



TEST REPORT

Report Number : 11360398-E1V2

Applicant : JUNE LIFE INC.
1805 BROADWAY
SAN FRANCISCO, CA 94109, U.S.A.

Model : JCP01

FCC ID : 2AJGA-CP16A

IC ID : 21848-CP16A

EUT Description : INTELLIGENT OVEN Wi-Fi / BLUETOOTH

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C
INDUSTRY CANADA RSS-247 ISSUE 1
INDUSTRY CANADA RSS-GEN Issue 4

Date of Issue:
10/28/2016

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NVLAP LAB CODE 200065-0

Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V1	10/13/16	Initial Issue	D. Corona
V2	10/28/16	Updated Section 5.5	

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: JUNE LIFE INC.
EUT DESCRIPTION: INTELLIGENT OVEN Wi-Fi / BLUETOOTH
MODEL: JCP01
SERIAL NUMBER: KQ263C0006
DATE TESTED: AUGUST 4 – SEPTEMBER 1, 2016

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Pass
INDUSTRY CANADA RSS-247 Issue 1	Pass
INDUSTRY CANADA RSS-GEN Issue 4	Pass

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2013, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 4, and RSS-247 Issue 1.

3. FACILITIES AND ACCREDITATION

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

47173 Benicia Street	47266 Benicia Street
<input type="checkbox"/> Chamber A(IC: 2324B-1)	<input type="checkbox"/> Chamber D(IC: 2324B-4)
<input checked="" type="checkbox"/> Chamber B(IC: 2324B-2)	<input type="checkbox"/> Chamber E(IC: 2324B-5)
<input type="checkbox"/> Chamber C(IC: 2324B-3)	<input type="checkbox"/> Chamber F(IC: 2324B-6)
	<input type="checkbox"/> Chamber G(IC: 2324B-7)
	<input type="checkbox"/> Chamber H(IC: 2324B-8)

The above test sites and facilities are covered under FCC Test Firm Registration # 208313. Chambers A through H are covered under Industry Canada company address code 2324B with site numbers 2324B -1 through 2324B-8, respectively.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://ts.nist.gov/standards/scopes/2000650.htm>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.84 dB
Radiated Disturbance, 9KHz to 30 MHz	2.14 dB
Radiated Disturbance, 30 to 1000 MHz	4.98 dB
Radiated Disturbance, 1000 to 6000 MHz	3.86 dB
Radiated Disturbance, 6000 to 18000 MHz	4.23 dB
Radiated Disturbance, 18000 to 26000 MHz	5.30 dB
Radiated Disturbance, 26000 to 40000 MHz	5.23 dB

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

4.4. MEASUREMENT METHOD

On Time and Duty Cycle: KDB 558074 D01 v03r05, Section 6.

6 dB BW: KDB 558074 D01 v03r05, Section 8.1.

Output Power: KDB 558074 D01 v03r05, Section 9.2.3.2.

Power Spectral Density: KDB 558074 D01 v03r05, Section 10.5.

Out-of-band emissions in non-restricted bands: KDB 558074 D01 v03r05, Section 11.0.

Out-of-band emissions in restricted bands: KDB 558074 D01 v03r05, Section 12.1.

Band-edge: KDB 558074 D01 v03r05, Section 12.1.

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is an Intelligent OVEN Wi-Fi / Bluetooth.

5.2. MAXIMUM OUTPUT POWER

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

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2402 - 2480	BLE	7.12	5.15

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PIFA antenna, with a maximum gain as below:

Frequency (MHz)	Max. Peak Gain (dBi) (Main)	Max. Peak Gain (dBi) (Aux)
2400-2483.5	2.98	2.98

5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was Broadcom, rev. 6.37 RC32.0.

The EUT driver software installed during testing was Broadcom, rev. 6.37.32.0.

The test utility software used during testing was Broadcom, rev. AFTW_BRCMBT.

5.5. WORST-CASE CONFIGURATION AND MODE

Above 1GHz Low/Middle/High channels were tested for radiated emissions with the EUT set to transmit at the channels with highest output power as worst-case scenario.

The EUT can only be setup in desktop orientation; therefore, all radiated testing was performed with the EUT in desktop orientation.

Radiated emission 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.

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Lenovo	T450	PC-04AVGP	PD97265NGU
AC Adapter	Lenovo	ADLX65NLC2A	PA-1650-71	N/A

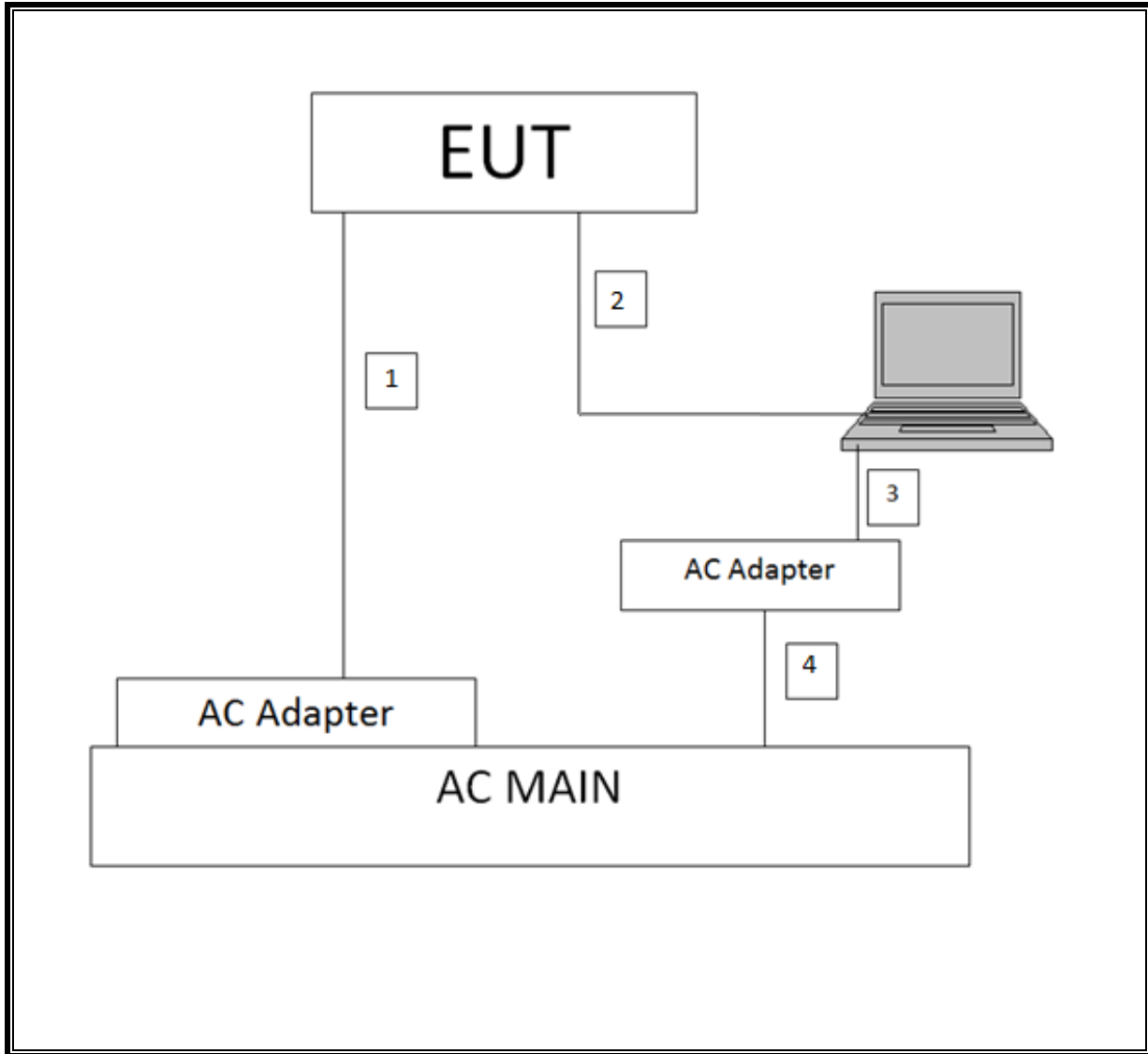
I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	DC	unshielded	1	N/A
2	USB port	1	Micro-USB	unshielded	3	Ferrite at Micro-USB side
3	DC	1	20V DC	Unshielded	1.5	
4	AC	1	US115V	Unshielded	1	

TEST SETUP

The EUT is a stand-alone unit, and the radio is exercised by software, Broadcom rev 6.10.197.111.1 (r446629 WLTEST) via USB cable.

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment List					
Description	Manufacturer	Model	T No.	Cal Date	Cal Due
Amplifier, 1 - 18GHz	Miteq	AFS42	493	03/09/16	03/09/17
Amplifier, 10KHz to 1GHz, 32dB	HP	8447D	10	02/01/16	02/01/17
Amplifier, 1GHz to 26.5GHz, 23.5dB	Agilent	8449B	404	07/05/16	07/05/17
Antenna, Broadband Hybrid 30MHz to 2000MHz	Sunol Science	JB1	130	09/01/15	09/01/16
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	345	03/07/16	03/07/17
Antenna, Horn 18-26.5GHz	Seavey Division	MWH-1826/B	449	05/26/16	05/26/17
EMI Test Receiver 9KHz-7GHz	R&S	ESCI7	1436	09/10/15	09/10/16
LISN for Conducted Emissions	Fischer	50/250-25-2	1310	09/16/15	09/16/16
Loop Antenna, 10KHz-30MHz	EMCO	6502	35	03/24/16	03/24/17
Power Cable, Line Conducted Emissions	UL	PG1	N/A	07/28/16	07/28/17
Power Meter, P-series single channel	Keysight	N1911A	1262	07/08/16	07/08/17
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Agilent	N1921A	750	09/17/25	09/17/16
PSA Spectrum Analyzer 40GHz	Agilent	E4446A	146	07/13/16	07/13/17
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent	N9030A	907	01/06/16	01/06/17

Test Software List			
Description	Manufacturer	Model	Version
Radiated Software	UL	UL EMC	Ver 9.5, Apr 26, 2016
Conducted Software	UL	UL EMC	Ver 9.5, May 26, 2015
Antenna Port Software	UL	UL RF	Ver 5.1.1, July 15, 2016

7. SUMMARY TABLE

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result
15.247 (a)(2)	RSS-247 5.2.1	Occupied Bandwidth (6dB)	>500KHz	Conducted	Pass
2.1051, 15.247 (d)	RSS-247 5.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass
15.247	RSS-247 5.4.4	TX conducted output power	<30dBm		Pass
15.247	RSS-247 5.2.2	PSD	<8dBm		Pass
15.207 (a)	RSS-GEN 8.8	AC Power Line conducted emissions	Section 10	Radiated	Pass
15.205, 15.209, 15.247(d)	RSS-GEN 8.9/7	Radiated Spurious Emission	< 54dBuV/m		Pass

