FCC 47 CFR PART 15 SUBPART C
INDUSTRY CANADA RSS-247 ISSUE 1

BLUETOOTH LOW ENERGY
CERTIFICATION TEST REPORT

FOR

WIRELESS HEALTH MONITOR

MODEL NUMBERS:
VitalPatch Active Patch
VitalPatch Gentle Patch

FCC ID: SPO-VCI-VP1
IC: 11013A-VCIVP1

REPORT NUMBER: 15U21985-E1V2

ISSUE DATE: DECEMBER 1, 2015

Prepared for
VITAL CONNECT INC.
900 E. HAMILTON AVE., SUITE 500
CAMPBELL, CA 95008

Prepared by
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	11/20/15	Initial Release	F. de Anda
V2	12/01/15	Update - model numbers	F. de Anda

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: VITAL CONNECT INC.
900 E. HAMILTON AVE., SUITE 500
CAMPBELL, CA 95008

EUT DESCRIPTION: WIRELESS HEALTH MONITOR

MODEL: VITALPATCH

SERIAL NUMBER: VC2B008BF_0001A9 (CONDUCTED)
VC2B008BF_00015A (RADIATED)

DATE TESTED: NOVEMBER 14, 2015

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.

Approved & Released For
UL Verification Services Inc. By:

FRANCISCO DE ANDA
PROGRAM MANAGER
UL VERIFICATION SERVICES INC.

Tested By:

CLIFFORD SUSA
EMC ENGINEER
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, 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
☐ Chamber A	☐ Chamber D
☐ Chamber B	☐ Chamber E
☐ Chamber C	☐ Chamber F
	☐ Chamber G
	☒ Chamber H

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:

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

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	± 3.52 dB
Radiated Disturbance, 30 to 1000 MHz	± 4.94 dB
Radiated Disturbance, 1 to 6 GHz	± 3.86 dB
Radiated Disturbance, 6 to 18 GHz	± 4.23 dB
Radiated Disturbance, 18 to 26 GHz	± 5.30 dB
Radiated Disturbance, 26 to 40 GHz	± 5.23 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a wireless(BLE Radio) data collection system that monitors physiological data.

The Vital Connect Patch is available in two different models:

- VitalPatch Active Patch
- VitalPatch Gentle Patch
-

They are electrically and physically the same. The difference between the two models is that they have two different adhesive configurations: Active (Hydrocolloid adhesive) and Gentle (Silicone adhesive). Silicone adhesives provide lower skin stress during removal than hydrocolloid. However, in high humidity or perspiration conditions silicone adhesives can cause mild irritation and have reduced adhesion.

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	-4.16	0.38

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

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2402 - 2480	BLE	-4.28	0.37

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a chip antenna with a maximum gain of 0.2 dBi.

5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was 0.7.0.11

5.5. WORST-CASE CONFIGURATION AND MODE

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

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

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

BLE: 1 Mbps.

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Lenovo	T450s	PC-07SZ2F	NPD97265NGU
AC adapter	Lenovo	ADLX45NDC2A	8SSA10E75790D1SG58J00Z9	N/A
Module Debug Board	Vital Connect	10-0115	N/A	N/A

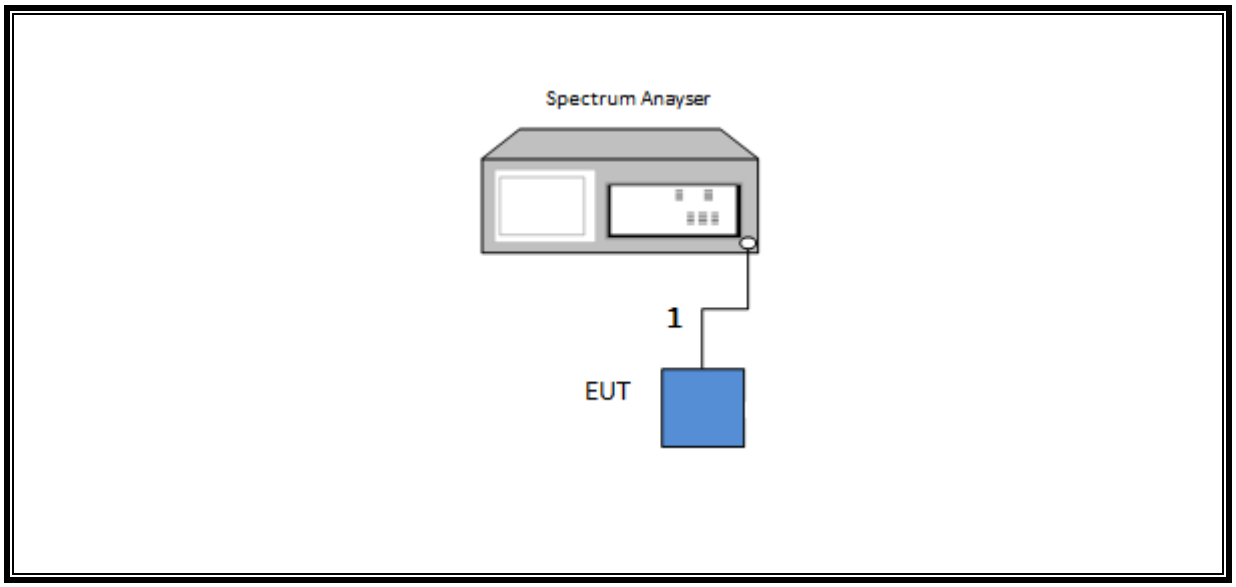
I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	Antenna	1	SMA	Shield	0.075	

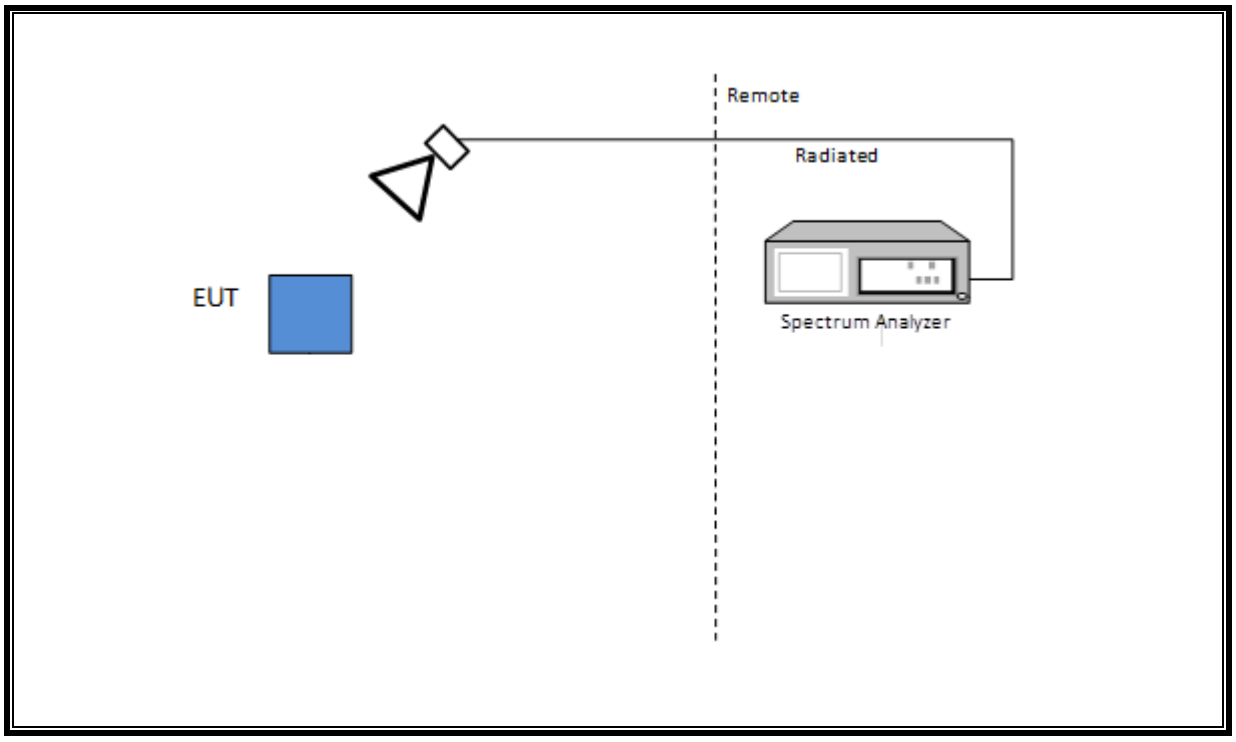
TEST SETUP

Latptop was used to set the test channels and then removed during testing. Test software exercised the radio card.

SETUP DIAGRAM FOR CONDUCTED PORT TESTS



SETUP DIAGRAM FOR RADIATED 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 Due**
Radiated Software	UL	UL EMC	Ver 9.5, June 24, 2015	
Conducted Software	UL	UL EMC	Ver 3.6	
Spectrum Analyzer PSA 3Hz - 44GHz	Keysight	E4446A	177	05/07/17
Power Meter	Keysight	N1911A	1245	06/02/16
Power Sensor	Keysight	MY55200006	1228	06/06/16
Spectrum Analyzer PXA 3Hz - 44GHz	Keysight	N9030A	906	06/11/16
Antenna, Horn 1 - 18GHz	ETS Lindgren	3117	863	04/10/16
Amplifier, 1- 18GHz	Miteq	AFS42-00101800-25-S-42	495	04/29/16
Antenna, Hybrid 30MHz - 2000MHz	Sunol Sciences	JB3	900	04/10/16
Amplifier, 10kHz - 1GHz	Sonoma	310N	835	06/09/16
Antenna, Horn 18-26GHz	A.R.A Tech.	MWH-1826	89	06/09/16
Amplifier, 18-26GHz	Keysight	8449B	404	06/29/16
Spectrum Analyzer PSA 9kHz - 40GHz	Hewlett Packard	8564E	106	08/14/16

7. ANTENNA PORT TEST RESULTS

7.1. ON TIME, DUTY CYCLE

None; for reporting purposes only.

PROCEDURE

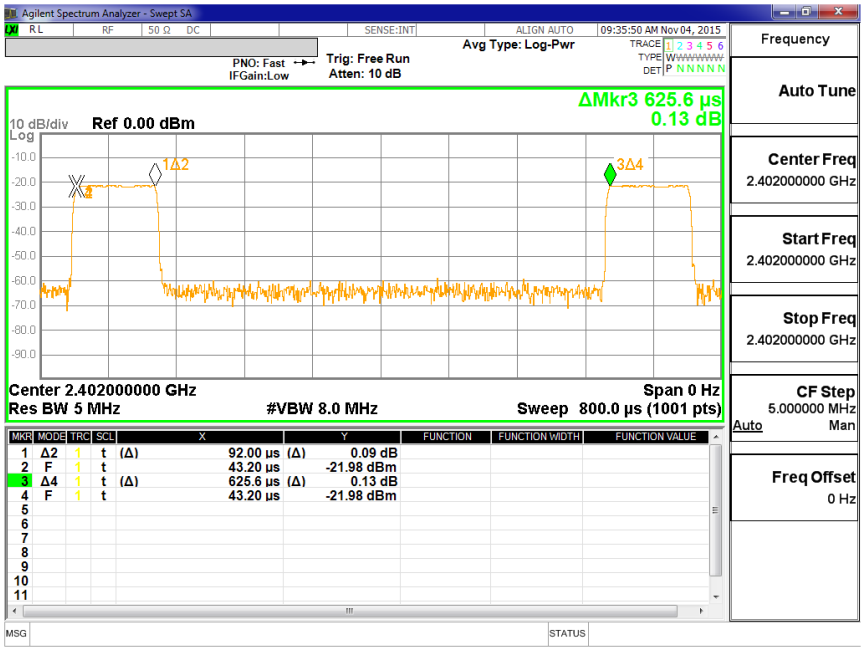
KDB 558074 Zero-Span Spectrum Analyzer Method.

