



CERTIFICATION TEST REPORT

Report Number. : 16U23817-E1V2

Applicant : APPLE, INC.
1 INFINITE LOOP
CUPERTINO, CA 95014, U.S.A.

Model : A1701

FCC ID : BCGA1701

IC : 579C-A1701

EUT Description : TABLET DEVICE

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

Date Of Issue:
March 01, 2017

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Revision History

Rev.	Issue Date	Revisions	Revised By
V1	02/03/2017	Initial Issue	Chin Pang
V2	03/01/2017	Address TCB's Questions	Chin Pang

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	5
2. TEST METHODOLOGY	6
3. FACILITIES AND ACCREDITATION	6
4. CALIBRATION AND UNCERTAINTY	7
4.1. MEASURING INSTRUMENT CALIBRATION	7
4.2. SAMPLE CALCULATION	7
4.3. MEASUREMENT UNCERTAINTY.....	7
5. EQUIPMENT UNDER TEST	8
5.1. DESCRIPTION OF EUT	8
5.2. MAXIMUM OUTPUT POWER.....	8
5.3. DESCRIPTION OF AVAILABLE ANTENNAS	8
5.4. SOFTWARE AND FIRMWARE.....	8
5.5. WORST-CASE CONFIGURATION AND MODE.....	9
5.6. DESCRIPTION OF TEST SETUP.....	10
6. TEST AND MEASUREMENT EQUIPMENT	16
7. ANTENNA PORT TEST RESULTS	17
7.1. MEASUREMENT METHODS	17
7.2. ON TIME, DUTY CYCLE	18
7.3. HIGH POWER MODE.....	20
7.3.1. 6 dB BANDWIDTH.....	20
7.3.2. 99% BANDWIDTH.....	23
7.3.3. AVERAGE POWER	26
7.3.4. OUTPUT POWER	27
7.3.5. POWER SPECTRAL DENSITY	28
7.3.6. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS.....	31
7.4. LOW POWER MODE	35
7.4.1. 6 dB BANDWIDTH.....	35
7.4.2. 99% BANDWIDTH.....	38
7.4.3. AVERAGE POWER	41
7.4.4. OUTPUT POWER	42
7.4.5. POWER SPECTRAL DENSITY	43
7.4.6. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS.....	46
8. RADIATED TEST RESULTS.....	50
8.1. LIMITS AND PROCEDURE	50
8.2. HIGH POWER MODE.....	51

8.2.1.	RESTRICTED BANDEDGE (LOW CHANNEL)	51
8.2.2.	AUTHORIZED BANDEDGE (HIGH CHANNEL).....	53
8.2.3.	HARMONICS AND SPURIOUS EMISSIONS	55
8.3.	LOW POWER MODE	61
8.3.1.	RESTRICTED BANDEDGE (LOW CHANNEL).....	61
8.3.2.	AUTHORIZED BANDEDGE (HIGH CHANNEL).....	63
8.3.3.	HARMONICS AND SPURIOUS EMISSIONS	65
8.4.	WORST-CASE CO-LOCATION.....	71
8.5.	WORST-CASE BELOW 1 GHz.....	73
8.6.	WORST-CASE ABOVE 18 GHz	75
9.	AC POWER LINE CONDUCTED EMISSIONS.....	77
9.1.	EUT POWERED BY AC/DC ADAPTER VIA USB CABLE	78
9.2.	EUT POWERED BY HOST PC VIA USB CABLE	80
10.	SETUP PHOTOS	82

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: APPLE, INC.
1 INFINITE LOOP
CUPERTINO, CA 95014, U.S.A.

EUT DESCRIPTION: TABLET DEVICE

MODEL: A1701

SERIAL NUMBER: CONDUCTED (DLXSQ00GHQFD),
RADIATED (DLXSQ02WHQFC)

DATE TESTED: DECEMBER 12, 2016 – MARCH 01, 2017

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:



CHIN PANG
Senior Engineer
UL VERIFICATION SERVICES INC.

Prepared By:



JINGANG LI
LAB 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, KDB 558074 D01 v03r05, 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 (IC:2324B-1)	☒ Chamber D (IC:2324B-4)
☐ Chamber B (IC:2324B-2)	☒ Chamber E (IC:2324B-5)
☐ Chamber C (IC:2324B-3)	☐ Chamber F (IC:2324B-6)
	☒ Chamber G (IC:2324B-7)
	☐ Chamber H (IC:2324B-8)

The above test sites and facilities are covered under FCC Test Firm Registration # 208313.

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:

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

4.3. MEASUREMENT UNCERTAINTY

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

Parameter	Uncertainty
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.84 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.65 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	3.15 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	5.36 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.32 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.45 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.24 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a tablet with multimedia functions (music, application support, and video), IEEE 802.11a/b/g/n/ac radio, and Bluetooth radio. The rechargeable battery is not user accessible.

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	20.416	110.05

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

Frequency Band (GHz)	Antenna Gain (dBi)
2.4	1.00

5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was 14E232.

5.5. WORST-CASE CONFIGURATION AND MODE

For below 1G, 18-26GHz radiated emission, and power line conducted emissions were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

The output power for PSD and spurious tests was set higher than maximum for the purposes of testing only.

The fundamental of the EUT was investigated in three orthogonal orientations X/Y/Z, it was determined that Y (Landscape) 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:

Based on the baseline scan, the worst-case data rates were:

BLE: 1 Mbps.

There are two vendors of the WiFi/Bluetooth radio modules: variant 1 and variant 2. The WiFi/Bluetooth radio modules have the same mechanical outline (e.g., the same package dimension and pin-out layout), use the same on-board antenna matching circuit, have an identical antenna structure, and are built and tested to conform to the same specifications and to operate within the same tolerances.

Baseline testing was performed on the two variants to determine the worst case on all conducted power and radiated emissions.

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Apple	A1286	7313700NAGW	N/A
Laptop AC/DC adapter	Apple	A1343	C062172045DDJ94A6	N/A
Earphone	Apple	NA	NA	N/A
EUT AC/DC adapter	Apple	A1357	W010A051	N/A

I/O CABLES (CONDUCTED TEST)

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	Antenna	1	SMA	Un-Shielded	0.2	To spectrum Analyzer
2	USB	1	USB	Shielded	1	N/A
3	AC	1	AC	Un-shielded	2	N/A

I/O CABLES (RADIATED ABOVE 1 GHZ)

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
None						

I/O CABLES (AC POWER CONDUCTED TEST AND BELOW 1 GHZ)

I/O Cable List						
Cable No	Port	# of identical	Connector Type	Cable Type	Cable Length (m)	Remarks
1	Earphone Jack	1	3.5mm Audio	Shielded	0.9	N/A
2	USB	1	USB	Shielded	1	N/A
3	AC	1	AC	Un-shielded	2	N/A

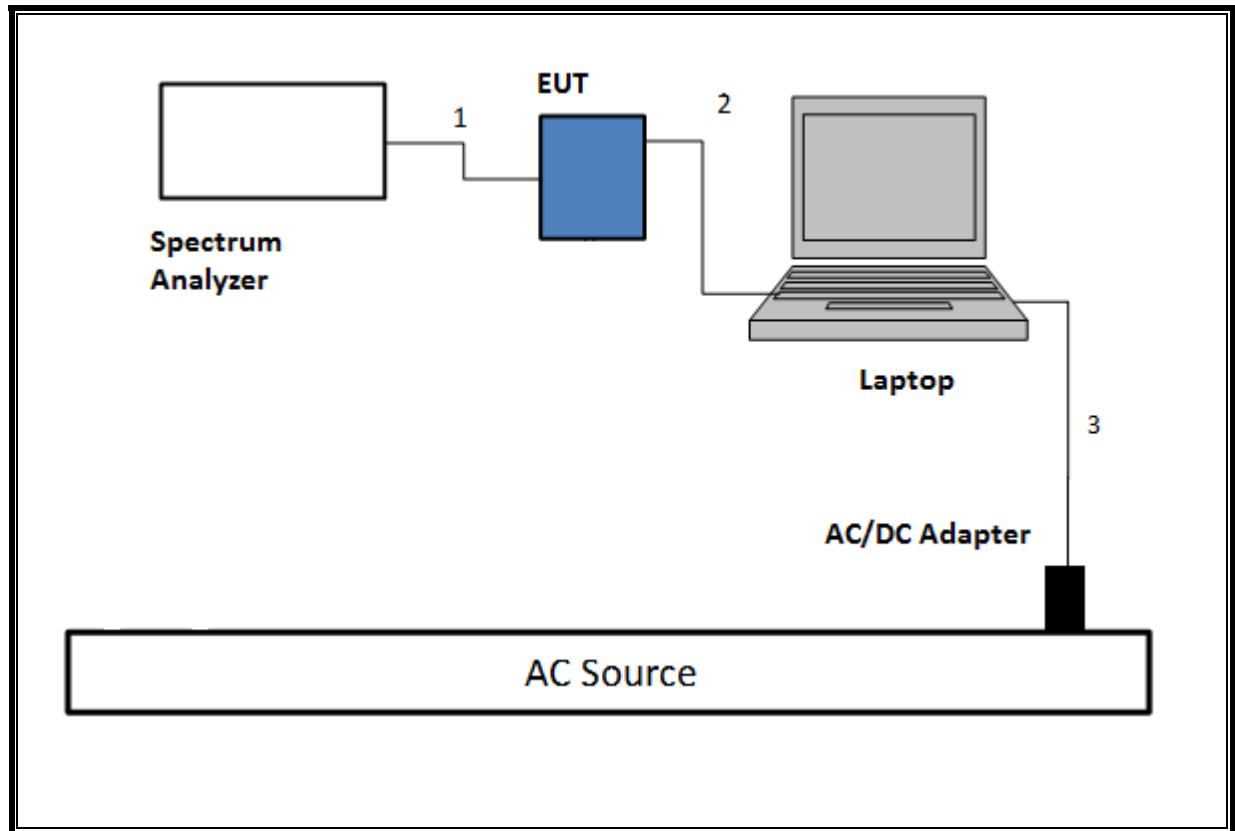
I/O CABLES (AC LINE CONDUCTED: LAPTOP CONFIGUARTION)

I/O Cable List						
Cable No	Port	# of identical	Connector Type	Cable Type	Cable Length (m)	Remarks
1	Earphone Jack	1	3.5mm Audio	Shielded	0.9	N/A
2	USB	1	USB	Shielded	1	N/A
3	AC	1	AC	Un-shielded	2	N/A

TEST SETUP - CONDUCTED TESTS

The EUT was connected to a host Laptop via USB cable adapter and spectrum analyzer to antenna port. Test software exercised the EUT.

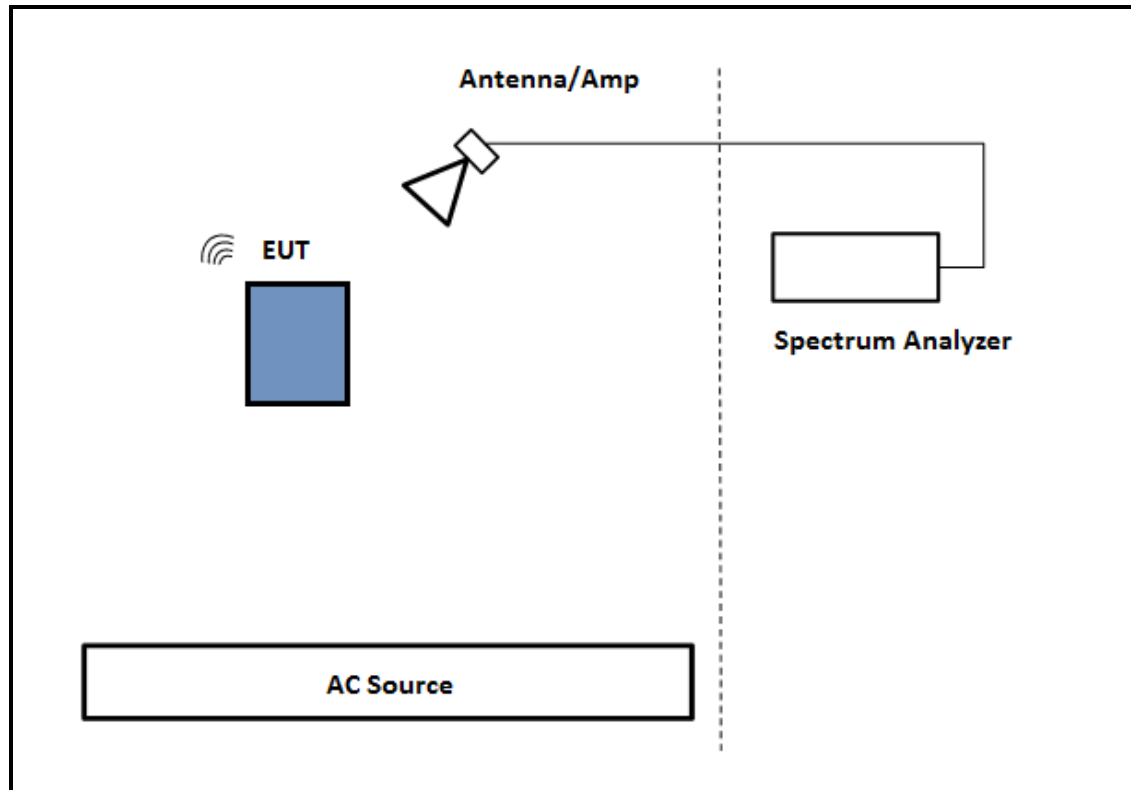
SETUP DIAGRAM



TEST SETUP- RADIATED-ABOVE 1 GHZ

The EUT was powered by battery. Test software exercised the EUT.

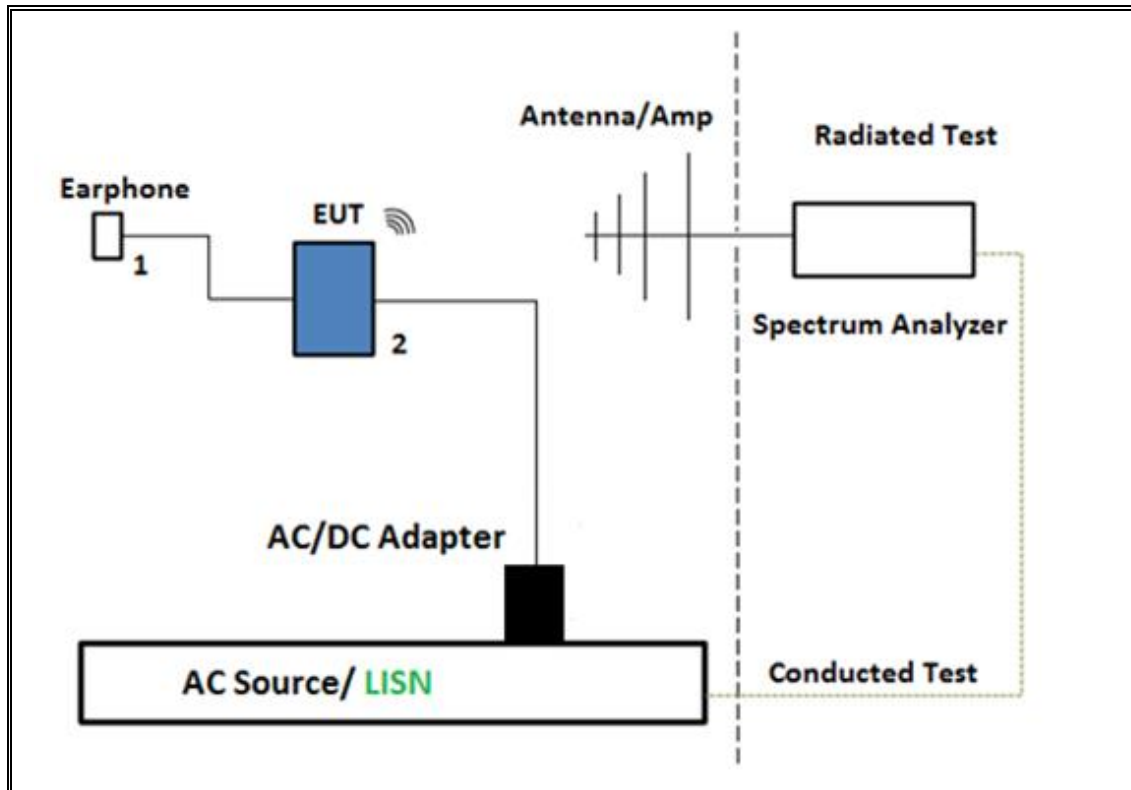
SETUP DIAGRAM



TEST SETUP- BELOW 1GHz

The EUT was powered by AC/DC adapter and connected with earphone. Test software exercised the EUT.

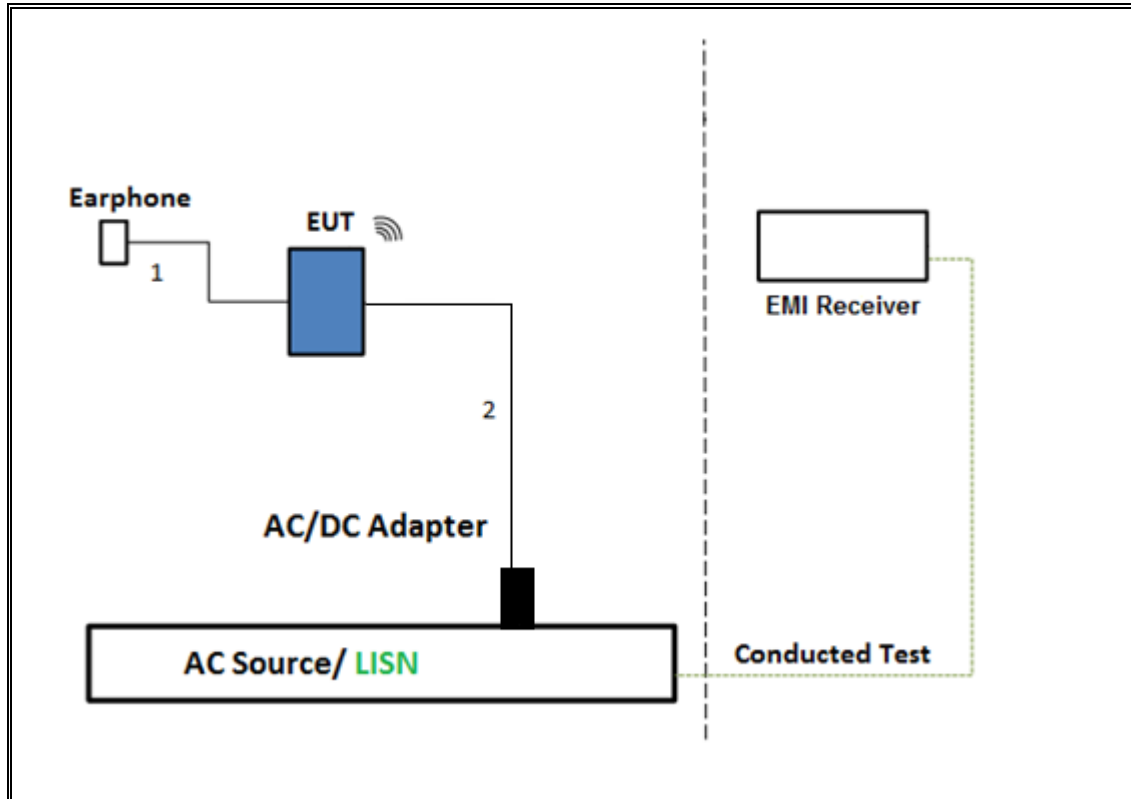
SETUP DIAGRAM



TEST SETUP- AC LINE CONDUCTED: AC/DC ADAPTER CONFIGURATION

The EUT was tested with earphone connected and powered by AC/DC adapter via USB cable. Test software exercised the EUT.