8. ANTENNA PORT TEST RESULTS

8.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

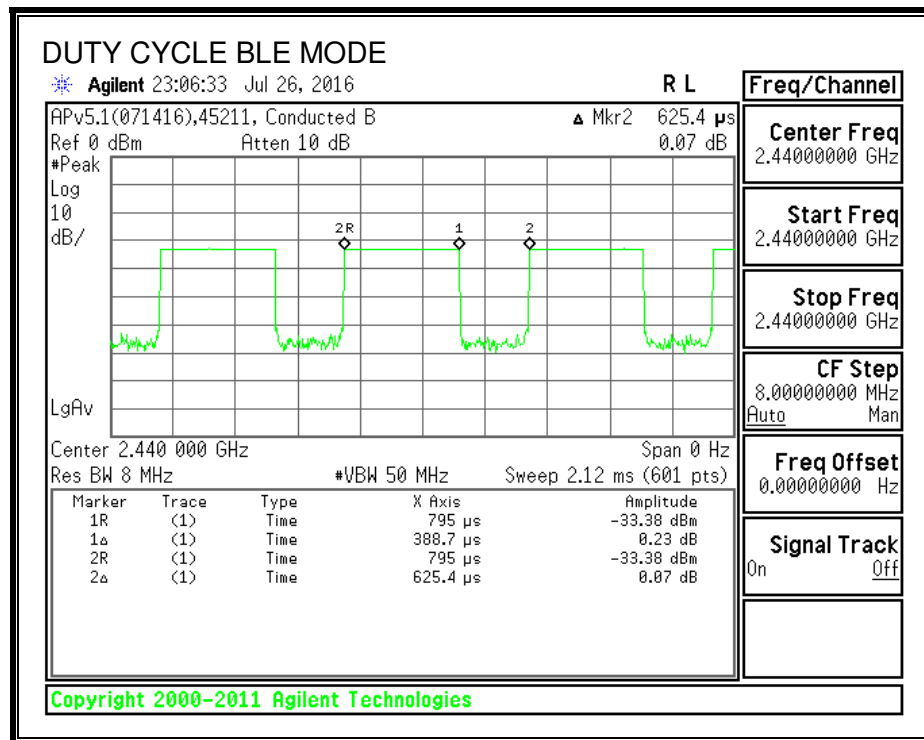
PROCEDURE

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)
BLE	0.389	0.625	0.622	62.15%	2.07	2.573

DUTY CYCLE PLOTS



8.2. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

IC RSS-247 5.2 (1)

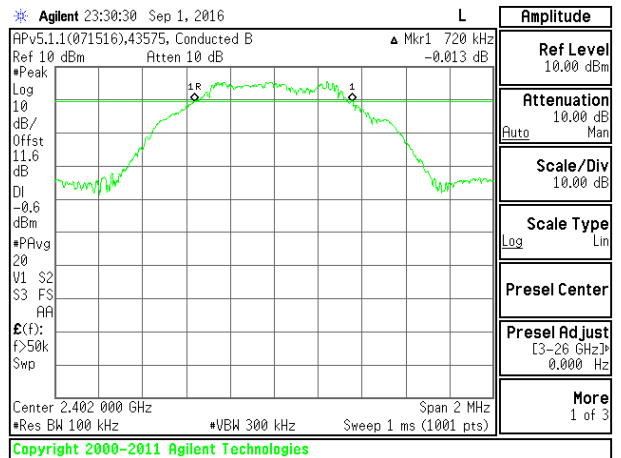
The minimum 6 dB bandwidth shall be at least 500 kHz.

TEST PROCEDURE

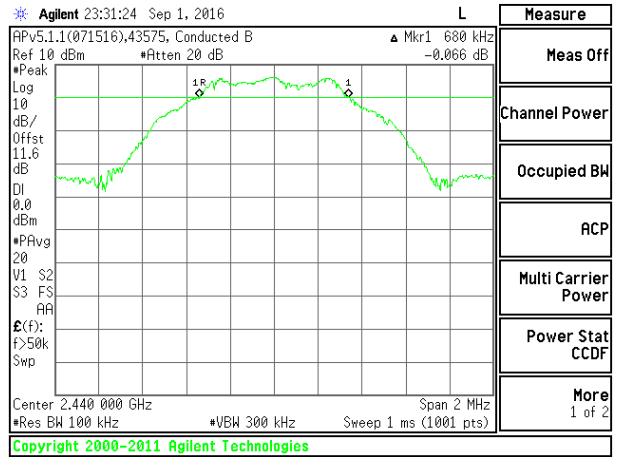
The transmitter output is connected to a spectrum analyzer. The RBW is set to 100 kHz and the VBW is set to 300 kHz. The sweep time is coupled.

RESULTS

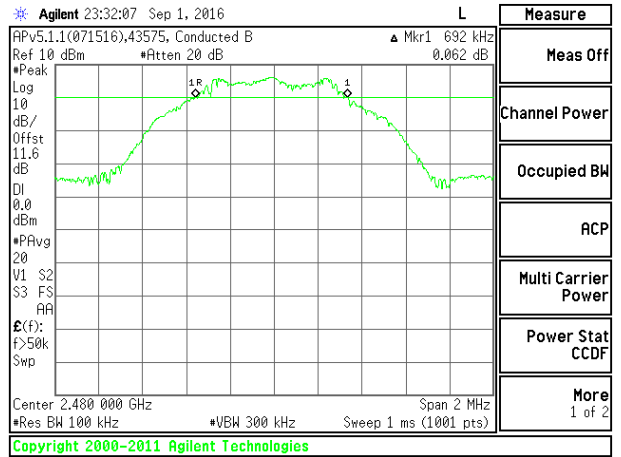
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.720	0.5
Middle	2440	0.680	0.5
High	2480	0.692	0.5



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

8.3. 99% BANDWIDTH

LIMITS

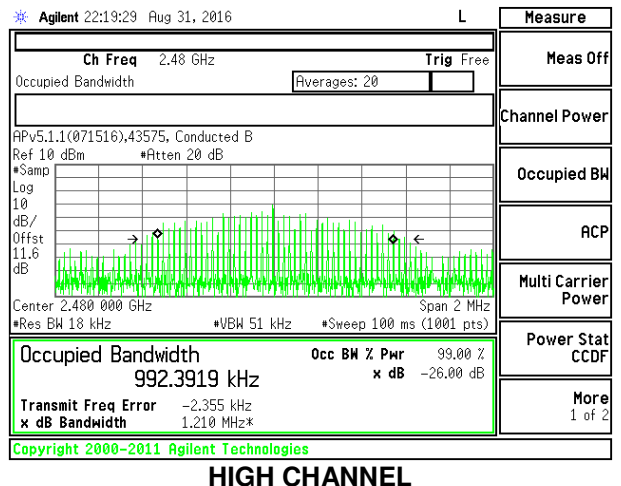
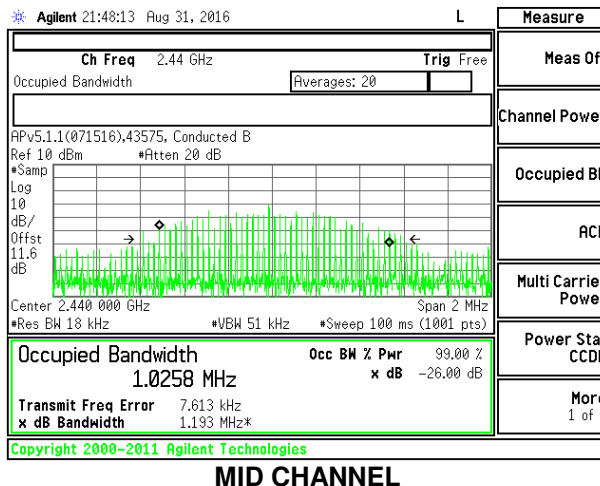
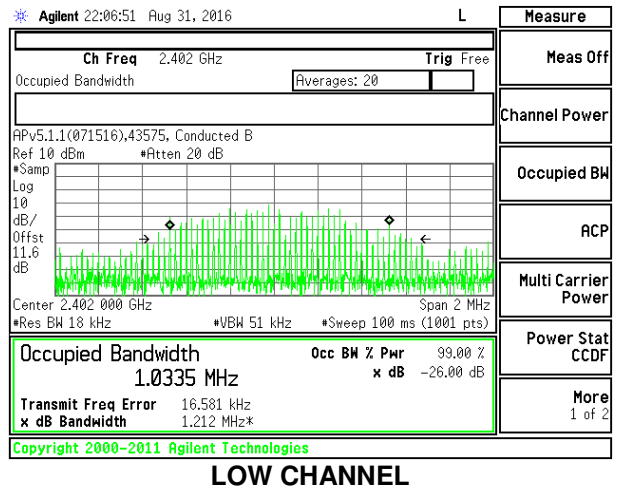
None; for reporting purposes only.

TEST PROCEDURE

Reference to ANSI C63.10-2013, section 6.9.2 and RSS Gen Issue 4, section 6.6: The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth and to 1% of the span. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	1.034
Middle	2440	1.026
High	2480	0.999



8.4. OUTPUT POWER

LIMITS

FCC §15.247 (b)

IC RSS-247 5.4 (4)

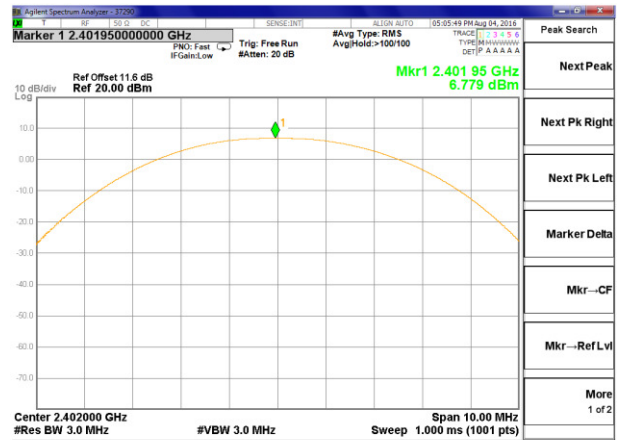
The maximum antenna gain is less than or equal to 6 dBi, therefore the limit is 30 dBm.

TEST PROCEDURE

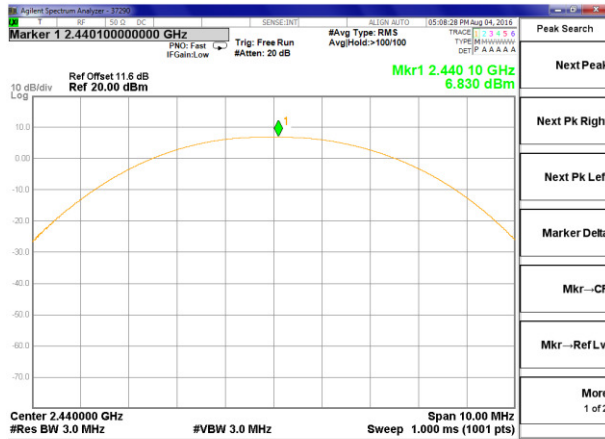
Peak power is measured using KDB558074 D01 DTS Meas Guidance v03r05 spectrum analyzer.

