (dBuV)	Det	AF EMC4294 (dBm)	Amp/CM/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	* 2.4835	34.24	Pk	32.5	-11.2	0	55.54	-	-	74	-18.46	6	105	H
2	* 2.4839	36.22	Pk	32.5	-11.2	0	57.52	-	-	74	-16.48	6	105	H
3	* 2.4835	22.93	RMS	32.5	-11.2	0.51	44.74	54	-9.26	-	-	6	105	H
4	* 2.48649	24.08	RMS	32.5	-11.2	0.51	45.89	54	-8.11	-	-	6	105	H

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

VERTICAL RESULT

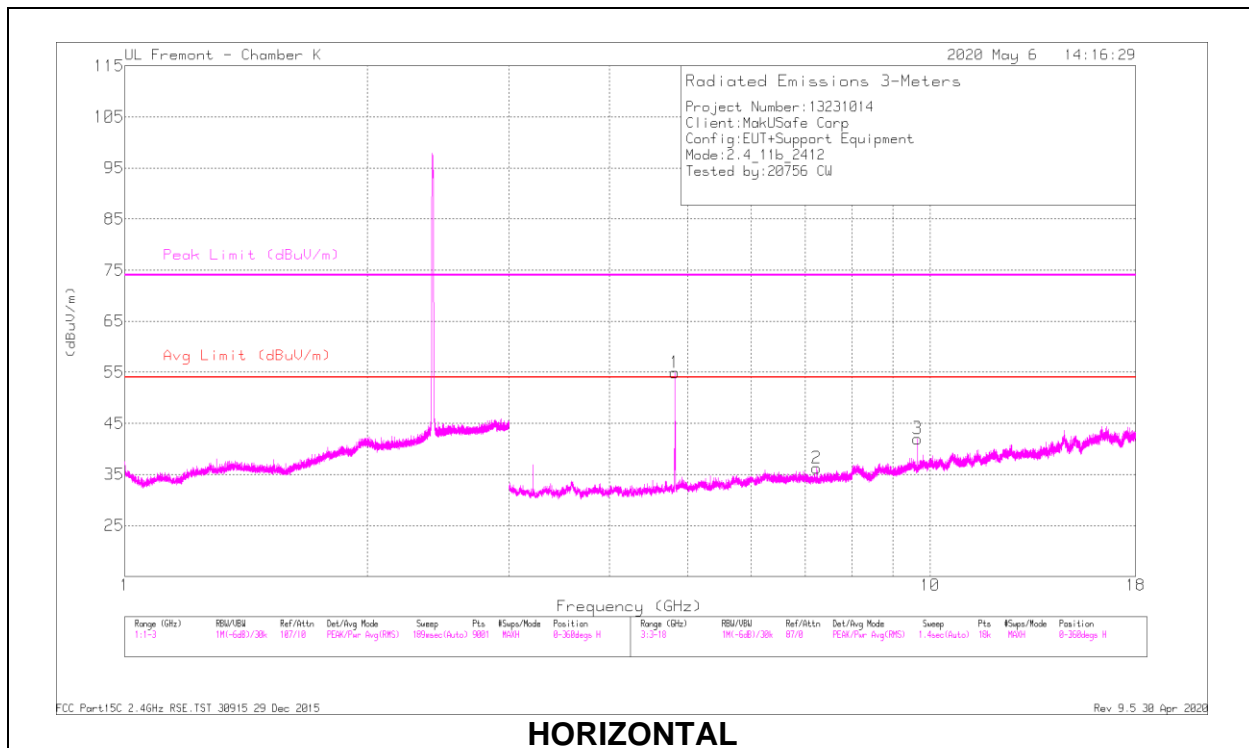


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4234 (dBm)	Amp/Cbl/Filt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	31.96	Pk	32.5	-11.2	0	53.16	-	-	74	-20.84	301	301	V
2	2.55826	34.73	Pk	32.5	-11	0	56.23	-	-	74	-17.77	301	301	V
3	* 2.4835	21.55	RMS	32.5	-11.2	0.51	43.36	54	-10.64	-	-	301	301	V
4	2.55007	23.07	RMS	32.4	-11.1	0.51	44.88	54	-9.12	-	-	301	301	V

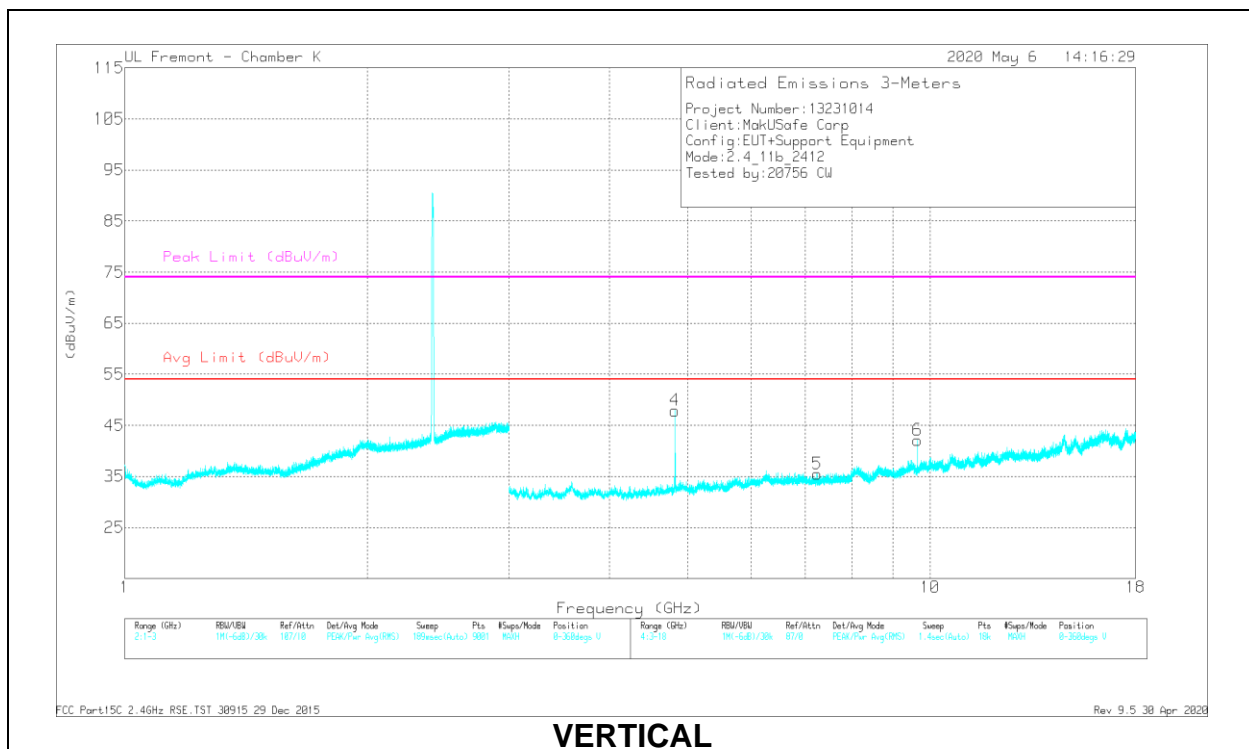
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 1 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

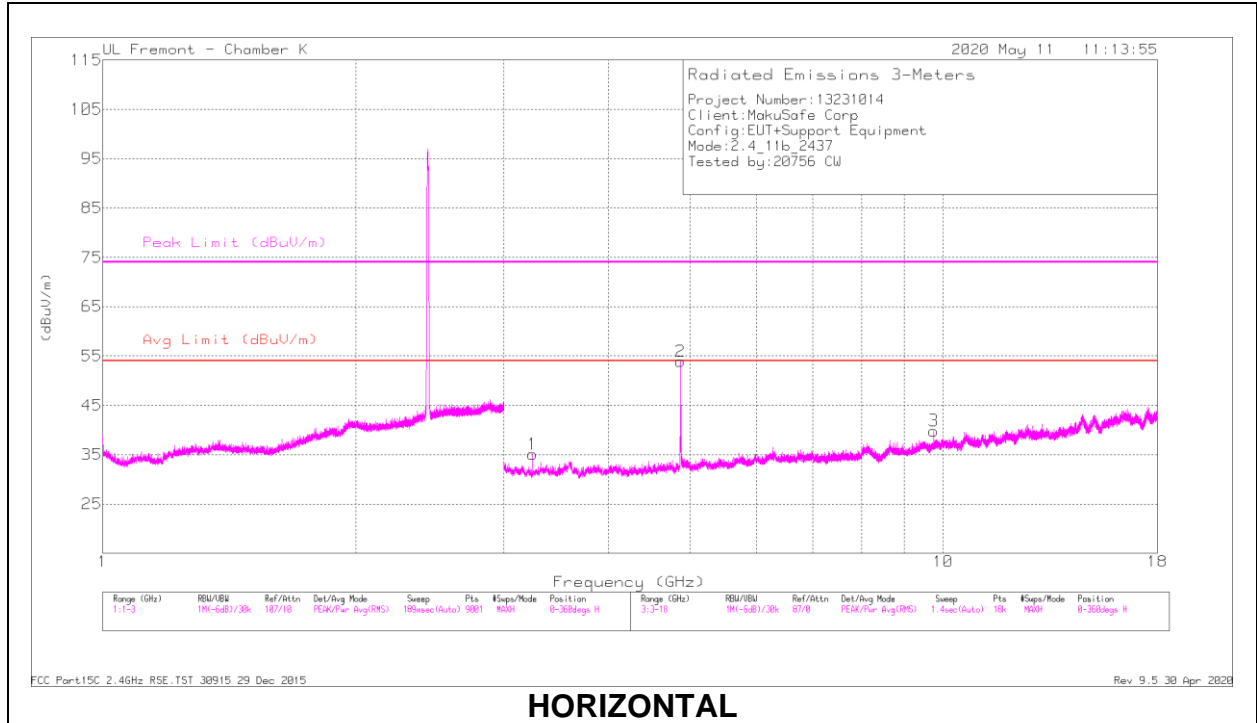
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4294 (dB/m)	Amp/Cbl/Ftr/P ad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.82398	62.21	PK2	34.2	-40.6	0	55.81	-	-	74	-18.19	171	97	H
	* 4.82398	59.69	MAV1	34.2	-40.6	0.51	53.8	54	-0.2	-	-	171	97	H
2	7.23437	47.01	PK2	35.7	-38.7	0	44.01	-	-	-	-	137	140	H
3	9.64786	47.55	PK2	37.1	-36.8	0	47.85	-	-	-	-	95	238	H
4	* 4.82398	56.91	PK2	34.2	-40.6	0	50.51	-	-	74	-23.49	149	201	V
	* 4.82398	53.45	MAV1	34.2	-40.6	0.51	47.56	54	-6.44	-	-	149	201	V
5	7.23585	45.78	PK2	35.7	-38.7	0	42.78	-	-	-	-	131	126	V
6	9.64816	46.93	PK2	37.1	-36.8	0	47.23	-	-	-	-	331	110	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

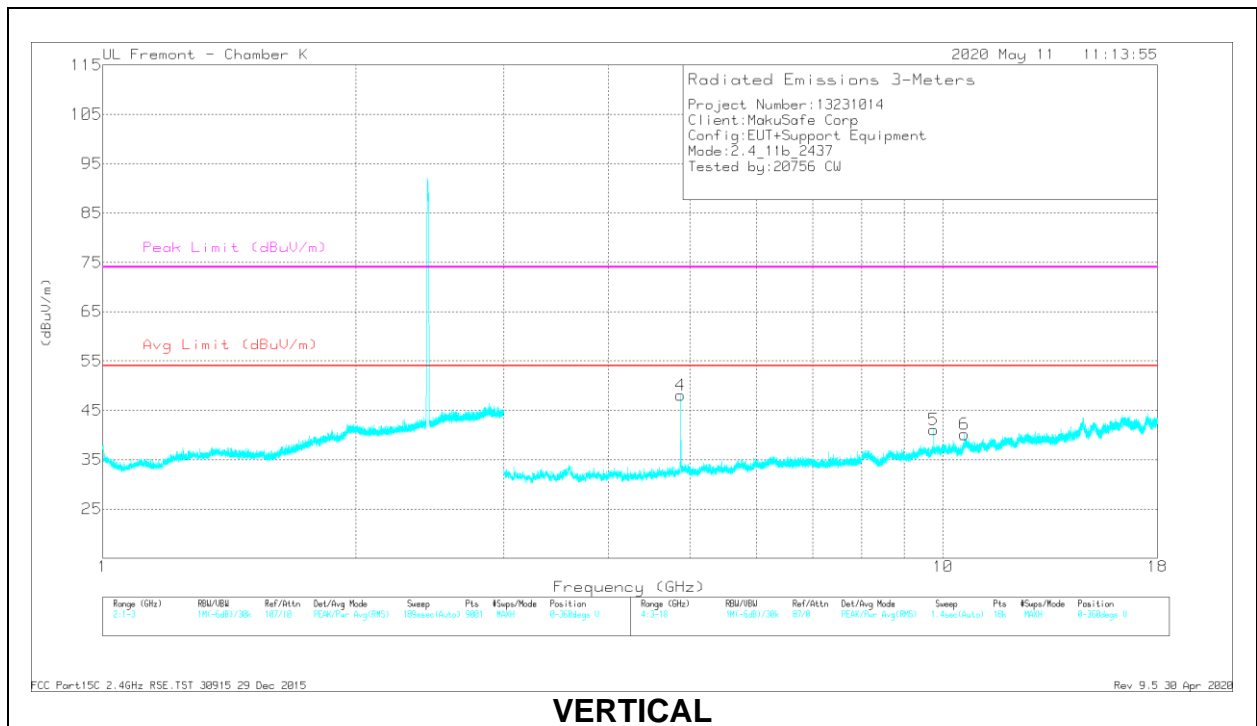
PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL, CH 6 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