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	0.092	0.626	0.147	14.71%	8.33	10.870

DUTY CYCLE PLOTS

DUTY CYCLE BLE MODE



7.2. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

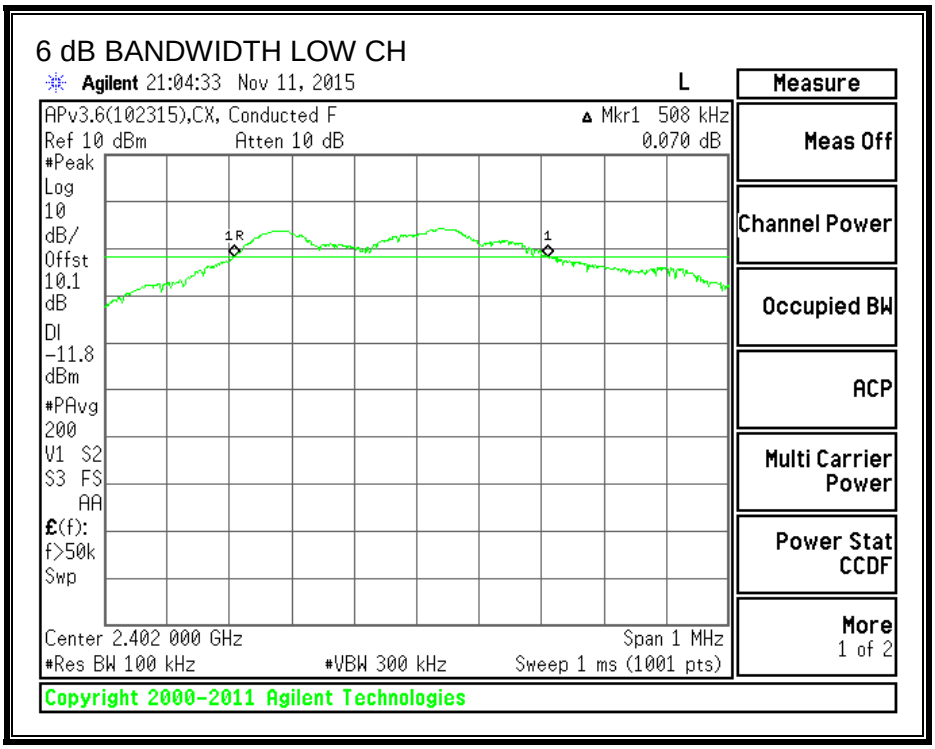
IC RSS-247 (5.2) (1)

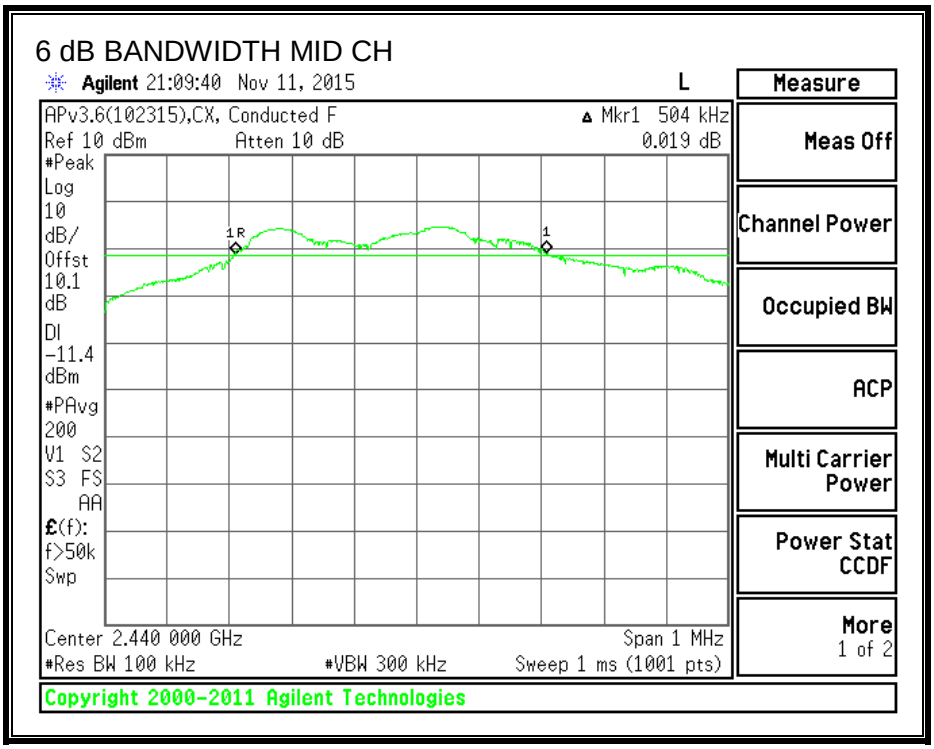
The minimum 6 dB bandwidth shall be at least 500 kHz.

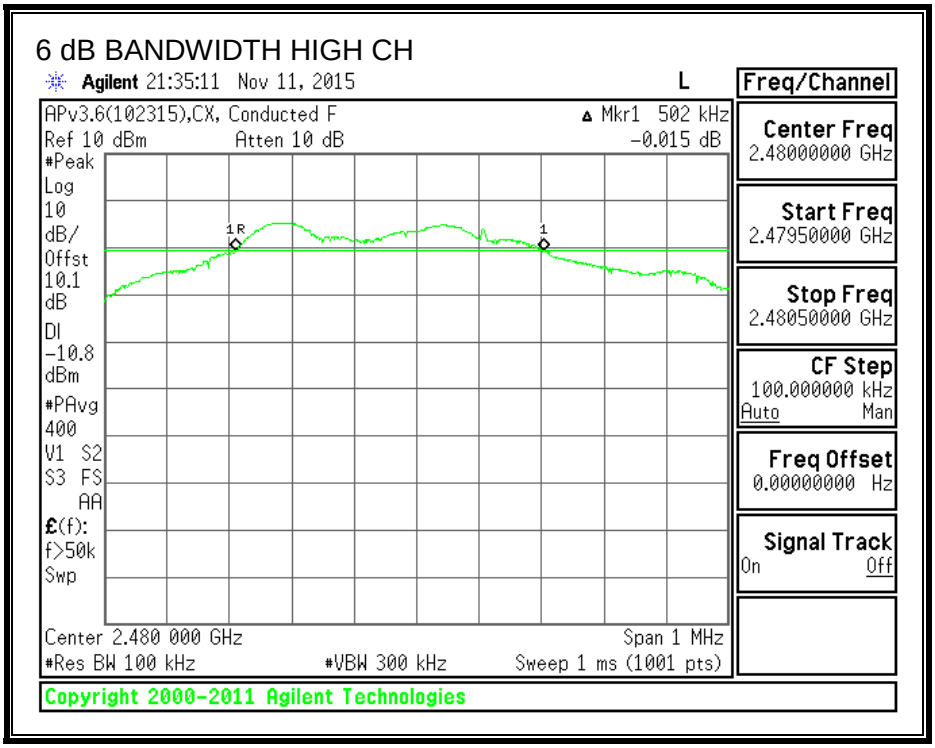
RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.508	0.5
Middle	2440	0.504	0.5
High	2480	0.502	0.5

6 dB BANDWIDTH







7.3. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

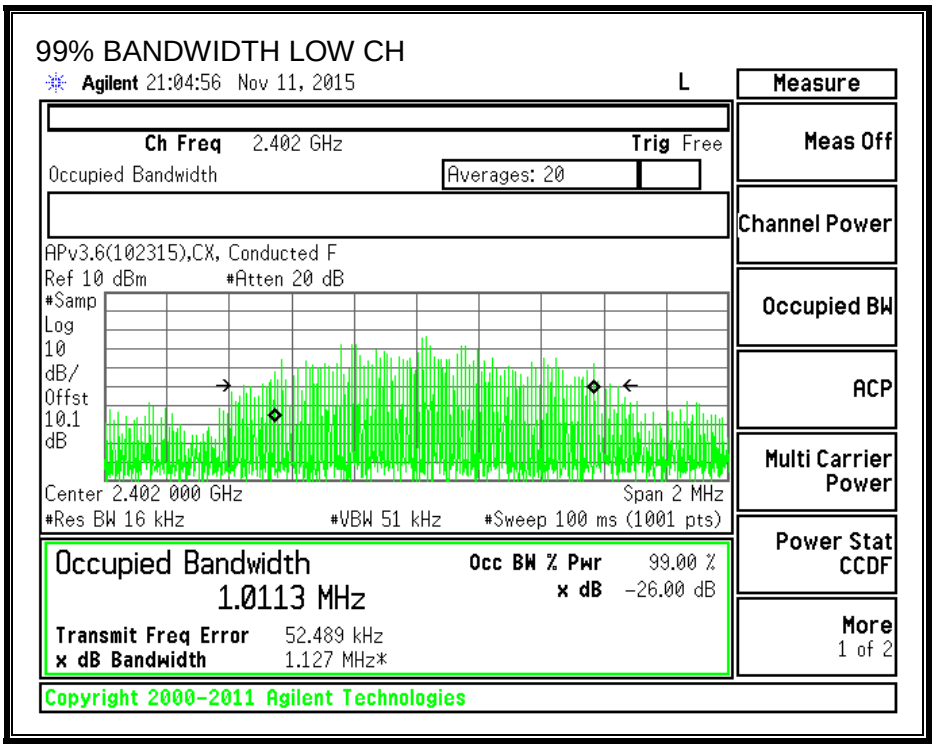
TEST PROCEDURE

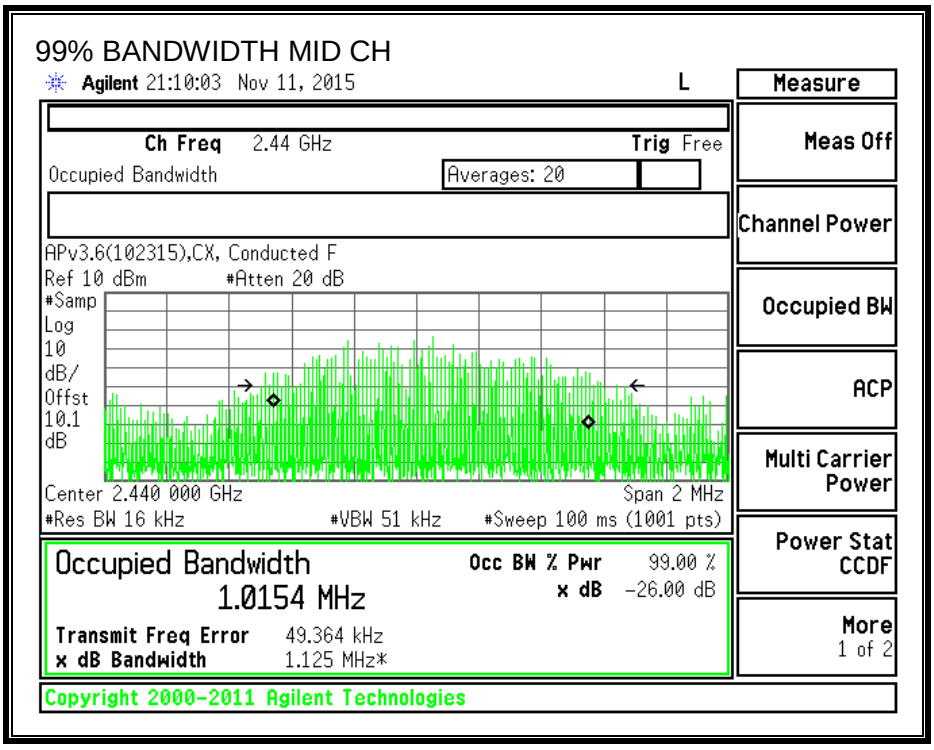
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth and to 1% of the span. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