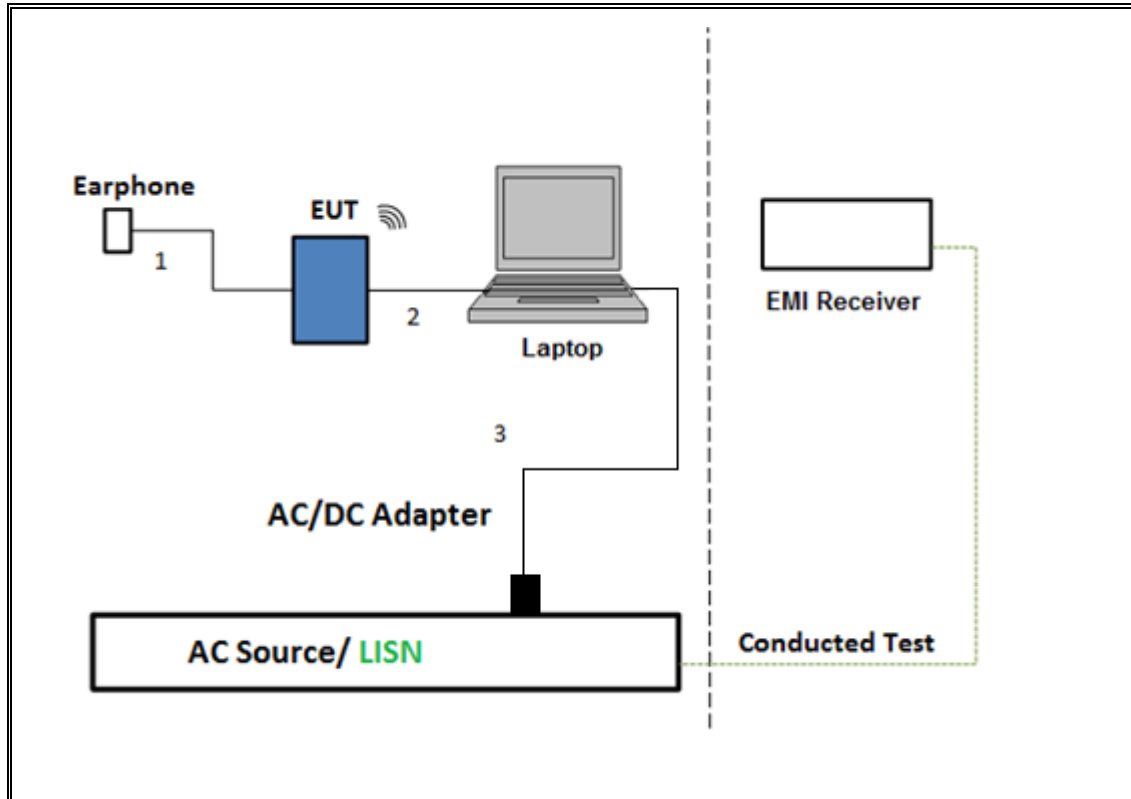
SETUP DIAGRAM



TEST SETUP- AC LINE CONDUCTED: LAPTOP CONFIGURATION

The EUT was tested with earphone connected and powered by host PC via USB cable. Test software exercised the EUT.

SETUP DIAGRAM



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	Asset	Cal Due
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T300	11/10/17
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	T426	9/23/2017
Amplifier, 1 to 18GHz	Miteq	AFS42-00101800-25-S-42	T243	10/11/2017
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	T285	6/20/2017
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T1613	9/23/2017
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T300	11/10/17
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T120	4/5/2017
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	T122	1/29/2017
Amplifier, 1 to 18GHz	Miteq	AFS42-00101800-25-S-42	T742	11/29/2017
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	T173	6/17/2017
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T862	4/18/2017
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	T899	5/26/2017
Amplifier, 1 to 18GHz	Miteq	AFS42-00101800-25-S-42	T491	5/31/2017
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	T834	6/17/2017
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A-544	T1210	6/30/2017
Filter, HPF 3.0GHz	MICROTRONICS	HPM17543	T487	01/26/2017
Power Meter, P-series single channel	Agilent (Keysight) Technologies	N1911A	T227	10/11/2017
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Agilent (Keysight) Technologies	N1921A	T1226	05/18/2017
Antenna Horn, 18 to 26GHz	ARA	MWH-1826	T447	6/16/2017
Spectrum Analyzer, 40GHz	Agilent	8564E	T106	9/7/2017
Amplifier, 1 to 26.5GHz 23.5dB gain Minimum	Keysight	8449B	T402	7/5/2017
AC Line Conducted				
EMI Test Receiver 9KHz-7GHz	Rohde & Schwarz	ESCI7	T1124	10/7/2017
LISN for Conducted Emissions CISPR-16	Fischer	50/250-25-2-01	T1310	06/08/2017
Power Cable, Line Conducted Emissions	UL	PG1	T861	9/1/2017
UL AUTOMATION SOFTWARE				
Radiated Software	UL	UL EMC	Ver 9.5, April 26, 2016	
Conducted Software	UL	UL EMC	Ver 5.4, October 13, 2016	
AC Line Conducted Software	UL	UL EMC	Ver 9.5, May 26, 2015	

NOTE: *testing is completed before equipment calibration expiration date.

7. ANTENNA PORT TEST RESULTS

7.1. MEASUREMENT METHODS

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

Output Power: KDB 558074 D01 v03r05, Section 9.1.2.

Power Spectral Density: KDB 558074 D01 v03r05, Section 10.2.

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.

7.2. ON TIME, DUTY CYCLE

LIMITS

None; for reporting purposes only.

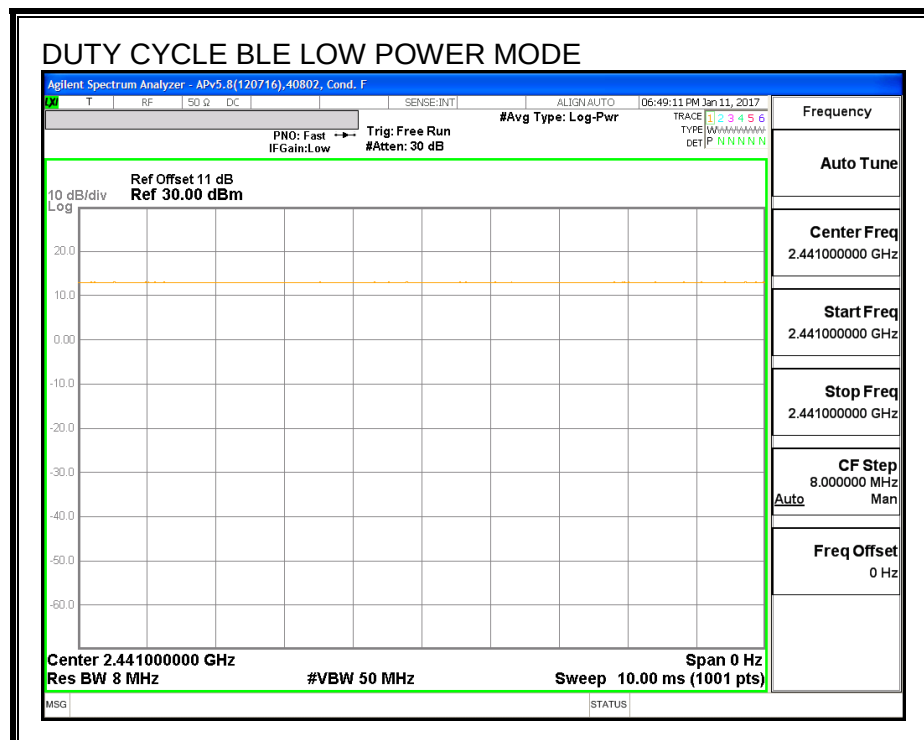
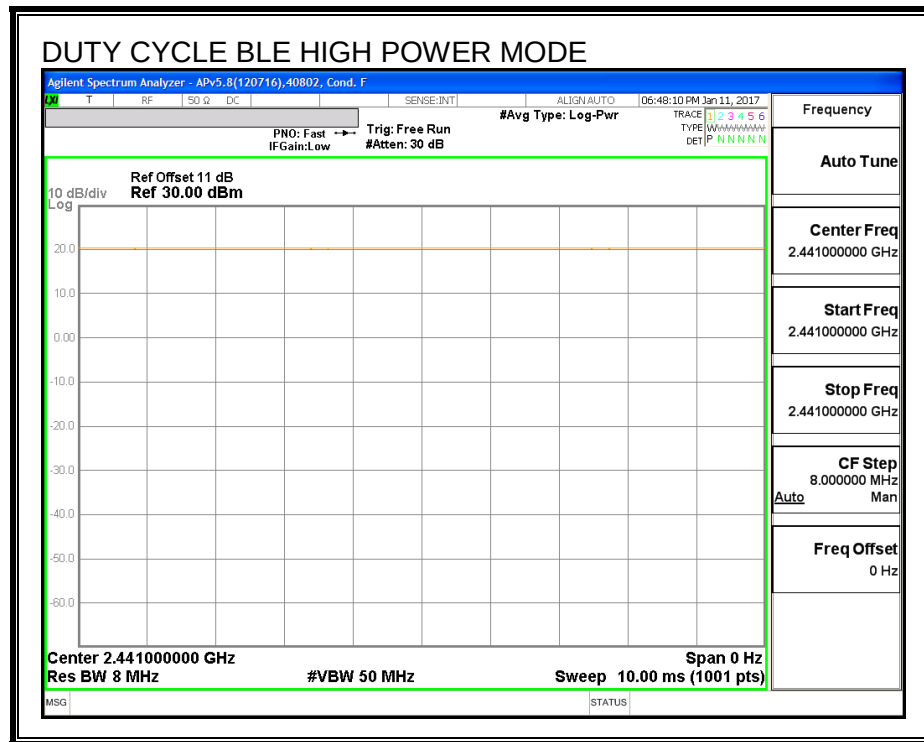
PROCEDURE

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 HIGH POWER	1.000	1.000	1.000	100.00%	0.00	0.010
BLE LOW POWER	1.000	1.000	1.000	100.00%	0.00	0.010

DUTY CYCLE PLOTS



7.3. HIGH POWER MODE

7.3.1. 6 dB BANDWIDTH

LIMITS

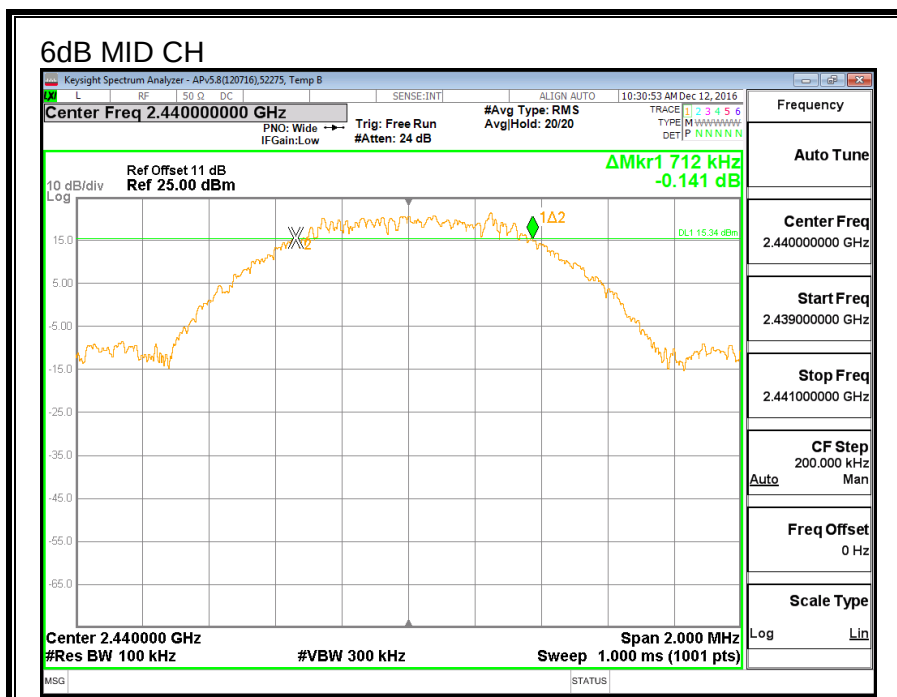
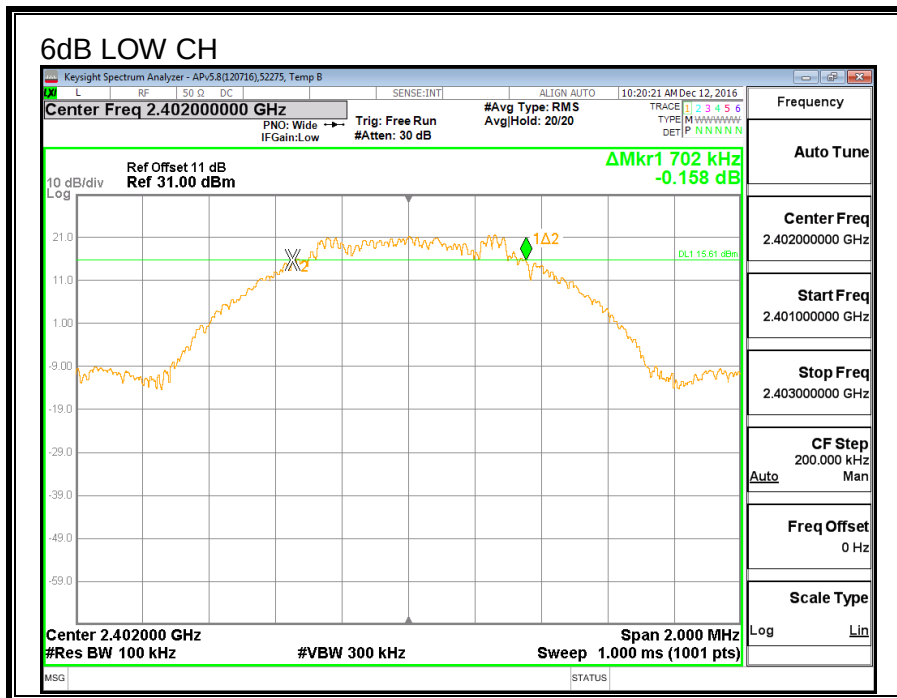
FCC §15.247 (a) (2)

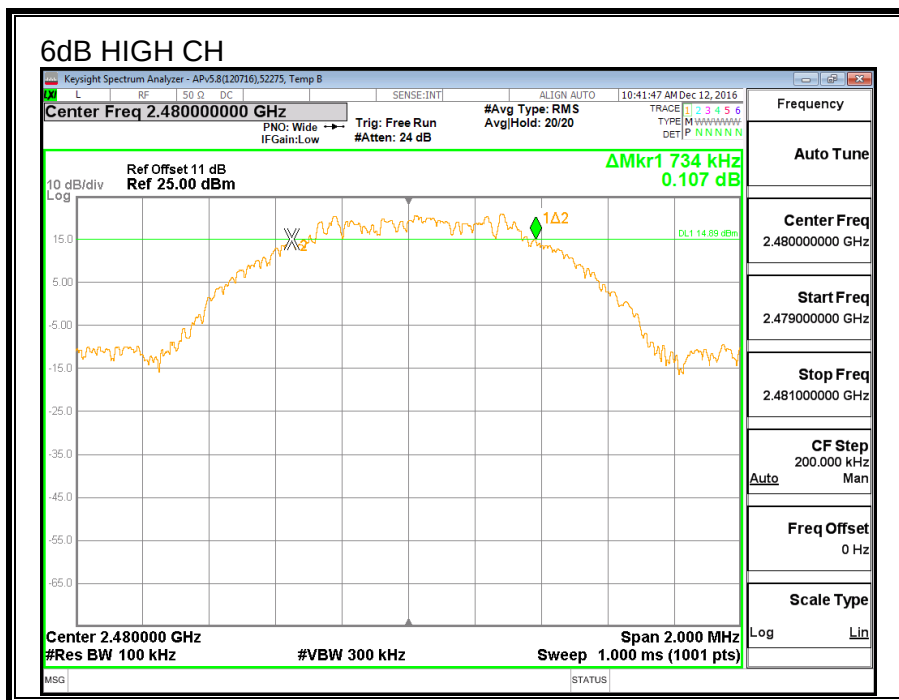
IC RSS-247 (5.2) (1)

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

RESULTS

Channel	Frequency	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.702	0.5
Middle	2440	0.712	0.5
High	2480	0.734	0.5





7.3.2. 99% BANDWIDTH

LIMITS

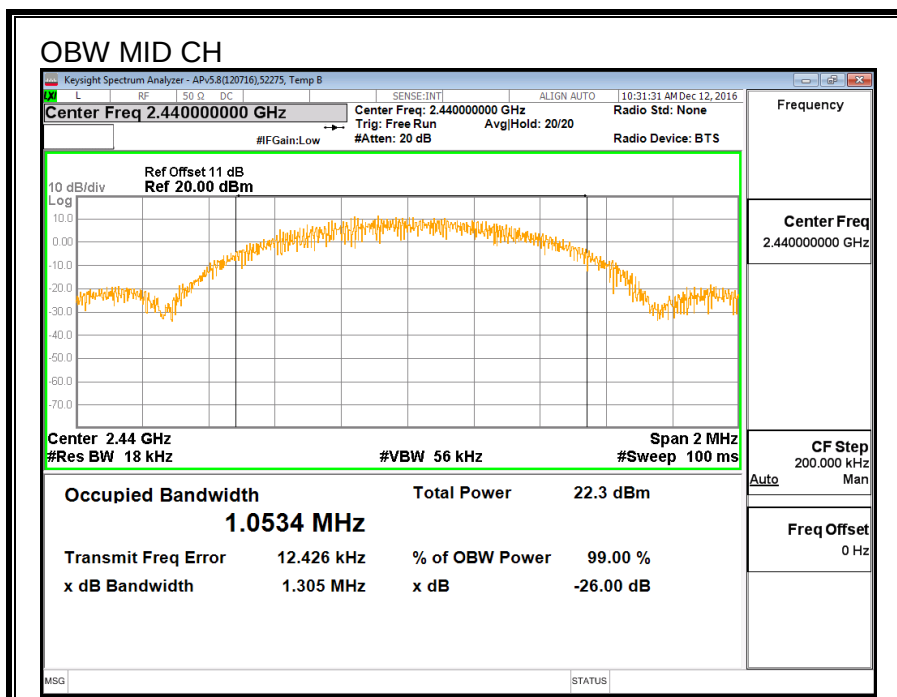
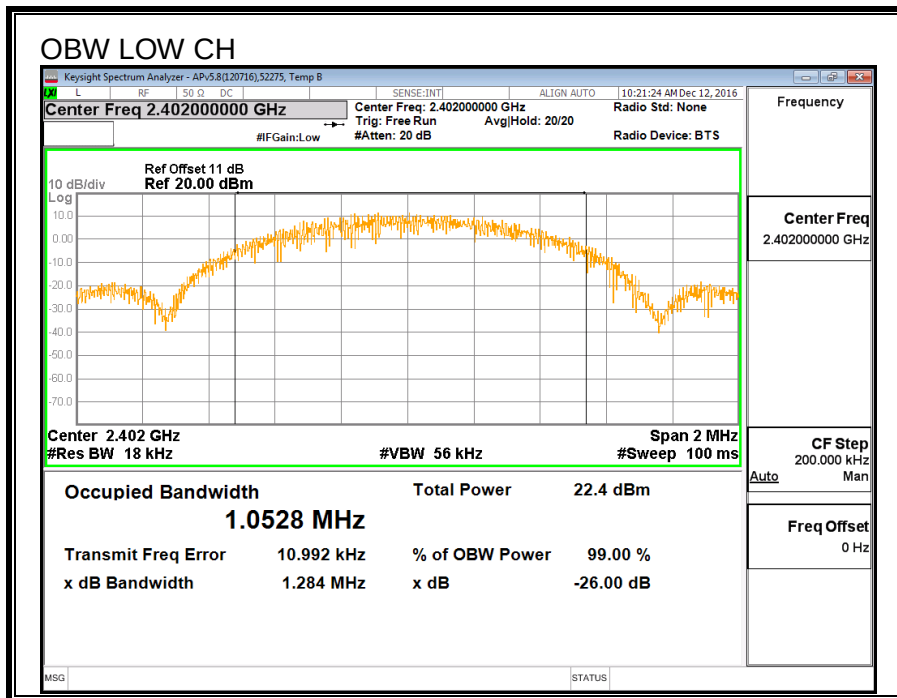
None; for reporting purposes only.