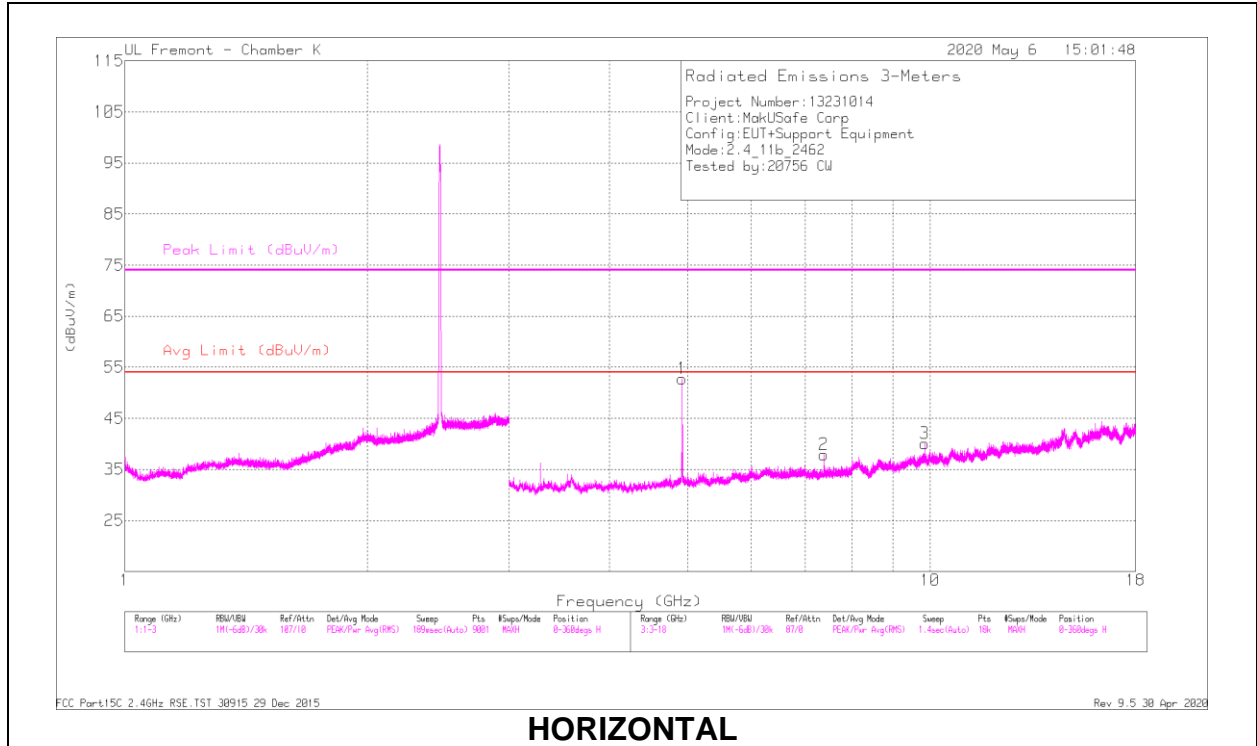
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4294 (dB/m)	Amp/Cbl/Ftr/P ad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	3.2492	50.93	PK2	32.8	-42	0	41.73	-	-	-	-	185	96	H
2	* 4.87402	61.78	PK2	34.2	-40.7	0	55.28	-	-	74	-18.72	354	123	H
	* 4.87399	59.23	MAv1	34.2	-40.7	0.51	53.24	54	-0.76	-	-	354	123	H
3	9.74795	47.09	PK2	37.1	-36.7	0	47.49	-	-	-	-	291	271	H
4	* 4.87401	56.16	PK2	34.2	-40.7	0	49.66	-	-	74	-24.34	354	275	V
	* 4.87398	52.62	MAv1	34.2	-40.7	0.51	46.63	54	-7.37	-	-	354	275	V
5	9.74806	46.04	PK2	37.1	-36.7	0	46.44	-	-	-	-	132	143	V
6	10.59963	44.8	PK2	37.8	-36.9	0	45.7	-	-	-	-	0	381	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

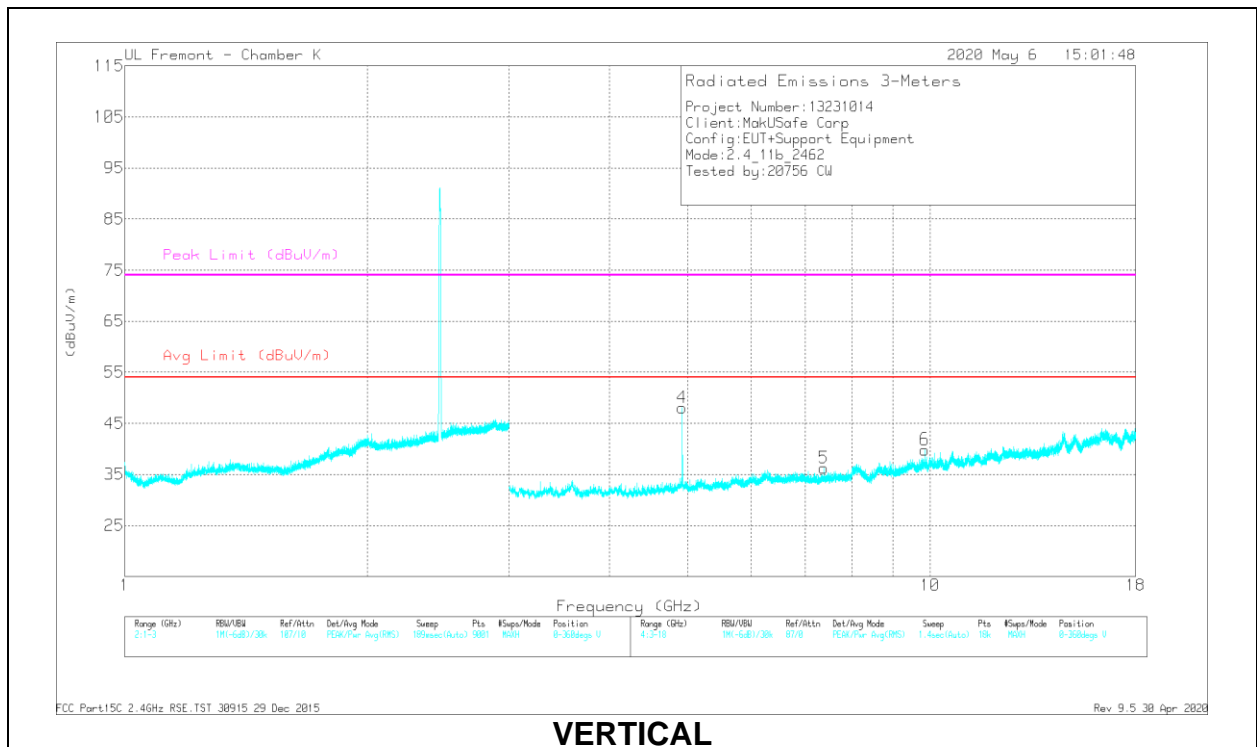
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL, CH 11 RESULTS



HORIZONTAL



VERTICAL

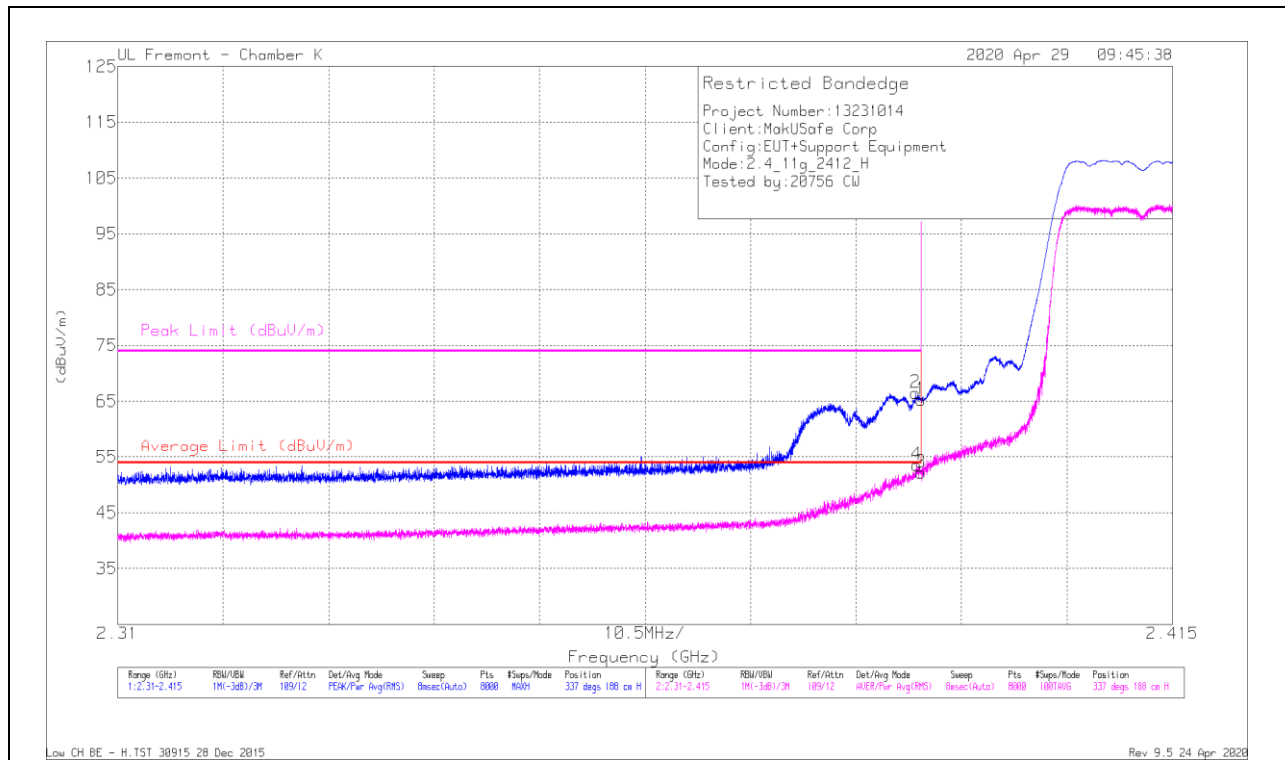
RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4294 (dB/m)	Amp/Cbl/Filtr/ Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.92399	60.88	PK2	34.1	-40.7	0	54.28	-	-	74	-19.72	176	152	H
	* 4.92398	58.35	MAv1	34.1	-40.7	0.51	52.26	54	-1.74	-	-	176	152	H
2	* 7.38492	46.83	PK2	35.6	-38	0	44.43	-	-	74	-29.57	124	119	H
	* 7.3851	37.45	MAv1	35.6	-38	0.51	35.56	54	-18.44	-	-	124	119	H
3	9.85094	46.18	PK2	37	-36.5	0	46.68	-	-	-	-	319	213	H
4	* 4.92398	56.13	PK2	34.1	-40.7	0	49.53	-	-	74	-24.47	167	203	V
	* 4.92398	52.29	MAv1	34.1	-40.7	0.51	46.2	54	-7.8	-	-	167	203	V
5	* 7.38656	45.77	PK2	35.6	-38	0	43.37	-	-	74	-30.63	342	108	V
	* 7.38505	35.81	MAv1	35.6	-38	0.51	33.92	54	-20.08	-	-	342	108	V
6	9.84796	46.31	PK2	37	-36.5	0	46.81	-	-	-	-	311	102	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

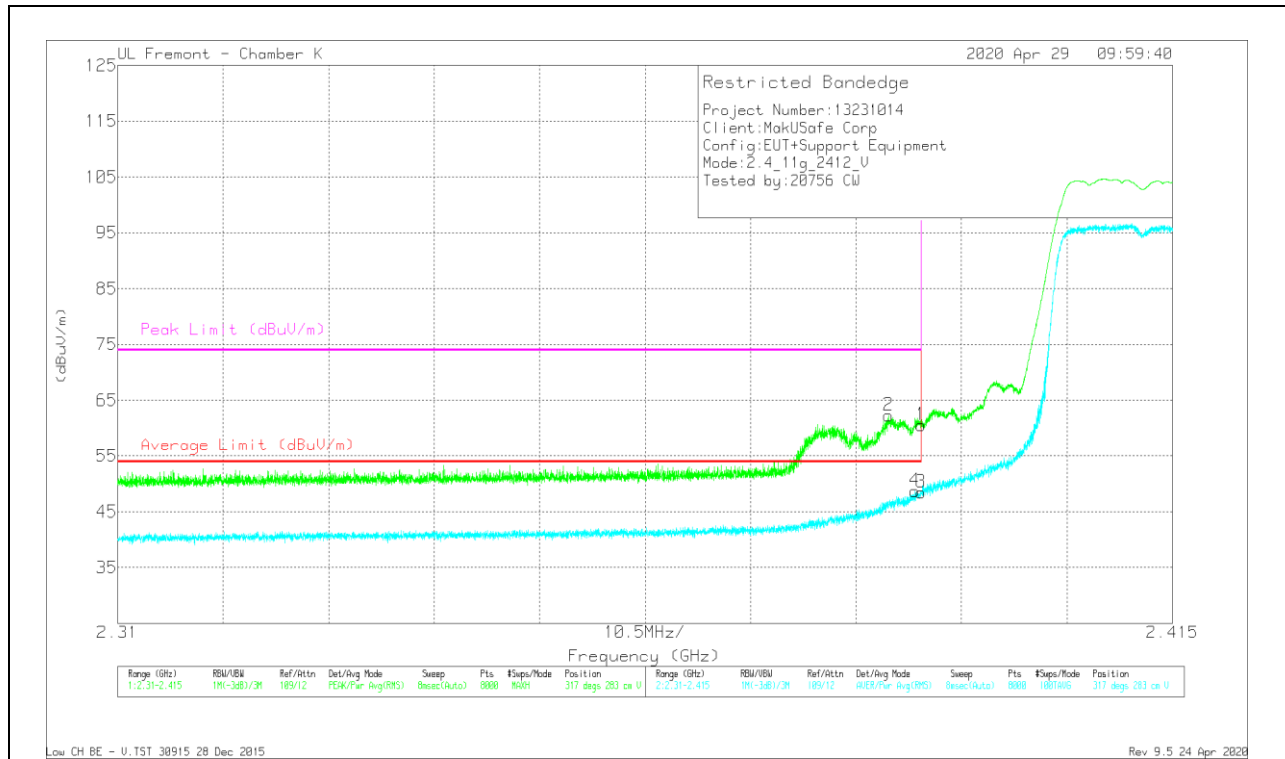
**BANDEDGE (LOW CHANNEL, CH 1)
 HORIZONTAL RESULT**



Marker	Frequency (GHz)	Meas Reading (dBuV)	Det	AF EMC4294 (dBm)	Amp/Cm/Ftr/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	46.72	Pk	31.9	-13.4	0	68.22	-	-	74	-8.78	337	188	H
2	* 2.38939	47.94	Pk	31.9	-13.4	0	68.44	-	-	74	-7.56	337	188	H
3	* 2.39	33.01	RMS	31.9	-13.4	0.62	52.13	54	-1.87	-	-	337	188	H
4	* 2.38954	34.42	RMS	31.9	-13.4	0.62	53.54	54	-0.46	-	-	337	188	H