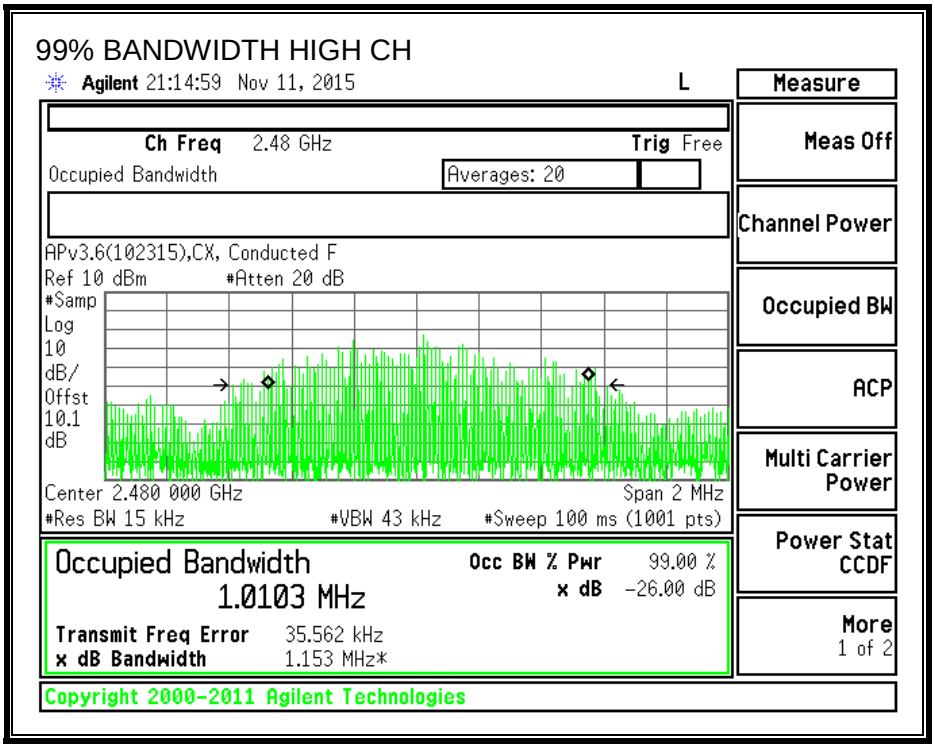
RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	1.0113
Middle	2440	1.0154
High	2480	1.0103

99% BANDWIDTH







7.4. OUTPUT POWER

LIMITS

FCC §15.247 (b)

IC RSS-247 (5.4) (4)

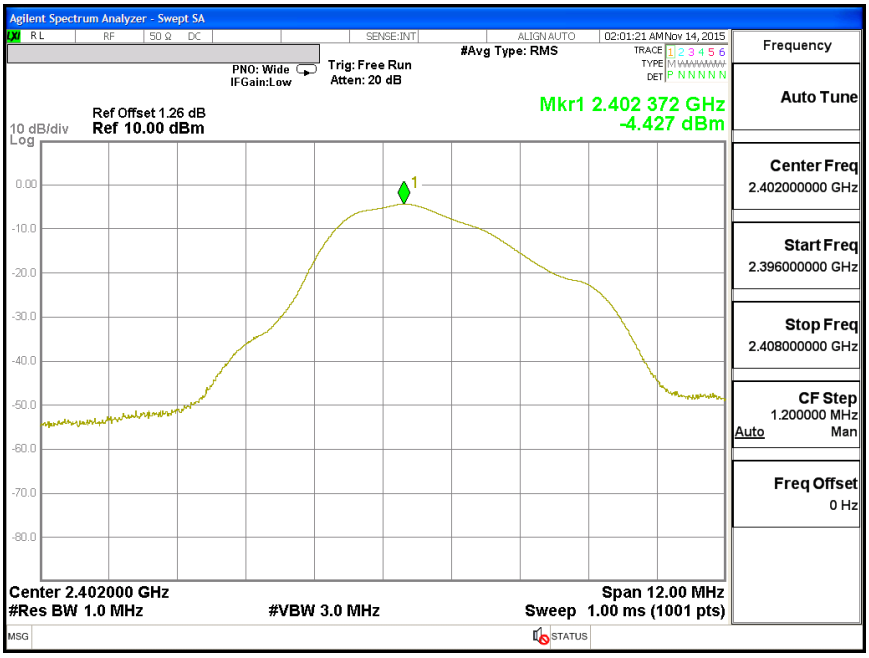
The maximum antenna gain is less than or equal to 6 dBi, therefore the limit is 30 dBm.

RESULTS

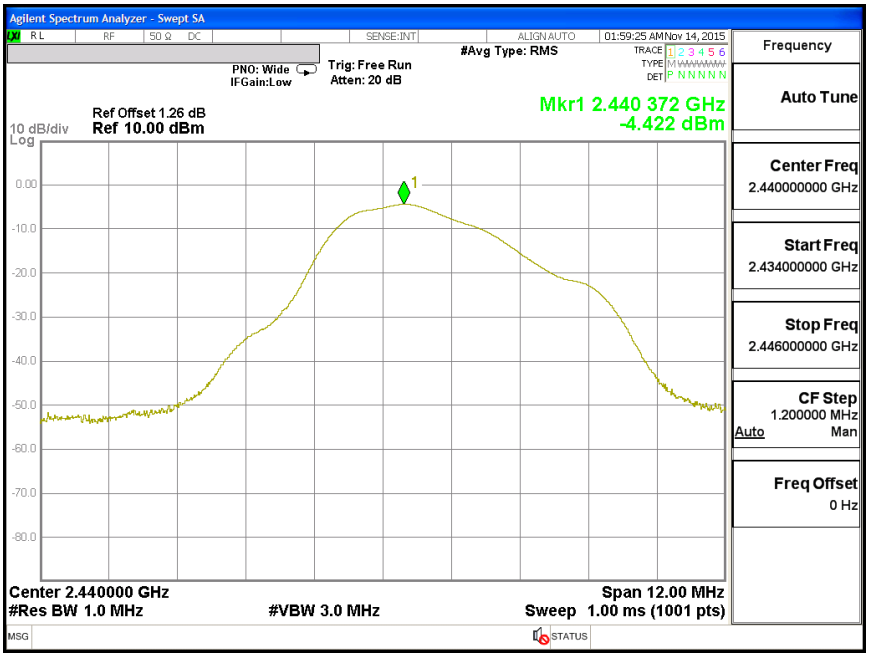
Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	-4.427	30	-34.427
Middle	2440	-4.422	30	-34.422
High	2480	-4.164	30	-34.164

OUTPUT POWER

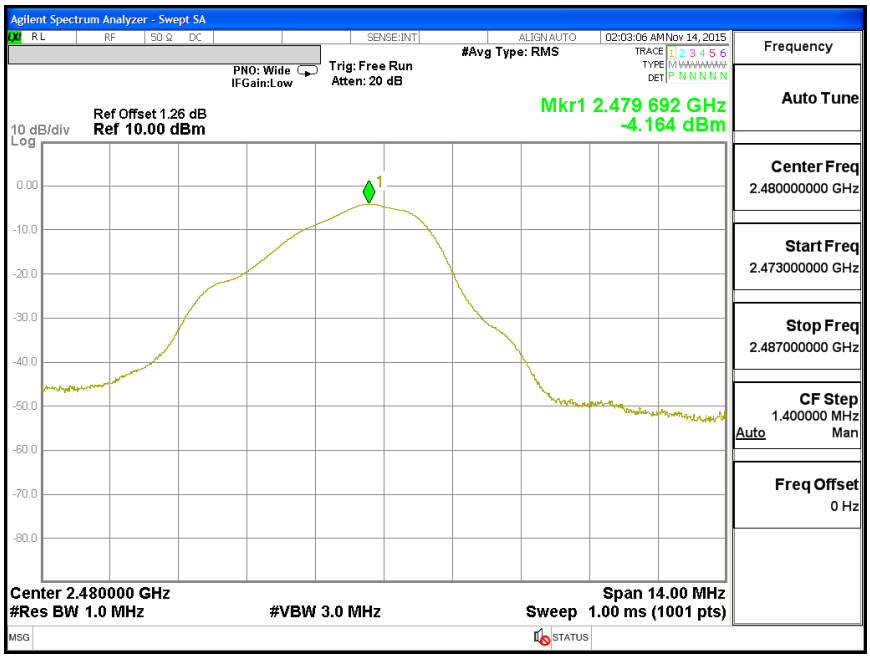
OUTPUT POWER LOW CH



OUTPUT POWER MID CH



OUTPUT POWER HIGH CH



7.5. AVERAGE POWER

LIMITS

None; for reporting purposes only.

RESULTS

The cable assembly insertion loss of 10.14 dB (including 10 dB pad and .14 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	-4.78
Middle	2440	-4.44
High	2480	-4.28

7.6. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e)

IC RSS-247 (5.2) (2)

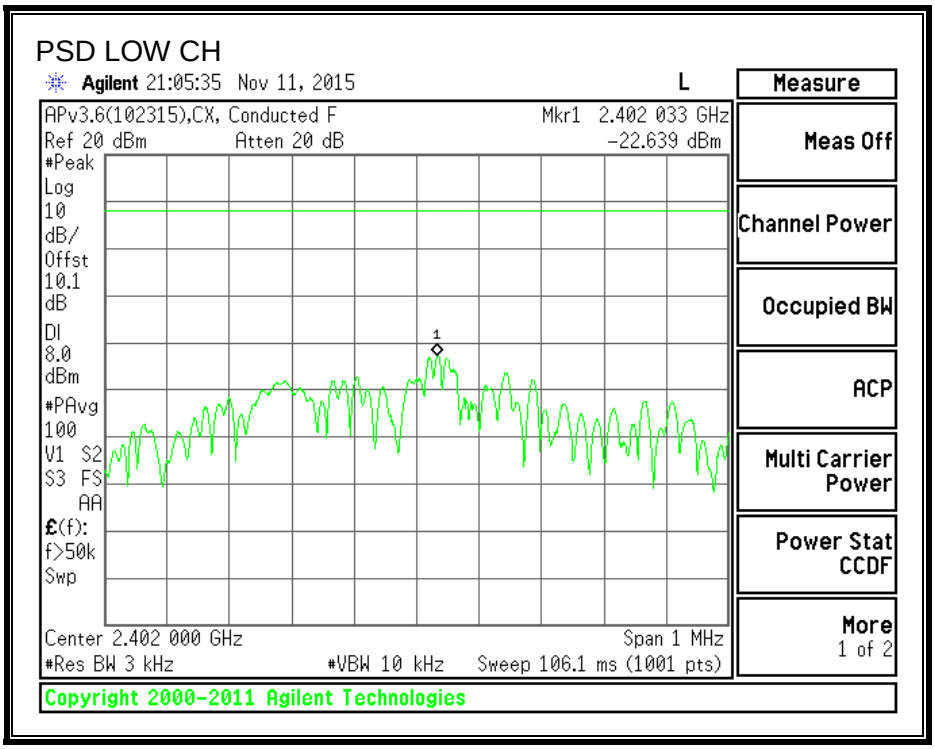
The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

RESULTS

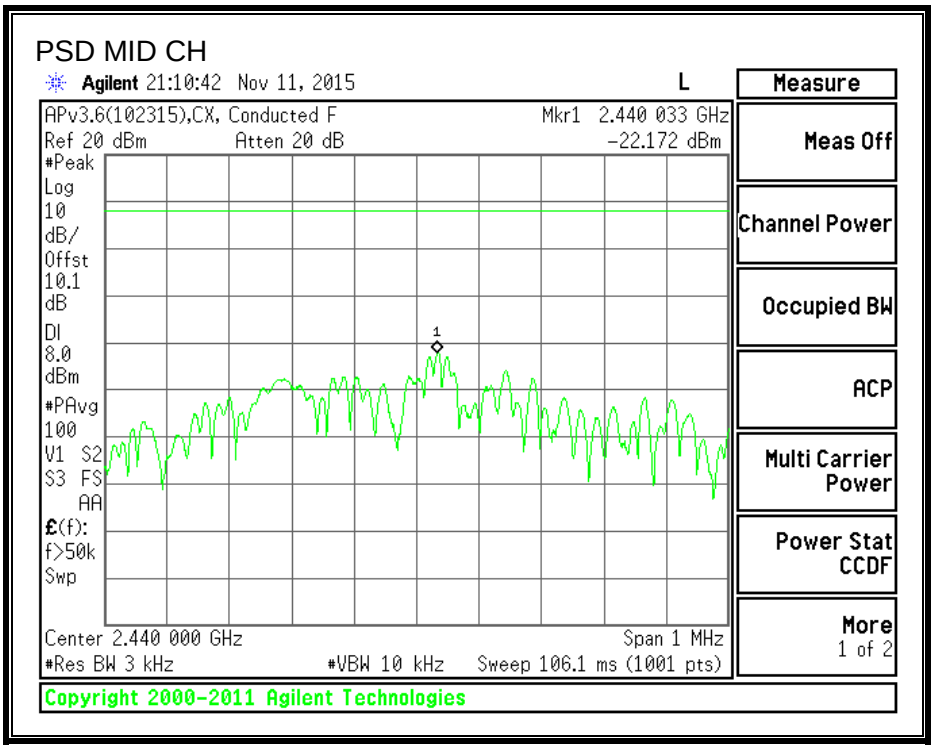
Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2402	-22.64	8	-30.64
Middle	2440	-22.17	8	-30.17
High	2480	-21.89	8	-29.89