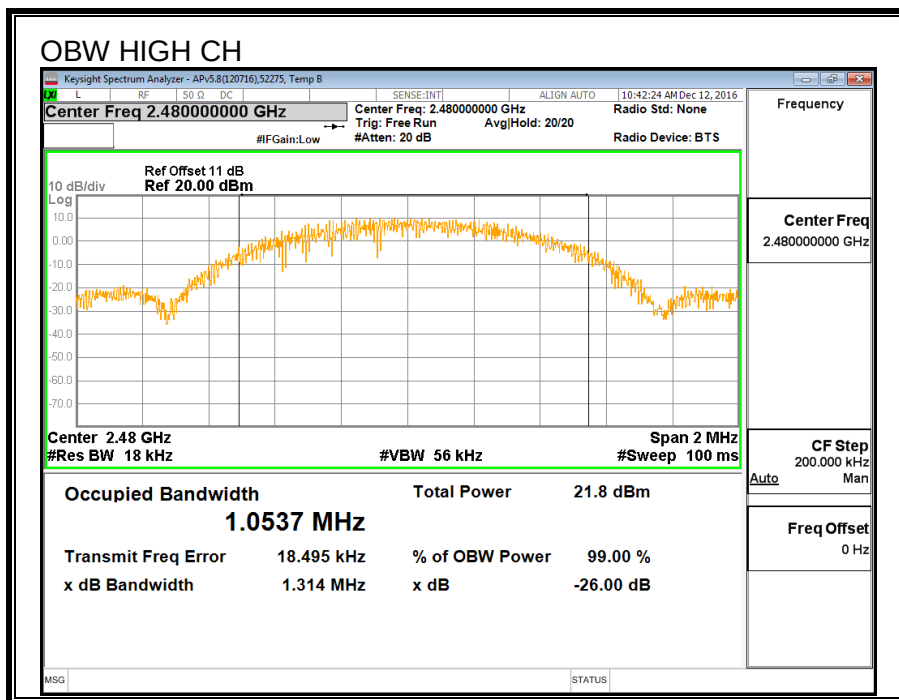
Test Procedure

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	1.053
Middle	2440	1.053
High	2480	1.054





7.3.3. AVERAGE POWER

ID:	39472	Date:	01/24/2017
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LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a broadband Peak/average RF power meter

The cable assembly insertion loss of 11 dB (including 10 dB pad and 1 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Channel	Frequency (MHz)	AV Power (dBm)
Low	2402	19.72
Middle	2440	19.99
High	2480	19.98

7.3.4. 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

The transmitter output is connected to a broadband Peak/average RF power meter

The cable assembly insertion loss of 11 dB (including 10 dB pad and 1 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	20.031	30	-9.969
Middle	2440	20.416	30	-9.584
High	2480	20.372	30	-9.628

7.3.5. POWER SPECTRAL DENSITY

LIMITS

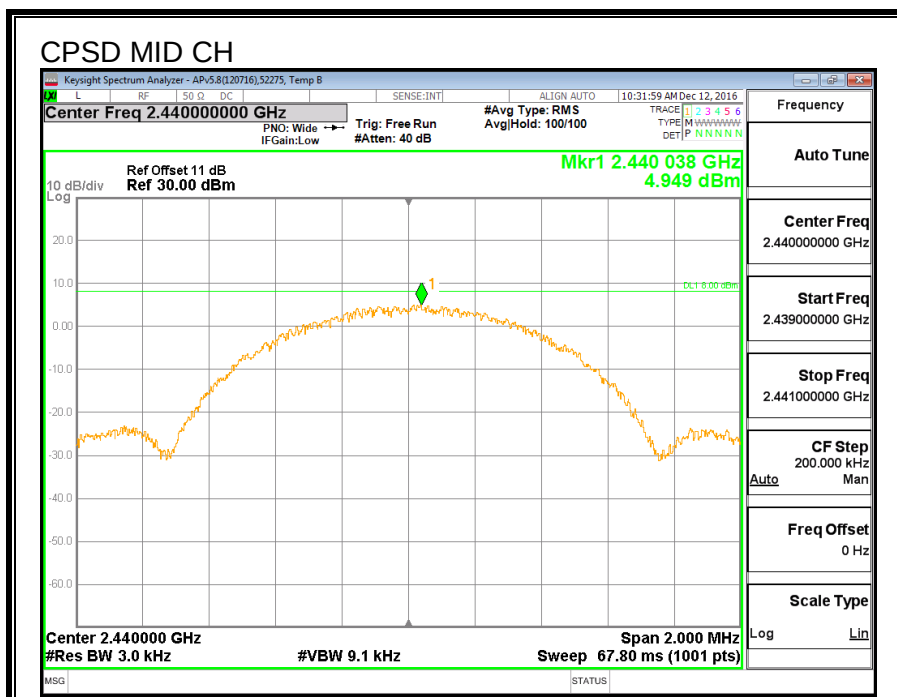
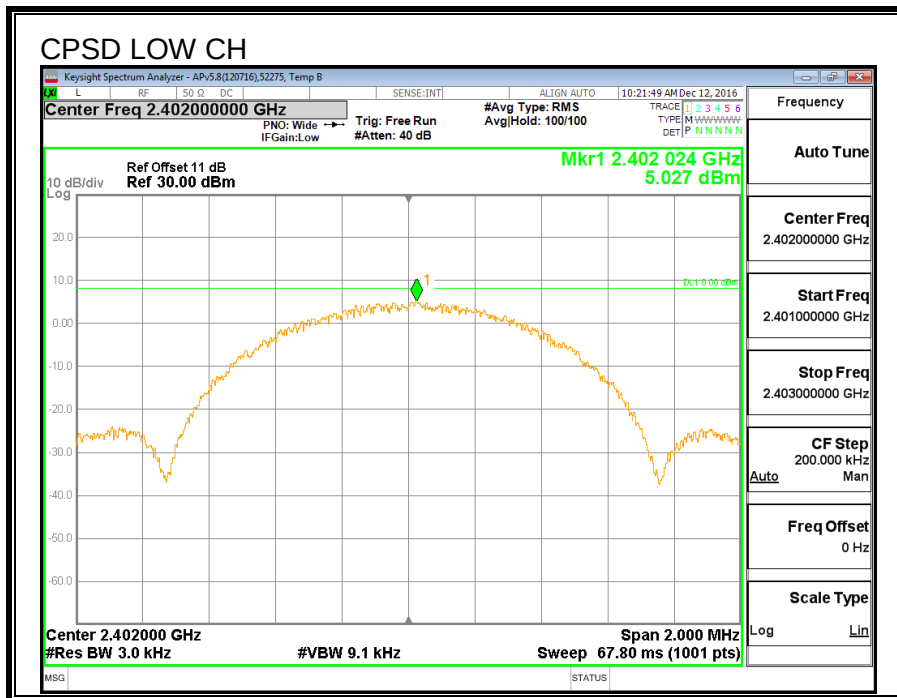
FCC §15.247 (e)

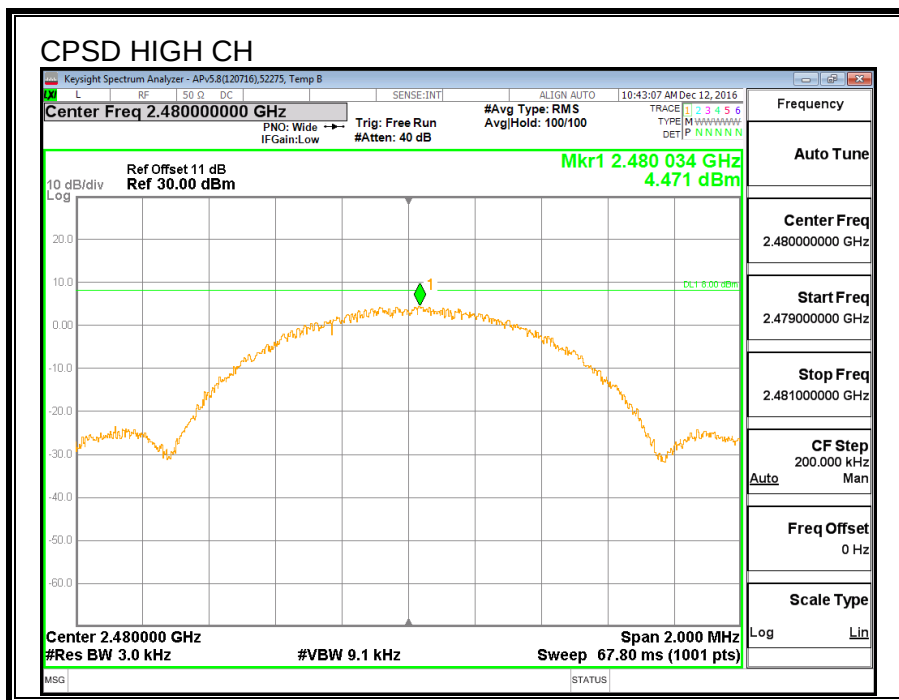
IC RSS-247 (5.2) (2)

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.

RESULTS

Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2402	5.027	8	-2.973
Middle	2440	4.949	8	-3.051
High	2480	4.471	8	-3.529





7.3.6. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

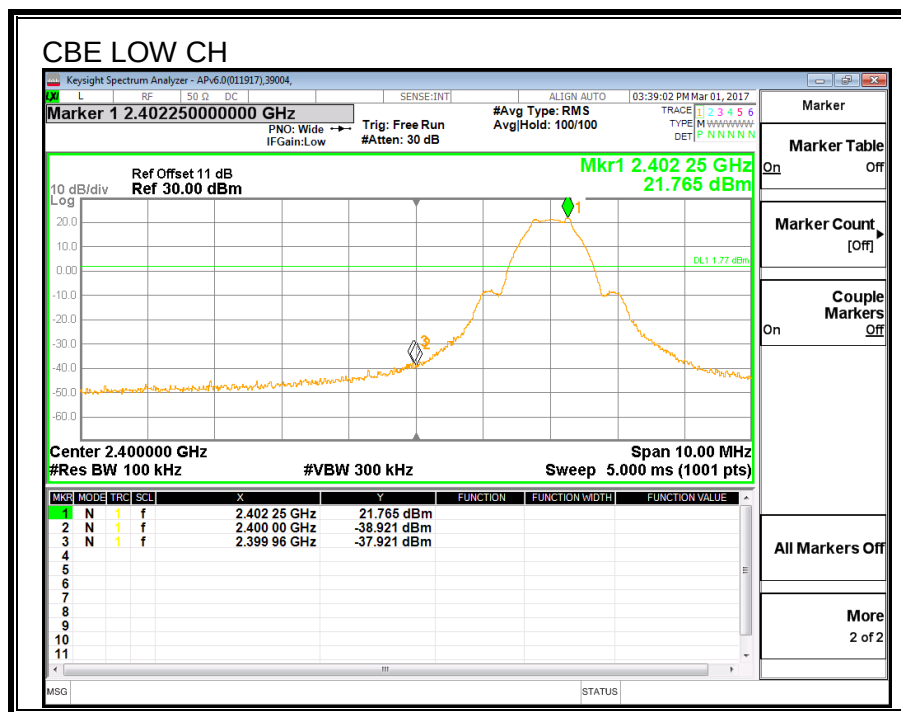
LIMITS

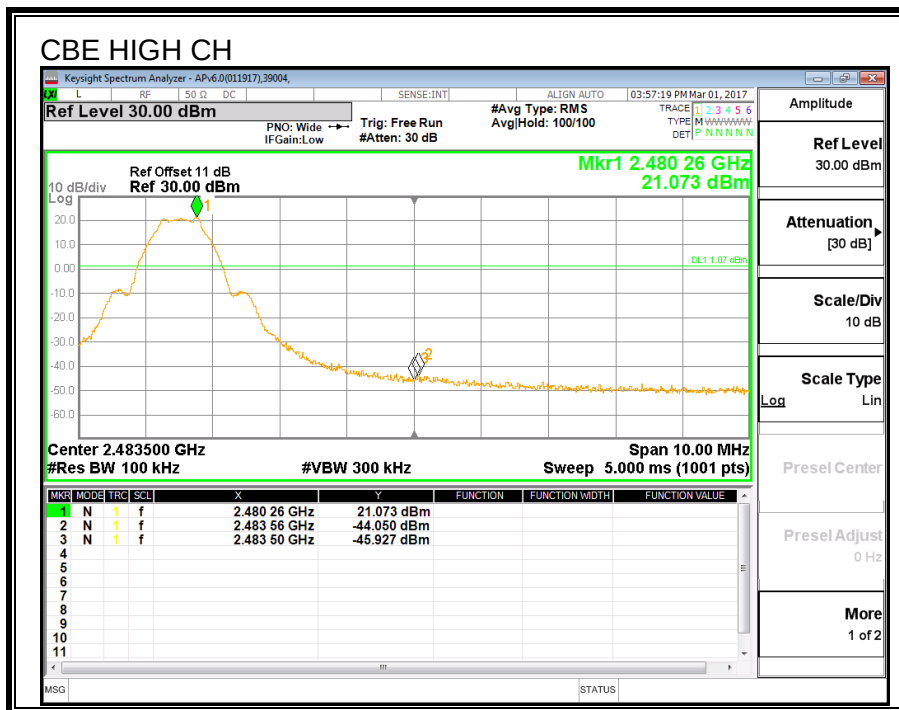
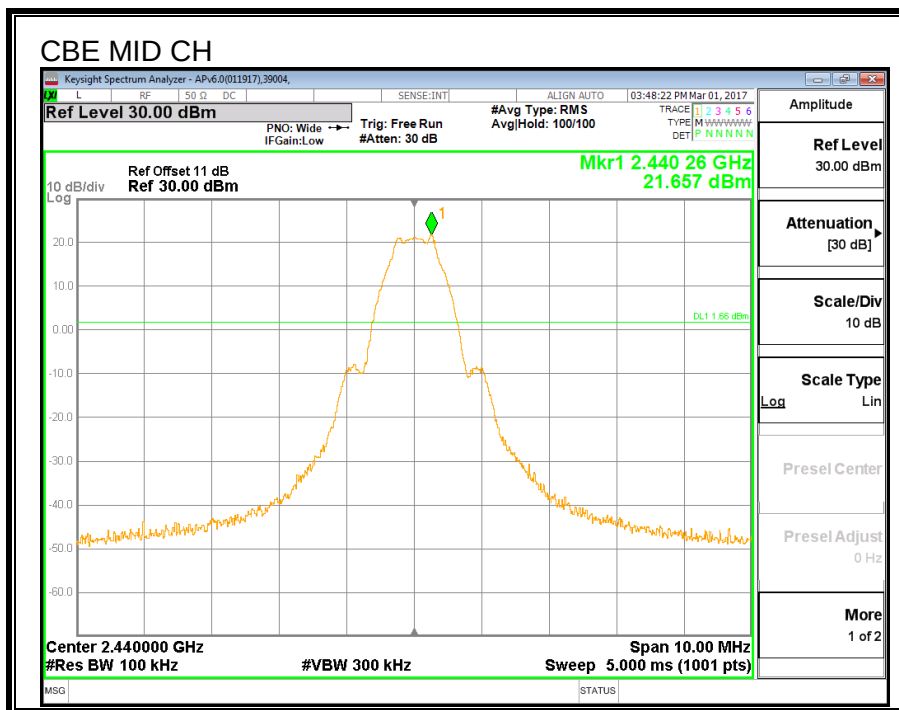
FCC §15.247 (d)

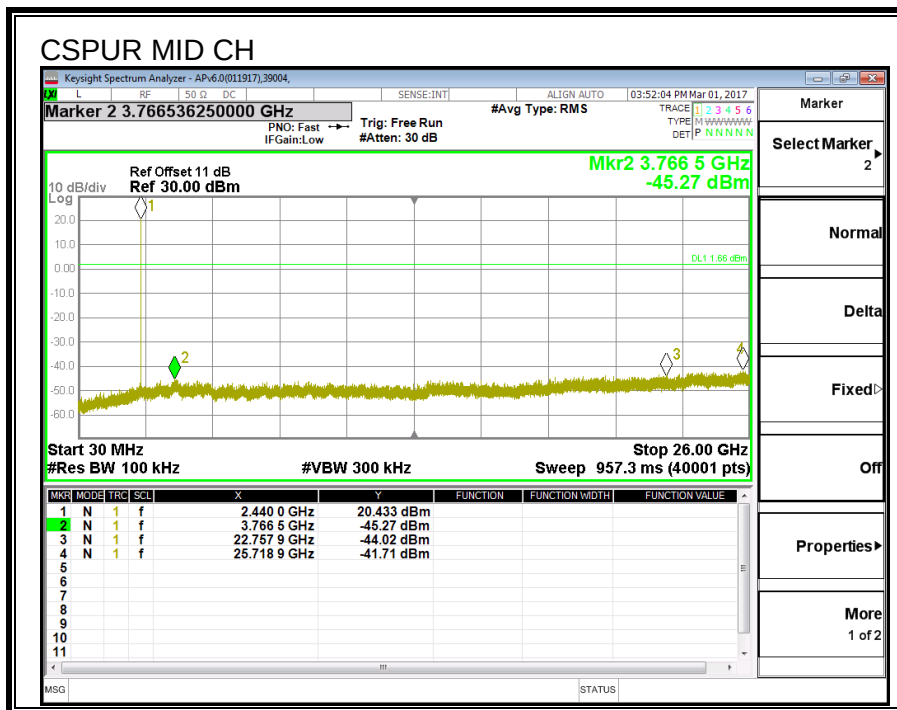
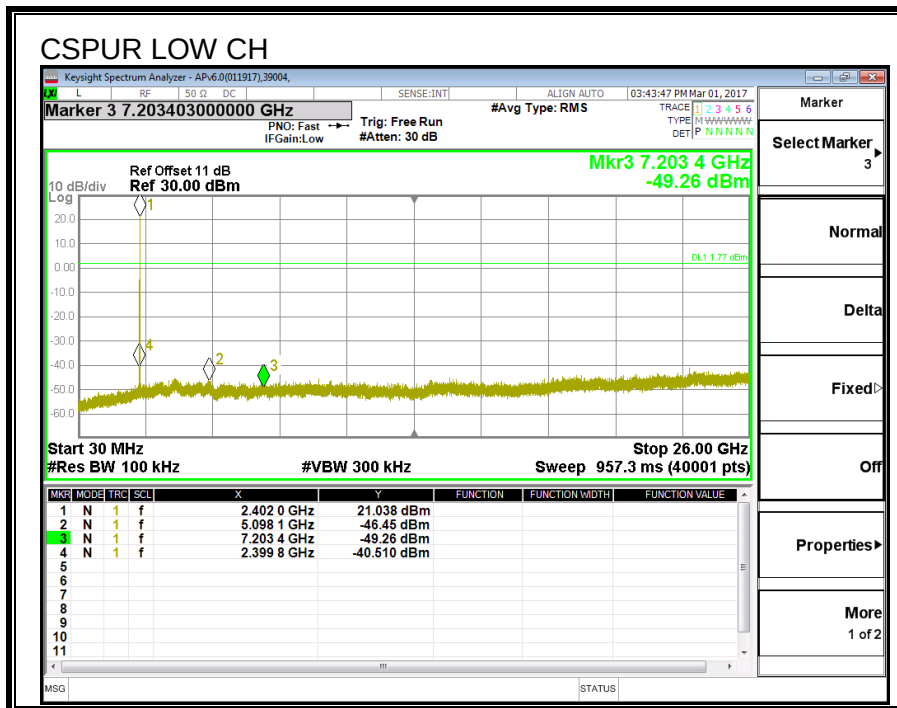
IC RSS-247 (5.5)

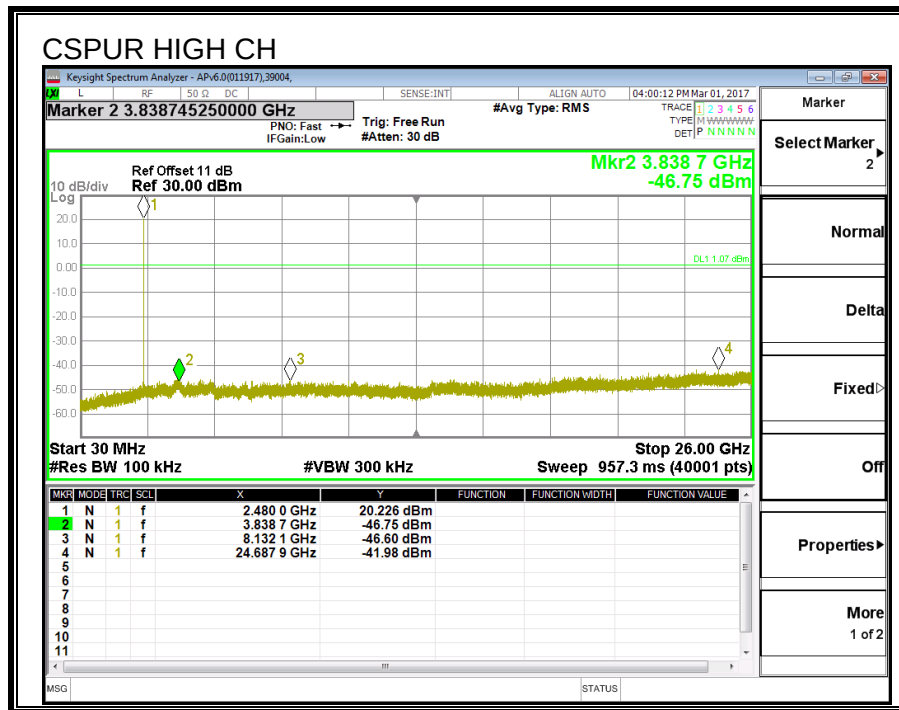
Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