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

VERTICAL RESULT

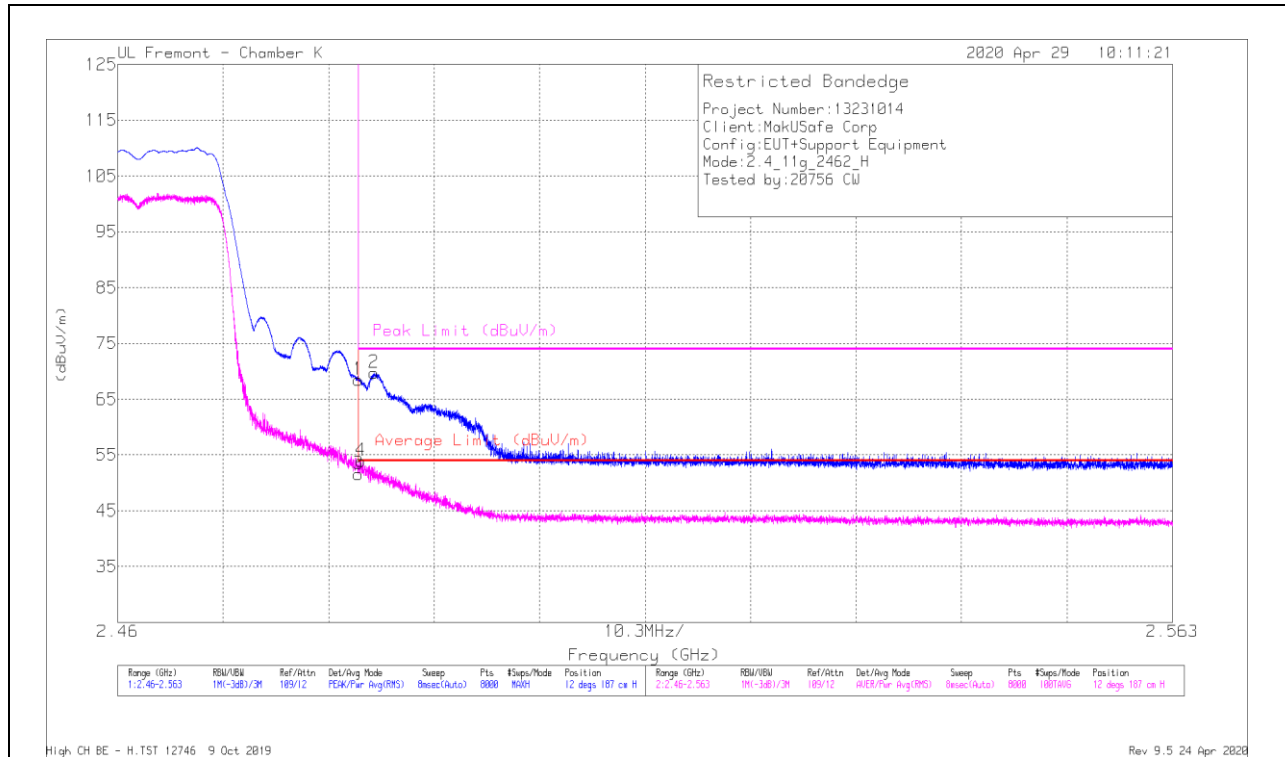


Marker	Frequency (GHz)	Meas Reading (dBuV)	Det	AF EMC4294 (dBm)	Amp/Cou/Filt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	* 2.39	42.06	PK	31.9	-13.4	0	60.56	-	-	74	-13.44	317	283	V
2	* 2.38674	43.70	PK	31.9	-13.4	0	62.29	-	-	74	-11.71	317	283	V
3	* 2.39	29.3	RMS	31.9	-13.4	0.62	48.42	54	-5.68	-	-	317	283	V
4	* 2.38937	29.49	RMS	31.9	-13.4	0.62	48.61	54	-5.39	-	-	317	283	V

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

BANDEGE (HIGH CHANNEL, CH 11)

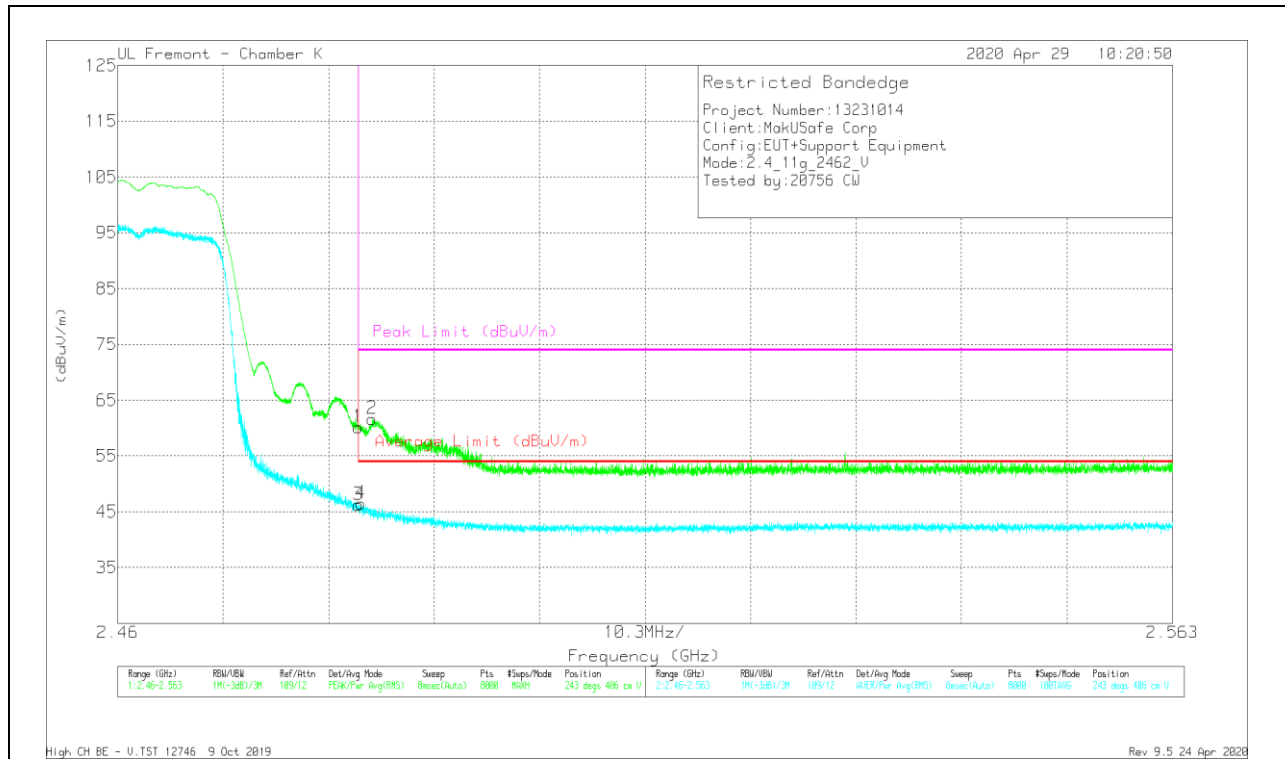
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meas Reading (dBuV)	Det	AF EMC424 (dBm)	Amp/CM/Flt/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	* 2.4835	49.19	Pk	32.5	-13.2	0	68.49	-	-	74	-5.51	12	187	H
2	* 2.48501	50.48	Pk	32.5	-13.2	0	69.78	-	-	74	-4.22	12	187	H
3	* 2.4835	31.54	RMS	32.5	-13.2	0.62	51.46	54	-2.54	-	-	12	187	H
4	* 2.48372	33.9	RMS	32.5	-13.2	0.62	53.82	54	-0.18	-	-	12	187	H

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

VERTICAL RESULT

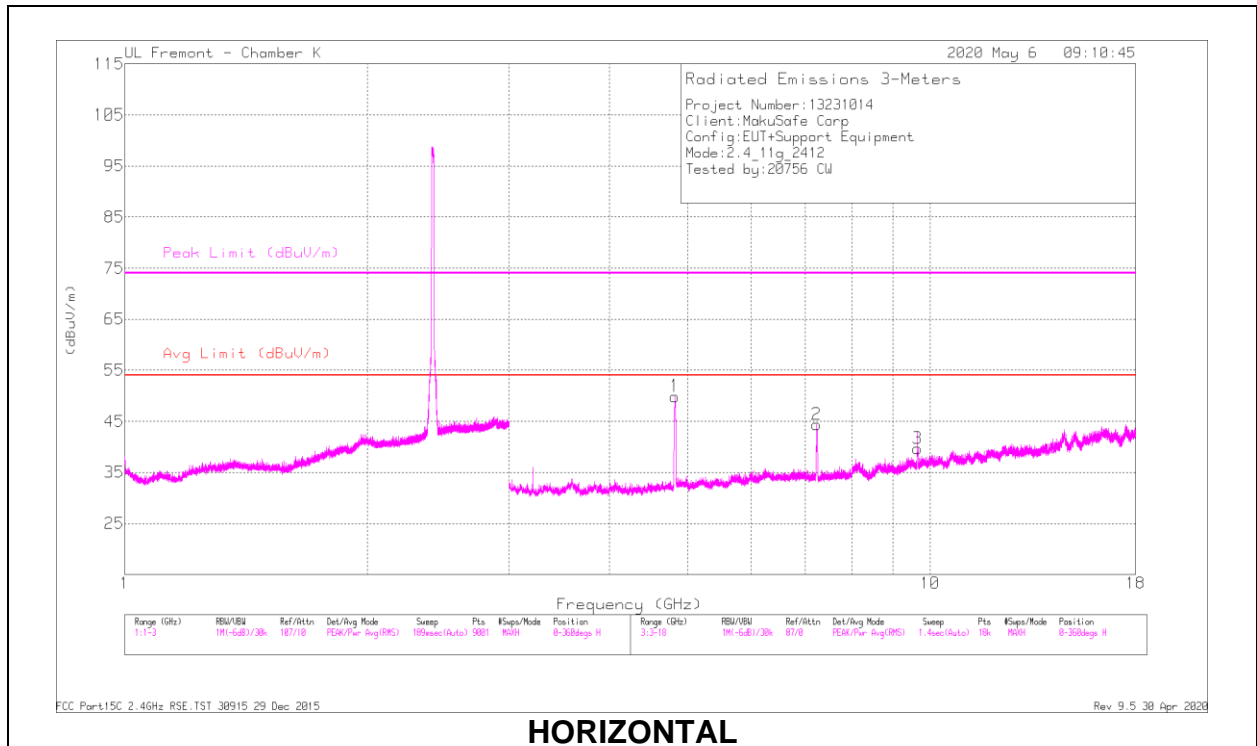


Marker	Frequency (GHz)	Meas Reading (dBuV)	Det	AF EMC4294 (dBm)	Amp/Cou/Filt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	40.04	PK	32.5	-13.2	0	60.14	-	-	74	-13.86	243	406	V
2	* 2.48487	42.28	PK	32.5	-13.2	0	61.59	-	-	74	-12.41	243	406	V
3	* 2.4835	26.22	RMS	32.5	-13.2	0.62	46.14	54	-7.86	-	-	243	406	V
4	* 2.48376	26.47	RMS	32.5	-13.2	0.62	46.39	54	-7.61	-	-	243	406	V

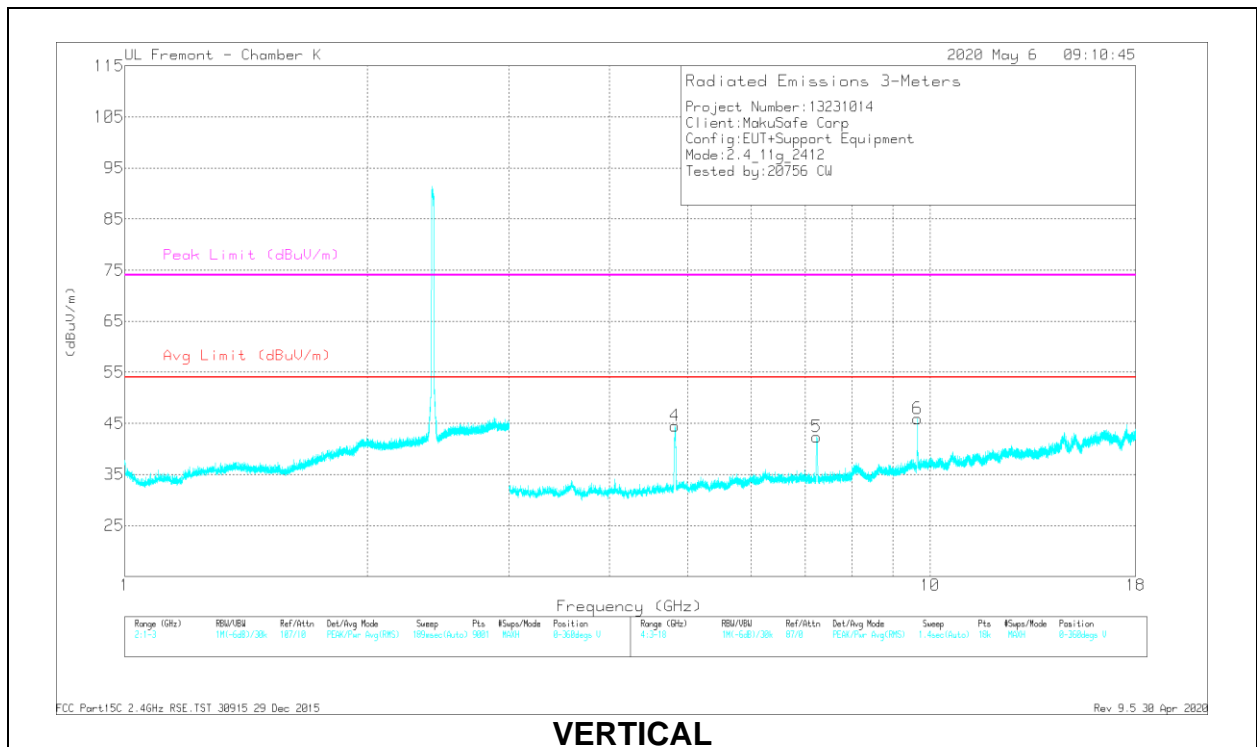
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK - Peak detector
 RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 1 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