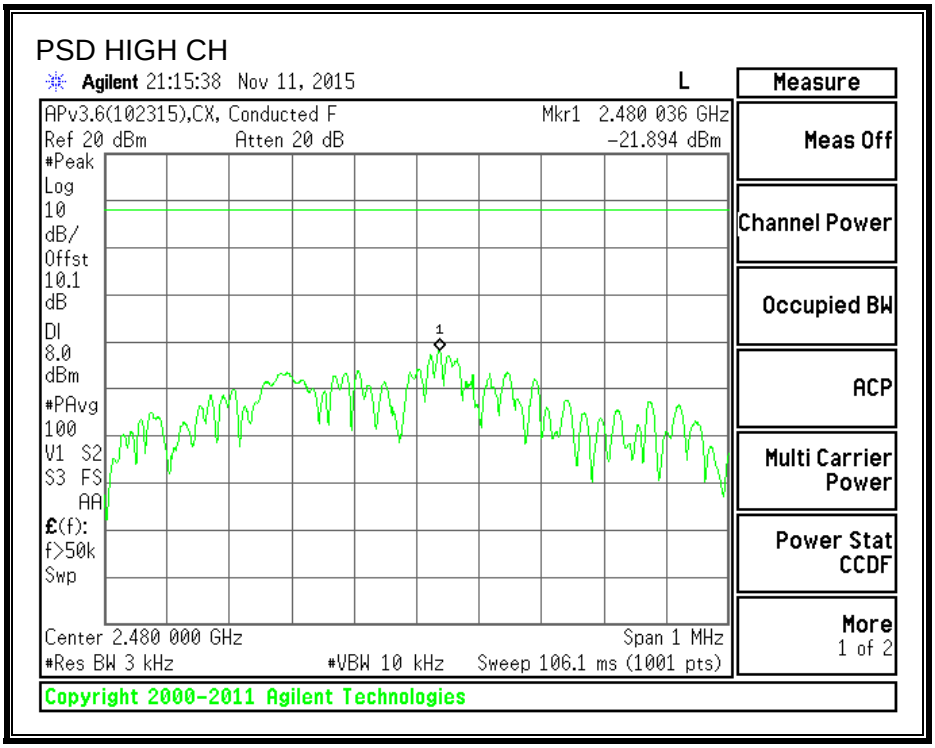
POWER SPECTRAL DENSITY

PSD LOW CH



PSD MID CH





7.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

IC RSS-247 (5.5)

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

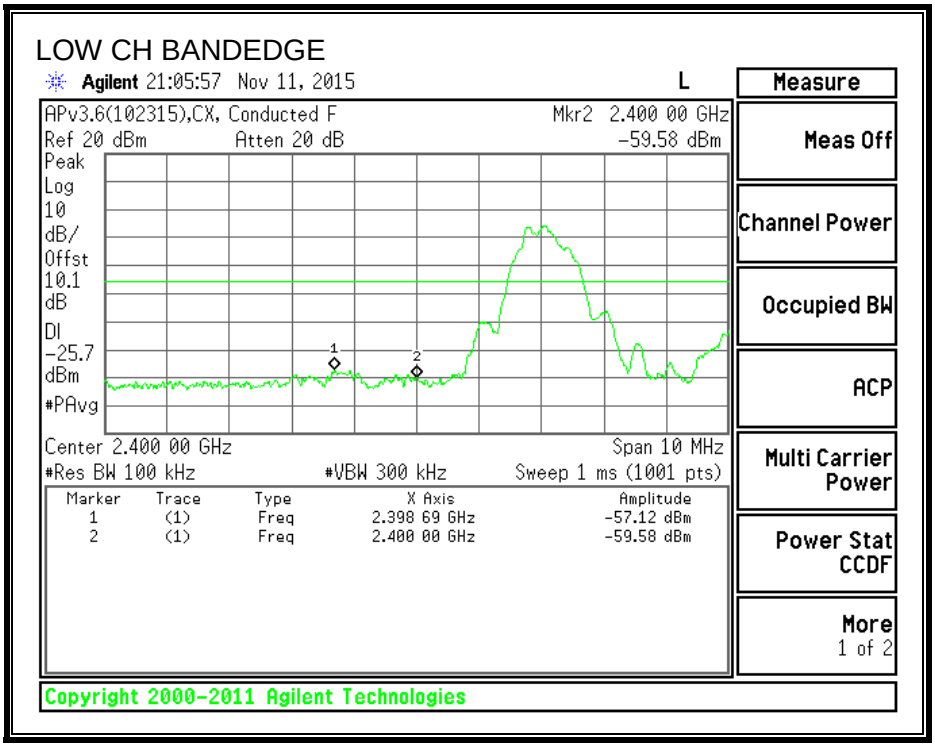
TEST PROCEDURE

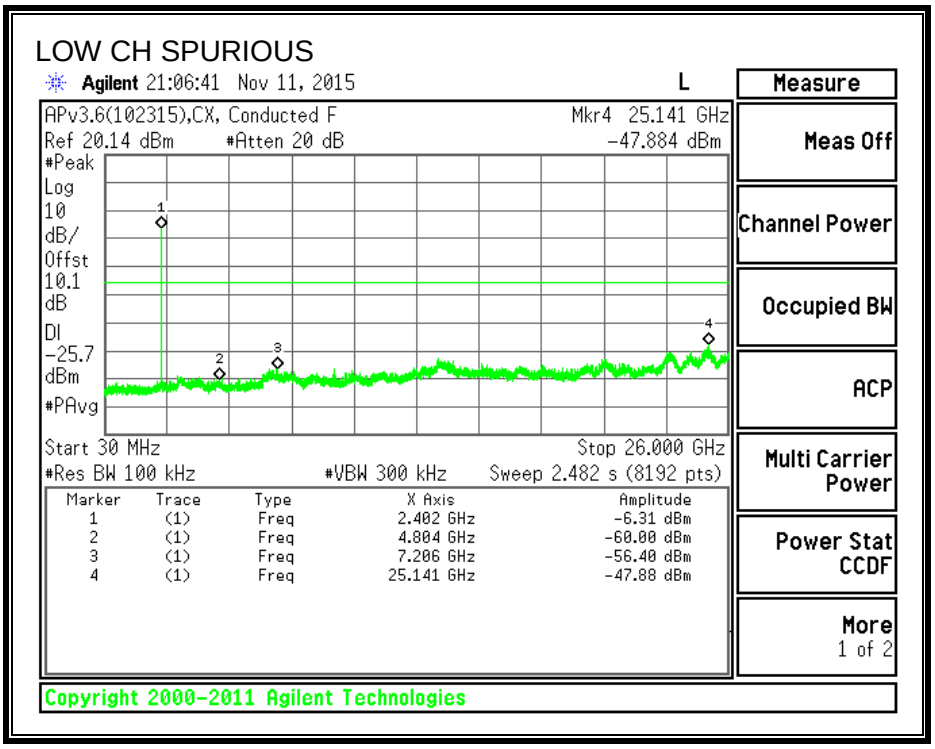
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