RESULTS

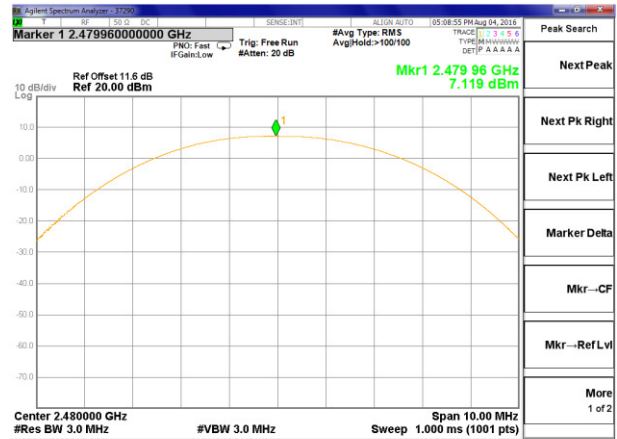
Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	6.779	30	-23.221
Middle	2440	6.830	30	-23.170
High	2480	7.119	30	-22.881



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

ID:	39270	Date:	8/4/16
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8.5. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e)

IC RSS-247 5.2 (2)

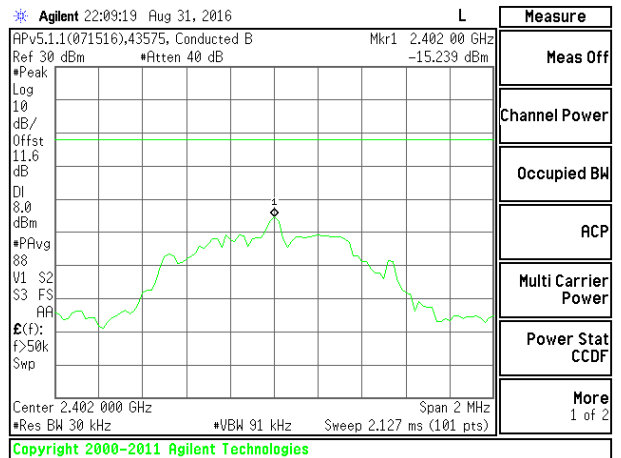
The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

TEST PROCEDURE

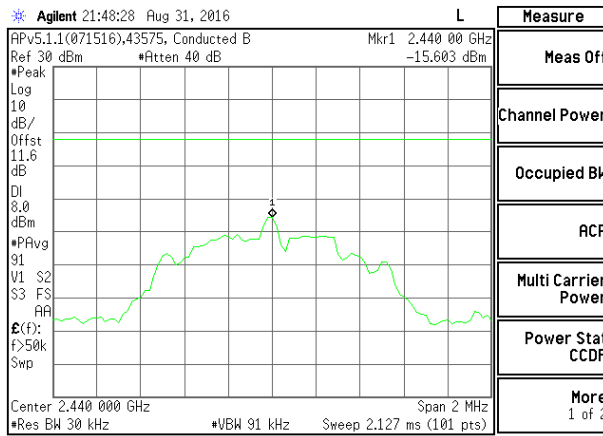
Power Spectral Density was performed utilizing the “Method PKPSD (Peak PSD)” under KDB558074 D01 DTS Meas Guidance v03r05.

RESULTS

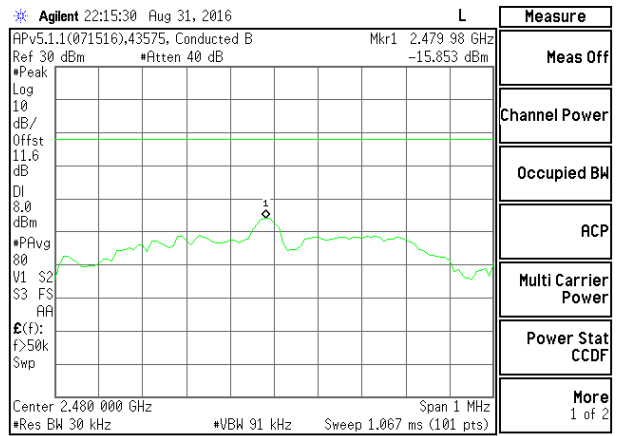
Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2402	-15.239	8	-23.24
Middle	2440	-15.603	8	-23.60
High	2480	-15.853	8	-23.85



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

8.6. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

IC RSS-247 5.5

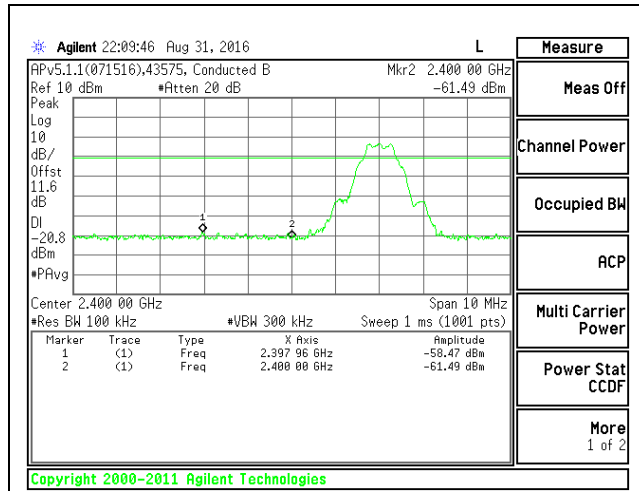
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

TEST PROCEDURE

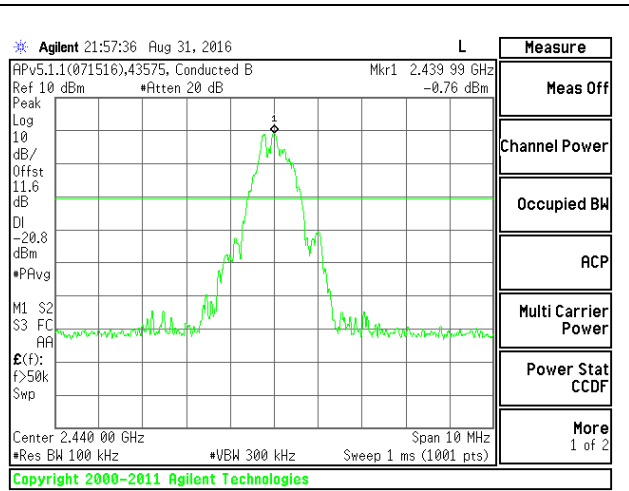
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

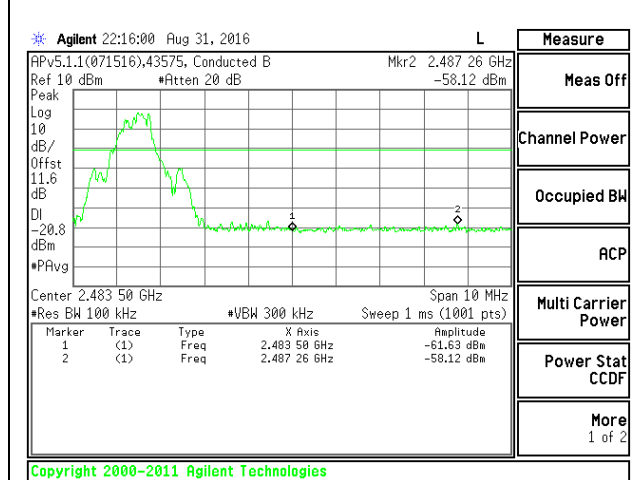
RESULTS



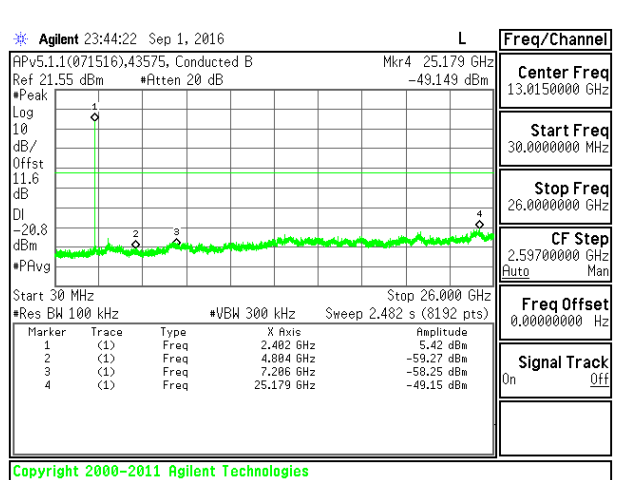
LOW CHANNEL BANDEDGE



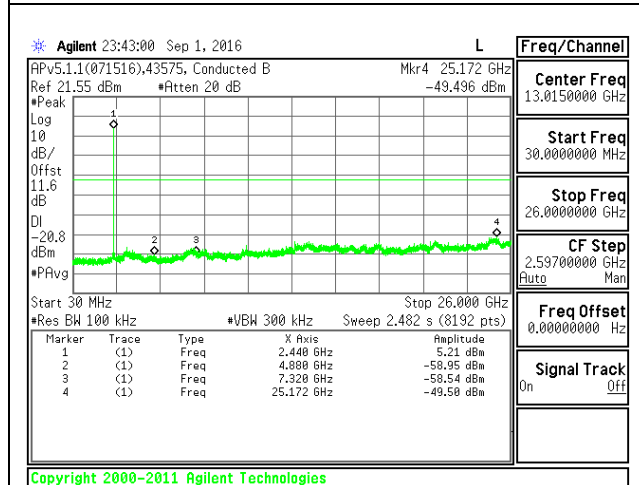
IN-BAND REFERENCE LEVEL



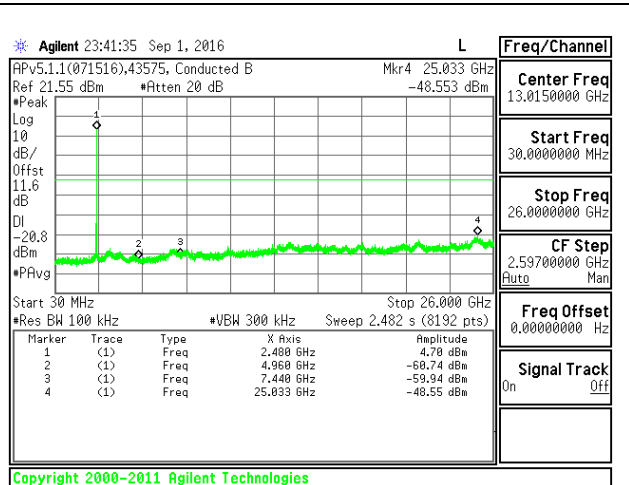
HIGH CHANNEL BANDEDGE



OUT OF BAND LOW CHANNEL



OUT OF BAND MID CHANNEL



OUT OF BAND HIGH CHANNEL

9. RADIATED TEST RESULTS

9.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-GEN Clause 8.9 (Transmitter)

IC RSS-GEN Clause 7.1.2 (Receiver)

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) @ 300m	2400/F(kHz) @ 300m
0.490-1.705	24000/F(kHz) @ 30m	24000/F(kHz) @ 30m
1.705-30.0	30 @ 30m	30 @ 30m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

NOTE: KDB 937606 OATS and Chamber Correlation Justification

- Based 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.
- OATs and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for below 1GHz and 150cm for 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 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.