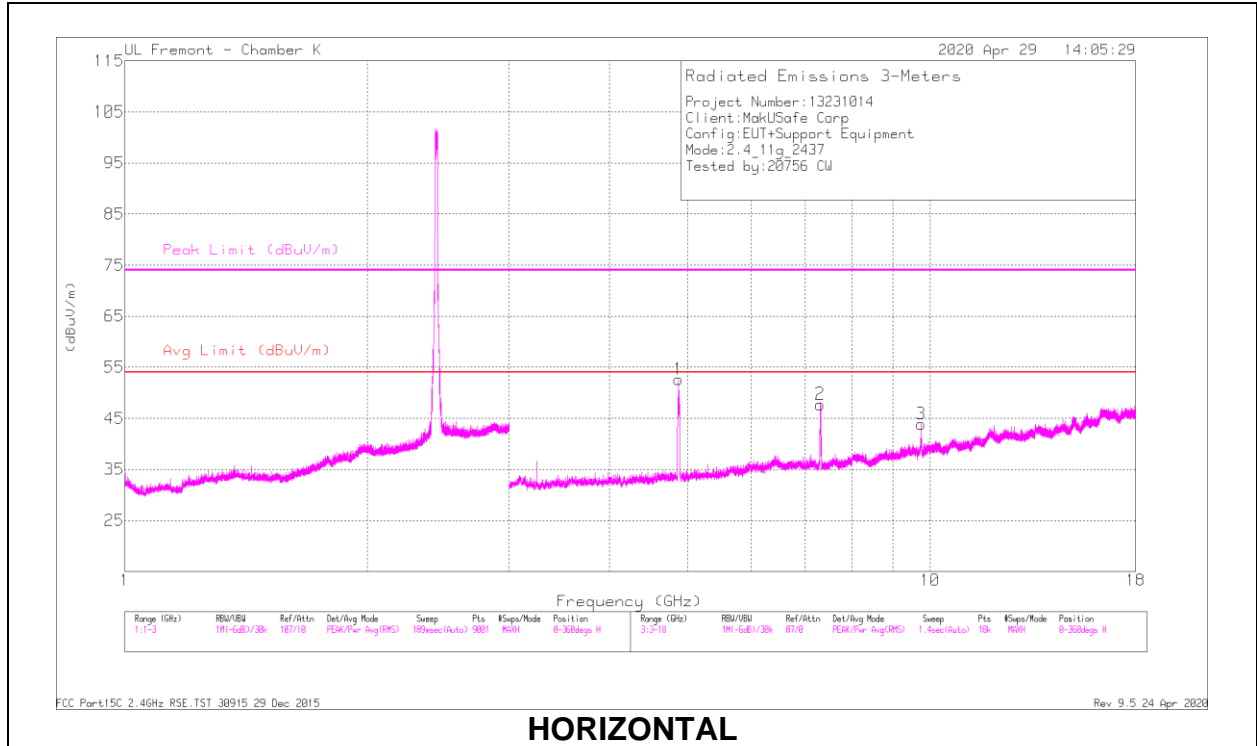
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4294 (dB/m)	Amp/Cbl/Ftr/P ad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.82209	64.96	PK2	34.2	-40.6	0	58.56	-	-	74	-15.44	177	137	H
	* 4.82487	53.48	MAV1	34.2	-40.6	0.62	47.7	54	-6.3	-	-	177	137	H
2	7.2312	55.27	PK2	35.7	-38.6	0	52.37	-	-	-	-	132	116	H
3	9.64416	49.37	PK2	37	-36.9	0	49.47	-	-	-	-	325	102	H
4	* 4.82056	59.31	PK2	34.2	-40.6	0	52.91	-	-	74	-21.09	180	96	V
	* 4.82275	46.8	MAV1	34.2	-40.6	0.62	41.02	54	-12.98	-	-	180	96	V
5	7.23529	55.97	PK2	35.7	-38.7	0	52.97	-	-	-	-	284	96	V
6	9.64776	52.25	PK2	37.1	-36.8	0	52.55	-	-	-	-	323	98	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

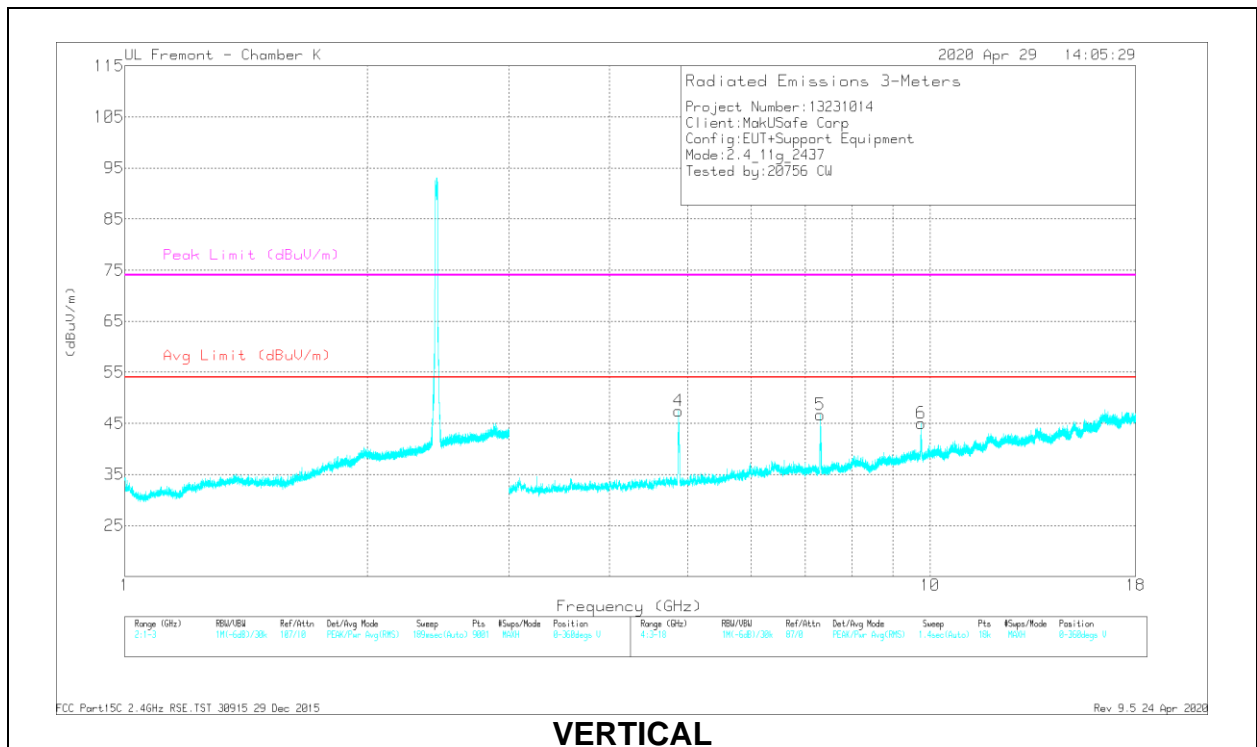
PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL, CH 6 RESULTS



HORIZONTAL



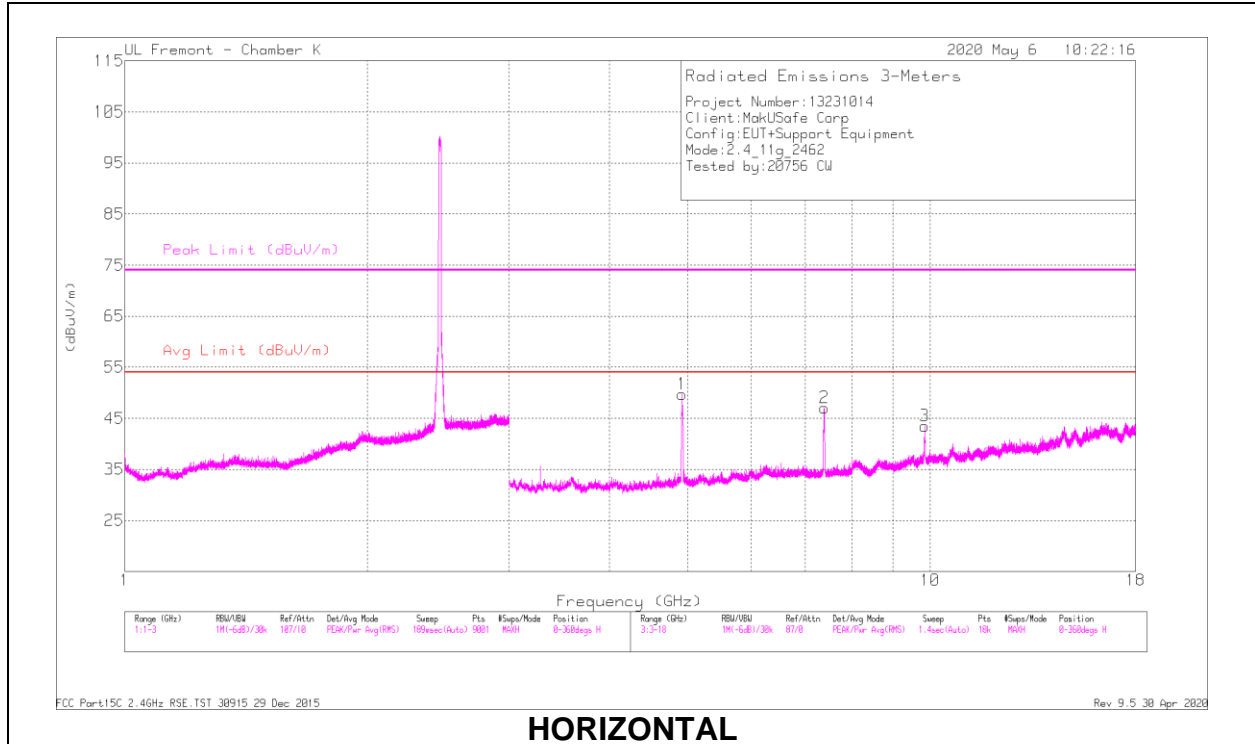
VERTICAL

RADIATED EMISSIONS

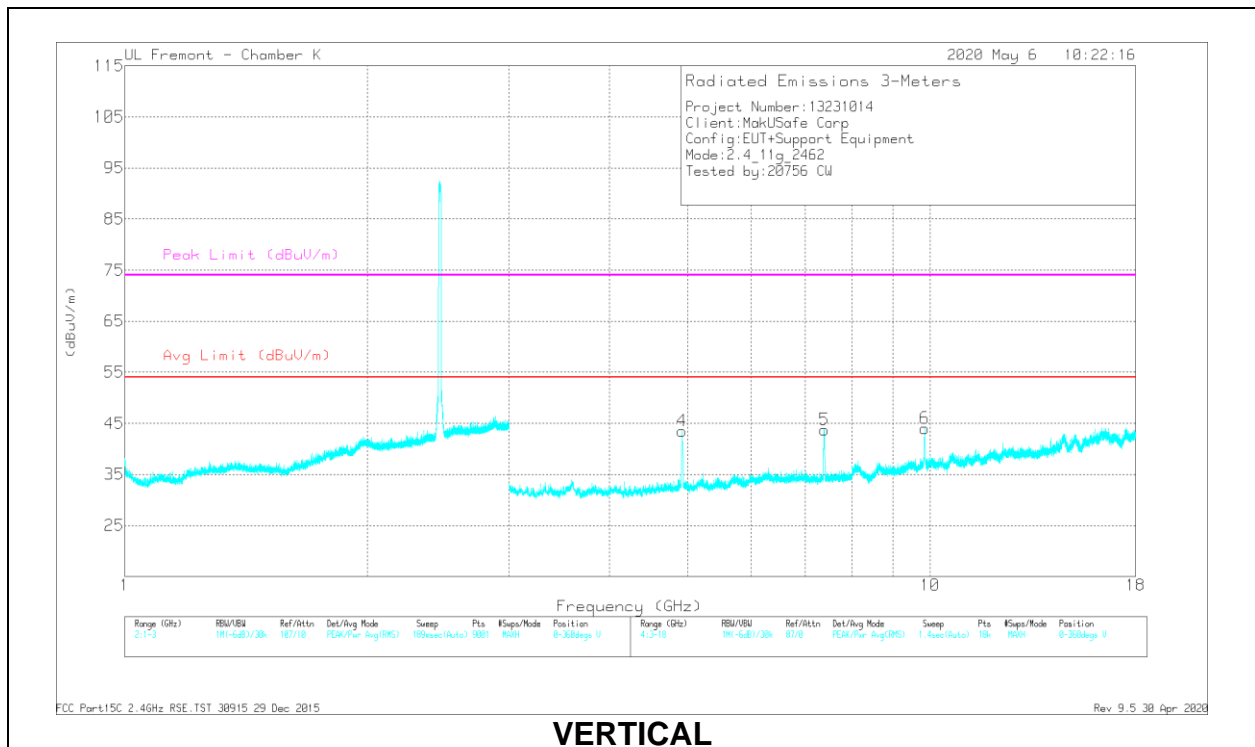
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4294 (dB/m)	Amp/Cbl/Filtr/ Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.87061	57.25	PK2	34.1	-29.4	0	61.95	-	-	74	-12.05	166	120	H
	* 4.87456	32.9	MAv1	34.2	-29.5	0.62	38.22	54	-15.78	-	-	166	120	H
2	* 7.30695	47.39	PK2	35.6	-25.2	0	57.79	-	-	74	-16.21	139	100	H
	* 7.30528	25.86	MAv1	35.6	-25.2	0.62	36.88	54	-17.12	-	-	139	100	H
3	9.74379	39.42	PK2	37.1	-22.6	0	53.92	-	-	-	-	104	308	H
	* 4.87061	47.14	PK2	34.1	-29.4	0	51.84	-	-	74	-22.16	187	104	V
4	* 4.87139	29.83	MAv1	34.1	-29.4	0.62	35.15	54	-18.85	-	-	187	104	V
	* 7.30641	43.82	PK2	35.6	-25.2	0	54.22	-	-	74	-19.78	300	99	V
5	* 7.30567	25.49	MAv1	35.6	-25.2	0.62	36.51	54	-17.49	-	-	300	99	V
	9.74802	37.79	PK2	37.1	-22.6	0	52.29	-	-	-	-	300	99	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