RESULTS









7.4. LOW POWER MODE

7.4.1. 6 dB BANDWIDTH

LIMITS

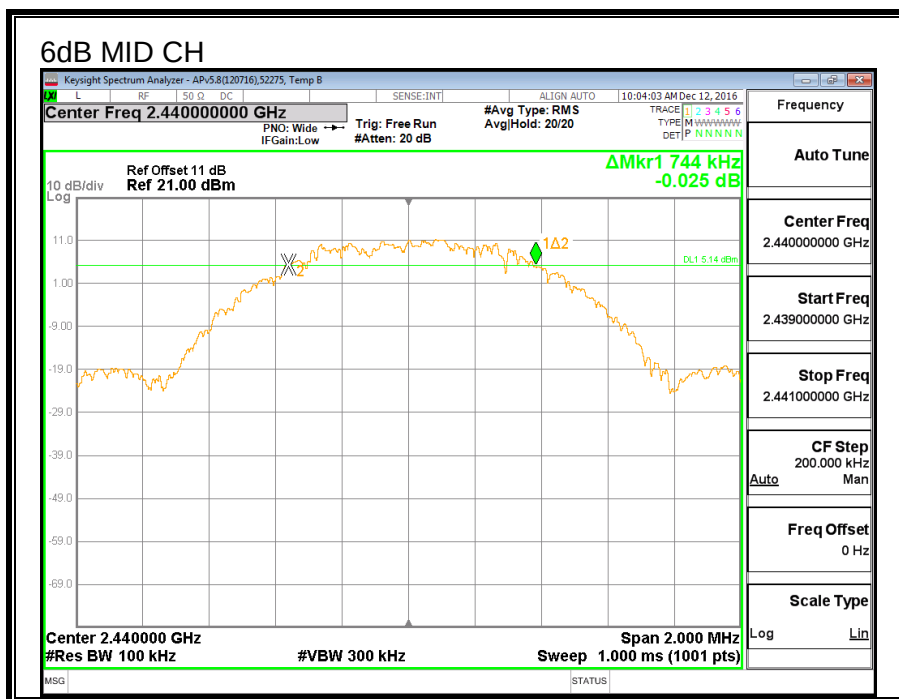
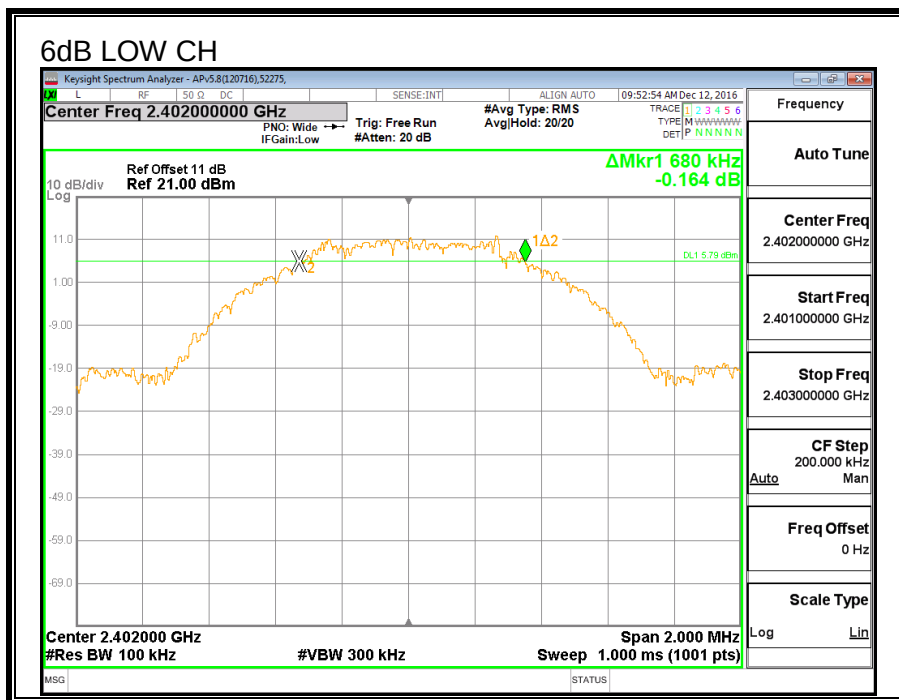
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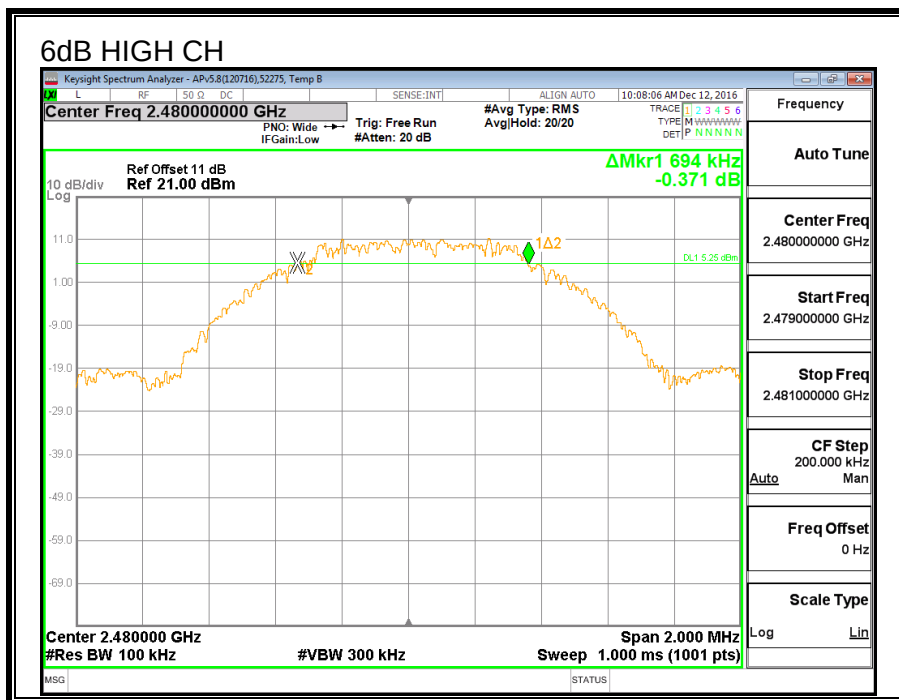
IC RSS-247 (5.2) (1)

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

RESULTS

Channel	Frequency	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.680	0.5
Middle	2440	0.744	0.5
High	2480	0.694	0.5





7.4.2. 99% BANDWIDTH

LIMITS

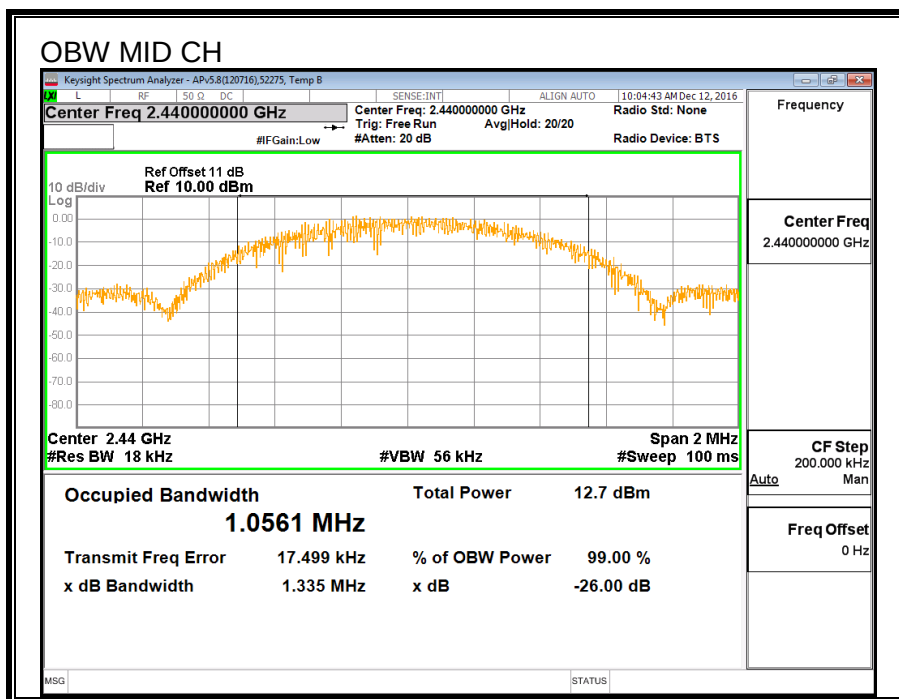
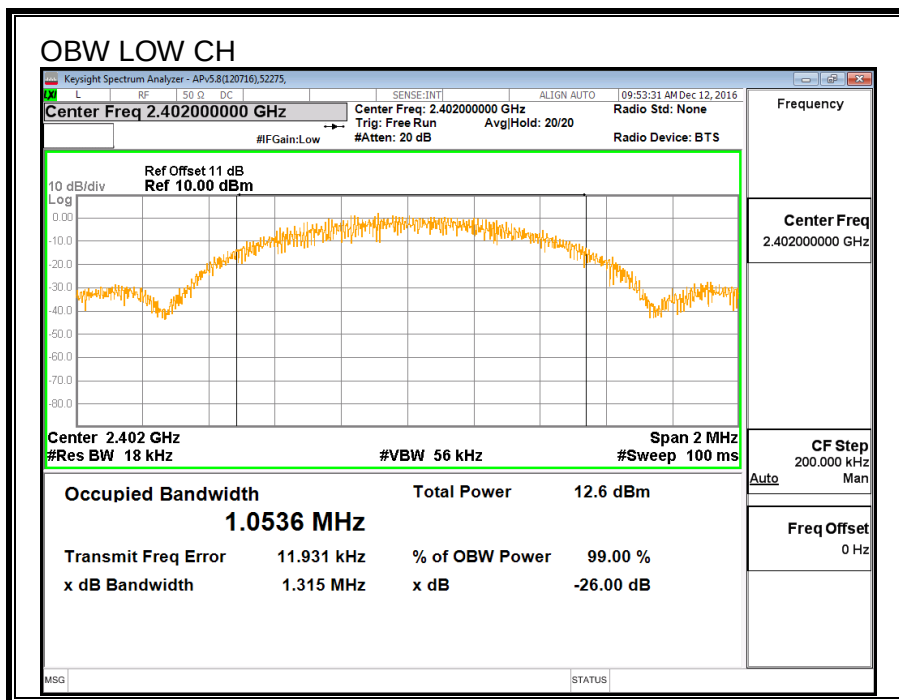
None; for reporting purposes only.

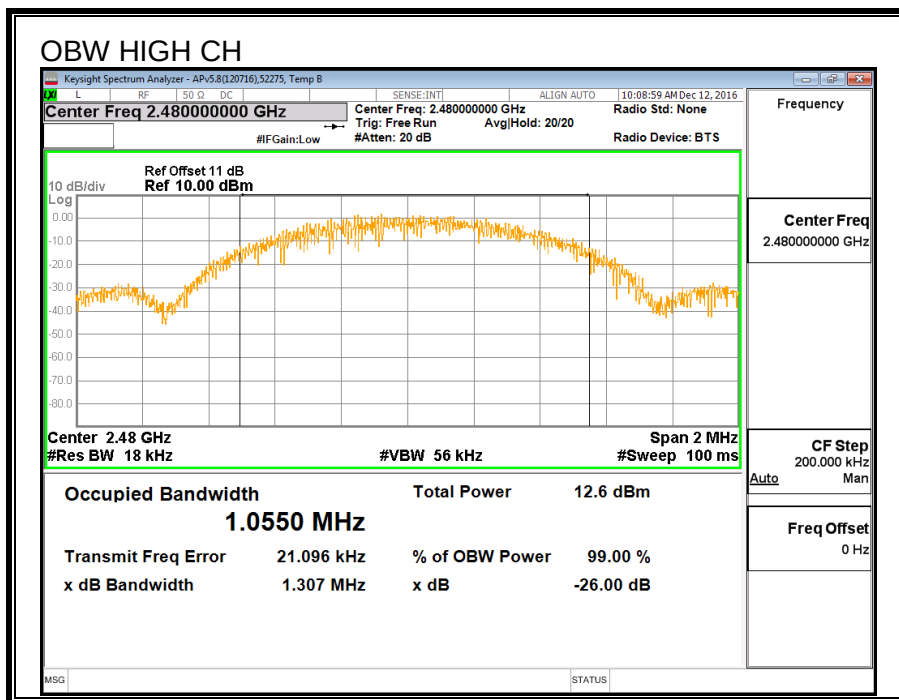
Test Procedure

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	1.054
Middle	2440	1.056
High	2480	1.055





7.4.3. AVERAGE POWER

ID:	39472	Date:	01/24/2017
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LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a broadband Peak/average RF power meter

The cable assembly insertion loss of 11 dB (including 10 dB pad and 1 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Channel	Frequency (MHz)	AV Power (dBm)
Low	2402	8.00
Middle	2440	7.84
High	2480	7.88

7.4.4. 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

The transmitter output is connected to a broadband Peak/average RF power meter

The cable assembly insertion loss of 11 dB (including 10 dB pad and 1 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	8.413	30	-21.587
Middle	2440	8.225	30	-21.775
High	2480	8.276	30	-21.724

7.4.5. POWER SPECTRAL DENSITY

LIMITS

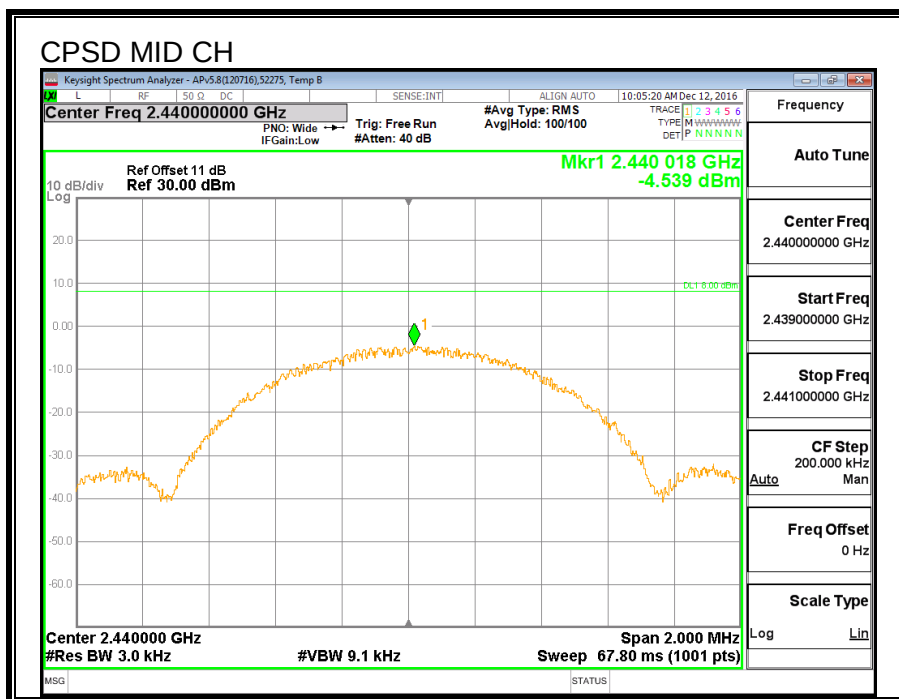
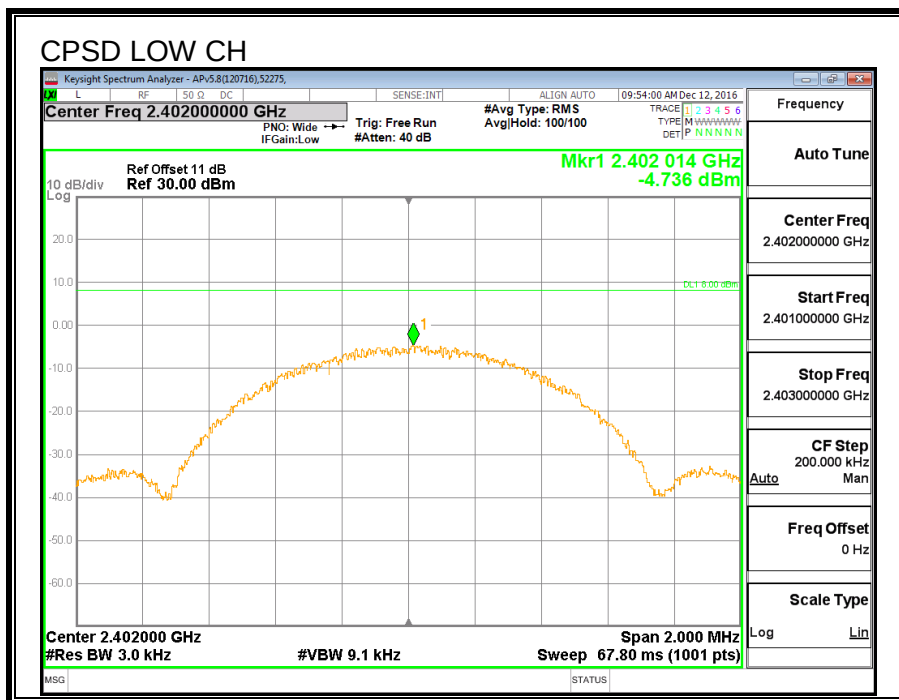
FCC §15.247 (e)

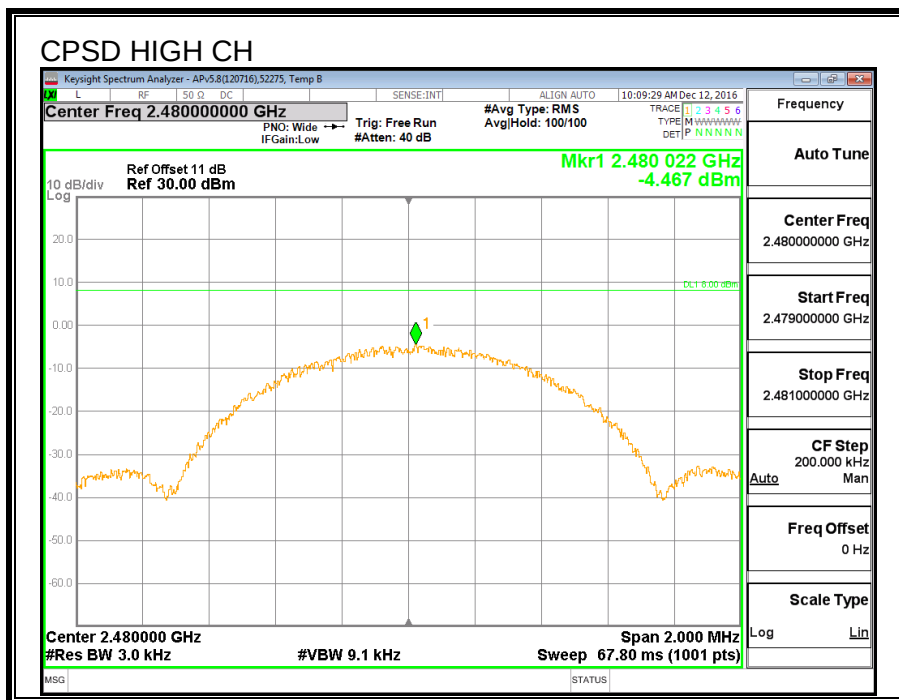
IC RSS-247 (5.2) (2)

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.