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

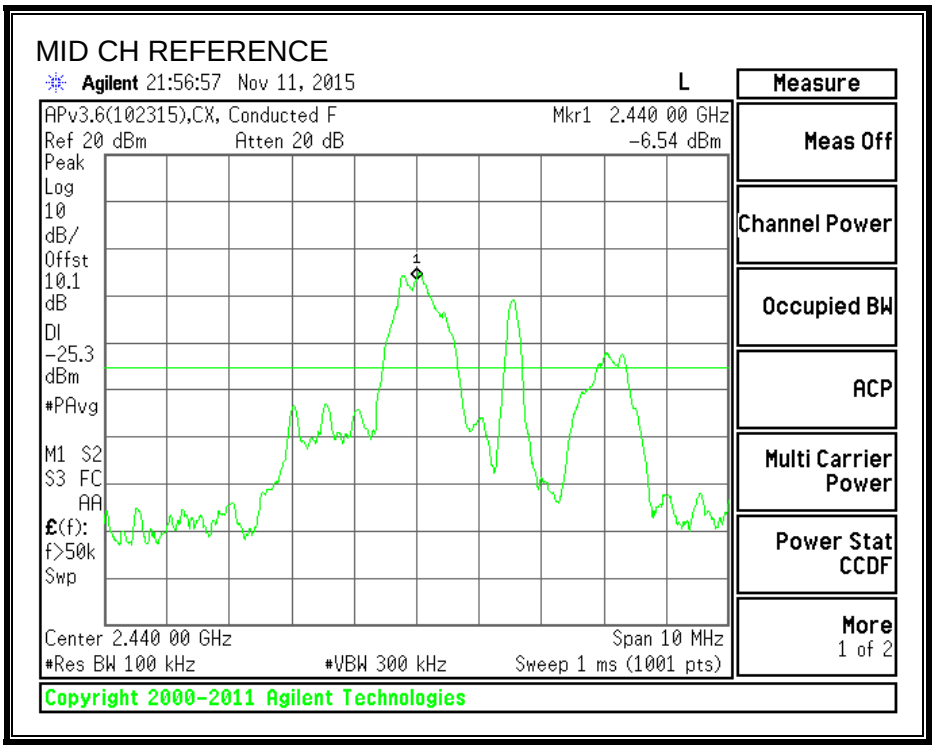
RESULTS

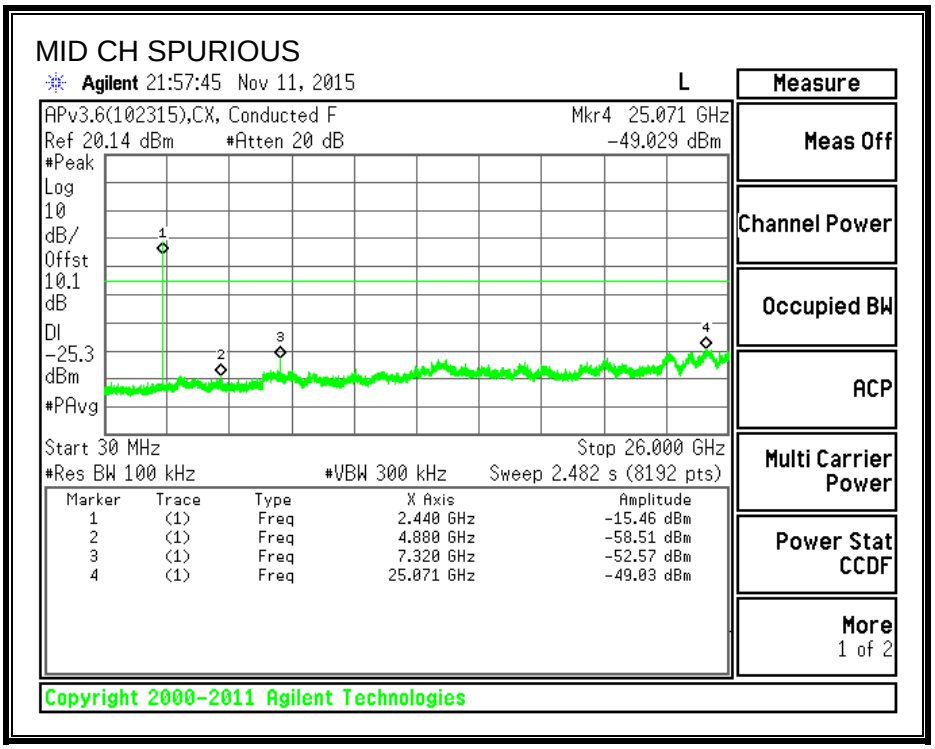
SPURIOUS EMISSIONS, LOW CHANNEL



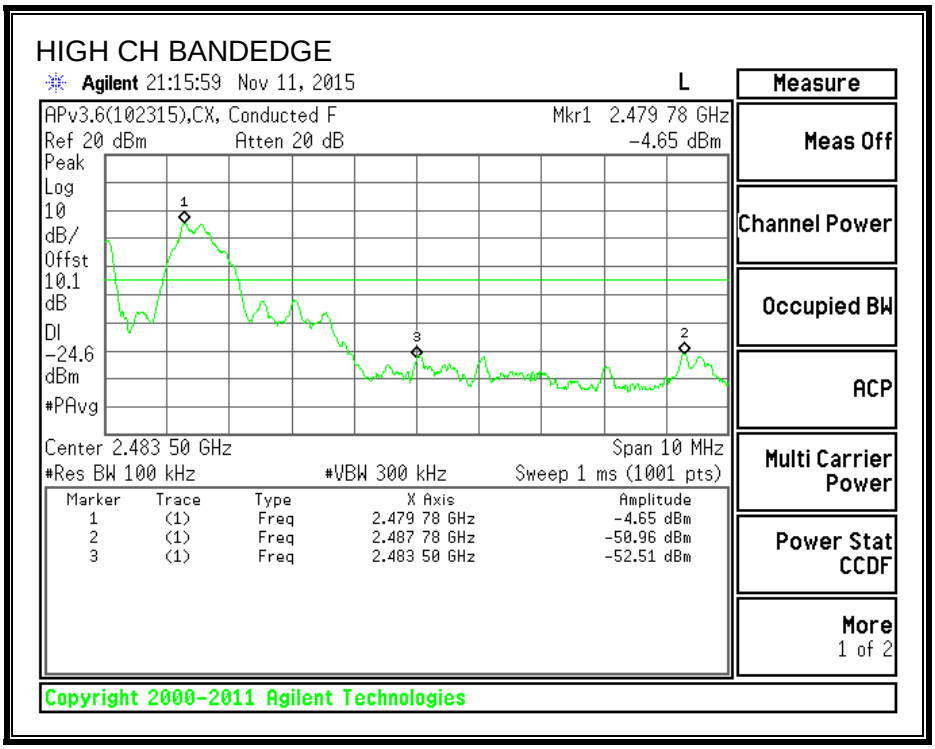


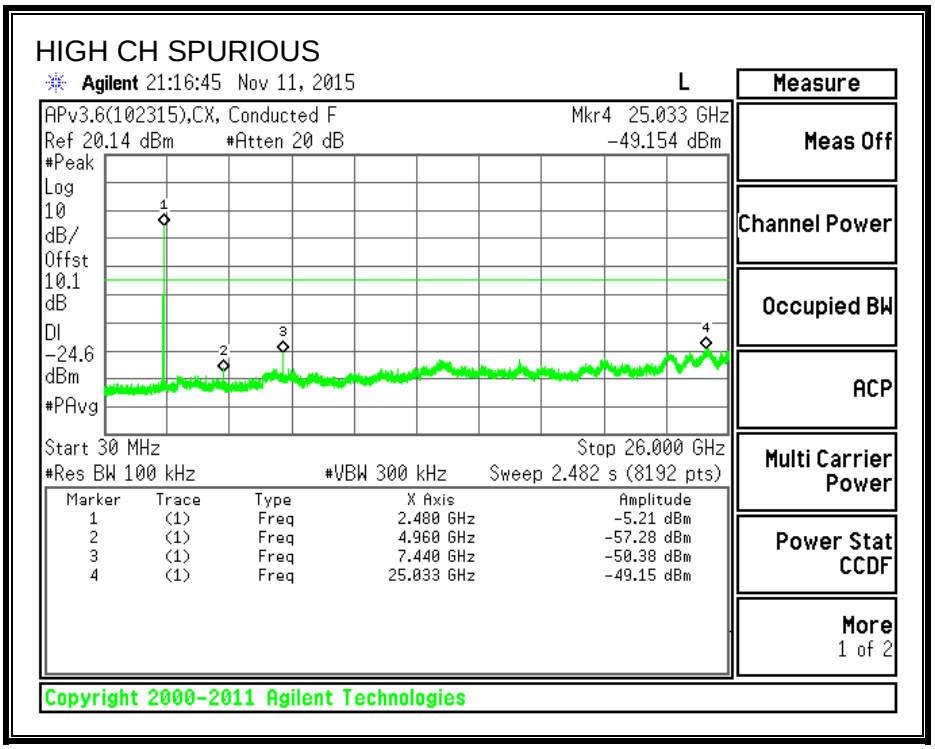
SPURIOUS EMISSIONS, MID CHANNEL





SPURIOUS EMISSIONS, HIGH CHANNEL





8. RADIATED TEST RESULTS

8.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-GEN Clause 8.9 and 8.10

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane 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.

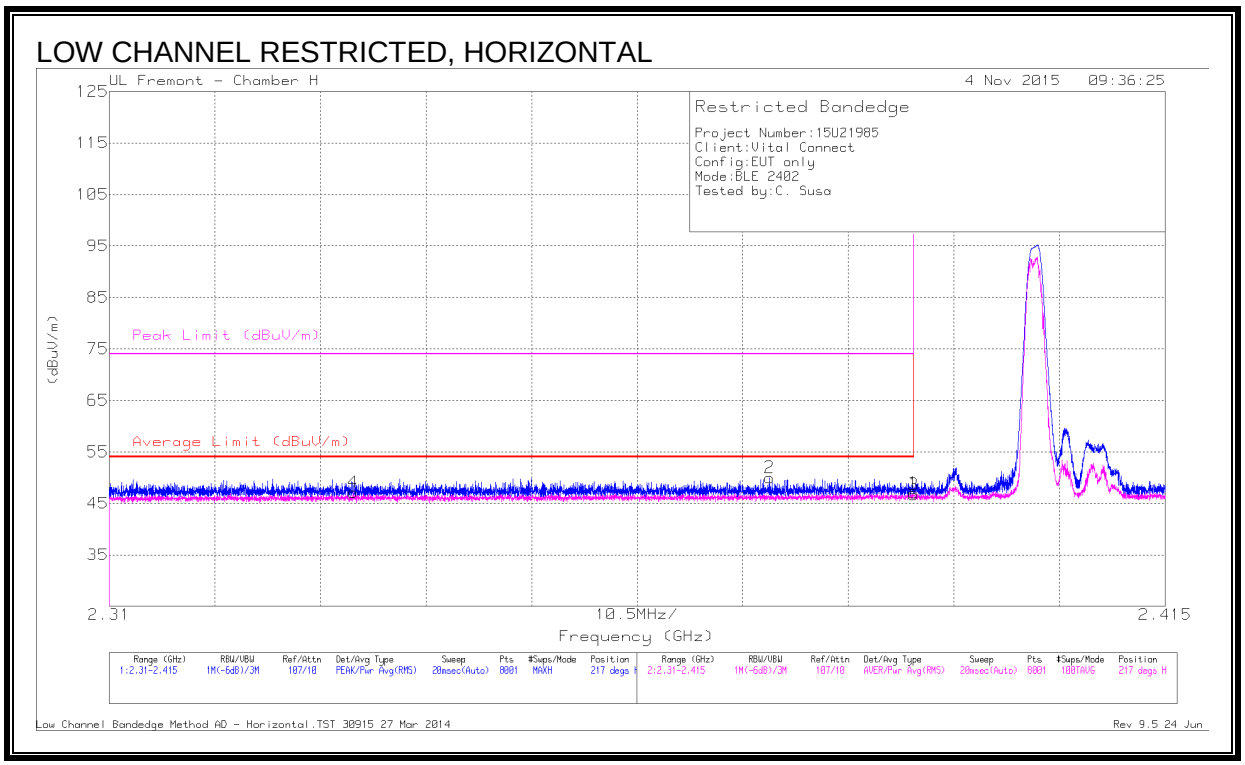
For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 3MHz video bandwidth with average detector for average measurements.

The spectrum from 30 MHz 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.

8.2. TRANSMITTER ABOVE 1 GHz

RESTRICTED BANDEDGE (LOW CHANNEL)



DATA

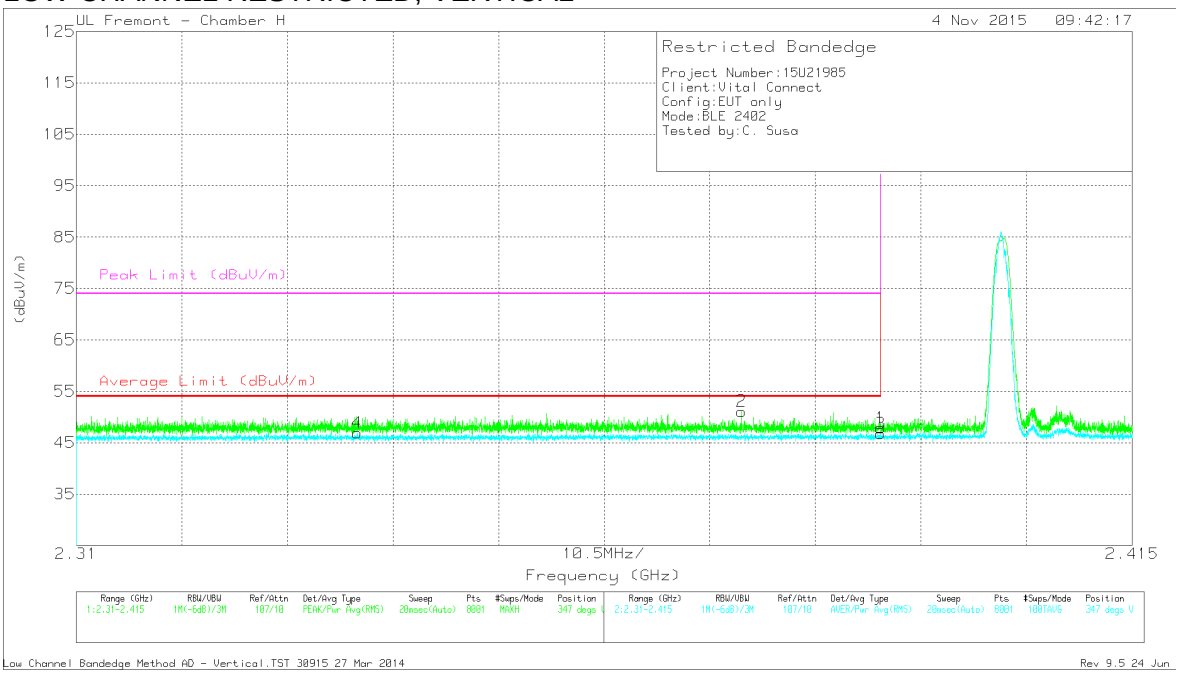
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	38.54	Pk	32	-23.5	0	47.04	-	-	74	-26.96	217	232	H
2	* 2.376	41.49	Pk	32	-23.5	0	49.99	-	-	74	-24.01	217	232	H
3	* 2.39	29.86	RMS	32	-23.5	8.32	46.68	54	-7.32	-	-	217	232	H
4	* 2.334	30.31	RMS	31.9	-23.4	8.32	47.13	54	-6.87	-	-	217	232	H

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

Pk - Peak detector

RMS - RMS detection

LOW CHANNEL RESTRICTED, VERTICAL



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Flt r/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	39.38	Pk	32	-23.5	0	47.88	-	-	74	-26.12	347	335	V
2	* 2.376	42.59	Pk	32	-23.5	0	51.09	-	-	74	-22.91	347	335	V
3	* 2.39	29.93	RMS	32	-23.5	8.32	46.75	54	-7.25	-	-	347	335	V
4	* 2.338	30.09	RMS	31.9	-23.4	8.32	46.91	54	-7.09	-	-	347	335	V