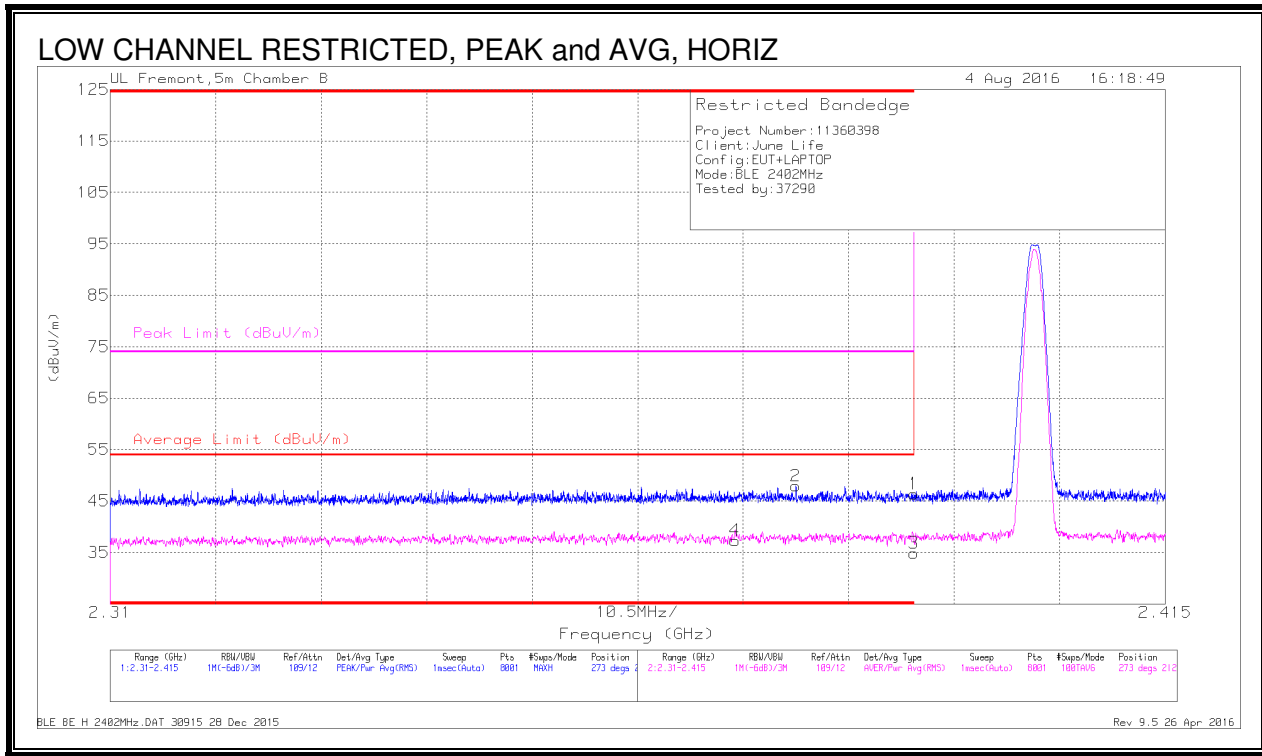
Note: The pre-scan measurements above 1GHz the VBW is set to 30 kHz.

The spectrum from 9 kHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

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

9.2. TRANSMITTER ABOVE 1 GHz

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



Trace Markers

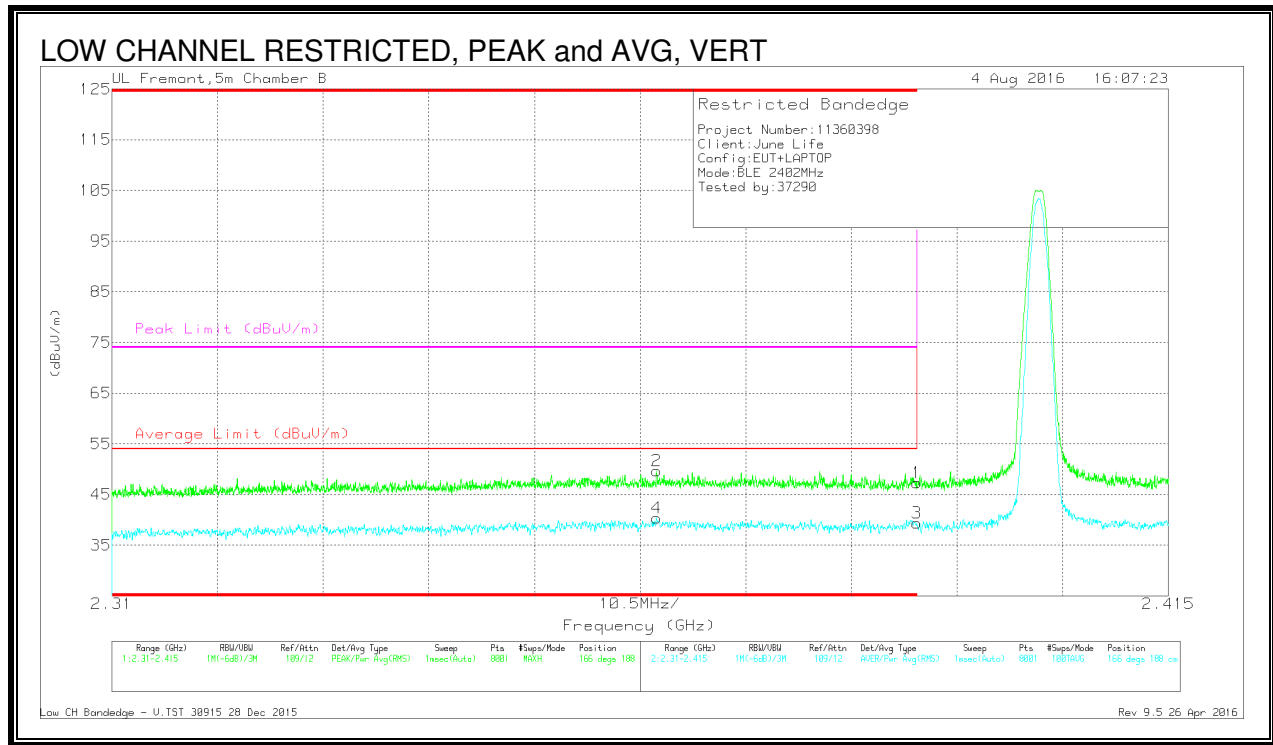
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Ch/Flt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	36.58	Pk	32.1	-22.3	0	46.38	-	-	74	-27.62	273	212	H
2	* 2.378	38.24	Pk	32	-22.3	0	47.94	-	-	74	-26.06	273	212	H
3	* 2.39	25.09	RMS	32.1	-22.3	2.07	36.96	54	-17.04	-	-	273	212	H
4	* 2.372	27.74	RMS	32	-22.4	2.07	39.41	54	-14.59	-	-	273	212	H

* - indicates frequency in CFR15.205/IC8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

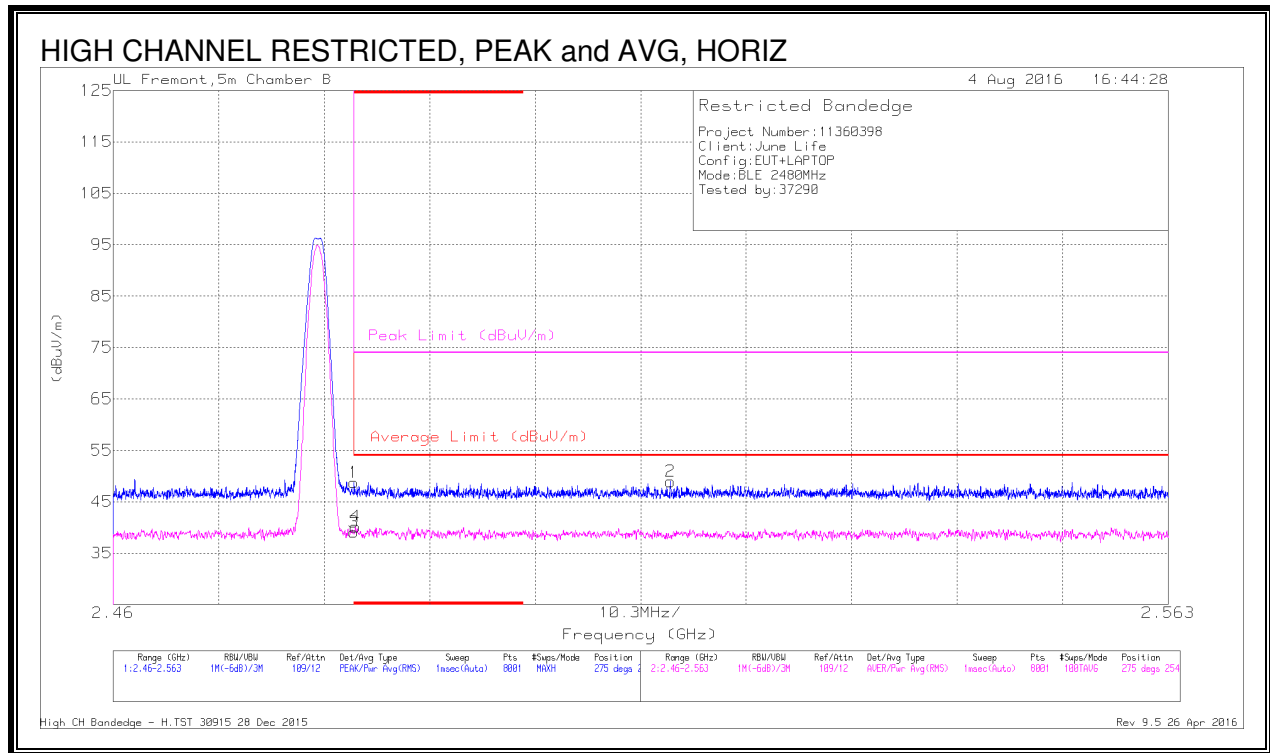


Trace Markers

Marker	Frequenc y (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Correcte d Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	37.51	Pk	32.1	-22.3	0	47.31	-	-	74	-26.69	166	188	V
2	* 2.364	40.09	Pk	31.9	-22.3	0	49.69	-	-	74	-24.31	166	188	V
3	* 2.39	27.49	RMS	32.1	-22.3	2.07	39.36	54	-14.64	-	-	166	188	V
4	* 2.364	28.66	RMS	31.9	-22.3	2.07	40.33	54	-13.67	-	-	166	188	V

* - indicates frequency in CFR15.205/IC8.10 Restricted Band
 Pk - Peak detector
 RMS - RMS detection

RESTRICTED BANDEGE (HIGH CHANNEL, HORIZONTAL)