RESULTS

Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2402	-4.736	8	-12.736
Middle	2440	-4.539	8	-12.539
High	2480	-4.467	8	-12.467





7.4.6. CONDUCTED BANEDGE AND SPURIOUS EMISSIONS

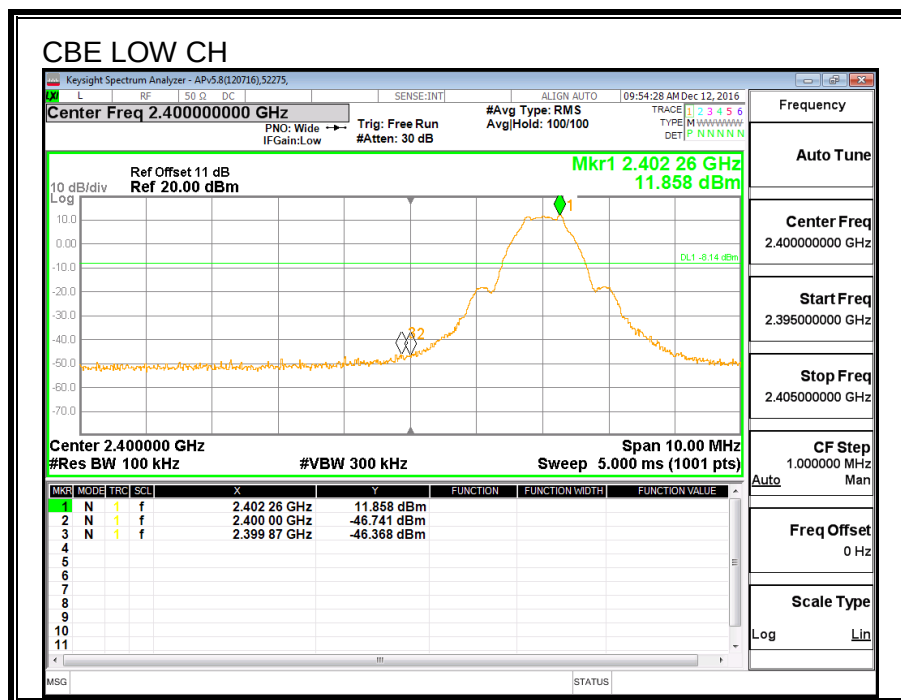
LIMITS

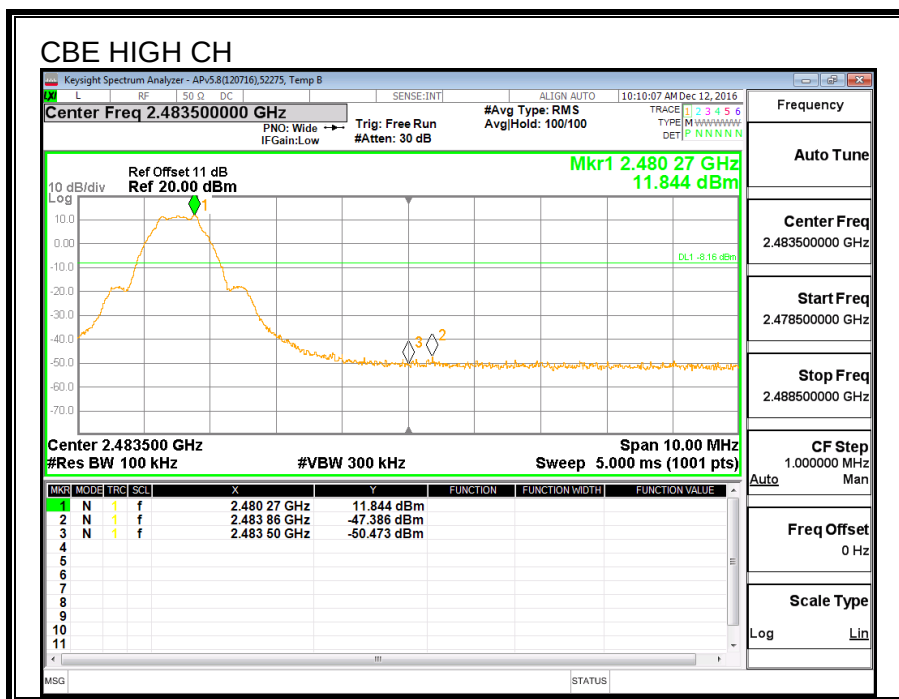
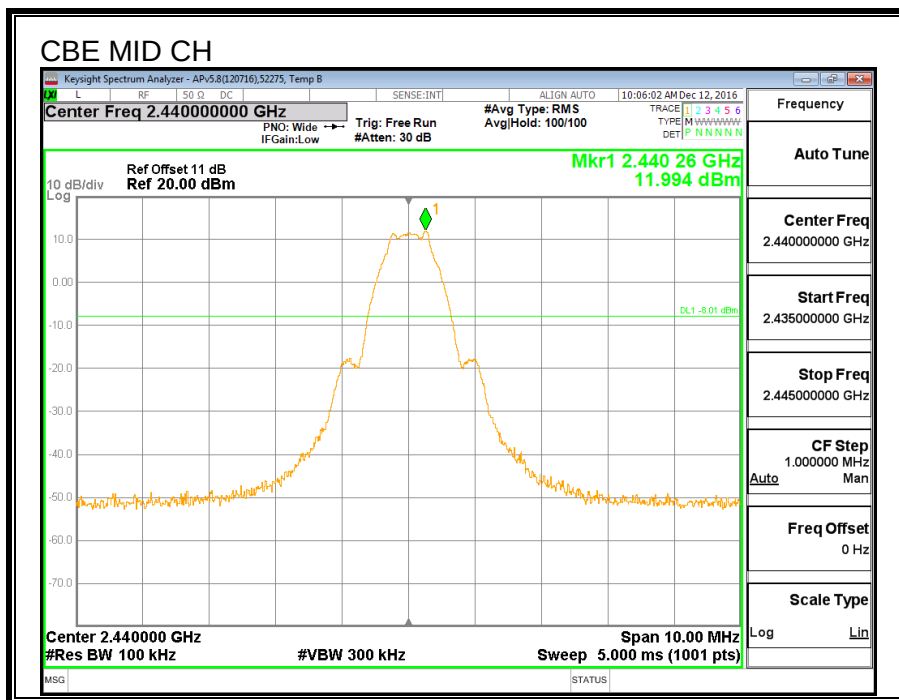
FCC §15.247 (d)

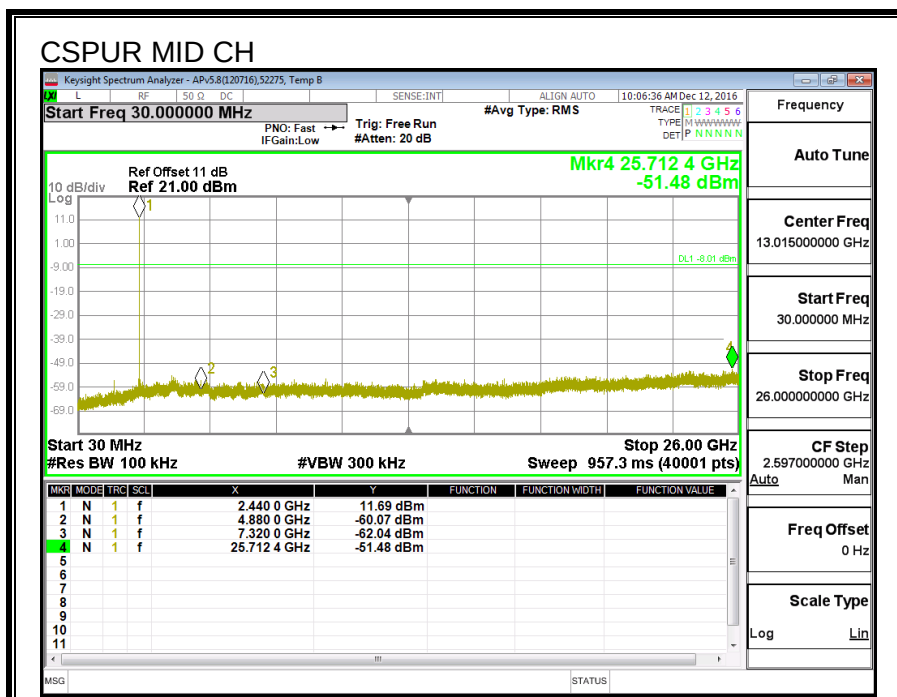
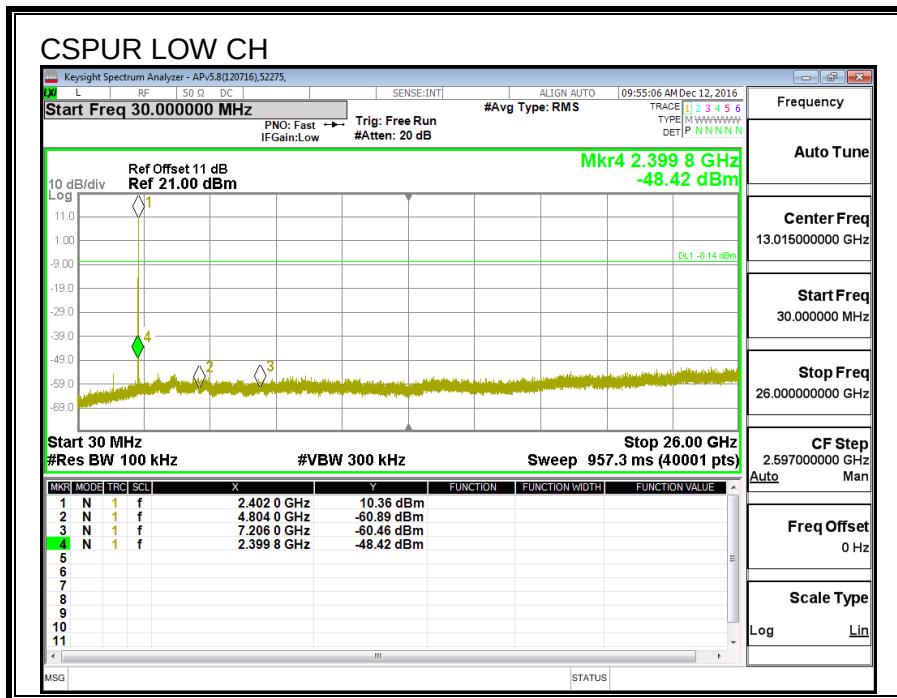
IC RSS-247 (5.5)

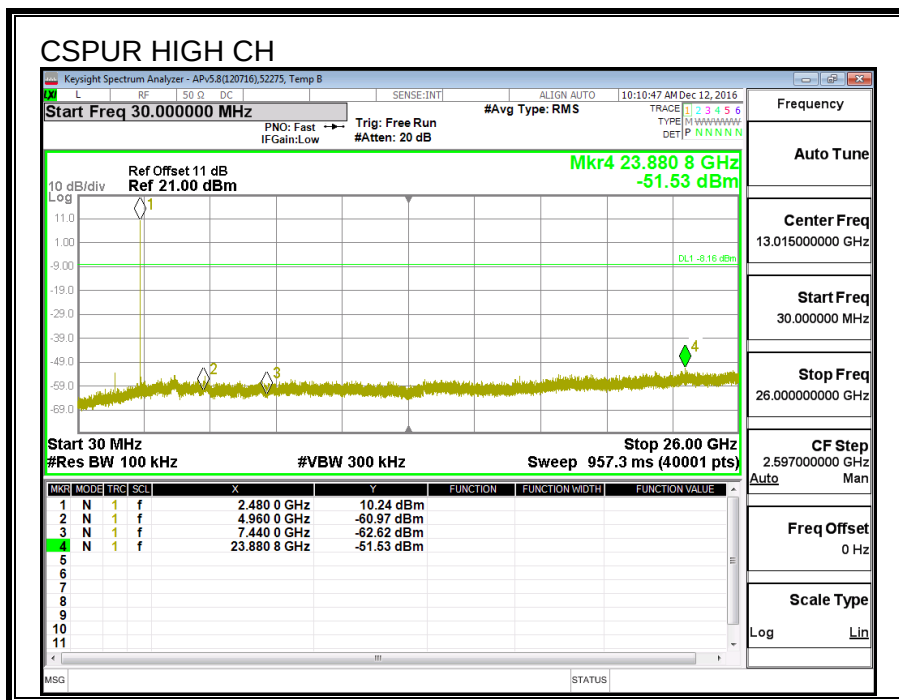
Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

RESULTS









8. RADIATED TEST RESULTS

8.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC 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
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.

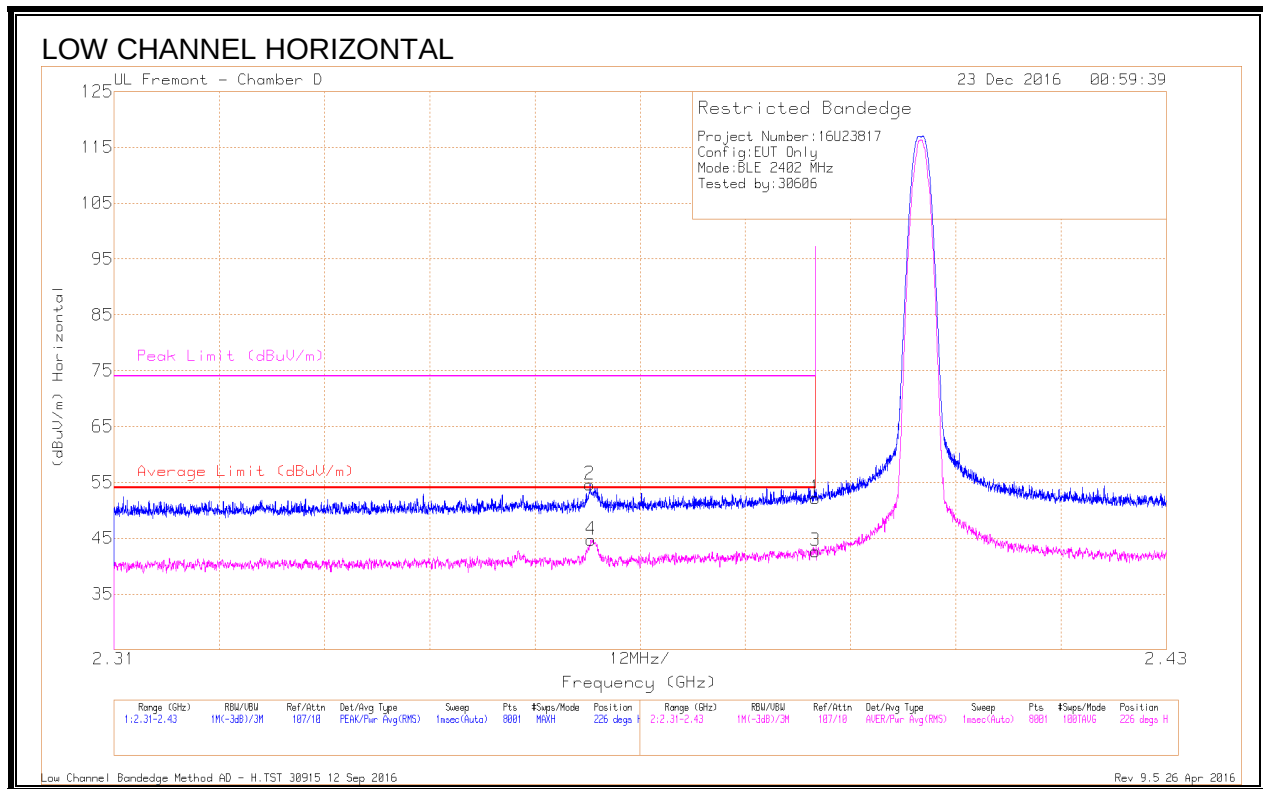
For pre-scans above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 KHz for peak measurements.

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 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. HIGH POWER MODE

8.2.1. RESTRICTED BANDEDGE (LOW CHANNEL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Filtr/Pad (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	40.79	Pk	32.1	-20.7	52.19	-	-	74	-21.81	226	160	H
2	* 2.364	43.54	Pk	31.9	-20.8	54.64	-	-	74	-19.36	226	160	H
3	* 2.39	31.29	RMS	32.1	-20.7	42.69	54	-11.31	-	-	226	160	H
4	* 2.364	33.64	RMS	31.9	-20.8	44.74	54	-9.26	-	-	226	160	H

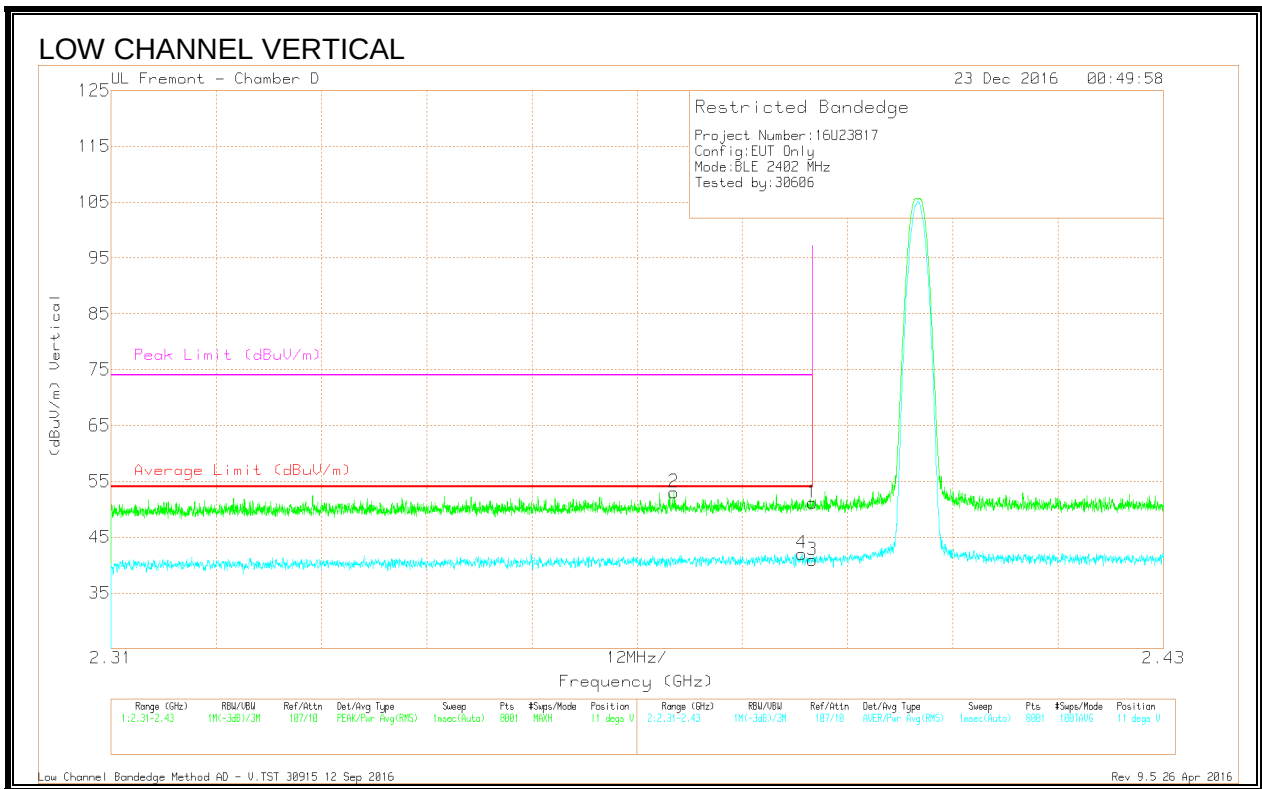
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

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Rev 9.5 26 Apr 2016



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl /Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degrees)	Height (cm)	Polarity
1	* 2.39	39.75	Pk	32.1	-20.7	51.15	-	-	74	-22.85	11	105	V
2	* 2.374	41.83	Pk	32	-20.8	53.03	-	-	74	-20.97	11	105	V
3	* 2.39	29.5	RMS	32.1	-20.7	40.9	54	-13.1	-	-	11	105	V
4	* 2.389	30.78	RMS	32.1	-20.8	42.08	54	-11.92	-	-	11	105	V