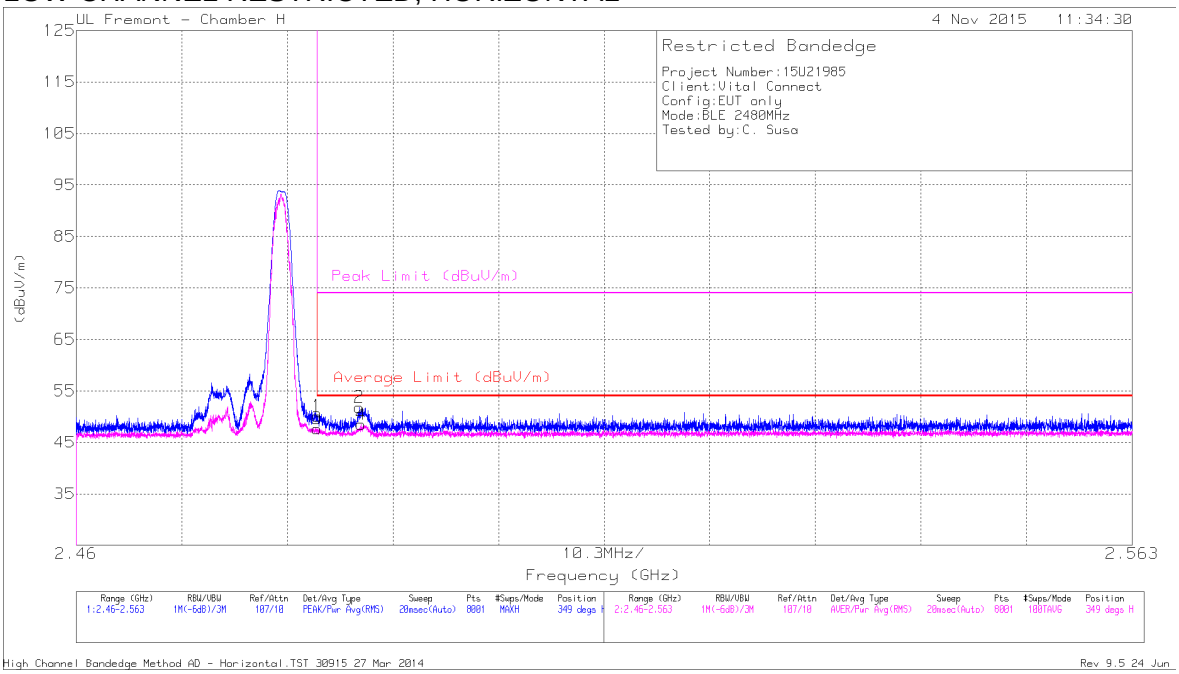
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

RMS - RMS detection

RESTRICTED BANDEDGE (HIGH CHANNEL)

LOW CHANNEL RESTRICTED, HORIZONTAL



DATA

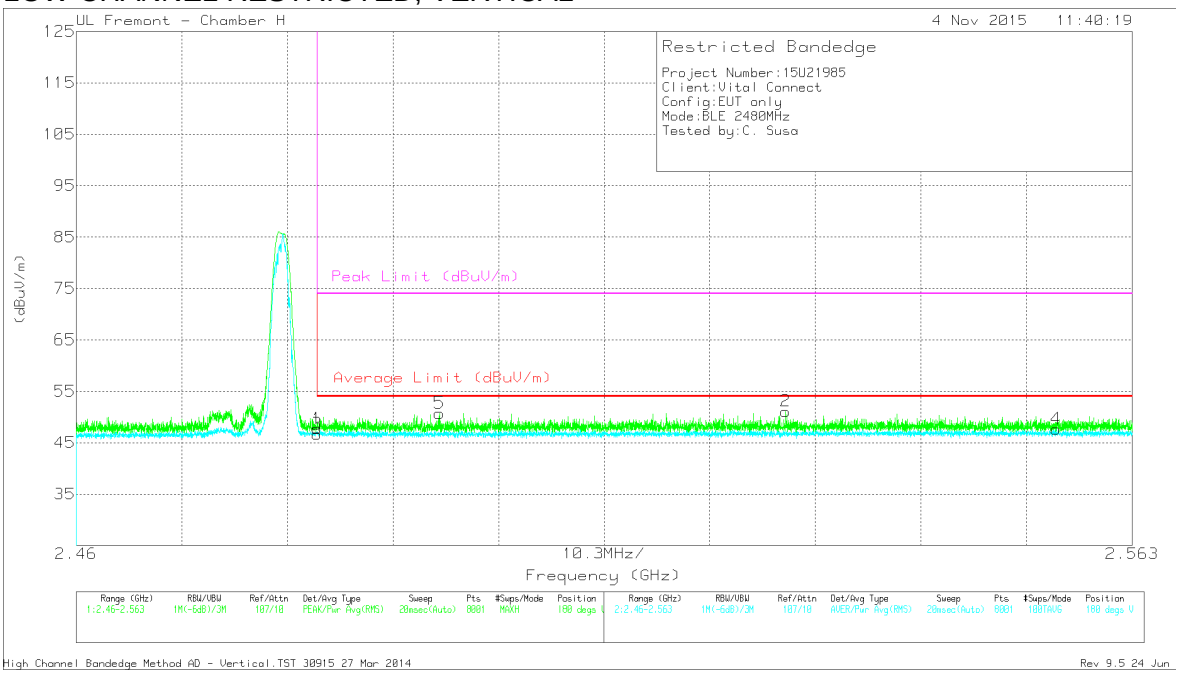
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	41.12	Pk	32.4	-23.4	0	50.12	-	-	74	-23.88	349	175	H
3	* 2.484	30.36	RMS	32.4	-23.4	8.32	47.68	54	-6.32	-	-	349	175	H
2	* 2.488	42.84	Pk	32.4	-23.4	0	51.84	-	-	74	-22.16	349	175	H
4	* 2.488	31.15	RMS	32.4	-23.4	8.32	48.47	54	-5.53	-	-	349	175	H

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

Pk - Peak detector

RMS - RMS detection

LOW CHANNEL RESTRICTED, VERTICAL



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (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	38.76	Pk	32.4	-23.4	0	47.76	-	-	74	-26.24	180	331	V
5	* 2.495	41.73	Pk	32.4	-23.4	0	50.73	-	-	74	-23.27	180	331	V
3	* 2.484	29.37	RMS	32.4	-23.4	8.32	46.69	54	-7.31	-	-	180	331	V
2	2.529	41.92	Pk	32.5	-23.3	0	51.12	-	-	74	-22.88	180	331	V
4	2.556	30.04	RMS	32.5	-23.2	8.32	47.66	54	-6.34	-	-	180	331	V

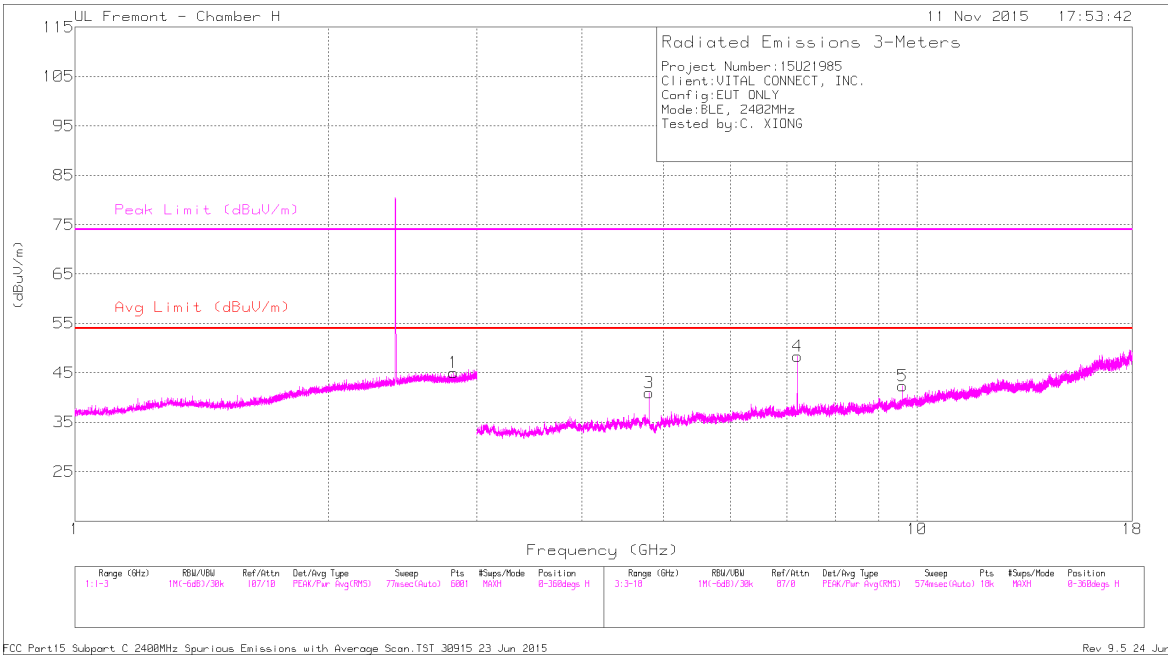
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

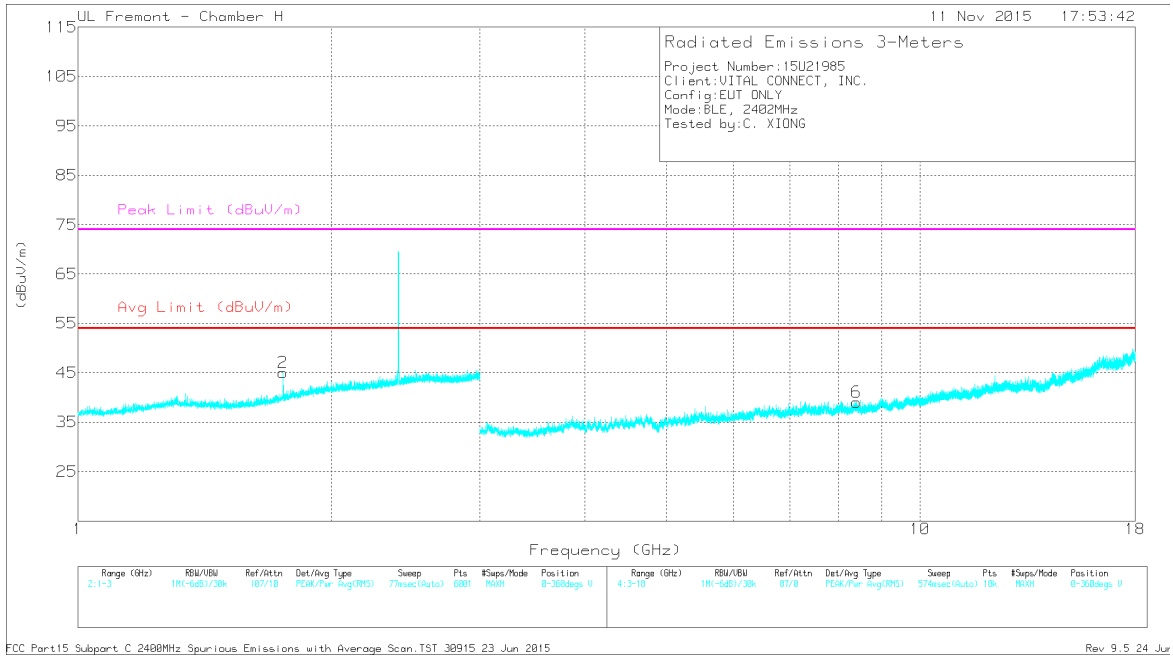
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



LOW CHANNEL VERTICAL



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (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	* 2.817	42.71	PK2	32.4	-23.1	0	52.01	-	-	74	-21.99	1	100	H
	* 2.817	31.43	MAv1	32.4	-23.1	8.32	49.05	54	-4.95	-	-	1	100	H
3	* 4.805	43.33	PK2	34.2	-31.1	0	46.43	-	-	74	-27.57	302	188	H
	* 4.806	31.85	MAv1	34.2	-31.1	8.32	43.27	54	-10.73	-	-	302	188	H
6	* 8.41	38.28	PK2	35.9	-26.7	0	47.48	-	-	74	-26.52	1	100	V
	* 8.41	26.6	MAv1	35.9	-26.7	8.32	44.12	54	-9.88	-	-	1	100	V
2	1.753	39.39	Pk	29.6	-24	0	44.99	-	-	74	-29.01	0-360	200	V
4	7.207	41.91	Pk	35.9	-29.4	0	48.41	-	-	74	-25.59	0-360	100	H
5	9.614	31.11	Pk	36.6	-25.3	0	42.41	-	-	74	-31.59	0-360	100	H