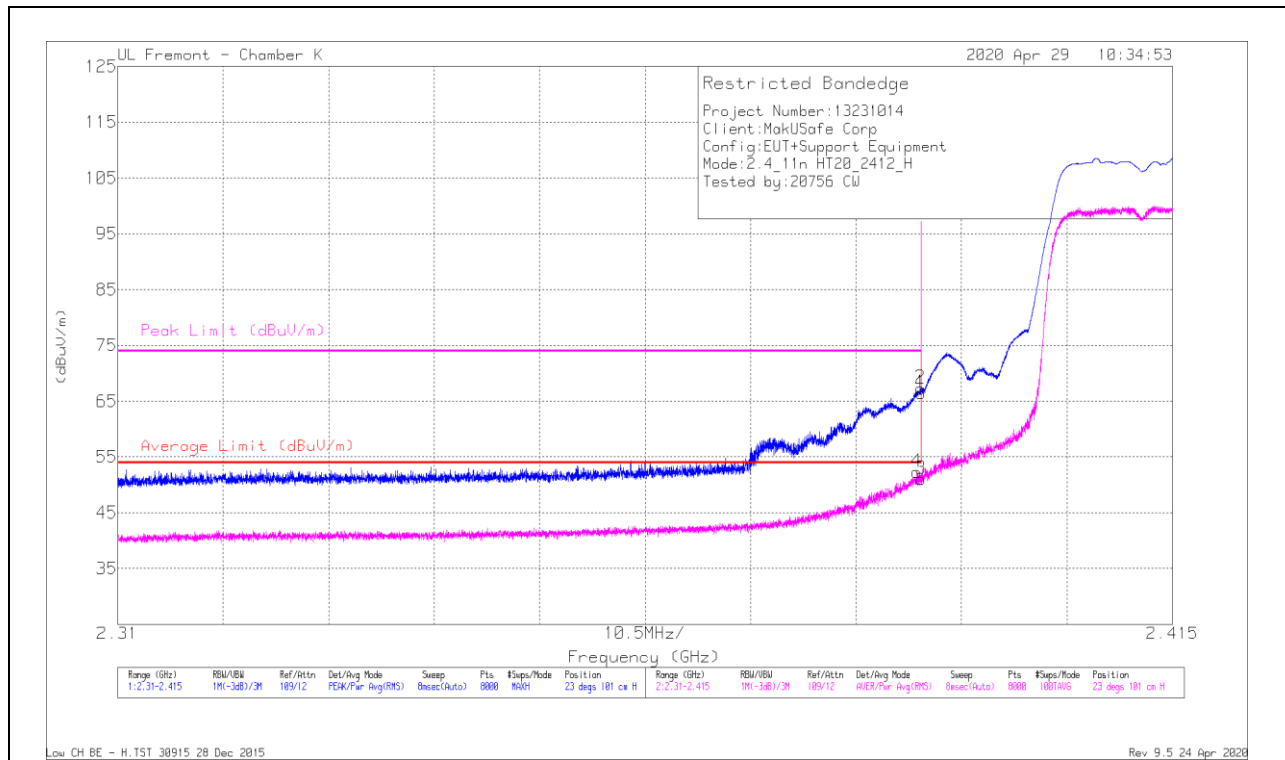
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4294 (dB/m)	Amp/Cbl/Filtr/ Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.92532	63.96	PK2	34.1	-40.7	0	57.36	-	-	74	-16.64	207	102	H
	* 4.92275	51.58	MAv1	34.1	-40.7	0.62	45.6	54	-8.4	-	-	207	102	H
2	* 7.38818	58.25	PK2	35.6	-38	0	55.85	-	-	74	-18.15	129	114	H
	* 7.39025	44.93	MAv1	35.6	-38	0.62	43.15	54	-10.85	-	-	129	114	H
3	9.84783	53.56	PK2	37	-36.5	0	54.06	-	-	-	-	150	393	H
4	* 4.92331	58.53	PK2	34.1	-40.7	0	51.93	-	-	74	-22.07	165	197	V
	* 4.92241	47.02	MAv1	34.1	-40.7	0.62	41.04	54	-12.96	-	-	165	197	V
5	* 7.38807	55.78	PK2	35.6	-38	0	53.38	-	-	74	-20.62	316	101	V
	* 7.38709	44.23	MAv1	35.6	-38	0.62	42.45	54	-11.55	-	-	316	101	V
6	9.84777	52.43	PK2	37	-36.5	0	52.93	-	-	-	-	336	114	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

BANDEDGE (LOW CHANNEL, CH 1)

HORIZONTAL RESULT



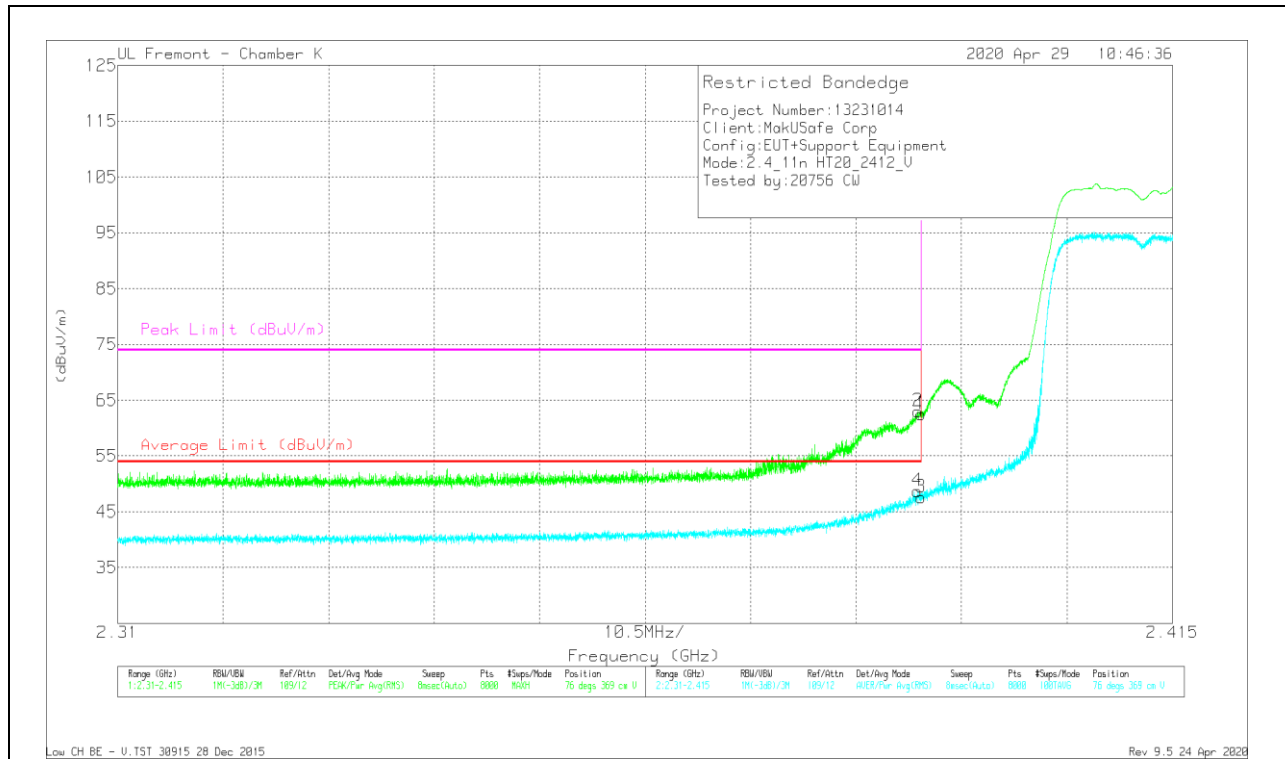
Marker	Frequency (GHz)	Meas Reading (dBuV)	Det	AF EMC4294 (dBm)	Amp/Cm/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	47.36	Pk	31.9	-13.4	0	69.46	-	-	74	-7.54	23	101	H
2	* 2.38992	48.8	Pk	31.9	-13.4	0	67.3	-	-	74	-6.7	23	101	H
3	* 2.39	31.95	RMS	31.9	-13.4	0.64	51.09	54	-2.91	-	-	23	101	H
4	* 2.38955	33.26	RMS	31.9	-13.4	0.64	52.4	54	-1.6	-	-	23	101	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULT

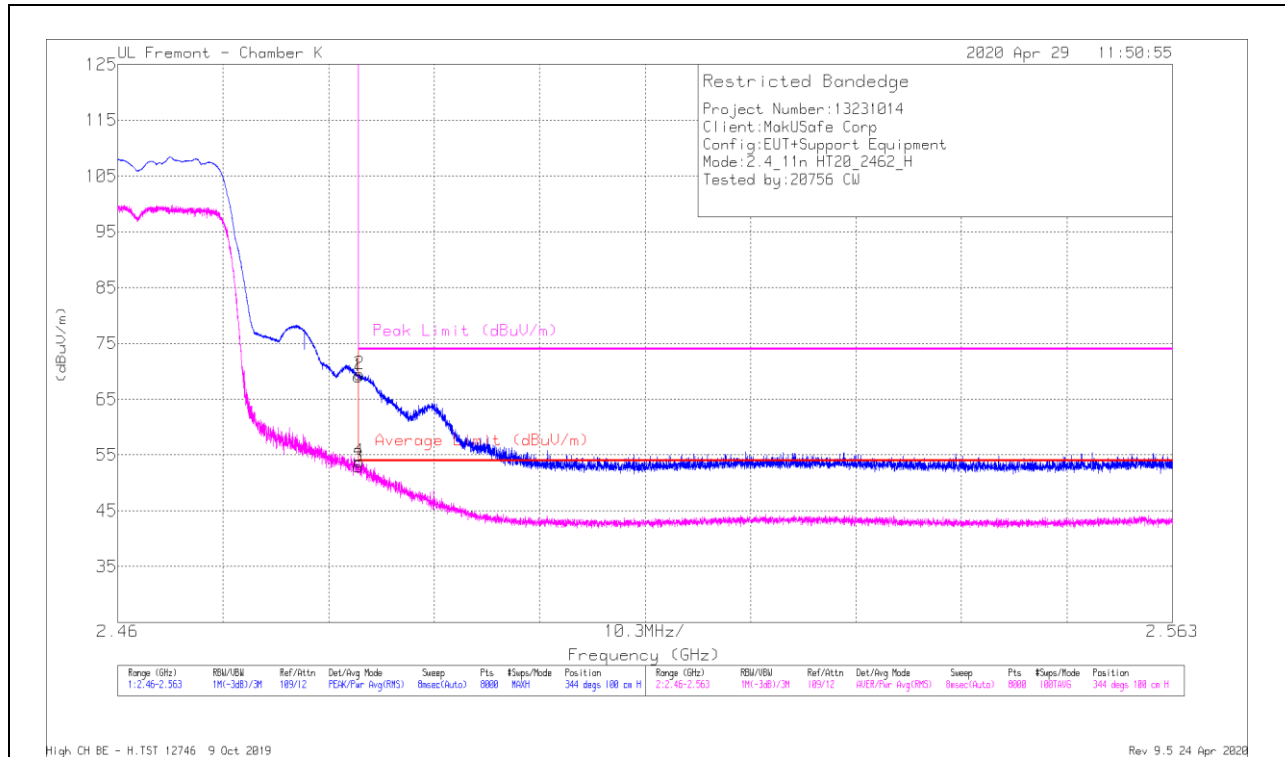


Marker	Frequency (GHz)	Meas Reading (dBuV)	Det	AF EMC4294 (dBm)	Amp/Cou/Filt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	44.06	PK	31.9	-13.4	0	62.56	-	-	74	-11.44	76	369	V
2	* 2.38964	44.46	PK	31.9	-13.4	0	62.96	-	-	74	-11.04	76	369	V
3	* 2.39	28.5	RMS	31.9	-13.4	0.64	47.64	54	-6.36	-	-	76	369	V
4	* 2.38959	29.65	RMS	31.9	-13.4	0.64	48.79	54	-5.21	-	-	76	369	V

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

BANDEGE (HIGH CHANNEL, CH 11)