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

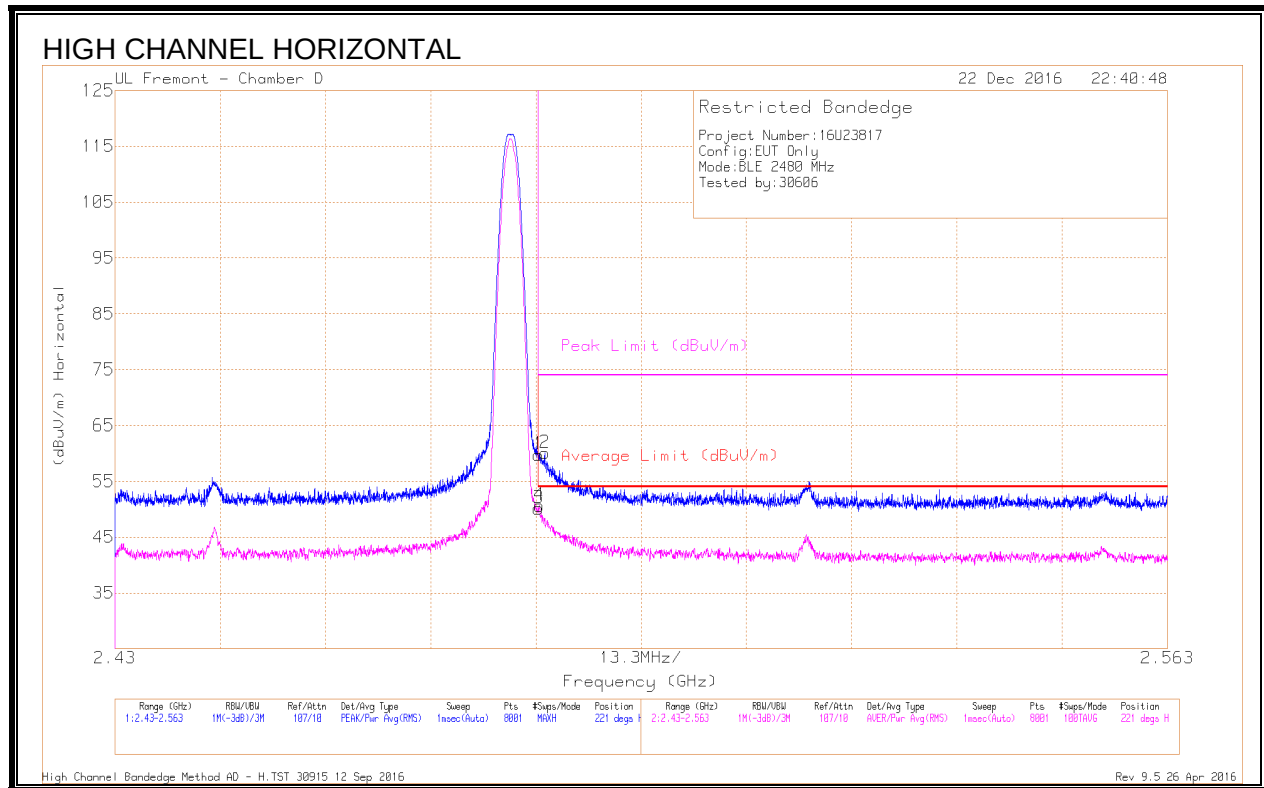
Pk - Peak detector

RMS - RMS detection

Low Channel Bandedge Method AD - V.TST 30915 12 Sep 2016

Rev 9.5 26 Apr 2016

8.2.2. AUTHORIZED BANDEDGE (HIGH CHANNEL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarization
1	* 2.484	48.29	Pk	32.3	-20.8	59.79	-	-	74	-14.21	221	169	H
2	* 2.484	48.58	Pk	32.3	-20.8	60.08	-	-	74	-13.92	221	169	H
3	* 2.484	38.66	RMS	32.3	-20.8	50.16	54	-3.84	-	-	221	169	H
4	* 2.484	39.15	RMS	32.3	-20.8	50.65	54	-3.35	-	-	221	169	H

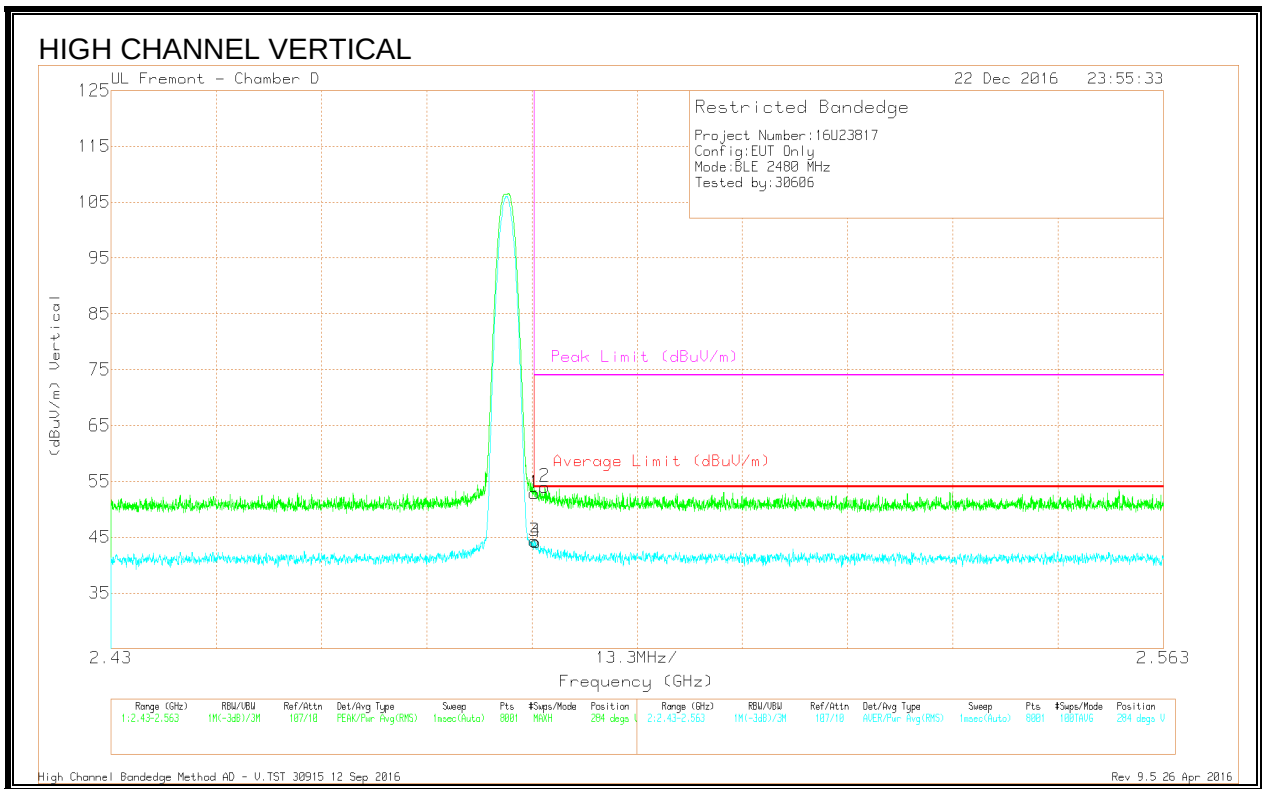
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

High Channel Bandedge Method AD - H.TST 30915 12 Sep 2016

Rev 9.5 26 Apr 2016



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Filtr/Pad (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	41.38	Pk	32.3	-20.8	52.88	-	-	74	-21.12	284	374	V
2	* 2.485	42.53	Pk	32.3	-20.8	54.03	-	-	74	-19.97	284	374	V
3	* 2.484	32.81	RMS	32.3	-20.8	44.31	54	-9.69	-	-	284	374	V
4	* 2.484	32.64	RMS	32.3	-20.8	44.14	54	-9.86	-	-	284	374	V

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

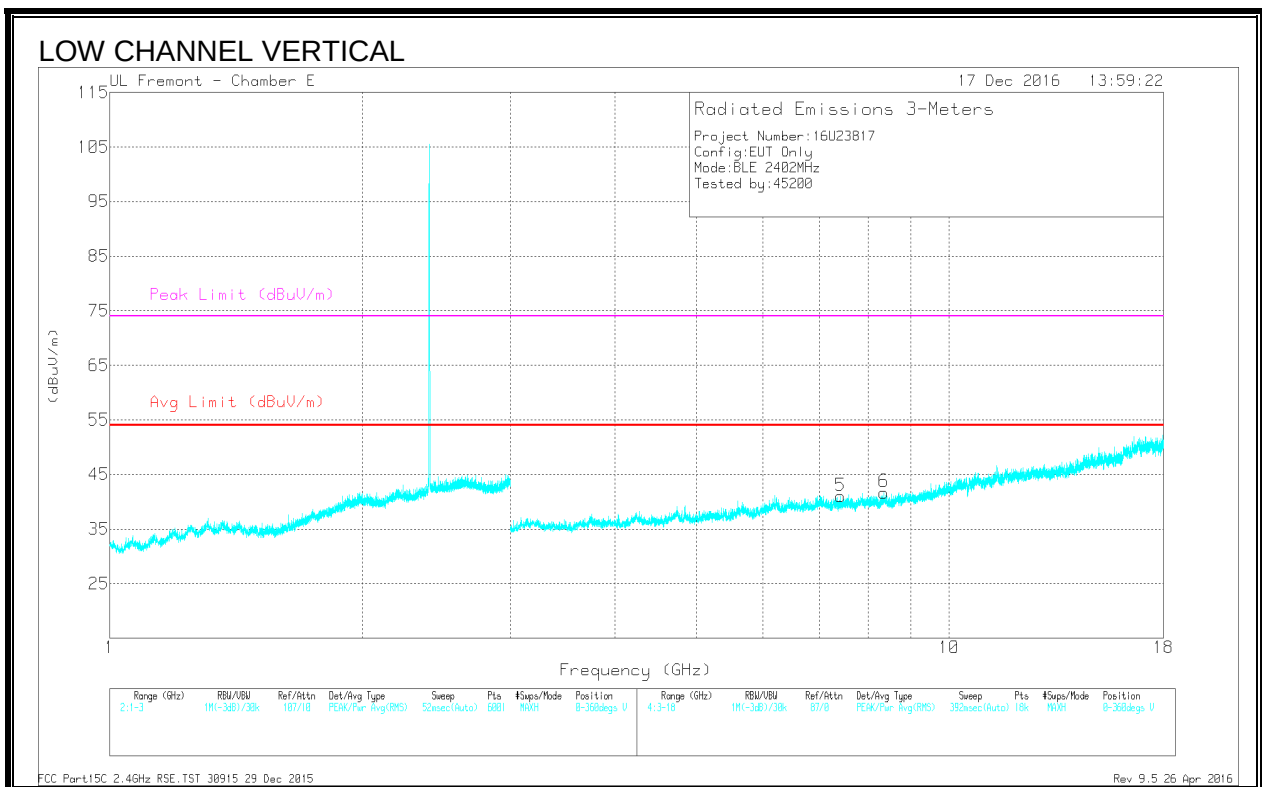
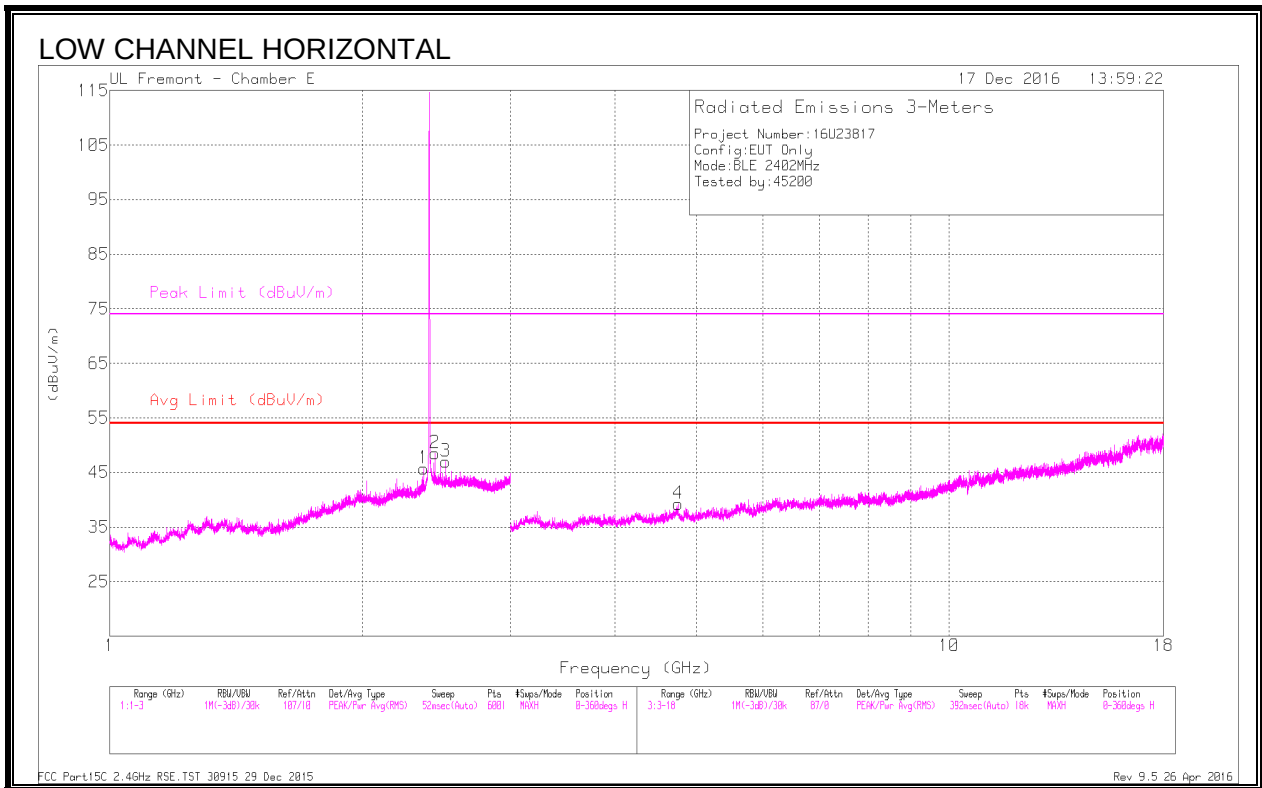
Pk - Peak detector

RMS - RMS detection

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Rev 9.5 26 Apr 2016

8.2.3. HARMONICS AND SPURIOUS EMISSIONS



Marker	Frequen cy (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl /Filtr/Pa d (dB)	Correcte d Reading (dBuV/ m)	Avg Limit (dBuV/ m)	Margin (dB)	Peak Limit (dBuV/ m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.365	38.56	PKFH	31.9	-19.8	50.66	-	-	74	-23.34	349	237	H
	* 2.365	27.76	VA1T	31.9	-19.7	39.96	54	-14.04	-	-	349	237	H
4	* 4.756	38.64	PKFH	34	-29.1	43.54	-	-	74	-30.46	79	155	H
	* 4.754	27.45	VA1T	34	-29	32.45	54	-21.55	-	-	79	155	H
5	* 7.424	38.51	PKFH	35.6	-27.4	46.71	-	-	74	-27.29	13	298	V
	* 7.424	26.58	VA1T	35.6	-27.4	34.78	54	-19.22	-	-	13	298	V
6	* 8.357	37.85	PKFH	35.7	-25.7	47.85	-	-	74	-26.15	360	135	V
	* 8.357	25.55	VA1T	35.7	-25.7	35.55	54	-18.45	-	-	360	135	V
2	2.439	40.14	PKFH	32.2	-19.8	52.54	-	-	-	-	4	125	H
3	2.514	38.33	PKFH	32.3	-19.8	50.83	-	-	-	-	351	253	H

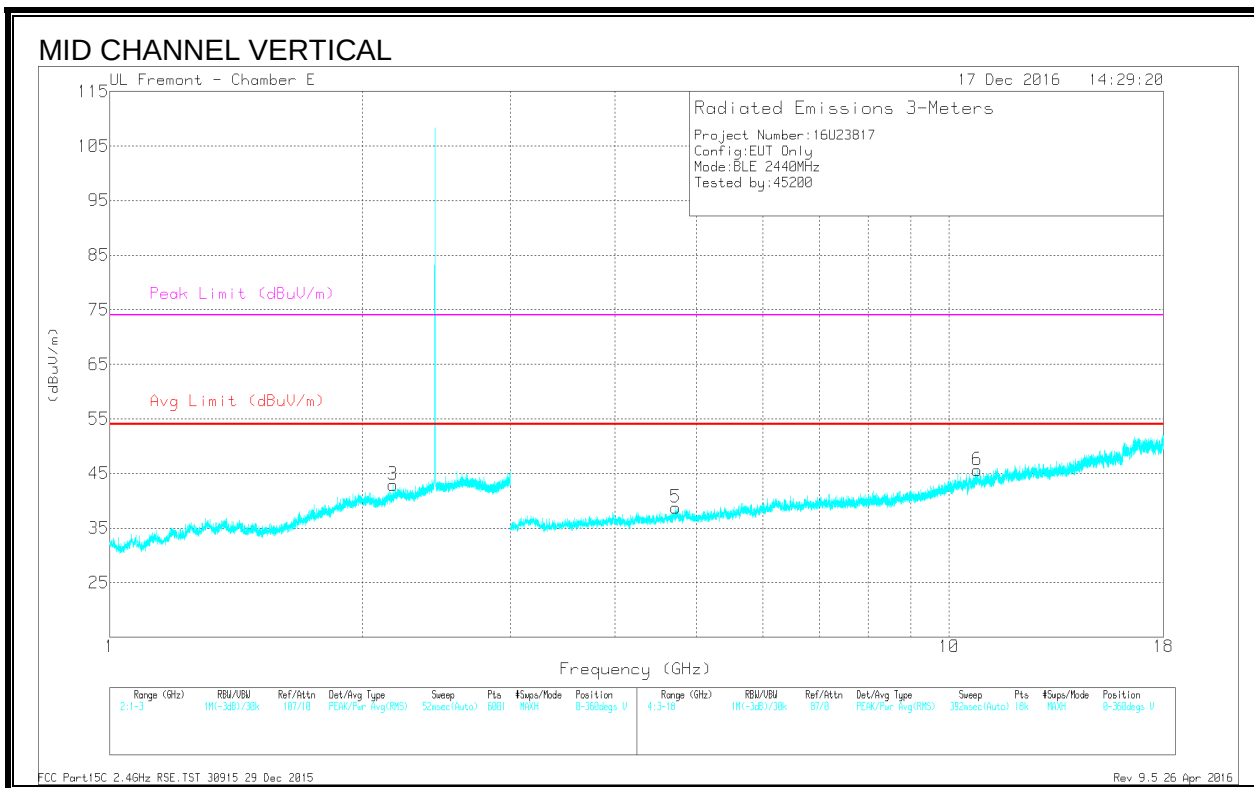
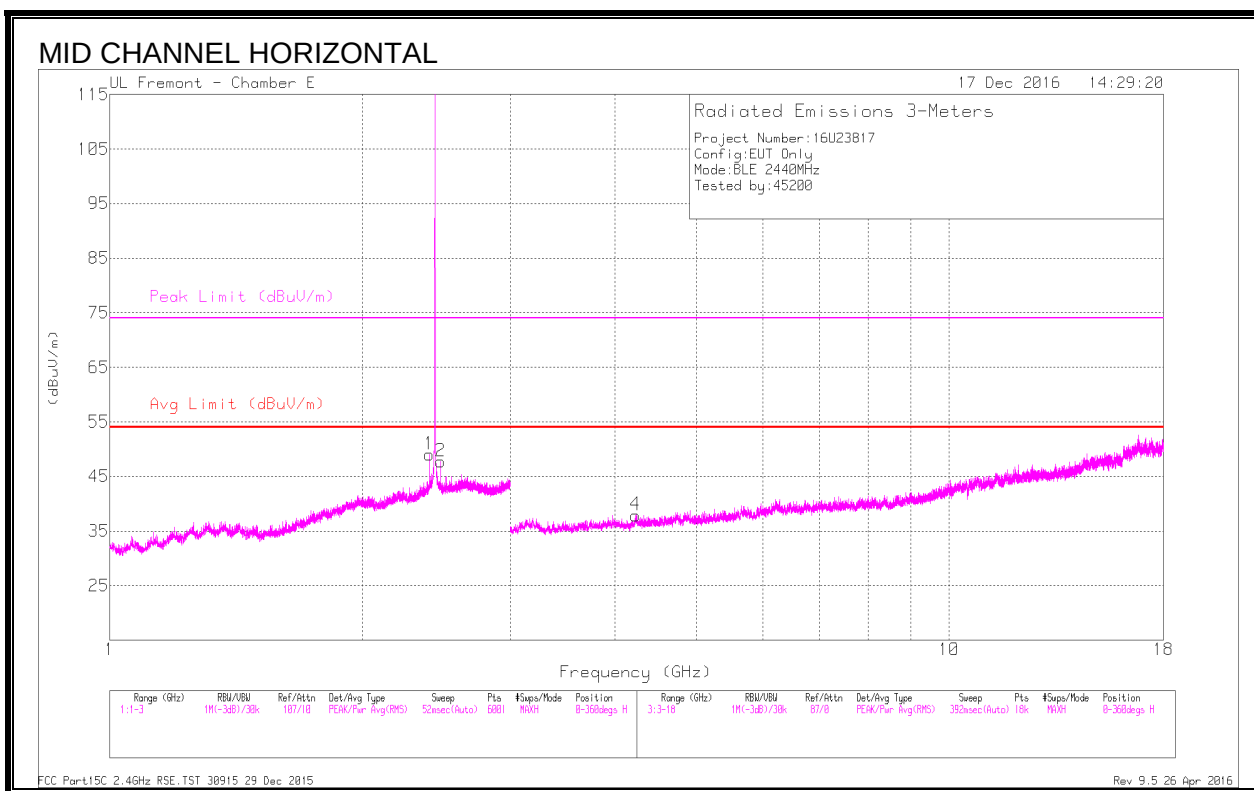
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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Rev 9.5 26 Apr 2016