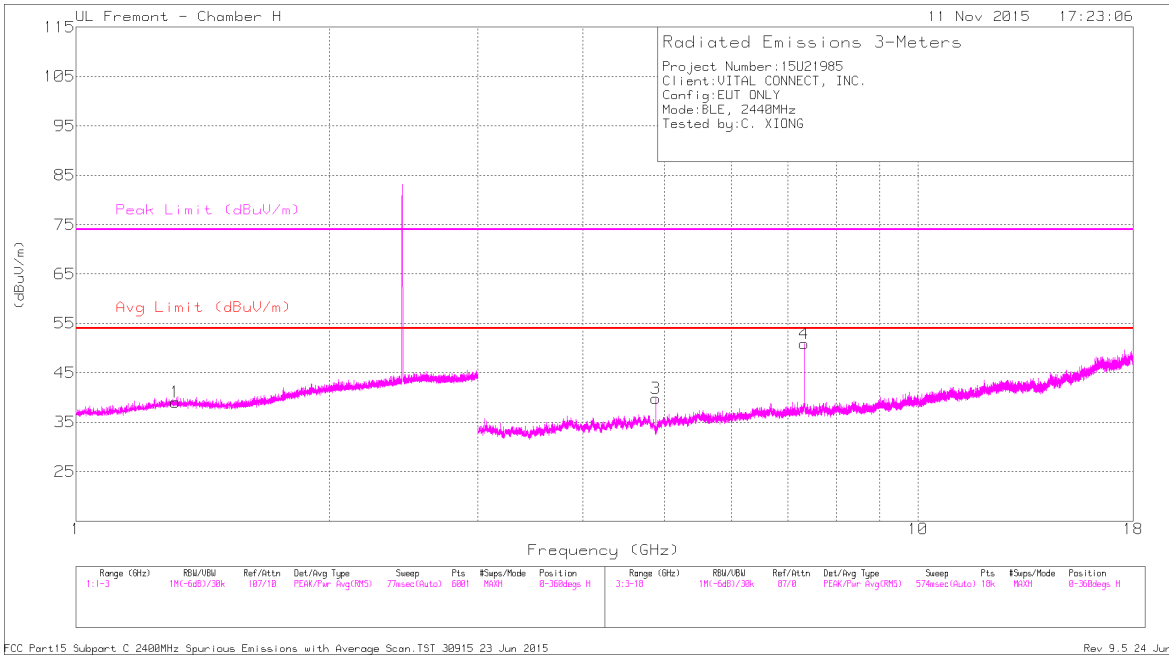
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

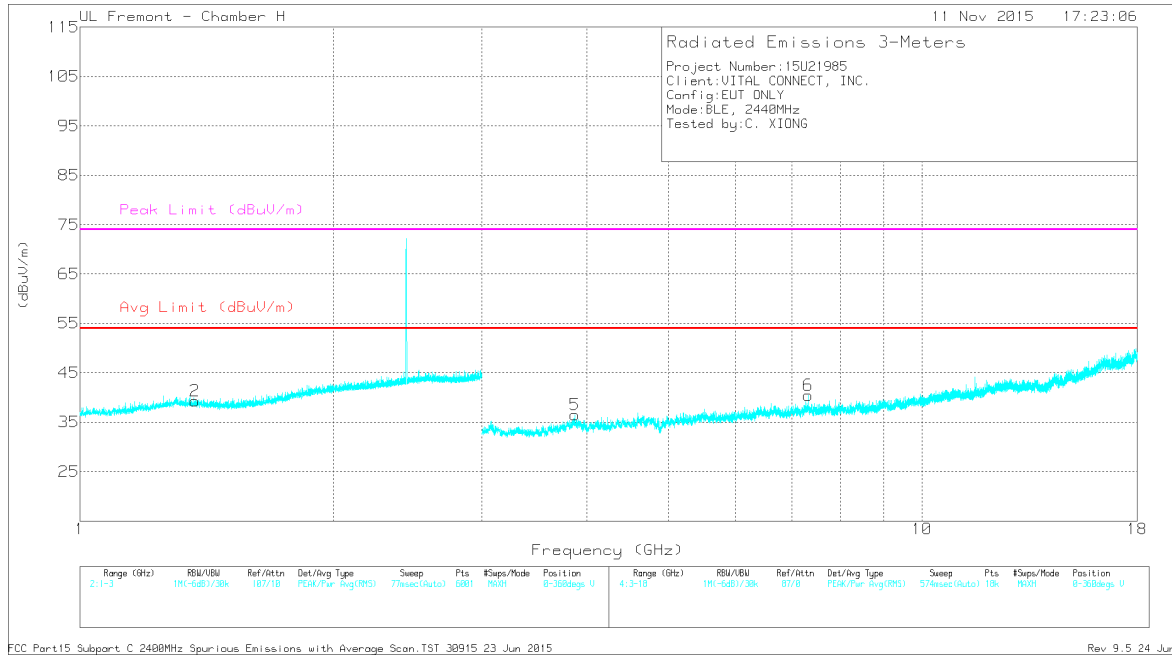
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL HORIZONTAL



MID CHANNEL VERTICAL



DATA

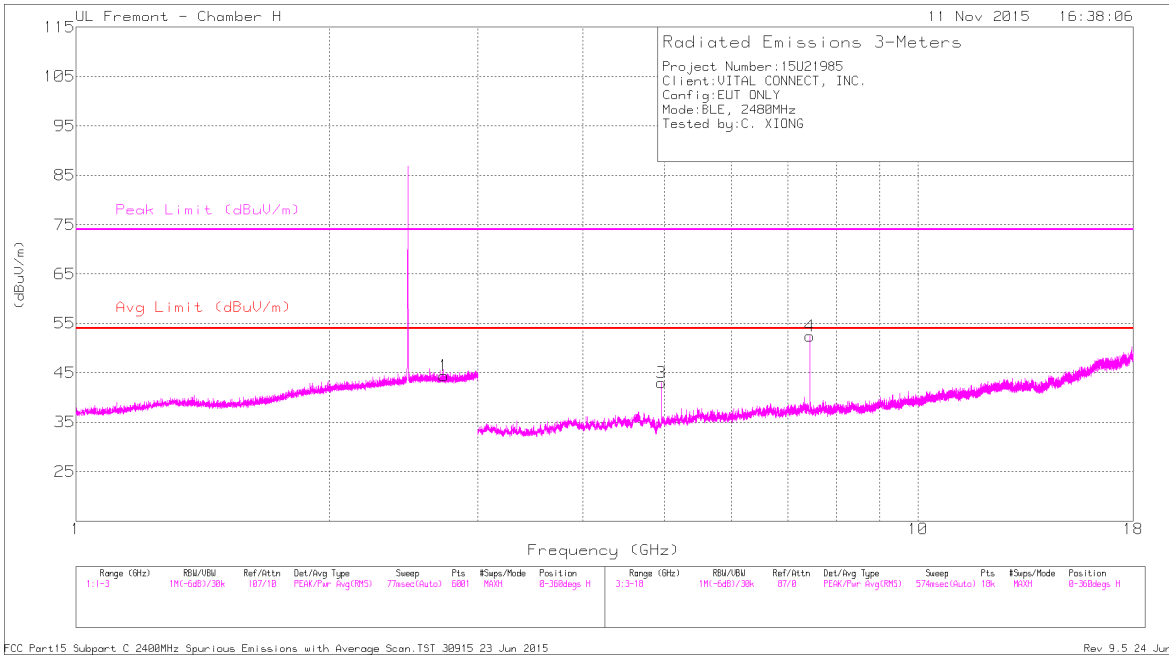
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl/ Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.313	44.18	PK2	28.9	-24.7	0	48.38	-	-	74	-25.62	143	204	H
	* 1.312	32.06	MAv1	28.9	-24.7	8.32	44.58	54	-9.42	-	-	143	204	H
2	* 1.37	43.5	PK2	28.6	-24.5	0	47.6	-	-	74	-26.4	143	204	V
	* 1.371	32.04	MAv1	28.6	-24.5	8.32	44.46	54	-9.54	-	-	143	204	V
3	* 7.322	47.29	PK2	36	-27.8	0	55.49	-	-	74	-18.51	279	123	H
	* 7.321	36.1	MAv1	36	-27.8	8.32	52.62	54	-1.38	-	-	279	123	H
4	* 4.881	43.09	PK2	34.2	-30.9	0	46.39	-	-	74	-27.61	215	111	H
	* 4.882	31.08	MAv1	34.2	-30.9	8.32	42.7	54	-11.3	-	-	215	111	H
5	* 7.322	44.8	PK2	36	-27.8	0	53	-	-	74	-21	143	392	V
	* 7.321	33.52	MAv1	36	-27.8	8.32	50.04	54	-3.96	-	-	143	392	V
6	* 3.869	42.63	PK2	33.5	-31	0	45.13	-	-	74	-28.87	143	204	V
	* 3.869	30.63	MAv1	33.5	-31	8.32	41.45	54	-12.55	-	-	143	204	V

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

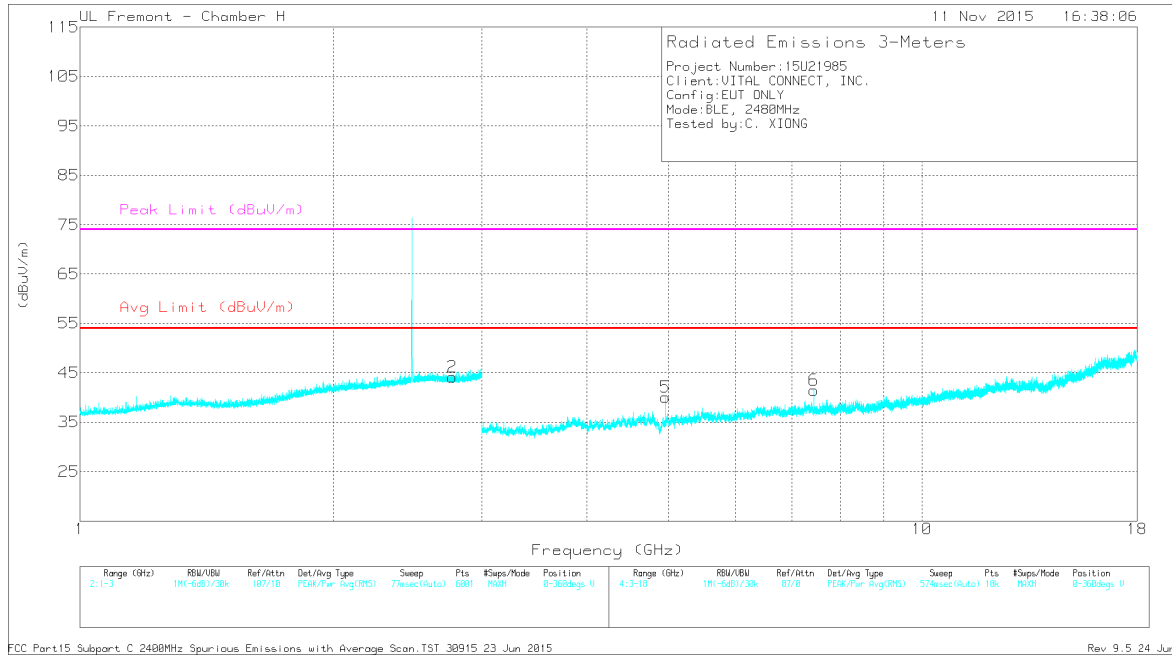
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL HORIZONTAL



HIGH CHANNEL VERTICAL



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (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	* 2.734	42.97	PK2	32.3	-23.2	0	52.07	-	-	74	-21.93	134	202	H
	* 2.735	31.55	MAv1	32.3	-23.2	8.32	48.97	54	-5.03	-	-	134	202	H
2	* 2.767	44.2	PK2	32.4	-23.2	0	53.4	-	-	74	-20.6	134	202	V
	* 2.766	31.52	MAv1	32.4	-23.2	8.32	49.04	54	-4.96	-	-	134	202	V
4	* 7.438	47.56	PK2	36	-28.2	0	55.36	-	-	74	-18.64	134	115	H
	* 7.439	36.12	MAv1	36	-28.2	8.32	52.24	54	-1.76	-	-	134	115	H
3	* 4.959	45.49	PK2	34.2	-30.7	0	48.99	-	-	74	-25.01	121	369	H
	* 4.959	33.83	MAv1	34.2	-30.7	8.32	45.65	54	-8.35	-	-	121	369	H
5	* 4.959	43.86	PK2	34.2	-30.7	0	47.36	-	-	74	-26.64	360	296	V
	* 4.958	31.46	MAv1	34.2	-30.7	8.32	43.28	54	-10.72	-	-	360	296	V
6	* 7.438	43.38	PK2	36	-28.2	0	51.18	-	-	74	-22.82	345	388	V
	* 7.439	31.08	MAv1	36	-28.2	8.32	47.2	54	-6.8	-	-	345	388	V