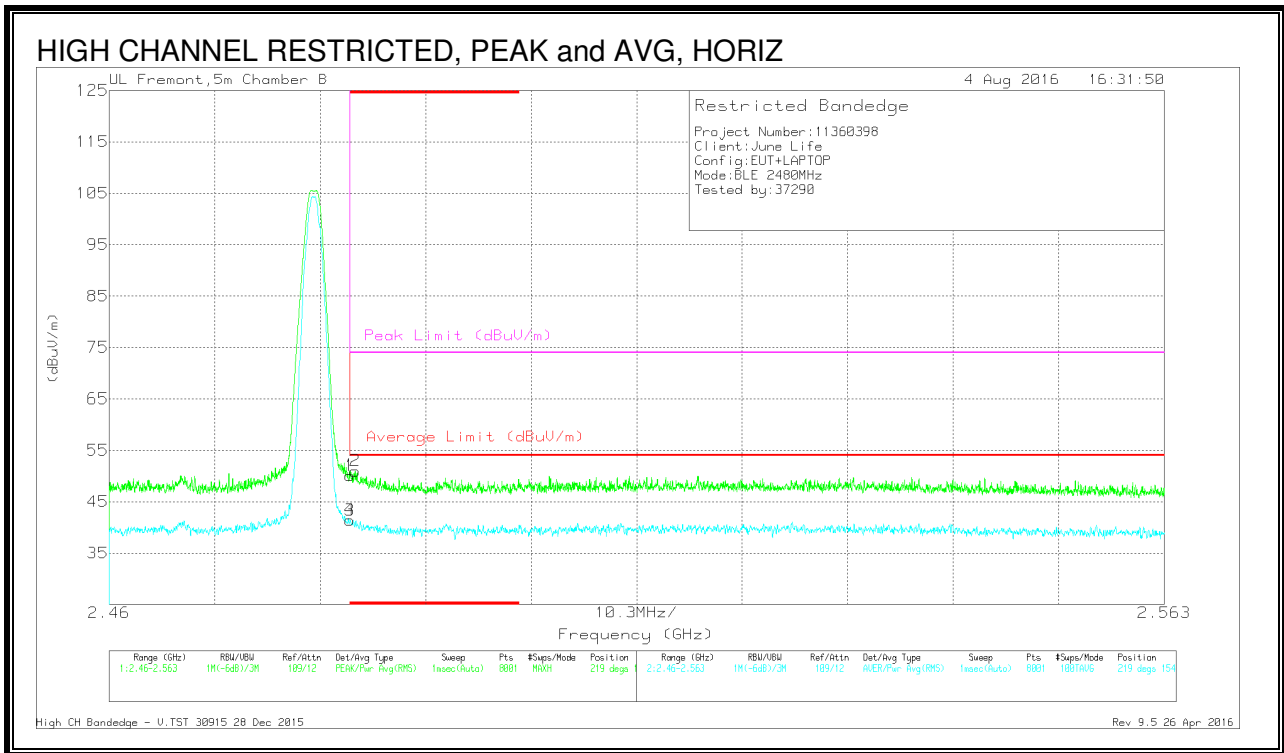


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Chl/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	* 2.484	38.72	Pk	32.3	-22.3	0	48.72	-	-	74	-25.28	275	254	H
3	* 2.484	27	RMS	32.3	-22.3	2.07	39.07	54	-14.93	-	-	275	254	H
4	* 2.484	28.07	RMS	32.3	-22.3	2.07	40.14	54	-13.86	-	-	275	254	H
2	2.514	38.94	Pk	32.3	-22.3	0	48.94	-	-	74	-25.06	275	254	H

* - indicates frequency in CFR15.205/IC8.10 Restricted Band
 Pk - Peak detector
 RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/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	* 2.484	40.1	Pk	32.3	-22.3	0	50.1	-	-	74	-23.9	219	154	V
2	* 2.484	40.99	Pk	32.3	-22.3	0	50.99	-	-	74	-23.01	219	154	V
3	* 2.484	29.31	RMS	32.3	-22.3	2.07	41.38	54	-12.62	-	-	219	154	V
4	* 2.484	29.38	RMS	32.3	-22.3	2.07	41.45	54	-12.55	-	-	219	154	V

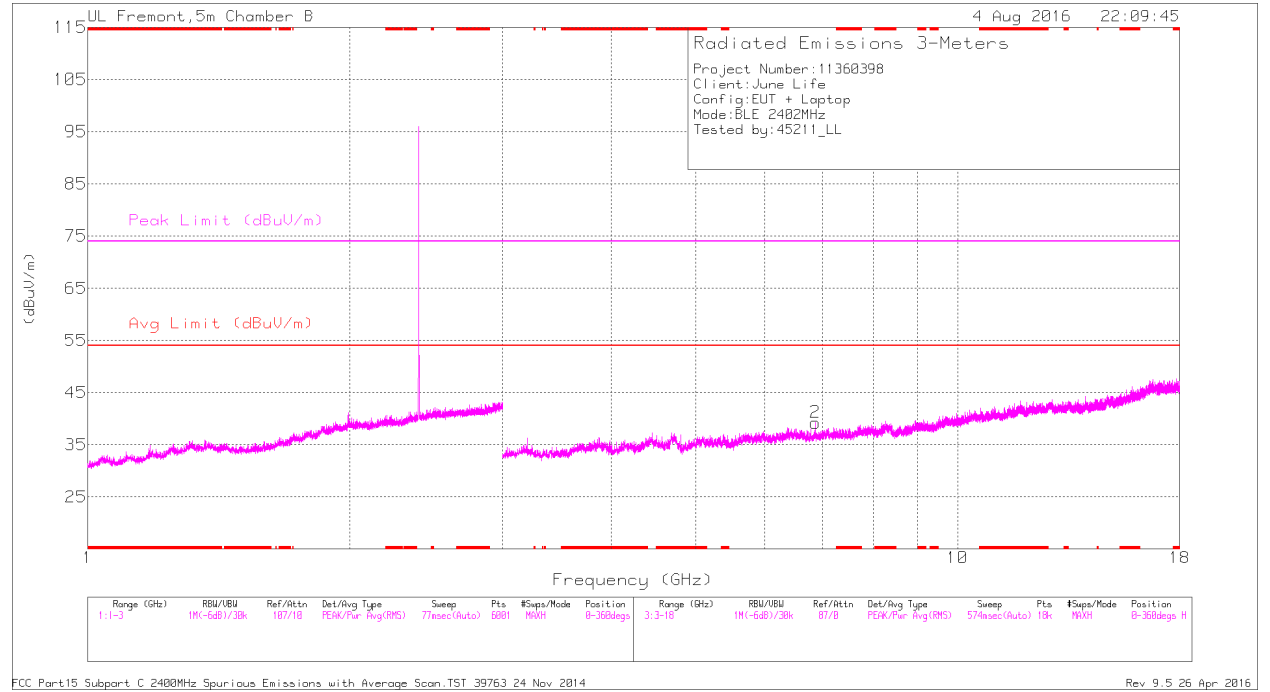
* - indicates frequency in CFR15.205/IC8.10 Restricted Band

Pk - Peak detector

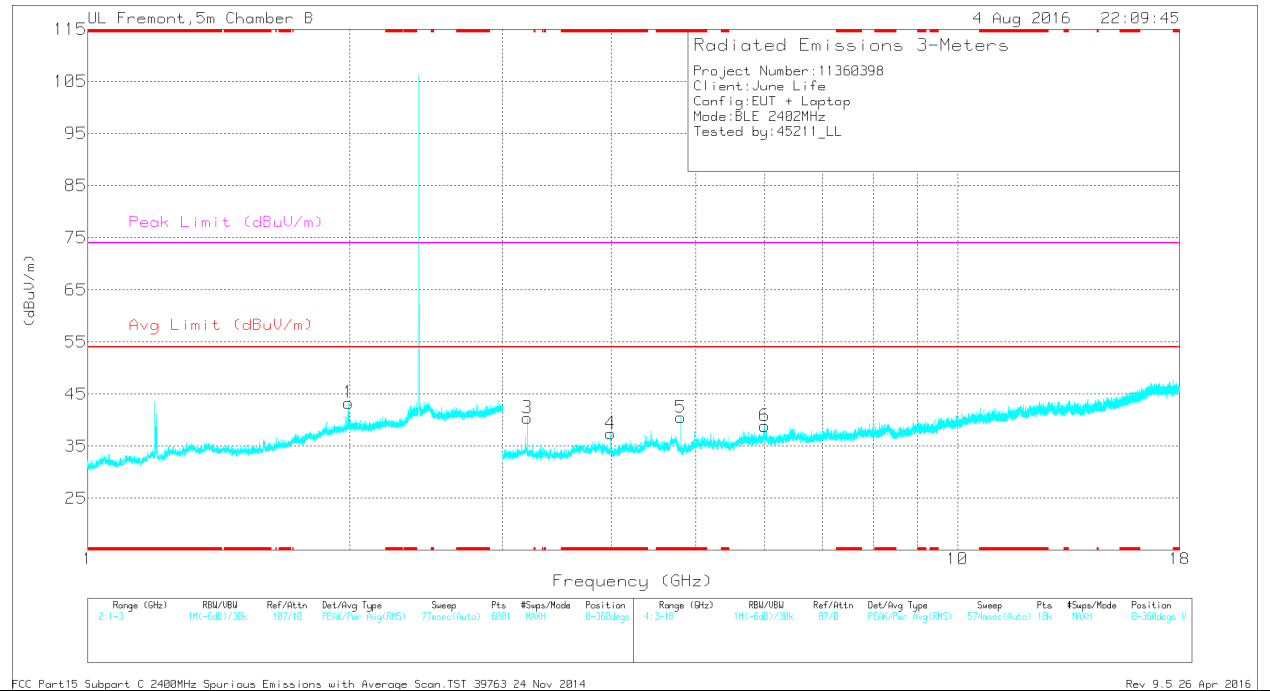
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



LOW CHANNEL VERTICAL



LOW CHANNEL DATA

Trace Markers

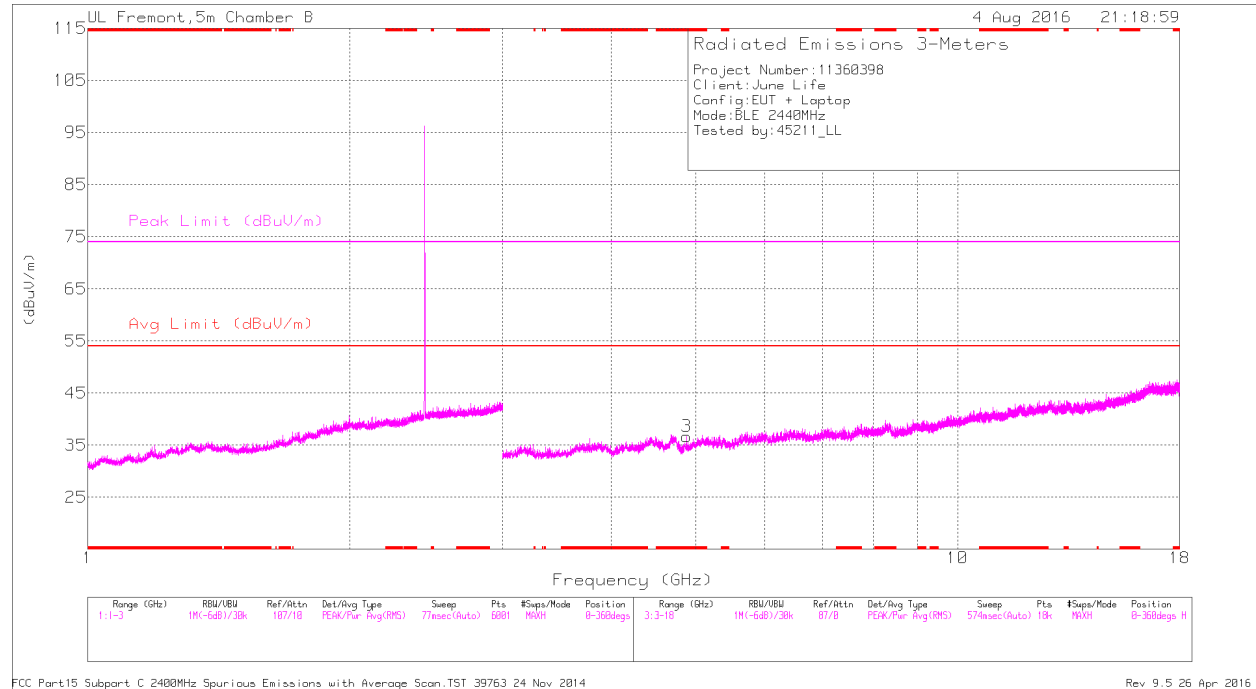
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/Flt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 3.994	39.9	PK2	33.3	-32.9	0	40.3	-	-	74	-33.7	255	125	V
	* 3.99	29.37	MAv1	33.3	-32.9	2.07	31.84	54	-22.16	-	-	255	125	V
5	* 4.805	41.95	PK2	33.8	-31.3	0	44.45	-	-	74	-29.55	159	234	V
	* 4.804	33.12	MAv1	33.8	-31.3	2.07	37.69	54	-16.31	-	-	159	234	V
1	1.993	42.09	PK2	31.5	-22.1	0	51.49	-	-	74	-22.51	69	235	V
3	3.203	44.67	PK2	33	-32.3	0	45.37	-	-	74	-28.63	154	199	V
6	6	40.61	PK2	35.2	-31.3	0	44.51	-	-	74	-29.49	214	183	V
2	6.862	38.36	PK2	35.4	-30.1	0	43.66	-	-	74	-30.34	69	135	H