Marker	Frequen cy (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl /Filtr/Pa d (dB)	Correcte d Reading (dBuV/ m)	Avg Limit (dBuV/ m)	Margin (dB)	Peak Limit (dBuV/ m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 4.232	38.71	PKFH	33.3	-28.9	43.11	-	-	74	-30.89	122	182	H
	* 4.228	27.68	VA1T	33.3	-29	31.98	54	-22.02	-	-	122	182	H
5	* 4.718	39.35	PKFH	34	-29.2	44.15	-	-	74	-29.85	27	203	V
	* 4.719	27.77	VA1T	34	-29.1	32.67	54	-21.33	-	-	27	203	V
6	* 10.805	36.65	PKFH	37.9	-22.9	51.65	-	-	74	-22.35	201	129	V
	* 10.806	23.91	VA1T	37.9	-22.9	38.91	54	-15.09	-	-	201	129	V
3	2.176	34.69	PKFH	31.6	-19.7	46.59	-	-	-	-	5	325	V
1	2.403	39.91	PKFH	32.2	-19.7	52.41	-	-	-	-	6	123	H
2	2.477	40.58	PKFH	32.3	-19.7	53.18	-	-	-	-	356	170	H

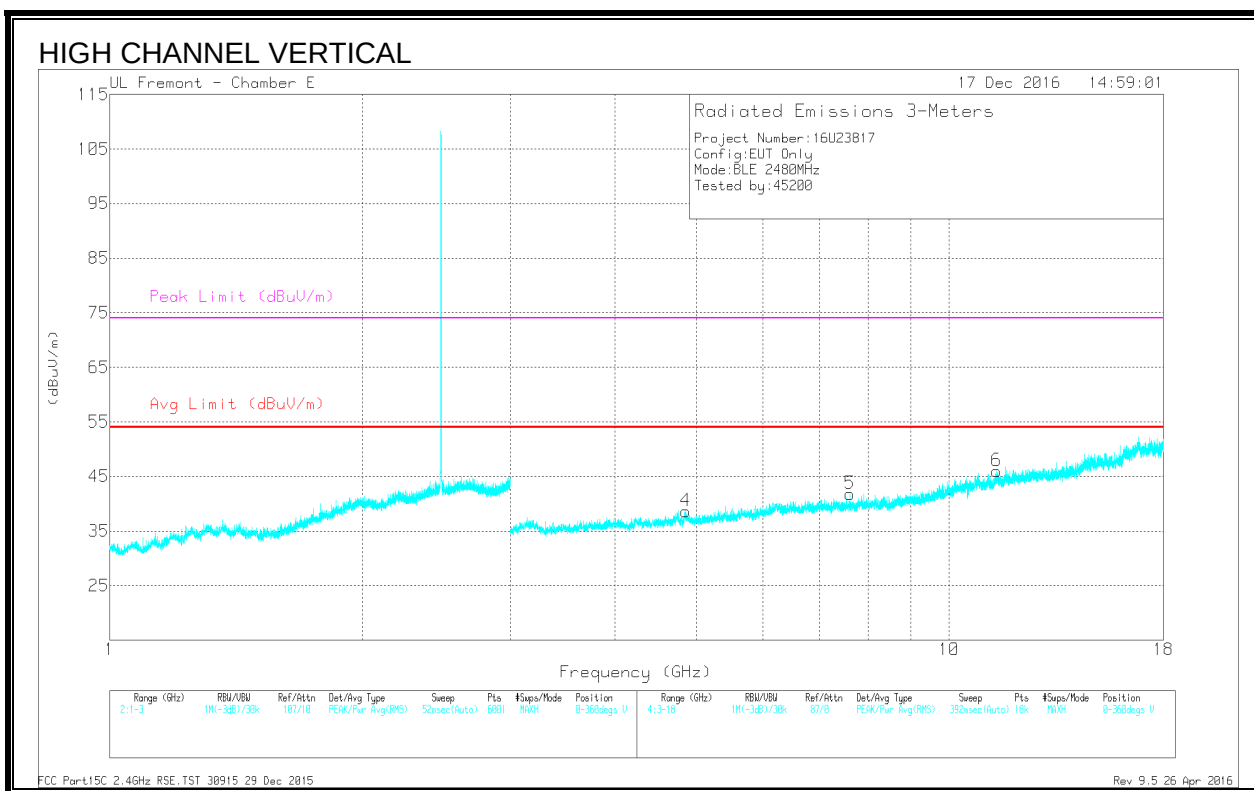
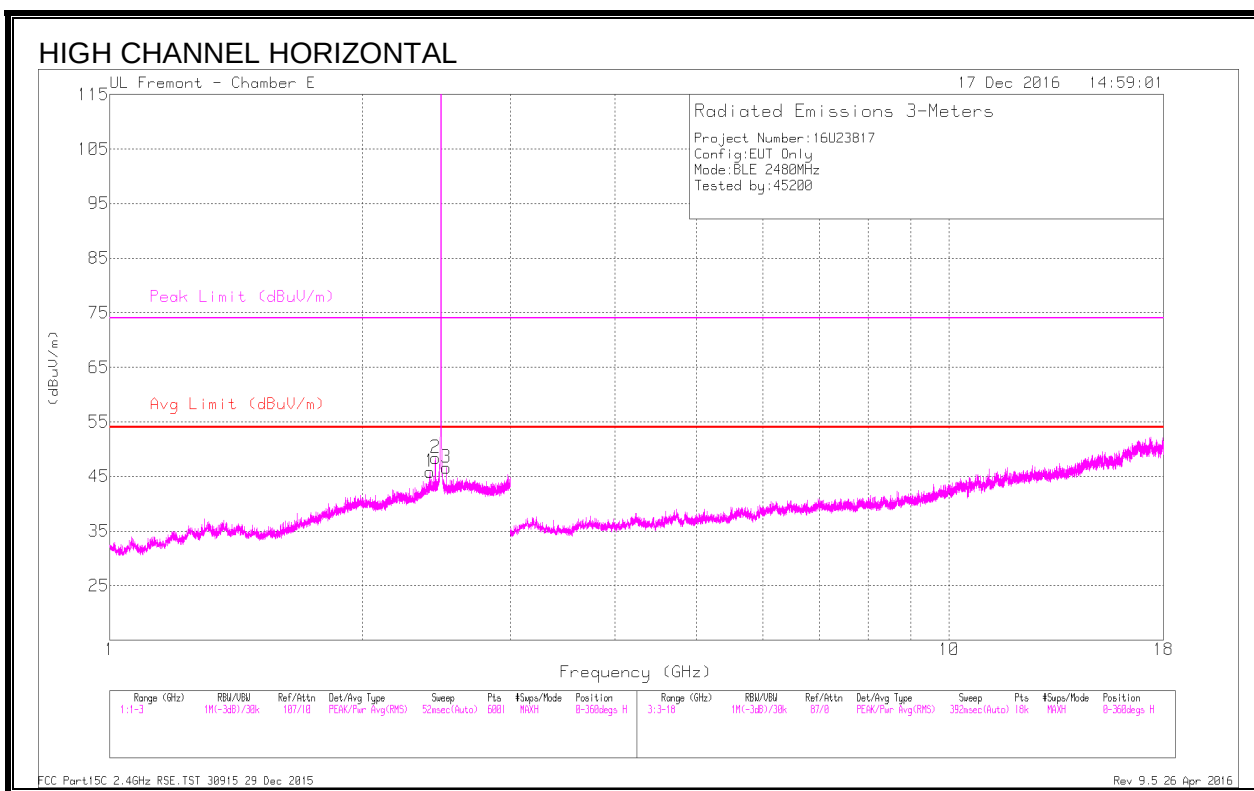
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

FCC Part15C 2.4GHz RSE.TST 30915 29 Dec 2015

Rev 9.5 26 Apr 2016



Marker	Frequen cy (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl /Filtr/Pa d (dB)	Correcte d Reading (dBuV/ m)	Avg Limit (dBuV/ m)	Margin (dB)	Peak Limit (dBuV/ m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 4.856	39.97	PKFH	34	-30.1	43.87	-	-	74	-30.13	111	344	V
	* 4.858	28.94	VA1T	34	-30.1	32.84	54	-21.16	-	-	111	344	V
5	* 7.616	37.6	PKFH	35.7	-26.5	46.8	-	-	74	-27.2	203	202	V
	* 7.616	25.49	VA1T	35.7	-26.5	34.69	54	-19.31	-	-	203	202	V
6	* 11.386	35.73	PKFH	38.2	-22.1	51.83	-	-	74	-22.17	104	284	V
	* 11.385	23.33	VA1T	38.2	-22.1	39.43	54	-14.57	-	-	104	284	V
1	2.404	38.8	PKFH	32.2	-19.7	51.3	-	-	-	-	170	218	H
2	2.443	40.82	PKFH	32.2	-19.6	53.42	-	-	-	-	175	182	H
3	2.517	39.2	PKFH	32.3	-19.7	51.8	-	-	-	-	177	206	H

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

PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

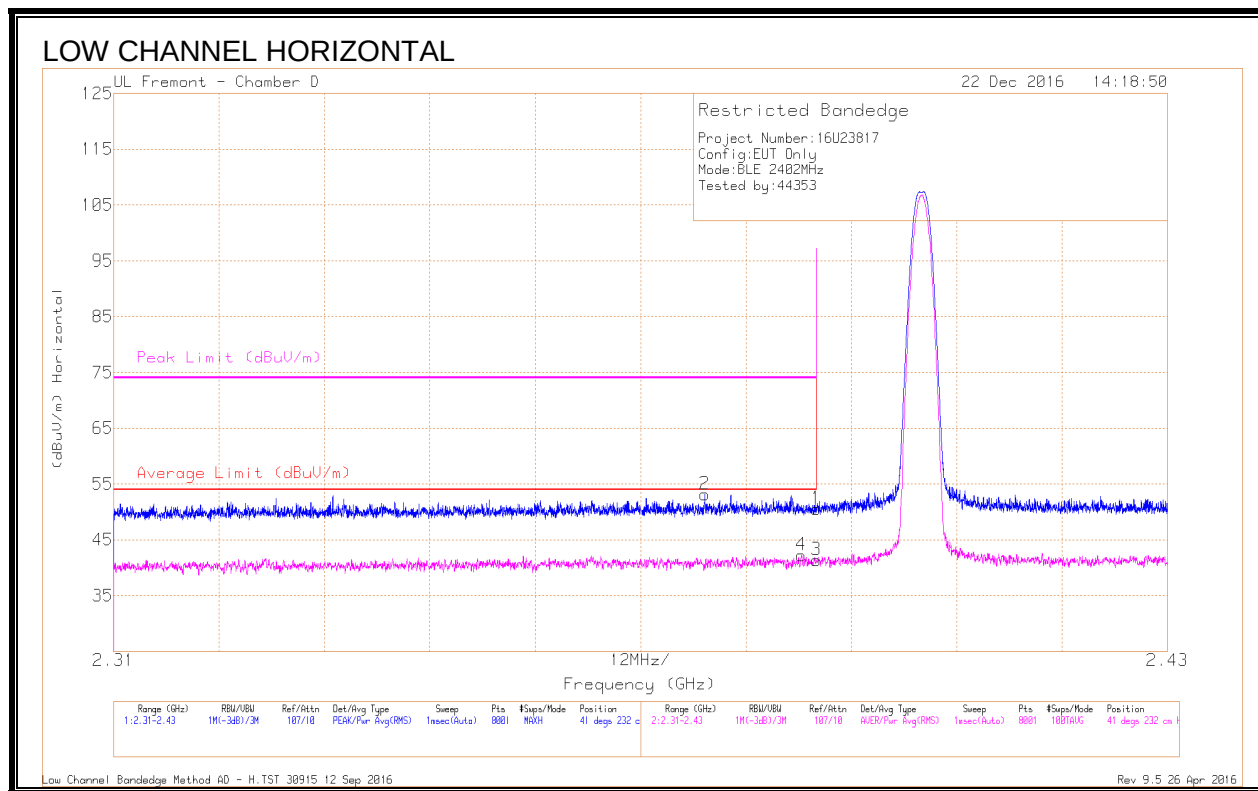
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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Rev 9.5 26 Apr 2016

8.3. LOW POWER MODE

8.3.1. RESTRICTED BANDEDGE (LOW CHANNEL)



Marker	Frequen cy (GHz)	Meter Readin g (dBuV)	Det	AF T712 (dB/m)	Amp/C bl/Filtr/ Pad (dB)	Correct ed Reading (dBuV/ m)	Averag e Limit (dBuV/ m)	Margin (dB)	Peak Limit (dBuV/ m)	PK Margin (dB)	Azimet h (Degs)	Height (cm)	Polarity
1	* 2.39	39.1	Pk	32.1	-20.7	50.5	-	-	74	-23.5	41	232	H
2	* 2.377	41.98	Pk	32	-20.8	53.18	-	-	74	-20.82	41	232	H
3	* 2.39	29.93	RMS	32.1	-20.7	41.33	54	-12.67	-	-	41	232	H
4	* 2.388	30.87	RMS	32.1	-20.8	42.17	54	-11.83	-	-	41	232	H

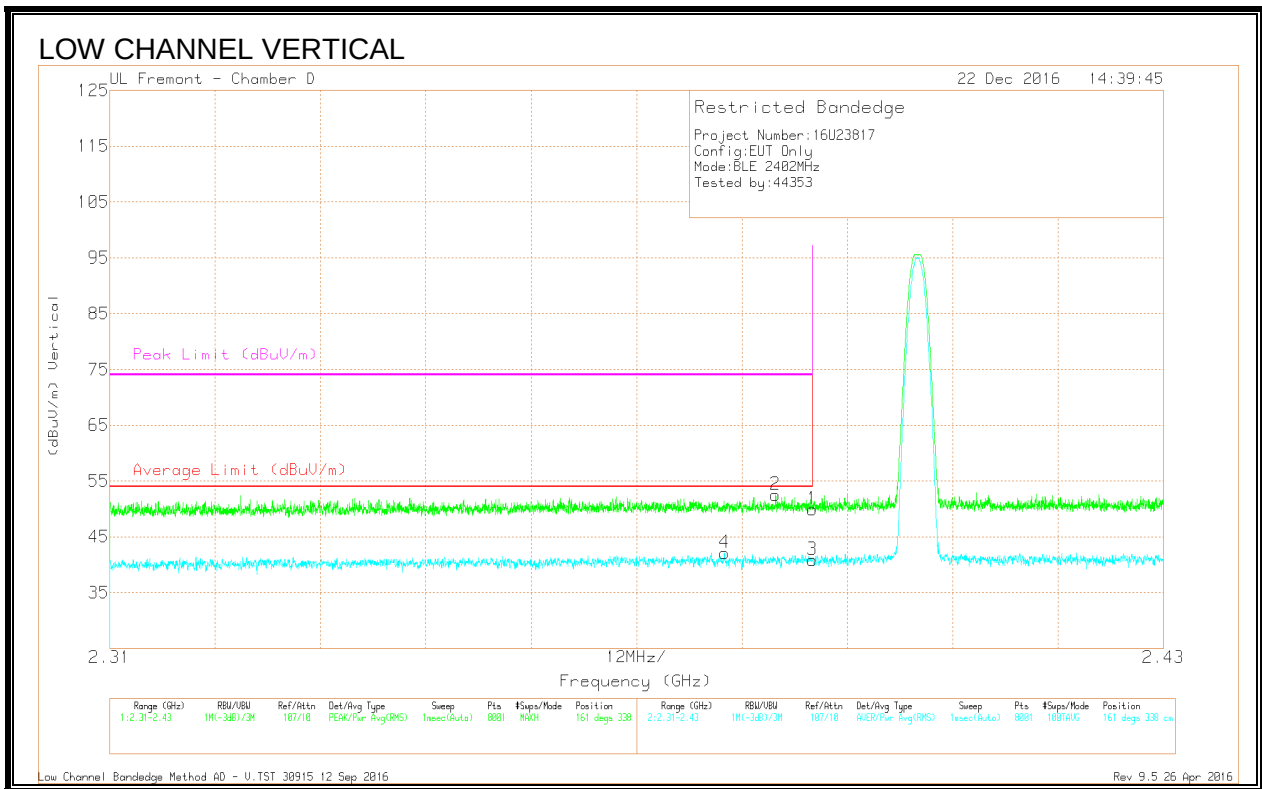
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

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Rev 9.5 26 Apr 2016



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Filtr/Pad (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	38.49	Pk	32.1	-20.7	49.89	-	-	74	-24.11	161	338	V
2	* 2.386	41.24	Pk	32.1	-20.8	52.54	-	-	74	-21.46	161	338	V
3	* 2.39	29.4	RMS	32.1	-20.7	40.8	54	-13.2	-	-	161	338	V
4	* 2.38	30.86	RMS	32	-20.8	42.06	54	-11.94	-	-	161	338	V

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

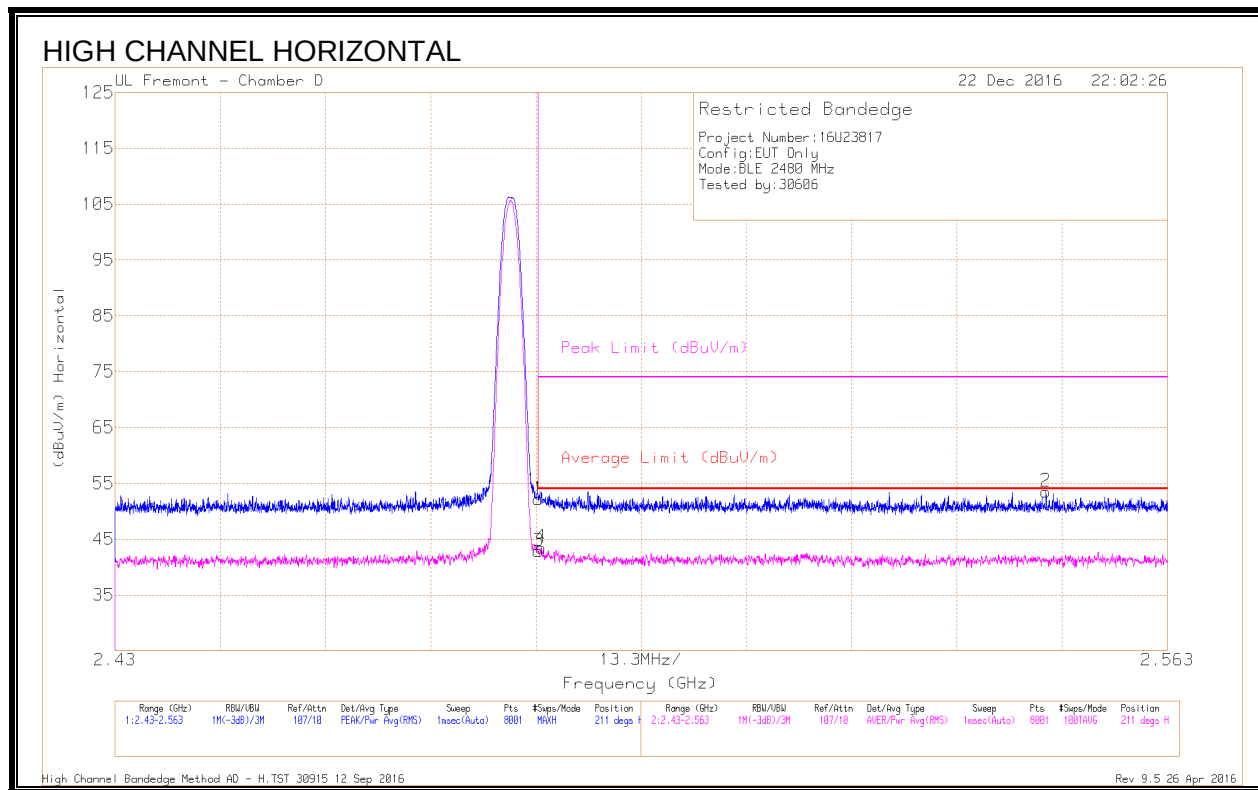
Pk - Peak detector

RMS - RMS detection

Low Channel Bandedge Method AD - V.TST 30915 12 Sep 2016

Rev 9.5 26 Apr 2016

8.3.2. AUTHORIZED BANDEDGE (HIGH CHANNEL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Filtr/Pad (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	40.63	Pk	32.3	-20.8	52.13	-	-	74	-21.87	211	231	H
3	* 2.484	31.34	RMS	32.3	-20.8	42.84	54	-11.16	-	-	211	231	H
4	* 2.484	32.01	RMS	32.3	-20.8	43.51	54	-10.49	-	-	211	231	H
2	2.548	41.93	Pk	32.2	-20.6	53.53	-	-	74	-20.47	211	231	H