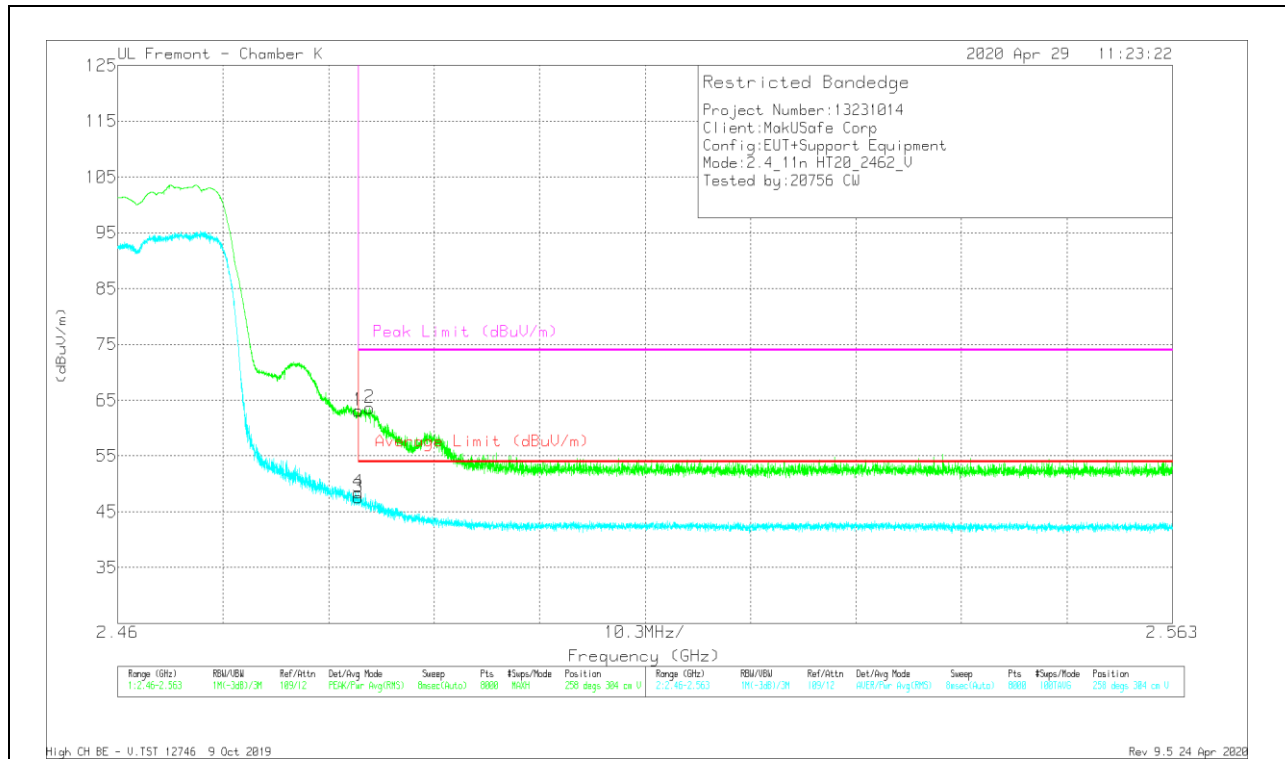
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meas Reading (dBuV)	Det	AF EMC424 (dBm)	Amp/CM/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	* 2.4835	49.84	PK	32.5	-13.2	0	69.14	-	-	74	-4.86	344	100	H
2	* 2.4836	50.13	PK	32.5	-13.2	0	69.43	-	-	74	-4.57	344	100	H
3	* 2.4835	33.03	RMS	32.5	-13.2	0.64	52.97	54	-1.03	-	-	344	100	H
4	* 2.48356	33.92	RMS	32.5	-13.2	0.64	53.86	54	-0.14	-	-	344	100	H

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

VERTICAL RESULT

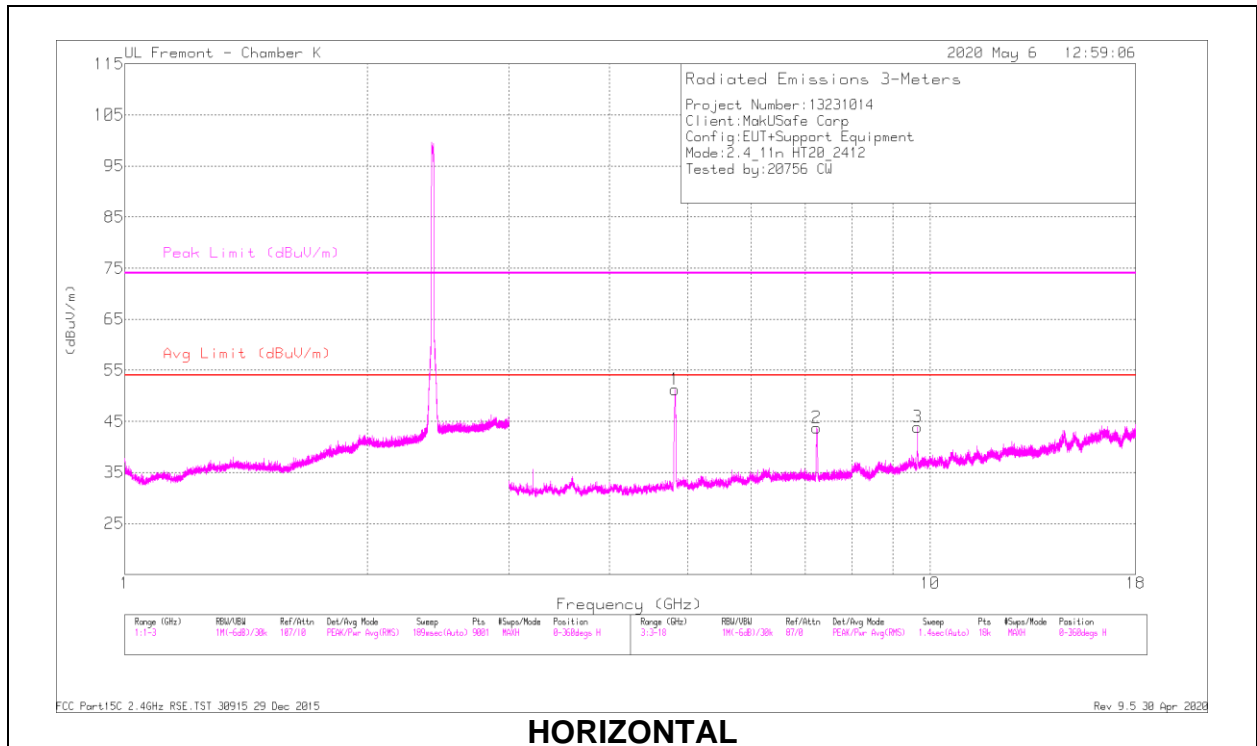


Marker	Frequency (GHz)	Meas Reading (dBuV)	Det	AF EMC4294 (dBm)	Amp/Cou/Filt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	* 2.4835	43.9	PK	32.5	-13.2	0	63.1	-	-	74	-10.0	258	304	V
2	* 2.4846	44.28	PK	32.5	-13.2	0	63.59	-	-	74	-10.41	258	304	V
3	* 2.4835	27.73	RMS	32.5	-13.2	0.64	47.67	54	-6.33	-	-	258	304	V
4	* 2.48351	28.62	RMS	32.5	-13.2	0.64	48.46	54	-5.54	-	-	258	304	V

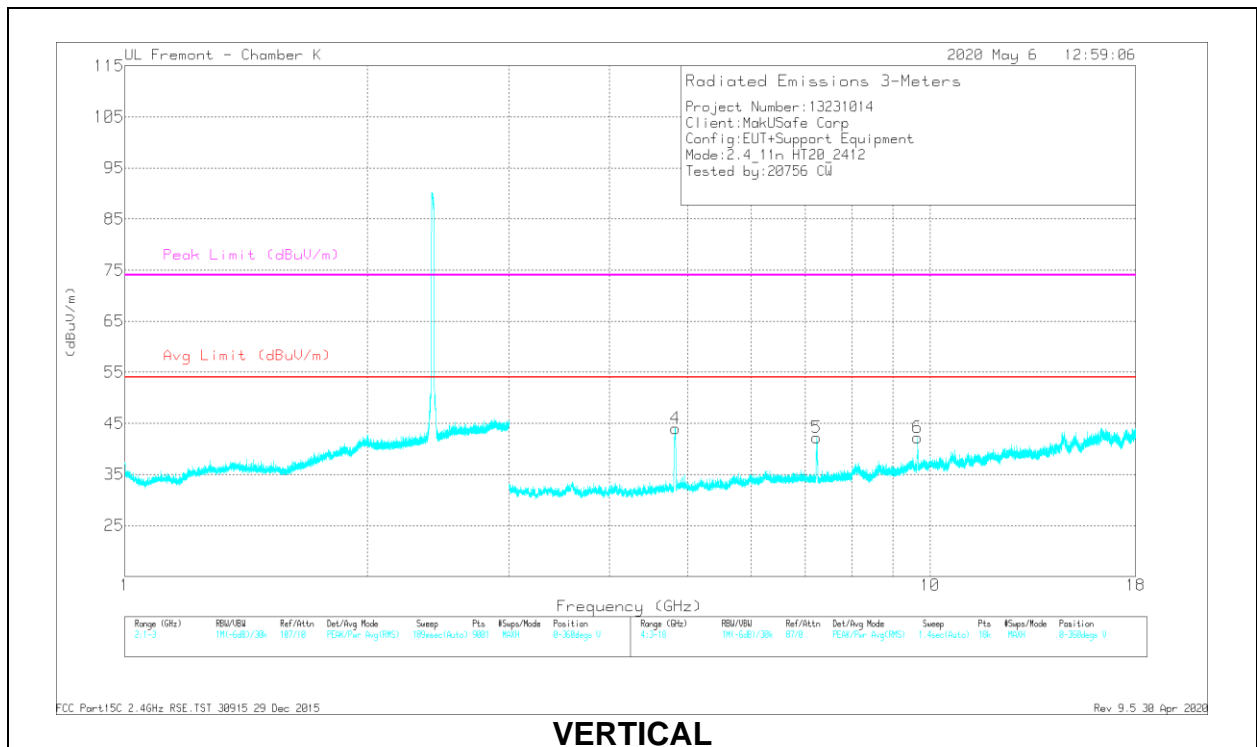
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 1 RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

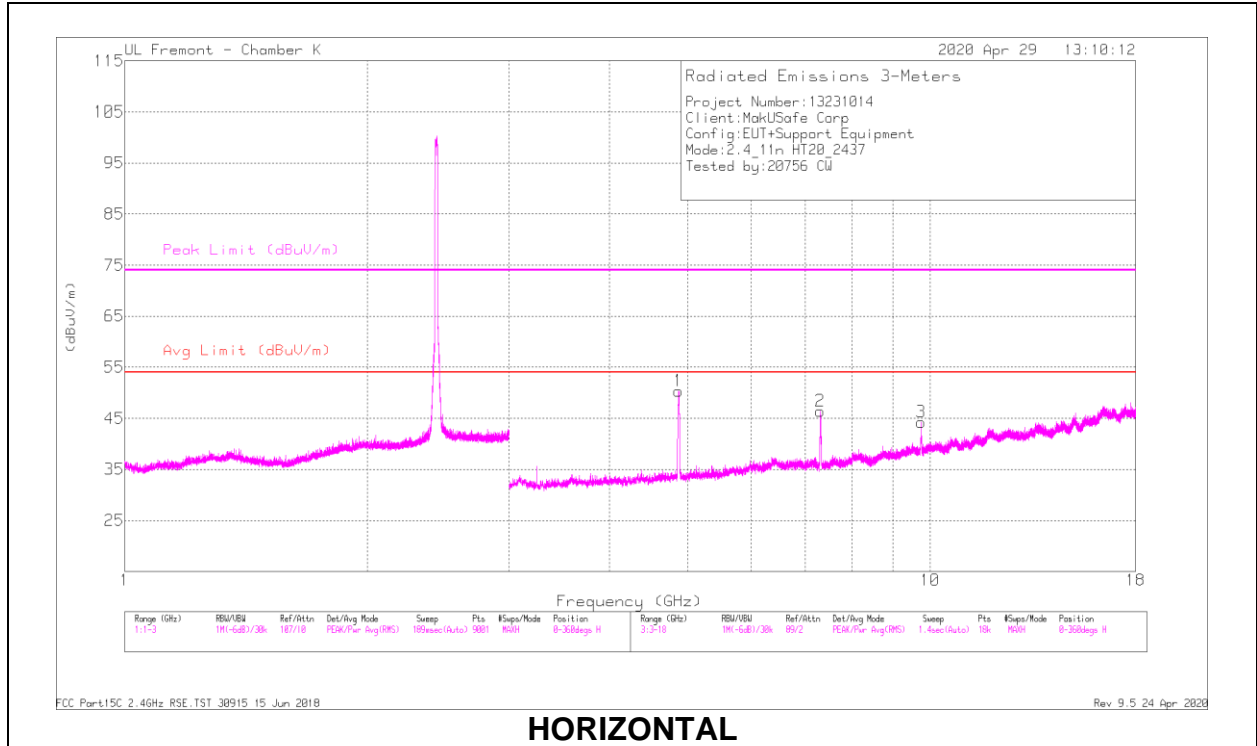
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4294 (dB/m)	Amp/Cbl/Ftr/P ad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.82243	64.44	PK2	34.2	-40.6	0	58.04	-	-	74	-15.96	170	104	H
	* 4.82489	53.15	MAV1	34.2	-40.6	0.64	47.39	54	-6.61	-	-	170	104	H
2	7.23096	57.53	PK2	35.7	-38.6	0	54.63	-	-	-	-	134	105	H
3	9.64987	48.39	PK2	37.1	-36.8	0	48.69	-	-	-	-	325	99	H
4	* 4.82725	59.29	PK2	34.2	-40.6	0	52.89	-	-	74	-21.11	172	181	V
	* 4.82503	48	MAV1	34.2	-40.6	0.64	42.24	54	-11.76	-	-	172	181	V
5	7.23562	55.02	PK2	35.7	-38.7	0	52.02	-	-	-	-	135	96	V
6	9.64766	50.13	PK2	37.1	-36.8	0	50.43	-	-	-	-	322	98	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