* - indicates frequency in CFR15.205/IC8.10 Restricted Band

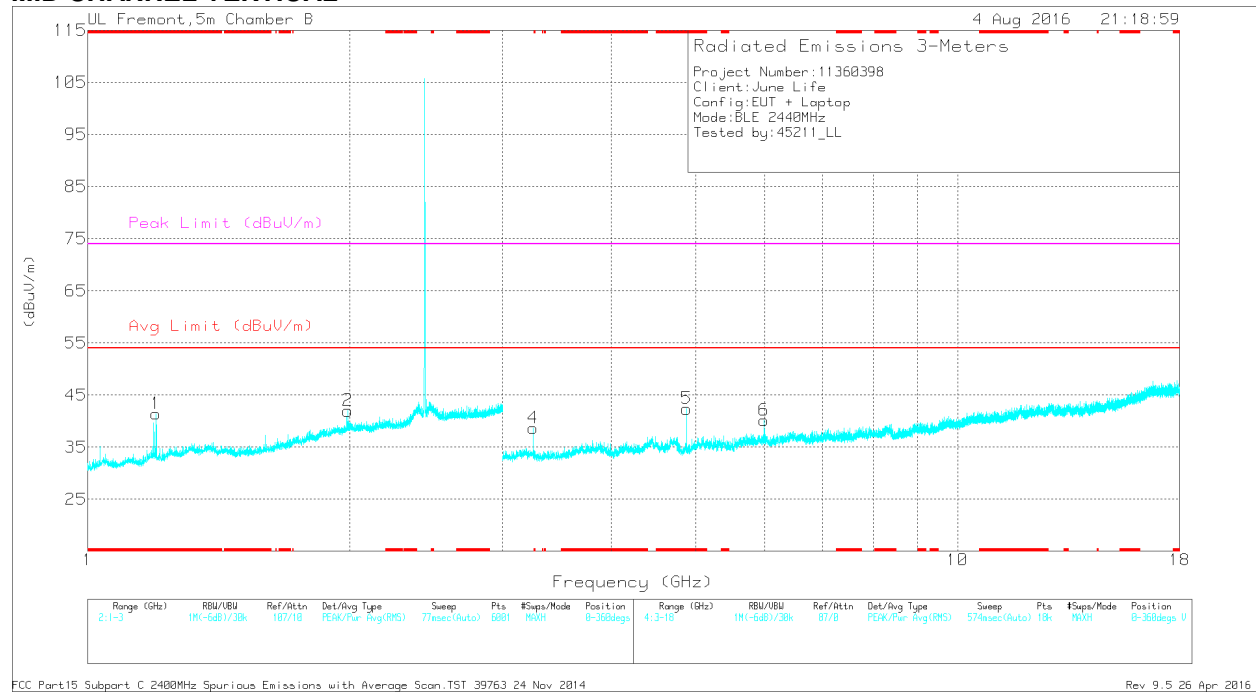
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL HORIZONTAL



MID CHANNEL VERTICAL



MID CHANNEL DATA

Trace Markers

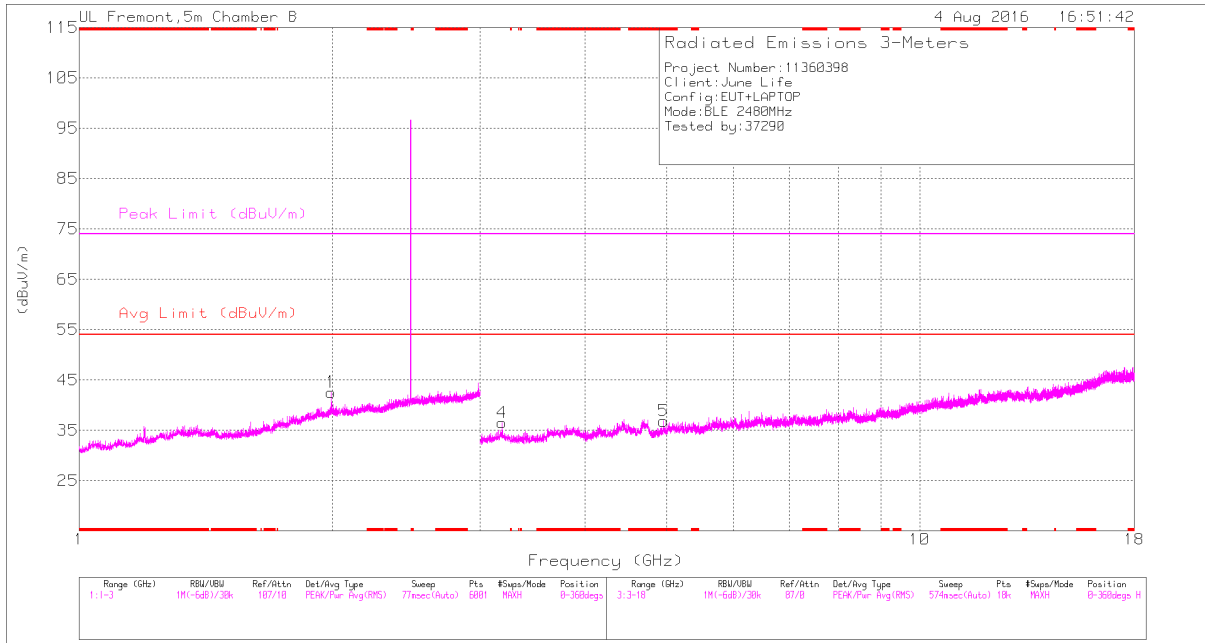
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/Flt/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.2	45.65	PK2	28.3	-23.5	0	50.45	-	-	74	-23.55	58	215	V
	* 1.195	25.37	MAV1	28.3	-23.5	2.07	32.24	54	-21.76	-	-	58	215	V
3	* 4.88	42.66	PK2	33.8	-32.8	0	43.66	-	-	74	-30.34	140	205	H
	* 4.88	32.49	MAV1	33.8	-32.8	2.07	35.56	54	-18.44	-	-	140	205	H
5	* 4.88	45.68	PK2	33.8	-32.8	0	46.68	-	-	74	-27.32	189	192	V
	* 4.88	37.83	MAV1	33.8	-32.8	2.07	40.9	54	-13.1	-	-	189	192	V
2	1.996	42.28	PK2	31.5	-22.1	0	51.68	-	-	74	-22.32	65	243	V
4	3.253	44.76	PK2	32.8	-32.9	0	44.66	-	-	74	-29.34	156	223	V
6	5.989	41.69	PK2	35.2	-31.1	0	45.79	-	-	74	-28.21	11	373	V

* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

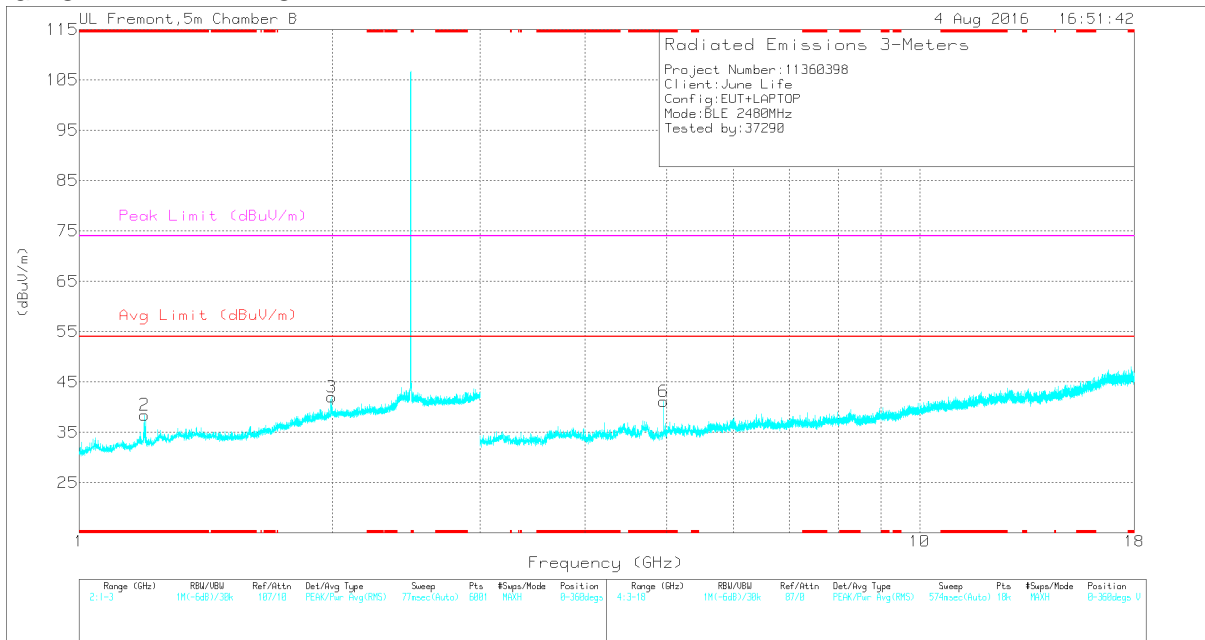
HIGH CHANNEL HORIZONTAL



FCC Part15 Subpart C 2400MHz Spurious Emissions with Average Scan.TST 39763 24 Nov 2014

Rev 9.5 26 Apr 2016

HIGH CHANNEL VERTICAL



FCC Part15 Subpart C 2400MHz Spurious Emissions with Average Scan.TST 39763 24 Nov 2014

Rev 9.5 26 Apr 2016

HIGH CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/Pr/Psd (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 1.195	44.76	PK2	28.3	-23.5	0	49.56	-	-	74	-24.44	44	301	V
	* 1.2	25.37	MAV1	28.3	-23.5	2.07	32.24	54	-21.76	-	-	44	301	V
5	* 4.96	42.77	PK2	34	-32.2	0	44.57	-	-	74	-29.43	131	188	H
	* 4.96	33.26	MAV1	34	-32.2	2.07	37.13	54	-16.87	-	-	131	188	H
6	* 4.959	44.98	PK2	34	-32.2	0	46.78	-	-	74	-27.22	174	106	V
	* 4.96	36.62	MAV1	34	-32.2	2.07	40.49	54	-13.51	-	-	174	106	V
1	1.996	40.84	PK2	31.5	-22.1	0	50.24	-	-	74	-23.76	109	320	H
3	1.999	43.21	PK2	31.5	-22.1	0	52.61	-	-	74	-21.39	72	208	V
4	3.188	41.14	PK2	33	-32.2	0	41.94	-	-	74	-32.06	342	148	H