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

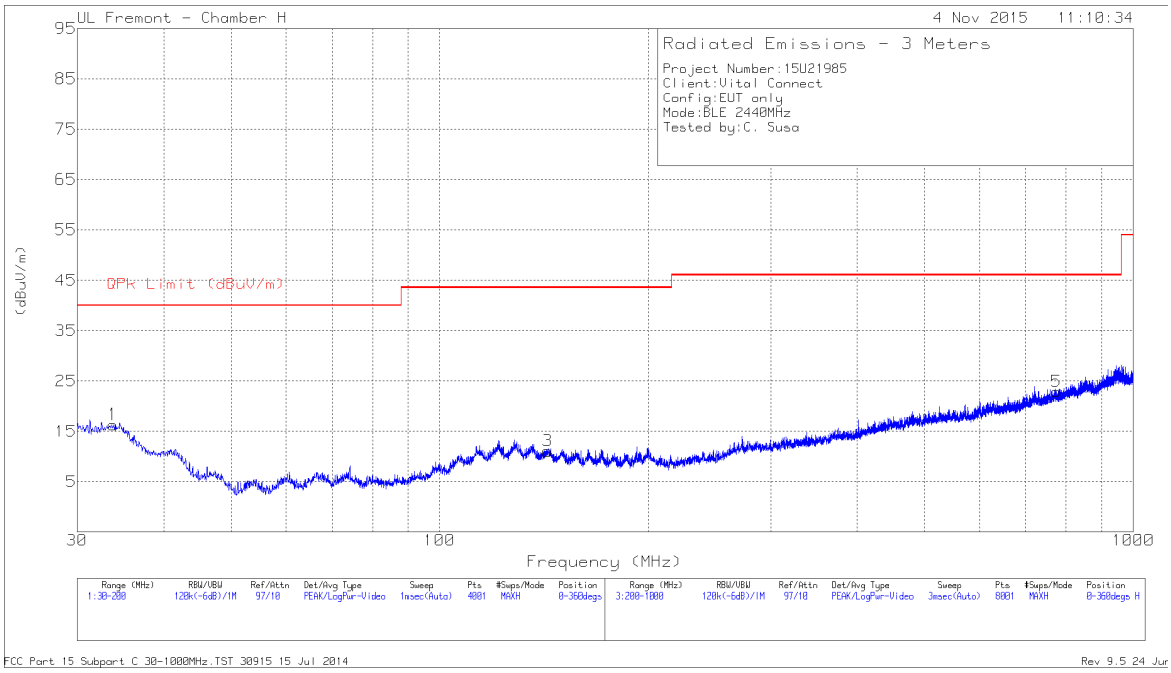
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

8.3. WORST-CASE BELOW 1 GHz

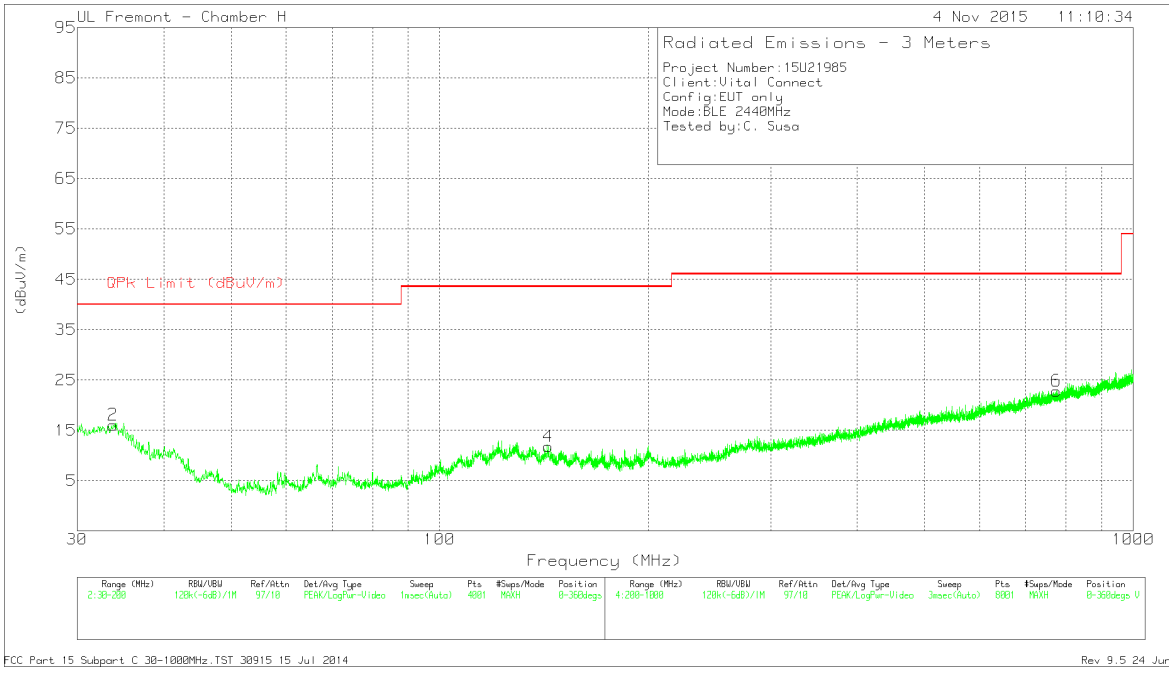
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

HORIZONTAL PLOT



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

VERTICAL PLOT



DATA

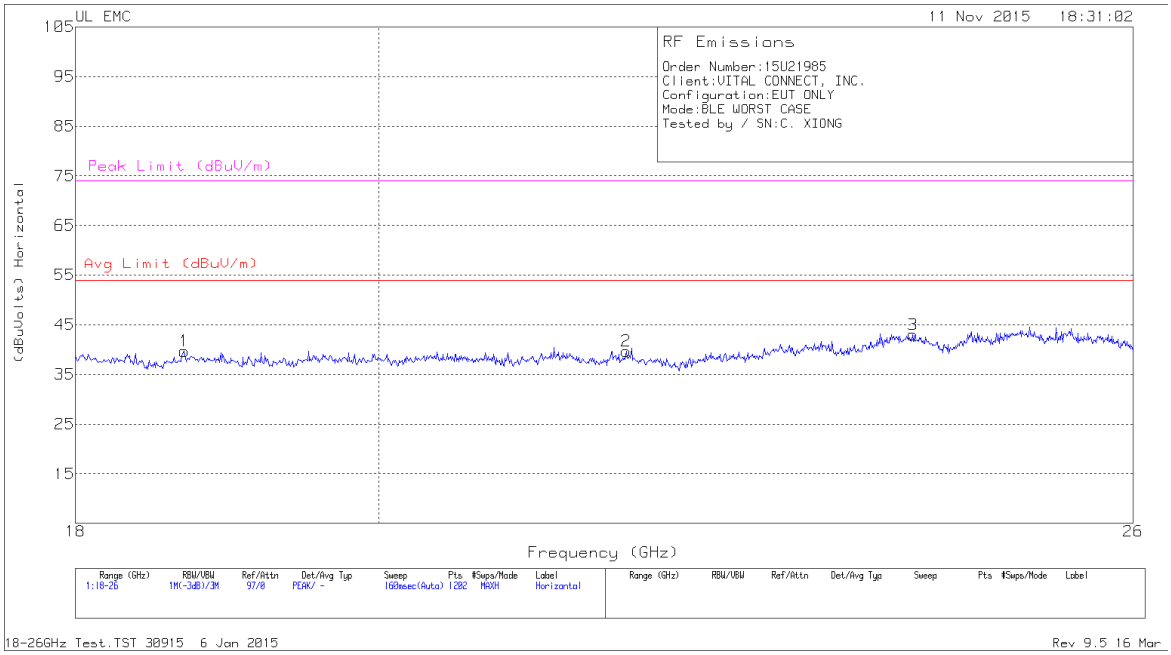
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T900 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	33.825	28.51	Pk	19.1	-31.3	16.31	40	-23.69	0-360	301	H
2	33.825	28.28	Pk	19.1	-31.3	16.08	40	-23.92	0-360	100	V
3	143.1775	28.32	Pk	13	-30.2	11.12	43.52	-32.4	0-360	400	H
4	143.3475	28.97	Pk	13	-30.2	11.77	43.52	-31.75	0-360	100	V
5	775.4	29.3	Pk	21	-27.4	22.9	46.02	-23.12	0-360	301	H
6	775.4	29.23	Pk	21	-27.4	22.83	46.02	-23.19	0-360	301	V

Pk - Peak detector

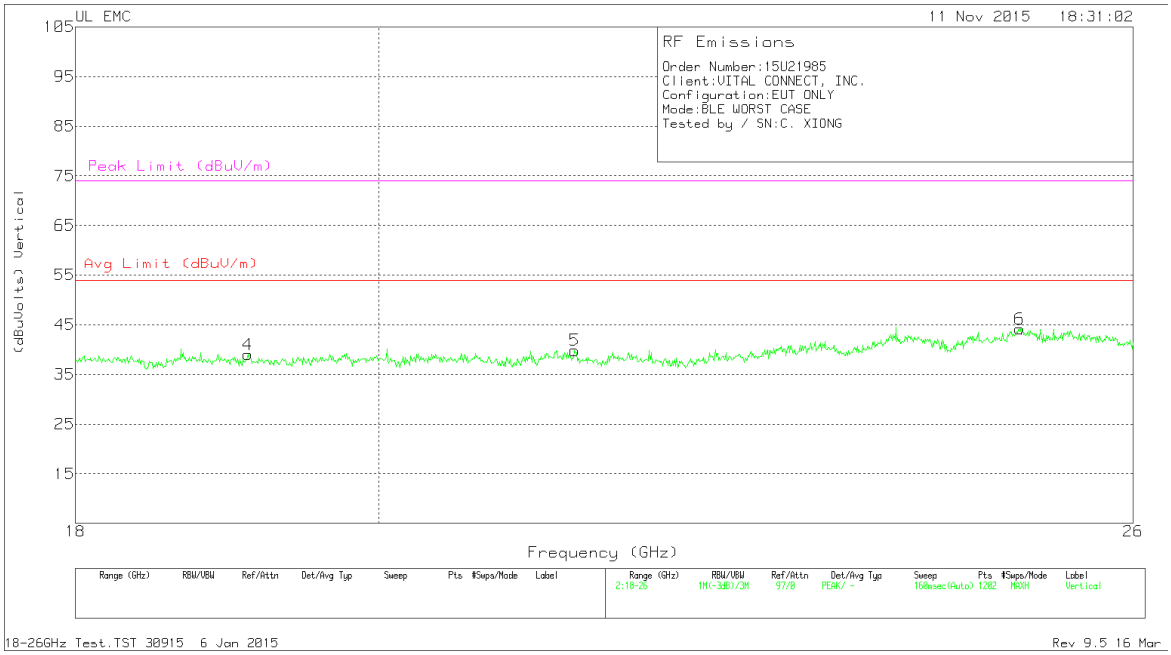
8.4. WORST-CASE 18 to 26 GHz

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

HORIZONTAL PLOT



VERTICAL PLOT



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T89 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	18.693	40.87	Pk	32.5	-24.2	-9.5	39.666	54	-14.333	74	-34.333
2	21.797	40.47	Pk	33.3	-24.6	-9.5	39.666	54	-14.333	74	-34.333
3	24.082	43.5	Pk	33.3	-24.3	-9.5	43	54	-11	74	-31
4	19.112	41	Pk	32.2	-24.7	-9.5	39	54	-15	74	-35
5	21.41	41.83	Pk	33.1	-25.6	-9.5	39.833	54	-14.166	74	-34.166
6	24.994	43.97	Pk	34.2	-24.5	-9.5	44.166	54	-9.833	74	-29.833

Pk - Peak detector