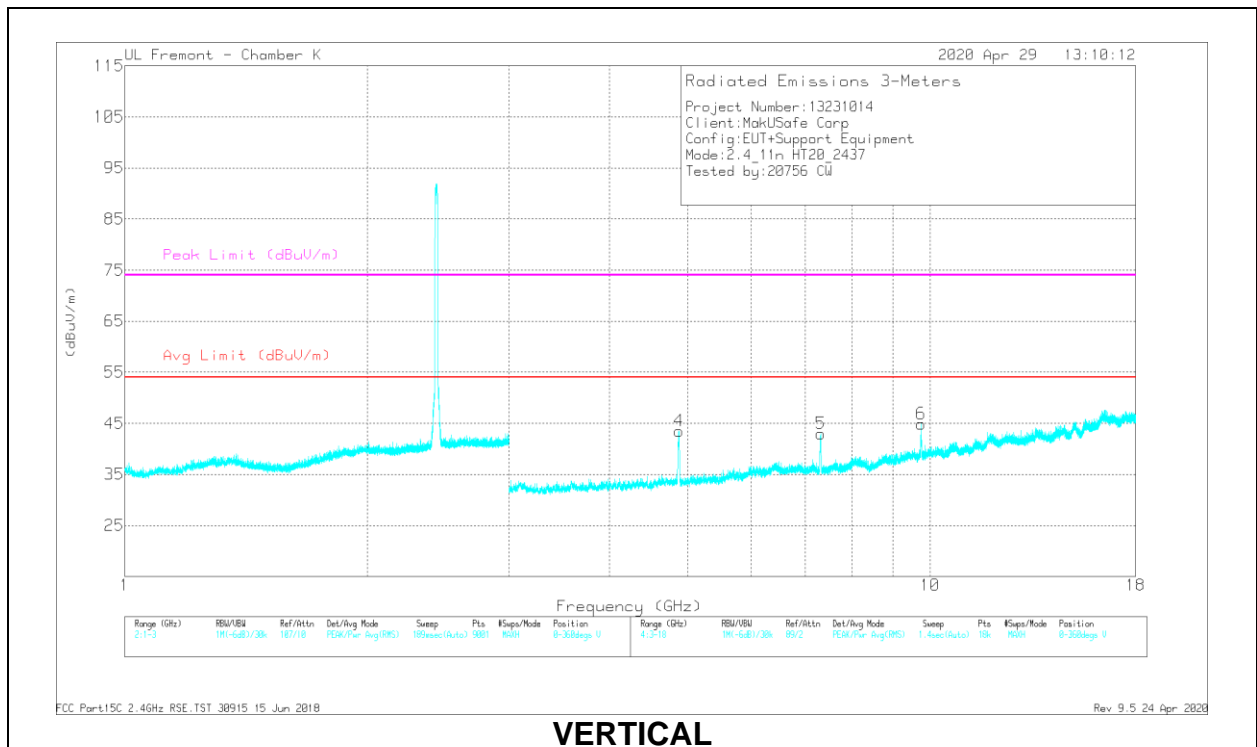
PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL, CH 6 RESULTS



HORIZONTAL



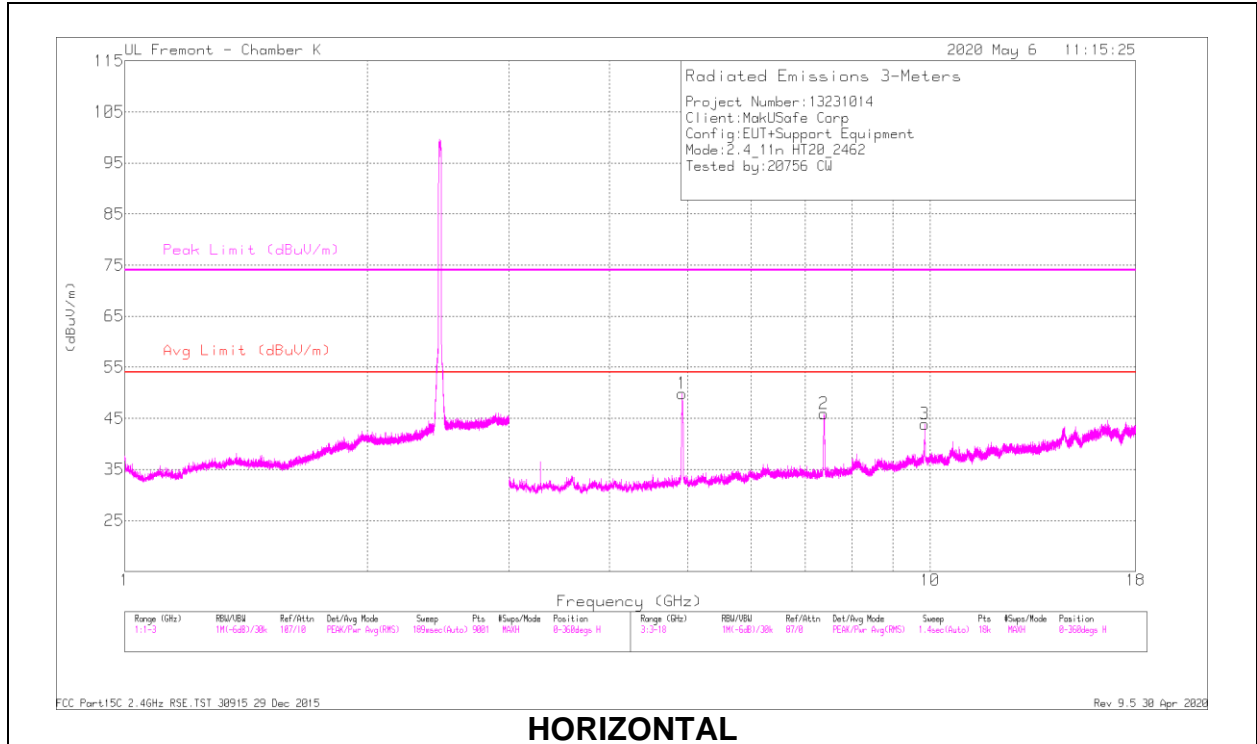
VERTICAL

RADIATED EMISSIONS

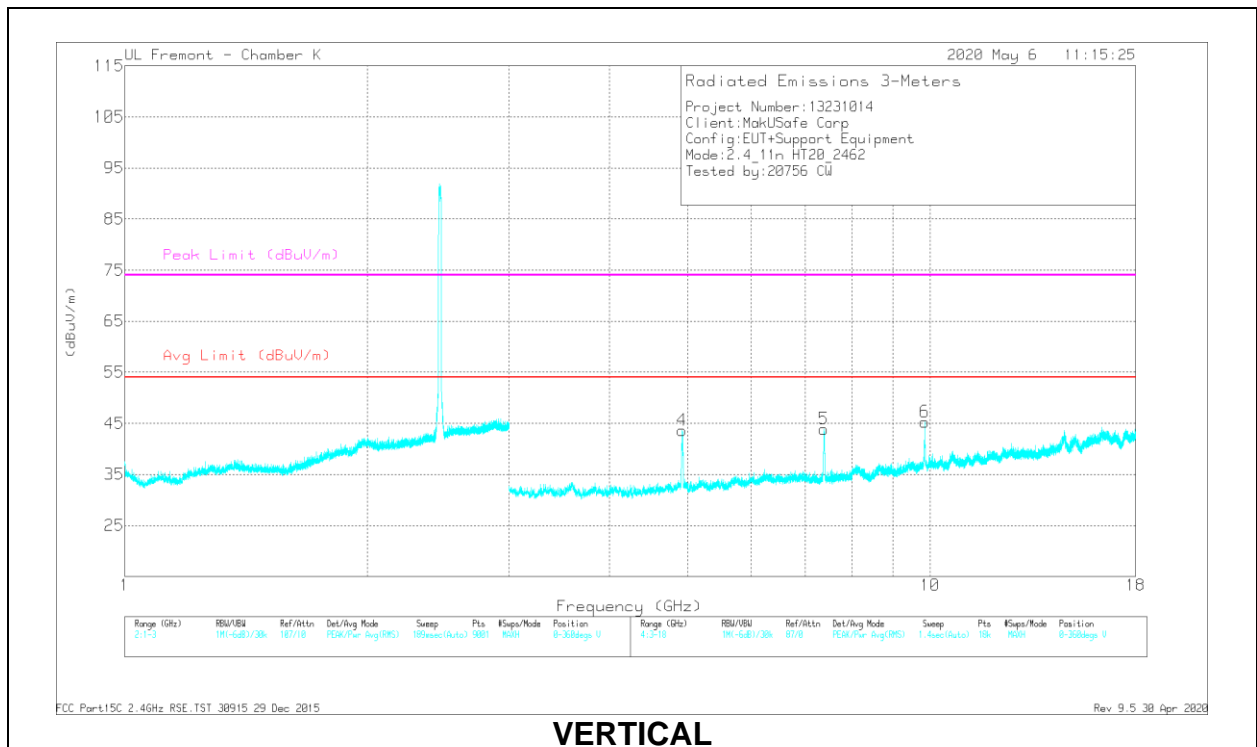
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4294 (dB/m)	Amp/Cbl/Filtr/ Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.87243	53.51	PK2	34.1	-29.4	0	58.21	-	-	74	-15.79	189	302	H
	* 4.87263	42.19	MAv1	34.1	-29.4	0.64	47.53	54	-6.47	-	-	189	302	H
2	* 7.31015	46.09	PK2	35.6	-25.2	0	56.49	-	-	74	-17.51	144	114	H
	* 7.30957	32.87	MAv1	35.6	-25.2	0.64	43.91	54	-10.09	-	-	144	114	H
3	9.74767	37.19	PK2	37.1	-22.6	0	51.69	-	-	-	-	100	273	H
4	* 4.8783	48.72	PK2	34.1	-29.5	0	53.32	-	-	74	-20.68	175	154	V
	* 4.87579	36.57	MAv1	34.2	-29.5	0.64	41.91	54	-12.09	-	-	175	154	V
5	* 7.31521	43.53	PK2	35.6	-25.3	0	53.83	-	-	74	-20.17	139	98	V
	* 7.31492	30.43	MAv1	35.6	-25.3	0.64	41.37	54	-12.63	-	-	139	98	V
6	9.74842	37.38	PK2	37.1	-22.6	0	51.88	-	-	-	-	291	114	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

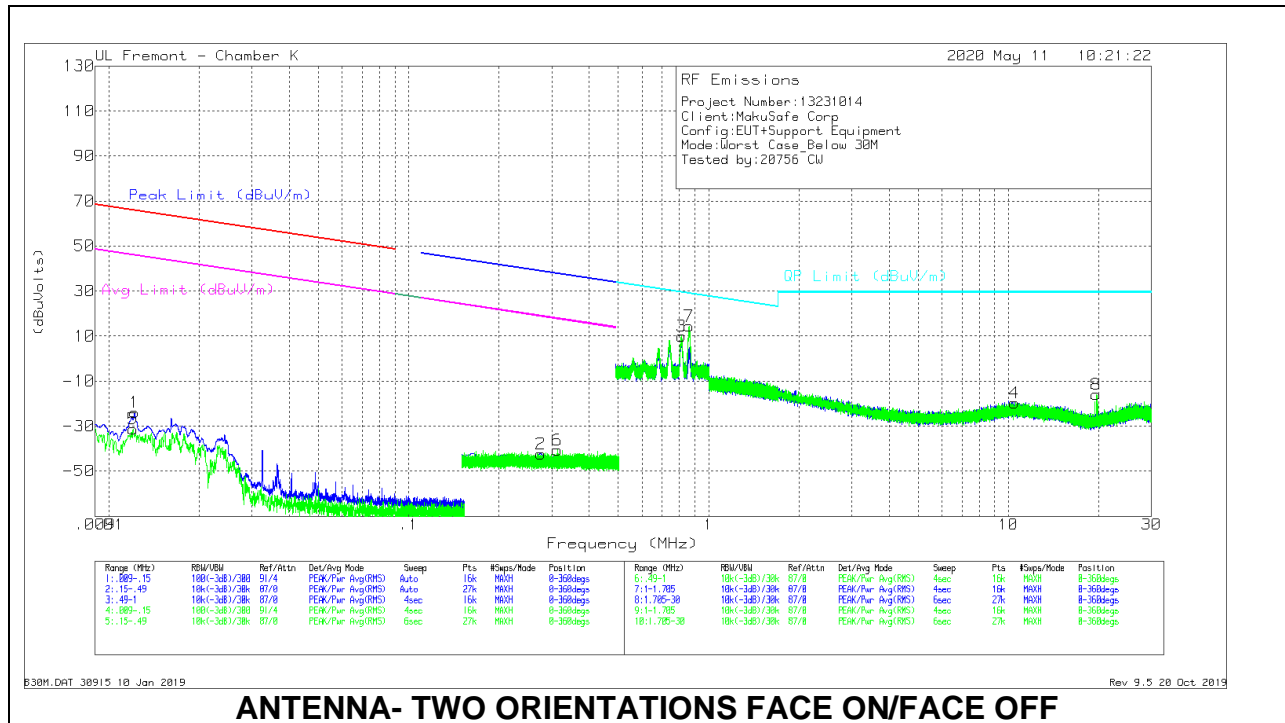
RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF EMC4294 (dB/m)	Amp/Cbl/Filtr/ Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.92711	63.5	PK2	34.1	-40.7	0	56.9	-	-	74	-17.1	176	155	H
	* 4.92527	51.89	MAV1	34.1	-40.7	0.64	45.93	54	-8.07	-	-	176	155	H
2	* 7.38446	58.98	PK2	35.6	-38	0	56.58	-	-	74	-17.42	126	110	H
	* 7.38634	46.62	MAV1	35.6	-38	0.64	44.86	54	-9.14	-	-	126	110	H
3	9.84787	51.54	PK2	37	-36.5	0	52.04	-	-	-	-	149	393	H
	* 4.92228	58.92	PK2	34.1	-40.7	0	52.32	-	-	74	-21.68	164	218	V
4	* 4.92255	47.37	MAV1	34.1	-40.7	0.64	41.41	54	-12.59	-	-	164	218	V
	* 7.3852	56.65	PK2	35.6	-38	0	54.25	-	-	74	-19.75	318	112	V
5	* 7.38408	42.54	MAV1	35.6	-38	0.64	40.78	54	-13.22	-	-	318	112	V
	9.84836	50.53	PK2	37	-36.5	0	51.03	-	-	-	-	346	113	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK2 - KDB558074 Method: Maximum Peak
 MAV1 - KDB558074 Option 1 Maximum RMS Average

9.2. WORST CASE BELOW 30MHZ

SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION)