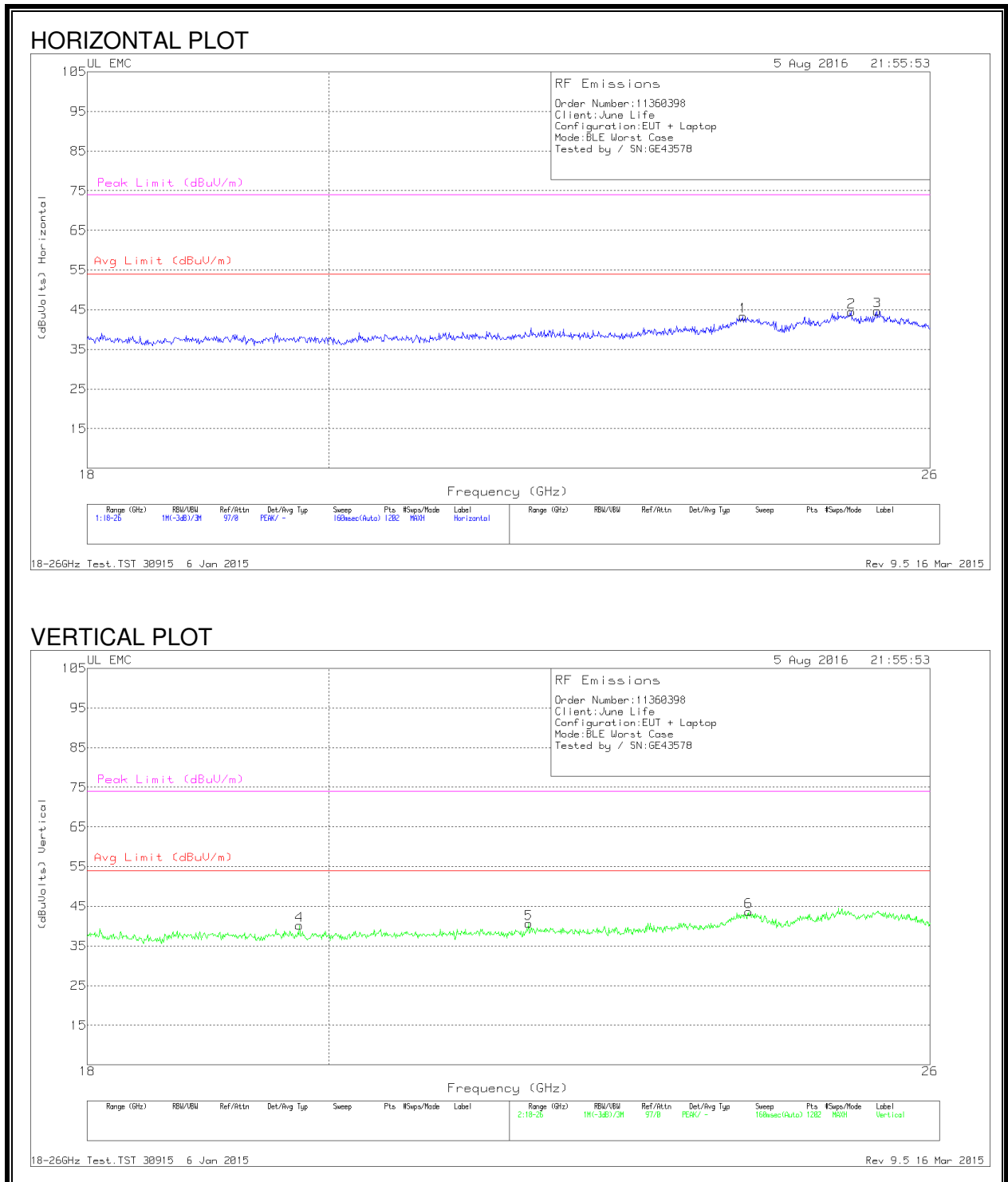
* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

9.3. WORST-CASE 18 - 26 GHz

SPURIOUS EMISSIONS 18-26GHz (WORST-CASE CONFIGURATION)



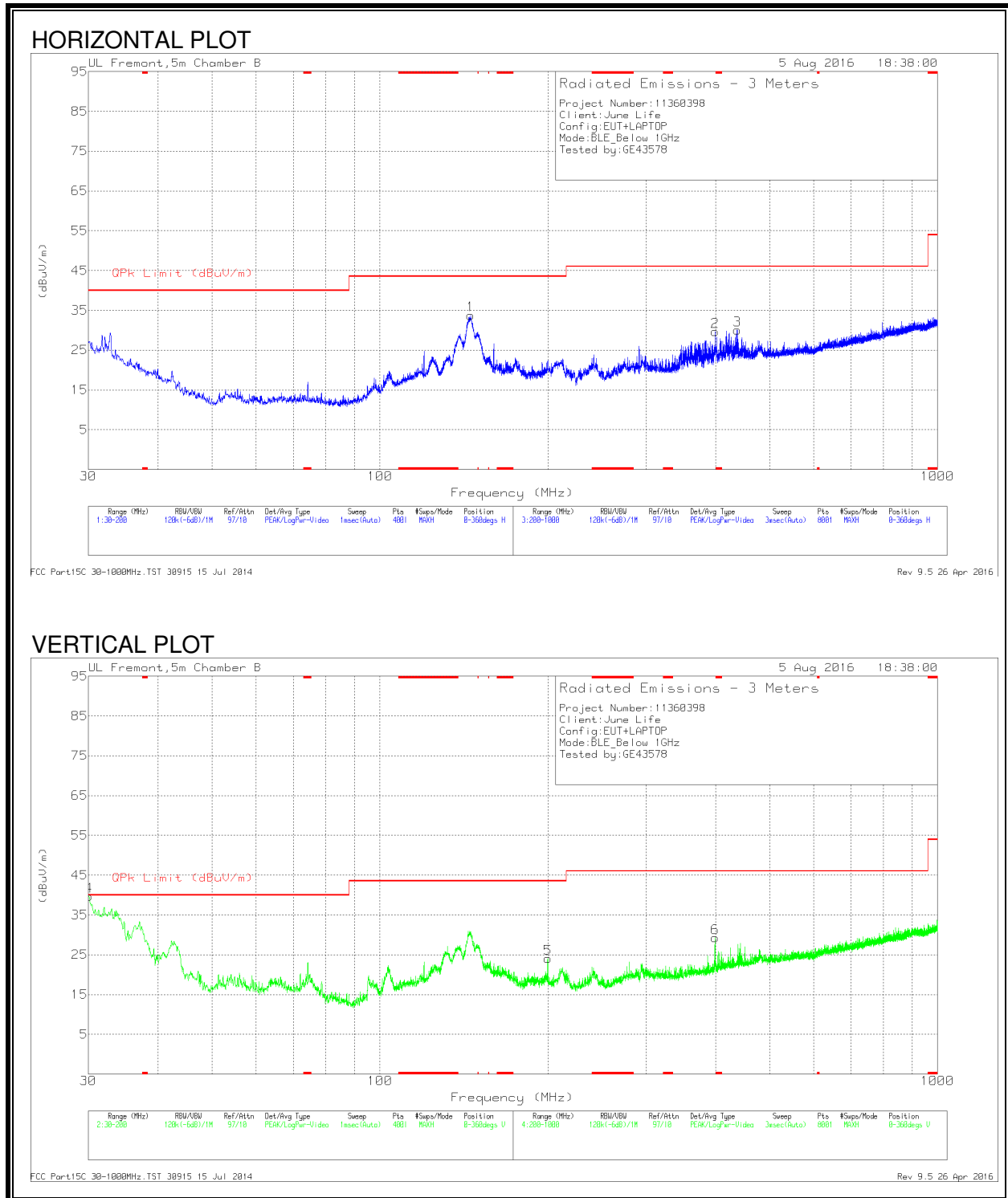
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T449 (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	23.962	43.03	Pk	34.0	-24.2	-9.5	43.33	54	-10.67	74	-30.67
2	25.121	44.30	Pk	34.3	-24.6	-9.5	44.5	54	-9.50	74	-29.50
3	25.407	44.27	Pk	34.3	-24.4	-9.5	44.67	54	-9.33	74	-29.33
4	19.745	41.87	Pk	32.7	-24.9	-9.5	40.17	54	-13.83	74	-33.83
5	21.823	41.47	Pk	33.3	-24.6	-9.5	40.67	54	-13.33	74	-33.33
6	24.022	43.37	Pk	34.0	-24.2	-9.5	43.67	54	-10.33	74	-30.33

* - indicates frequency in CFR15.205/IC8.10 Restricted Band
 Pk - Peak detector

9.4. WORST-CASE BELOW 1 GHz

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



Trace Markers

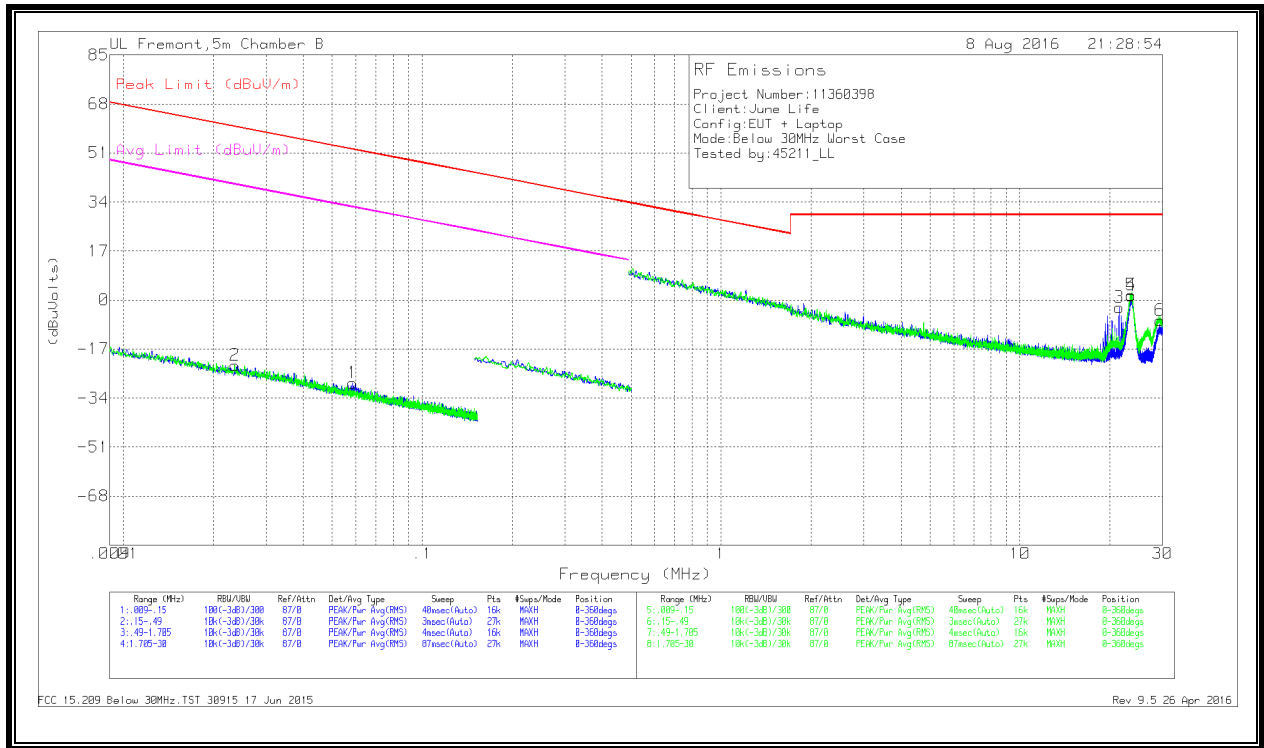
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T130 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	30.0992	36.83	Qp	25.1	-28.8	33.13	40.00	-6.87	211	131	V
1	145.5575	44.69	Pk	16.7	-27.6	33.79	43.52	-9.73	0-360	200	H
5	200	34.73	Pk	16.5	-27.1	24.13	43.52	-19.39	0-360	100	V
6	399.1	36.1	Pk	19.5	-26.3	29.3	46.02	-16.72	0-360	200	V
2	399.2	36.48	Pk	19.5	-26.3	29.68	46.02	-16.34	0-360	200	H
3	437.2	35.79	Pk	20.6	-26.3	30.09	46.02	-15.93	0-360	200	H