ANTENNA- TWO ORIENTATIONS FACE ON/FACE OFF

Below 30MHz Data

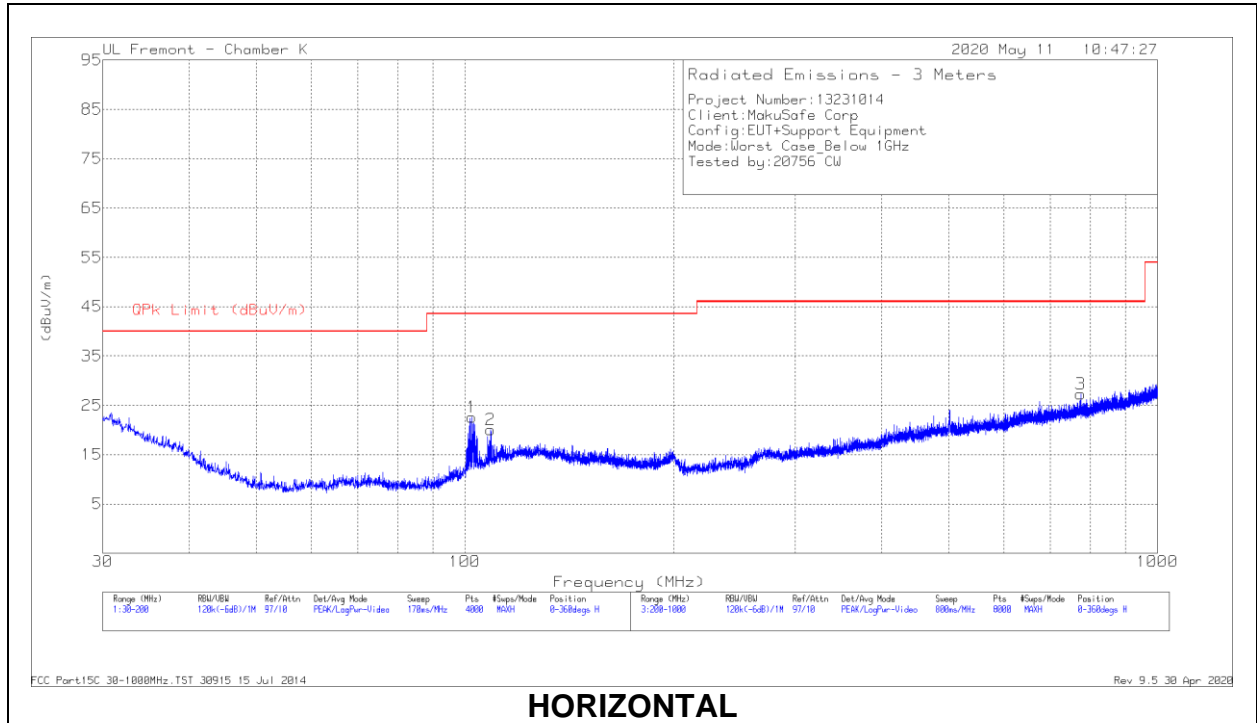
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (ACF)	Cables w/ PRE0186650	Dist Corr 300m	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	.01216	27.96	Pk	59.9	-31.8	-80	-23.94	65.89	-89.83	45.89	-69.83	-	-	-	-	0-360
2	.27529	13.75	Pk	56.1	-32.1	-80	-42.25	-	-	-	-	38.82	-81.07	18.82	-61.07	0-360
5	.01205	20.59	Pk	59.9	-31.8	-80	-31.31	65.96	-97.27	45.96	-77.27	-	-	-	-	0-360
6	.31316	15.38	Pk	56.1	-32.1	-80	-40.62	-	-	-	-	37.7	-78.32	17.7	-58.32	0-360

Pk - Peak detector

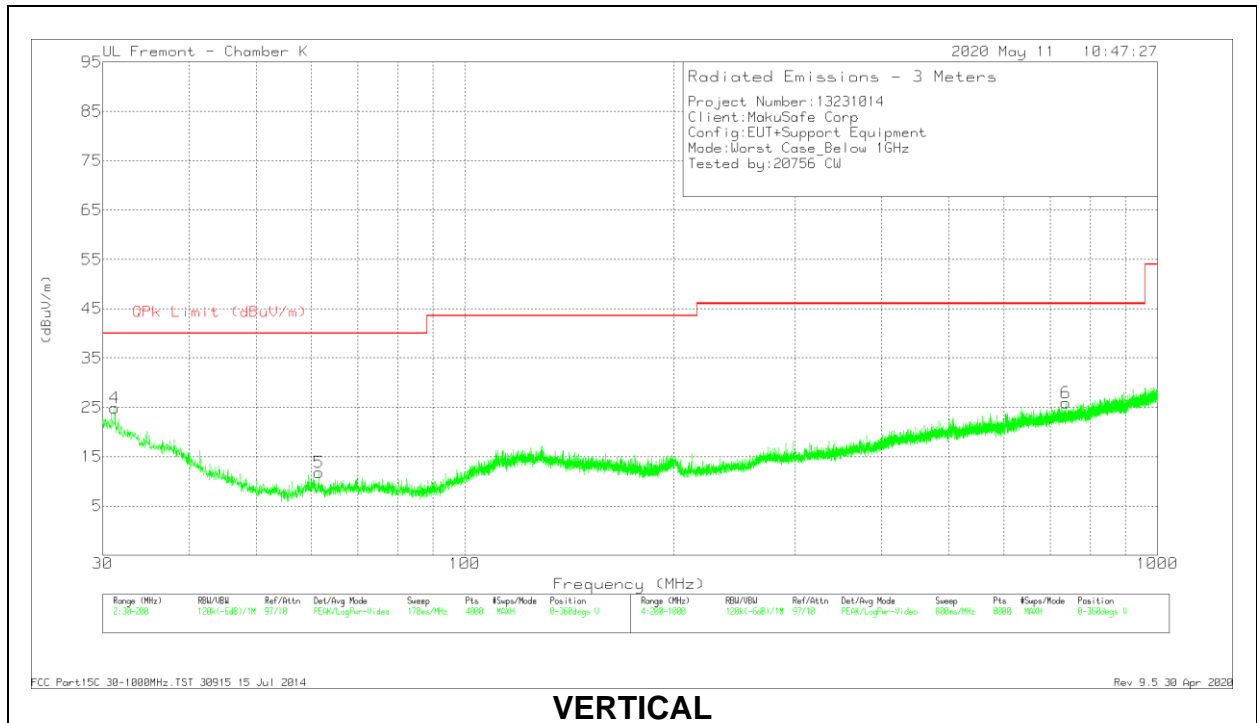
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (ACF)	Cables w/ PRE0186650	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuVolts)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
3	.81208	26.11	Pk	56.1	-32.1	-40	10.11	29.42	-19.31	0-360
7	.86075	30.36	Pk	56.1	-32.1	-40	14.36	28.92	-14.56	0-360
4	10.46209	17.78	Pk	34.4	-31.8	-40	-19.62	29.5	-49.12	0-360
8	19.61427	21.66	Pk	34.1	-31.7	-40	-15.94	29.5	-45.44	0-360

Pk - Peak detector

9.3. WORST CASE BELOW 1 GHZ



HORIZONTAL



VERTICAL

Below 1GHz DATA

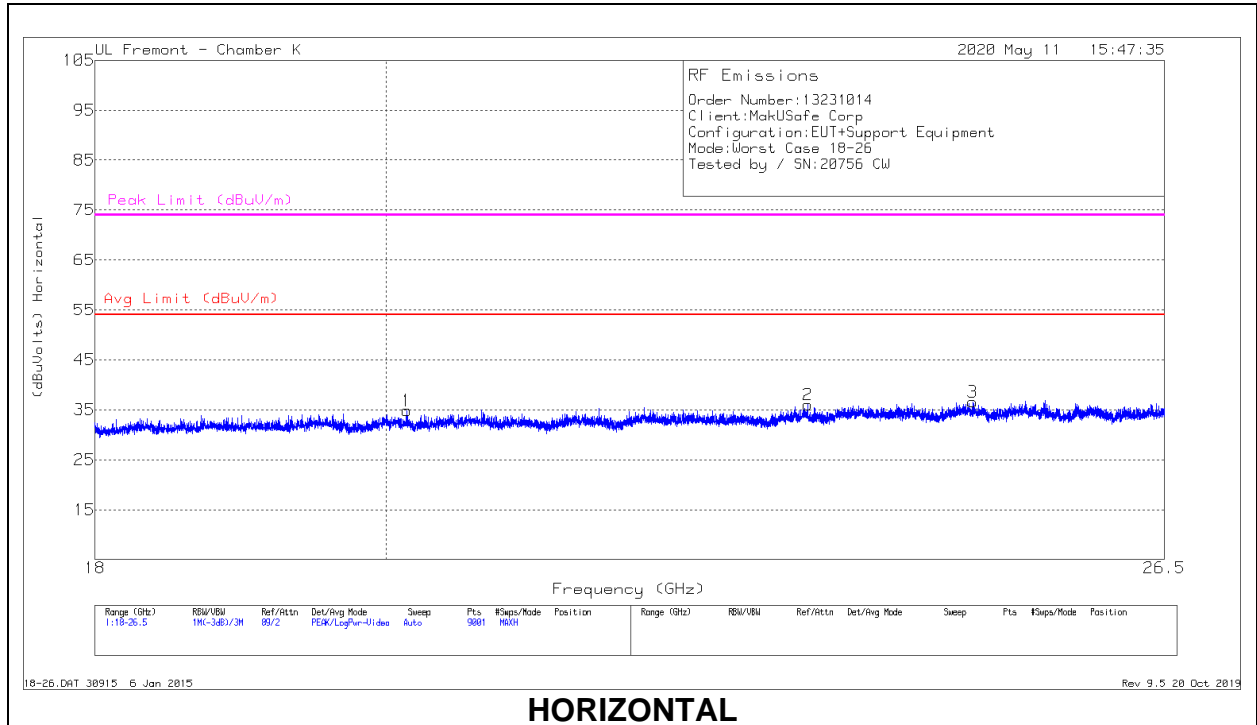
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF PRE0181574 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	102.2687	36.62	Pk	16.9	-30.9	22.62	43.52	-20.9	0-360	300	H
2	* 108.9004	32.72	Pk	18.3	-30.9	20.12	43.52	-23.4	0-360	300	H
4	31.0381	28.67	Pk	26.4	-31.5	23.57	40	-16.43	351	372	V
	31.4107	22.04	Qp	26	-31.5	16.54	40	-23.46	351	372	V
5	61.5007	29.55	Pk	13.5	-31.2	11.85	40	-28.15	0-360	95	V
3	774.6747	28.39	Pk	27	-28.1	27.29	46.02	-18.73	0-360	400	H
6	738.27	27.99	Pk	26.4	-28.5	25.89	46.02	-20.13	0-360	200	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

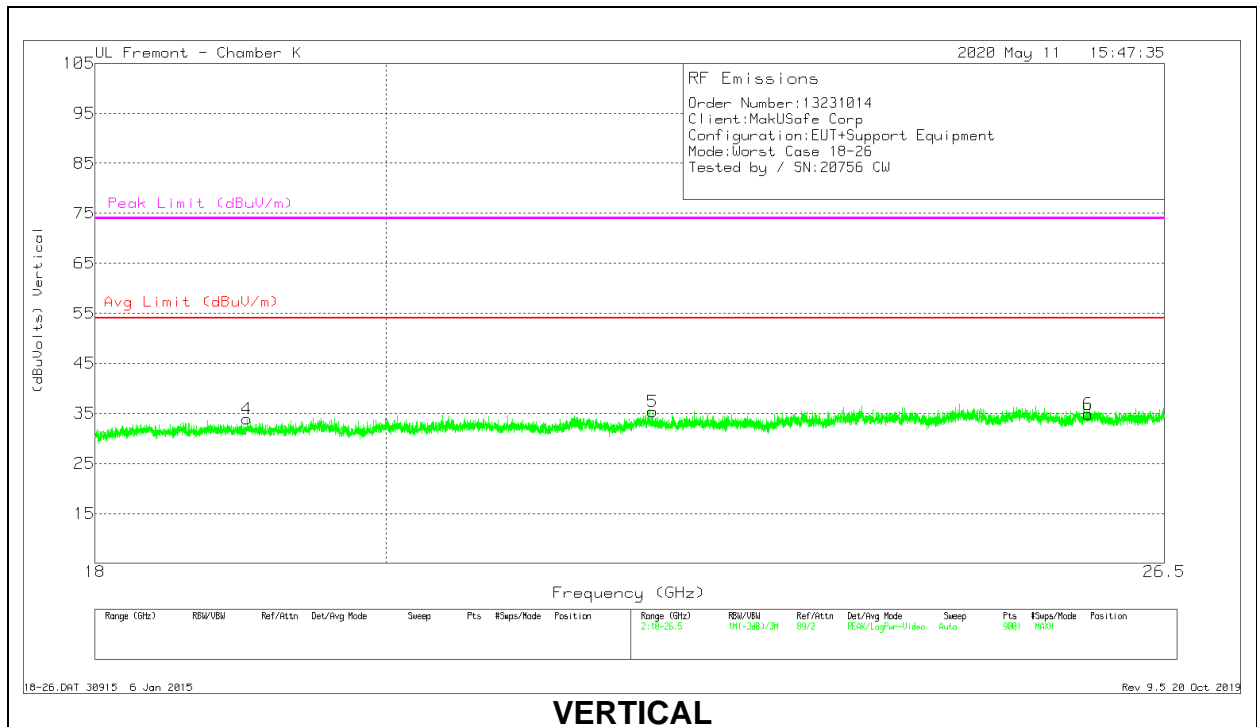
Pk - Peak detector

Qp - Quasi-Peak detector

9.4. 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	20.14861	68.24	Pk	32.9	-56.8	-9.5	34.84	54	-19.16	74	-39.16
2	23.29266	68.83	Pk	33.9	-57.2	-9.5	36.03	54	-17.97	74	-37.97
3	24.72444	67.27	Pk	34.4	-55.6	-9.5	36.57	54	-17.43	74	-37.43
4	19.01717	68.41	Pk	32.5	-57.5	-9.5	33.91	54	-20.09	74	-40.09
5	22.02239	69.19	Pk	33.4	-57.7	-9.5	35.39	54	-18.61	74	-38.61
6	25.77939	65.42	Pk	34.4	-55.5	-9.5	34.82	54	-19.18	74	-39.18

Pk - Peak detector