* - indicates frequency in CFR15.205/IC8.10 Restricted Band

Pk - Peak detector

Qp - Quasi-Peak detector

SPURIOUS EMISSIONS BELOW 30MHz (WORST-CASE CONFIGURATION)



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	.05857	38.52	Pk	11.2	1.4	-80	-28.88	52.25	-81.13	32.25	-61.13	0-360
2	.02356	42.5	Pk	13.5	1.4	-80	-22.6	60.16	-82.76	40.16	-62.76	0-360
3	21.44198	25.95	Pk	9.8	1.7	-40	-2.55	29.54	-32.09	-	-	0-360
4	23.593	30.2	Pk	9.5	1.7	-40	1.4	29.54	-28.14	-	-	0-360
5	23.582	30.56	Pk	9.5	1.7	-40	1.76	29.54	-27.78	-	-	0-360
6	29.40207	23.01	Pk	8.1	1.7	-40	-7.19	29.54	-36.73	-	-	0-360

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

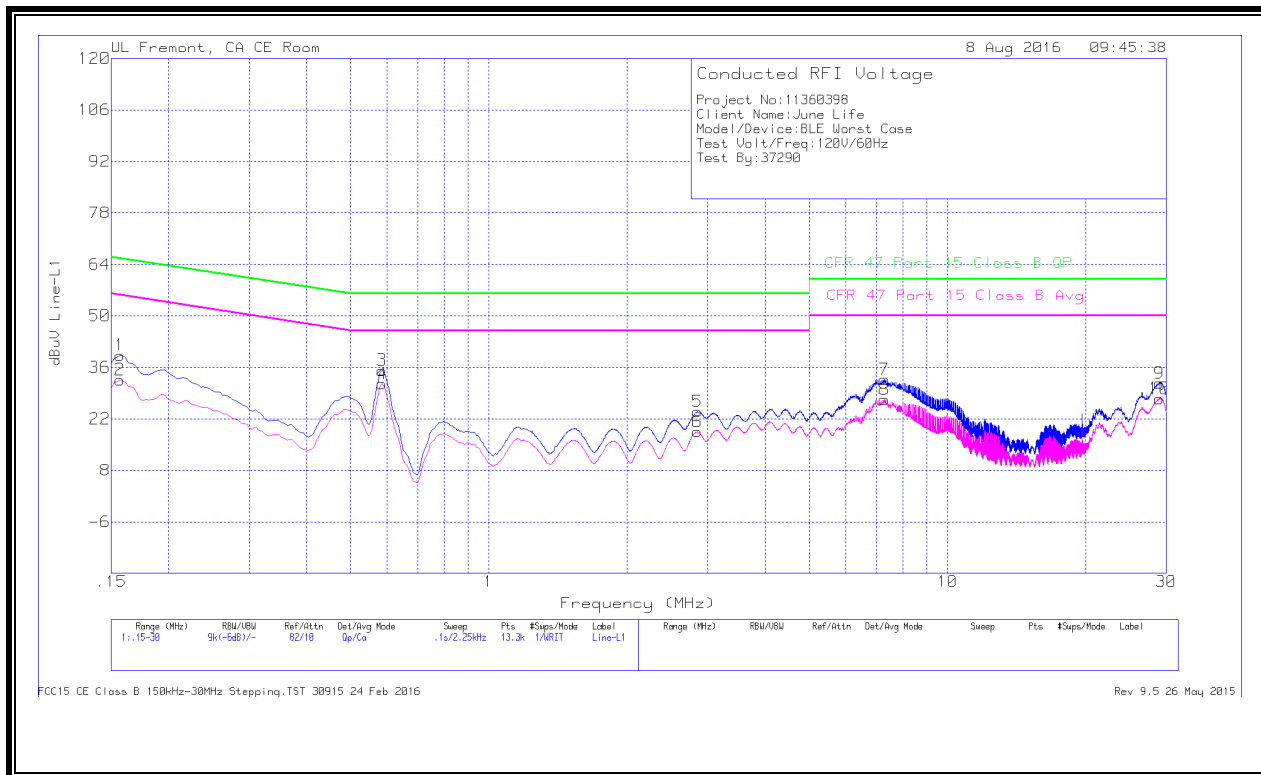
*Decreases with the logarithm of the frequency.

TEST PROCEDURE

ANSI C63.4

RESULTS

LINE 1 RESULTS



Trace Markers

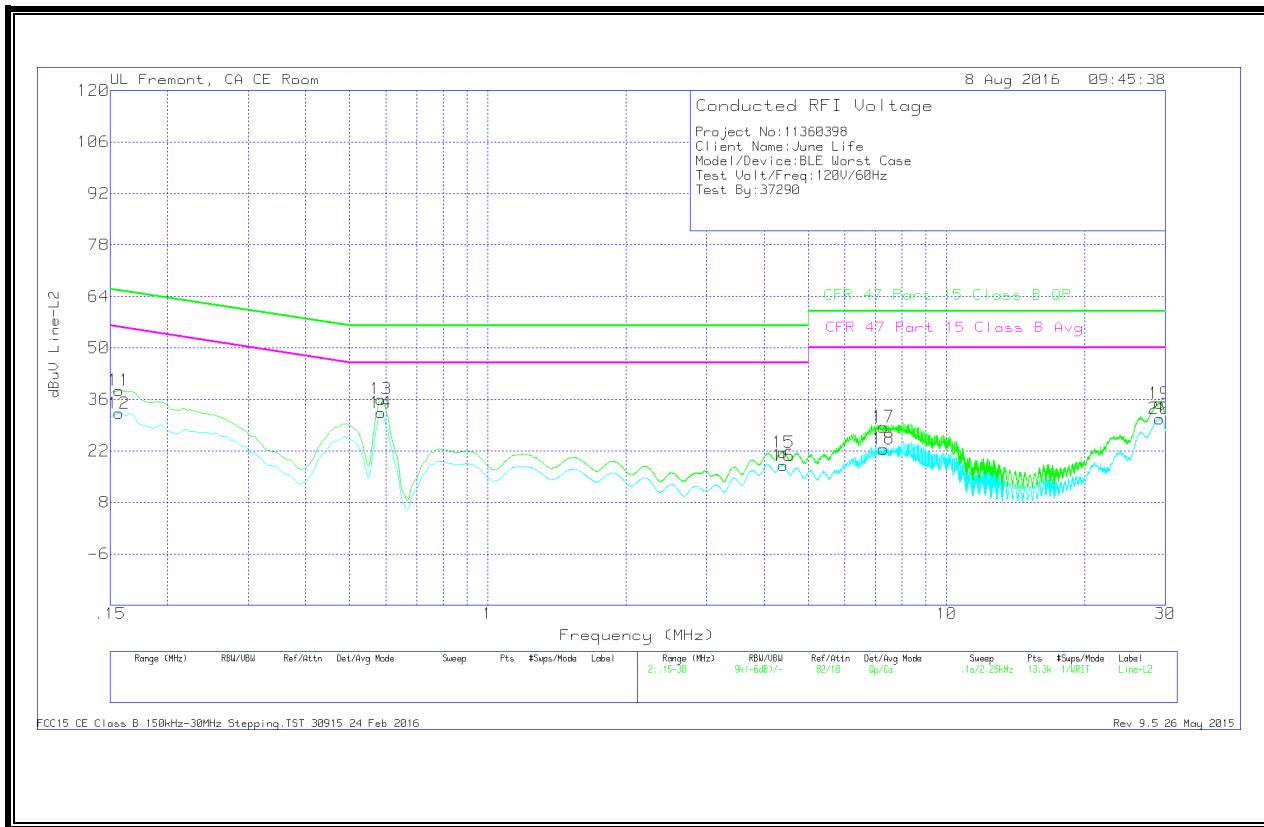
Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L1	LC Cables 1&3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
1	.15675	29.21	Qp	0	0	10.1	39.31	65.63	-26.32	-	-
2	.15675	22.52	Ca	0	0	10.1	32.62	-	-	55.63	-23.01
3	.58425	25.09	Qp	0	0	10.1	35.19	56	-20.81	-	-
4	.58425	21.43	Ca	0	0	10.1	31.53	-	-	46	-14.47
5	2.85	13.79	Qp	0	.1	10.1	23.99	56	-32.01	-	-
6	2.84775	8.3	Ca	0	.1	10.1	18.5	-	-	46	-27.5
7	7.28475	22.44	Qp	0	.1	10.2	32.74	60	-27.26	-	-
8	7.28475	16.96	Ca	0	.1	10.2	27.26	-	-	50	-22.74
9	28.9725	20.92	Qp	.1	.3	10.4	31.72	60	-28.28	-	-
10	28.9635	16.7	Ca	.1	.3	10.4	27.5	-	-	50	-22.5

Qp - Quasi-Peak detector

Ca - CISPR average detection

LINE 2 RESULTS



Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L2	LC Cables 2&3	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)
11	.15675	28.34	Qp	0	0	10.1	38.44	65.63	-27.19	-	-
12	.15675	22.08	Ca	0	0	10.1	32.18	-	-	55.63	-23.45
13	.58425	25.96	Qp	0	0	10.1	36.06	56	-19.94	-	-
14	.58425	22.26	Ca	0	0	10.1	32.36	-	-	46	-13.64
15	4.40925	11.43	Qp	0	.1	10.1	21.63	56	-34.37	-	-
16	4.40813	7.83	Ca	0	.1	10.1	18.03	-	-	46	-27.97
17	7.28475	18.21	Qp	0	.1	10.2	28.51	60	-31.49	-	-
18	7.28475	12.24	Ca	0	.1	10.2	22.54	-	-	50	-27.46
19	29.15925	24.15	Qp	.1	.3	10.4	34.95	60	-25.05	-	-
20	29.15925	19.97	Ca	.1	.3	10.4	30.77	-	-	50	-19.23

Qp - Quasi-Peak detector

Ca - CISPR average detection