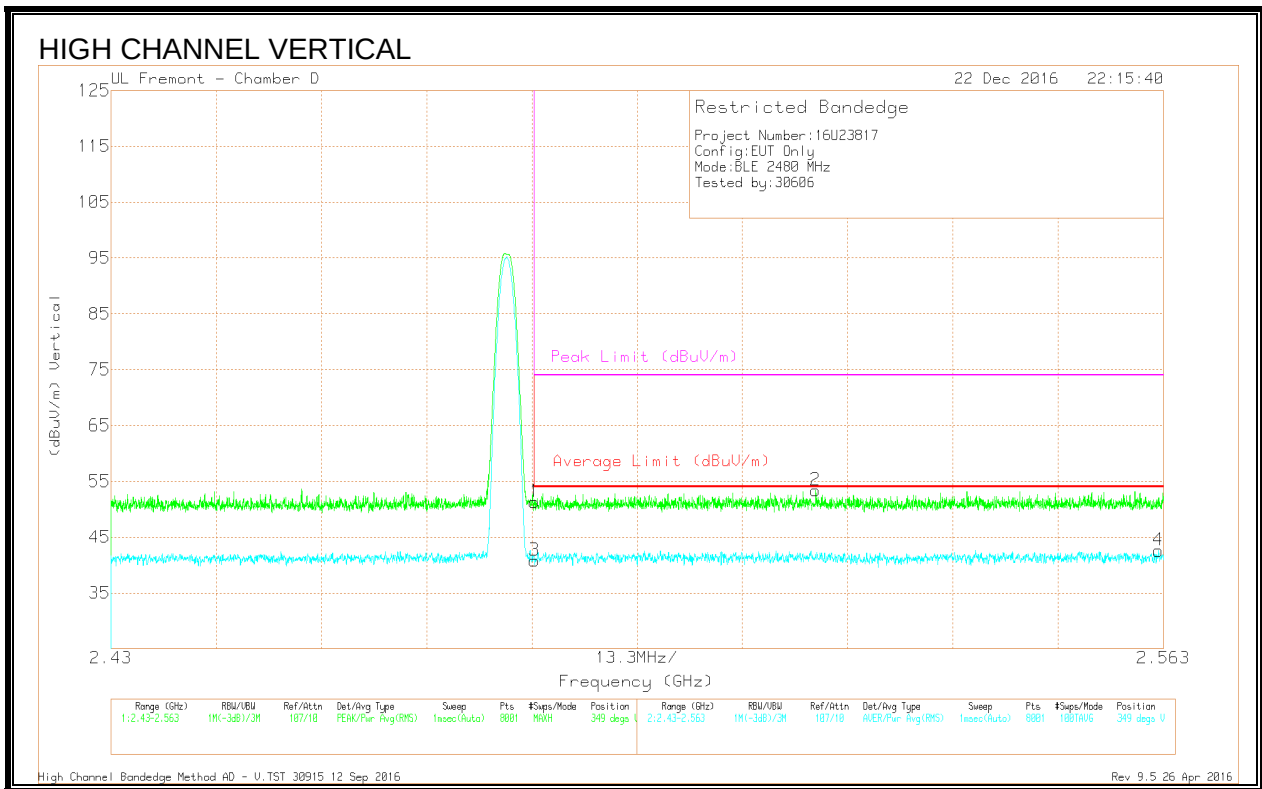
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

High Channel Bandedge Method AD - H.TST 30915 12 Sep 2016

Rev 9.5 26 Apr 2016



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Filtr/Pad (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	39.79	Pk	32.3	-20.8	51.29	-	-	74	-22.71	349	289	V
3	* 2.484	29.27	RMS	32.3	-20.8	40.77	54	-13.23	-	-	349	289	V
2	2.519	41.77	Pk	32.3	-20.7	53.37	-	-	74	-20.63	349	289	V
4	2.562	31.09	RMS	32.2	-20.7	42.59	54	-11.41	-	-	349	289	V

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

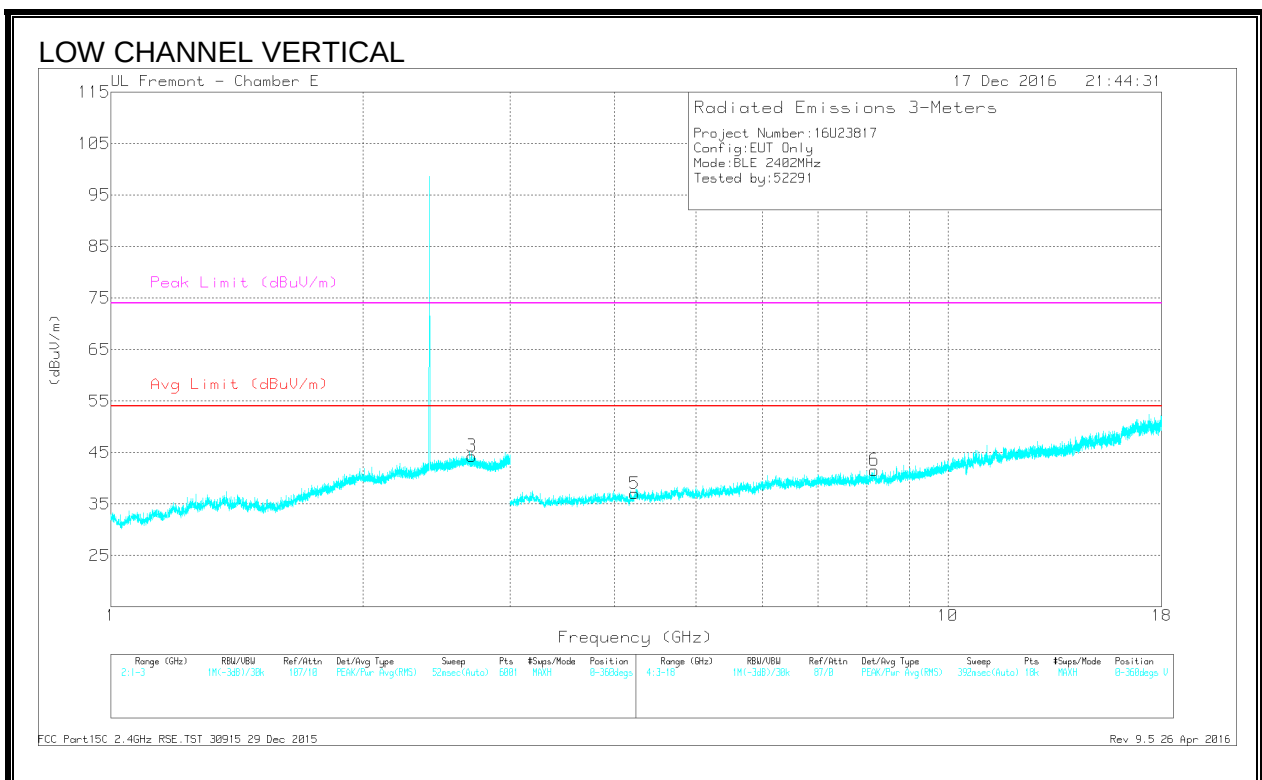
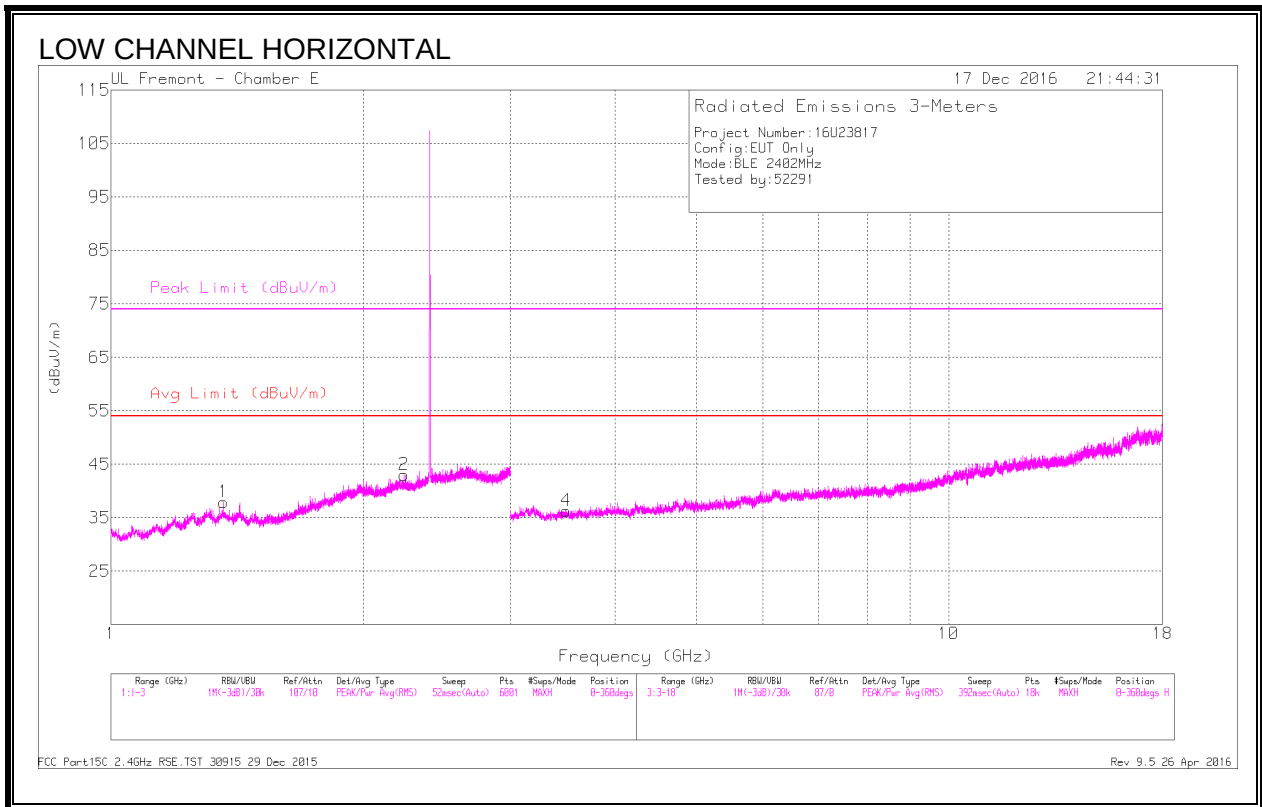
Pk - Peak detector

RMS - RMS detection

High Channel Bandedge Method AD - V.TST 30915 12 Sep 2016

Rev 9.5 26 Apr 2016

8.3.3. HARMONICS AND SPURIOUS EMISSIONS



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.365	34.26	PKFH	29.2	-21.6	41.86	-	-	74	-32.14	161	265	H
	* 1.365	19.28	VA1T	29.2	-21.6	26.88	54	-27.12	-	-	161	265	H
2	* 2.239	34.78	PKFH	31.7	-19.4	47.08	-	-	74	-26.92	217	228	H
	* 2.238	18.1	VA1T	31.7	-19.4	30.4	54	-23.6	-	-	217	228	H
3	* 2.701	34.96	PKFH	32.6	-19.4	48.16	-	-	74	-25.84	274	195	V
	* 2.698	18.66	VA1T	32.6	-19.4	31.86	54	-22.14	-	-	274	195	V
5	* 4.229	39.75	PKFH	33.3	-29	44.05	-	-	74	-29.95	124	214	V
	* 4.227	27.79	VA1T	33.3	-29	32.09	54	-21.91	-	-	124	214	V
6	* 8.162	36.44	PKFH	35.7	-25.5	46.64	-	-	74	-27.36	253	147	V
	* 8.165	25.01	VA1T	35.7	-25.7	35.01	54	-18.99	-	-	253	147	V
4	3.495	39.12	PKFH	32.9	-30	42.02	-	-	-	-	206	162	H
	3.497	28.2	VA1T	32.9	-29.9	31.2	-	-	-	-	206	162	H

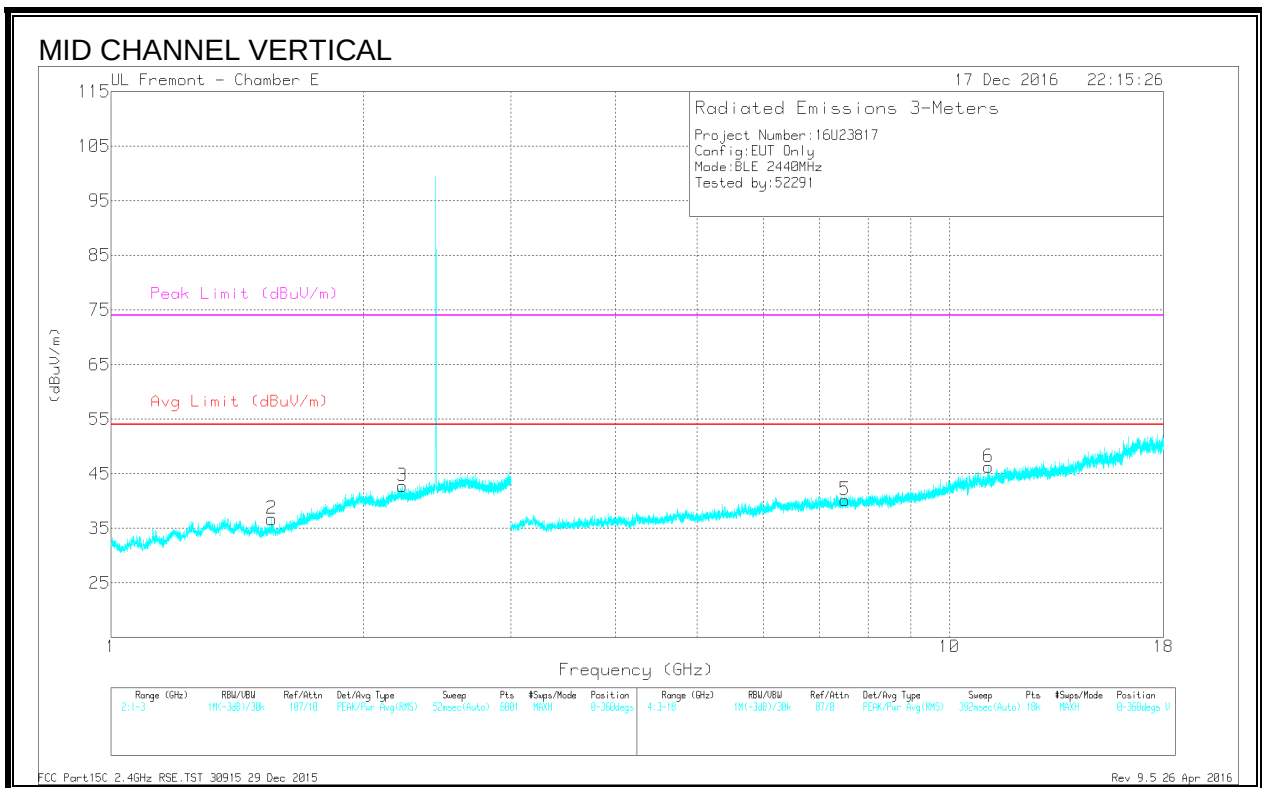
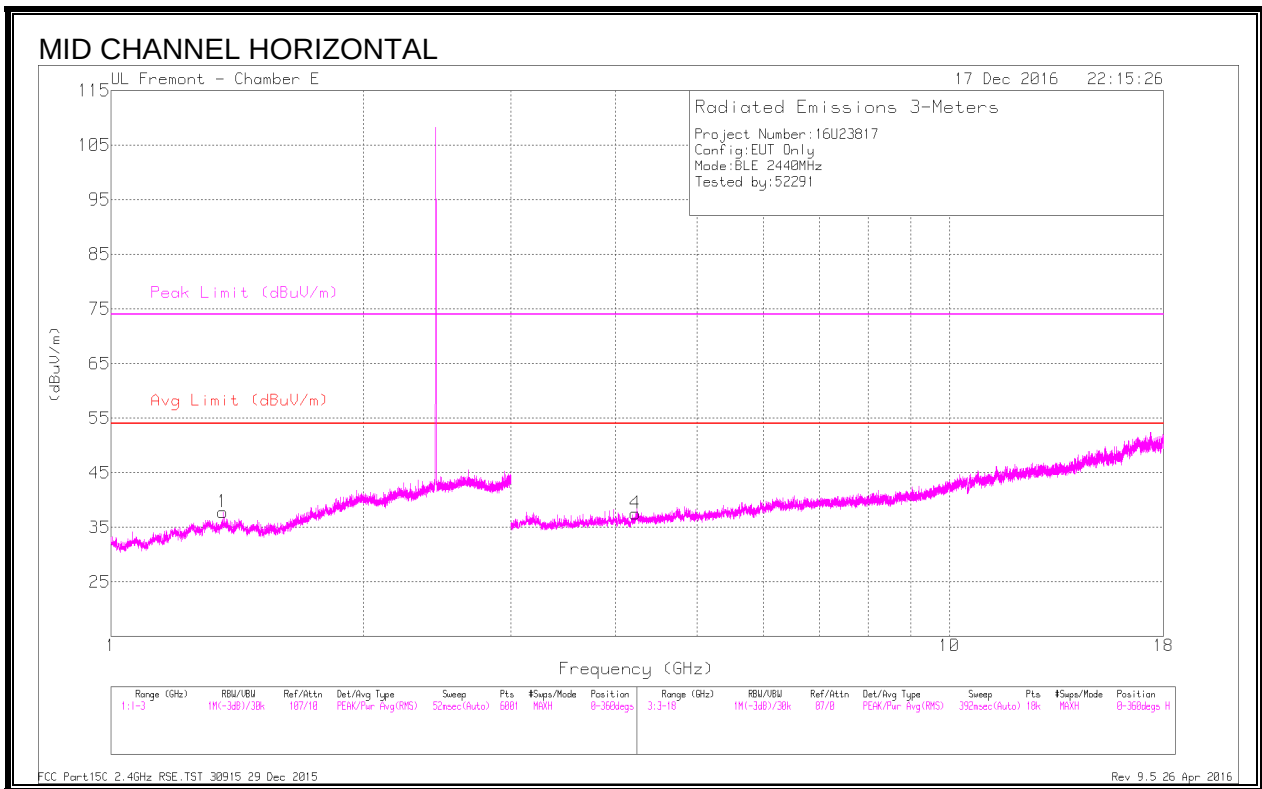
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

FCC Part15C 2.4GHz RSE.TST 30915 29 Dec 2015

Rev 9.5 26 Apr 2016



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cb I/Filtr/Power (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.359	33.56	PKFH	29.2	-21.5	41.26	-	-	74	-32.74	66	284	H
	* 1.361	19.21	VA1T	29.2	-21.5	26.91	54	-27.09	-	-	66	284	H
2	* 1.554	33.68	PKFH	27.8	-20.9	40.58	-	-	74	-33.42	315	202	V
	* 1.556	18.56	VA1T	27.8	-20.9	25.46	54	-28.54	-	-	315	202	V
3	* 2.225	34.42	PKFH	31.8	-19.6	46.62	-	-	74	-27.38	231	249	V
	* 2.225	18.18	VA1T	31.7	-19.6	30.28	54	-23.72	-	-	231	249	V
4	* 4.221	39.54	PKFH	33.3	-29.4	43.44	-	-	74	-30.56	139	178	H
	* 4.221	27.66	VA1T	33.3	-29.4	31.56	54	-22.44	-	-	139	178	H
6	* 11.136	35.11	PKFH	38.1	-22.5	50.71	-	-	74	-23.29	0	338	V
	* 11.135	23.31	VA1T	38.1	-22.5	38.91	54	-15.09	-	-	0	338	V
5	* 7.508	37.87	PKFH	35.5	-27	46.37	-	-	74	-27.63	11	375	V
	* 7.509	26.19	VA1T	35.5	-26.9	34.79	54	-19.21	-	-	11	375	V

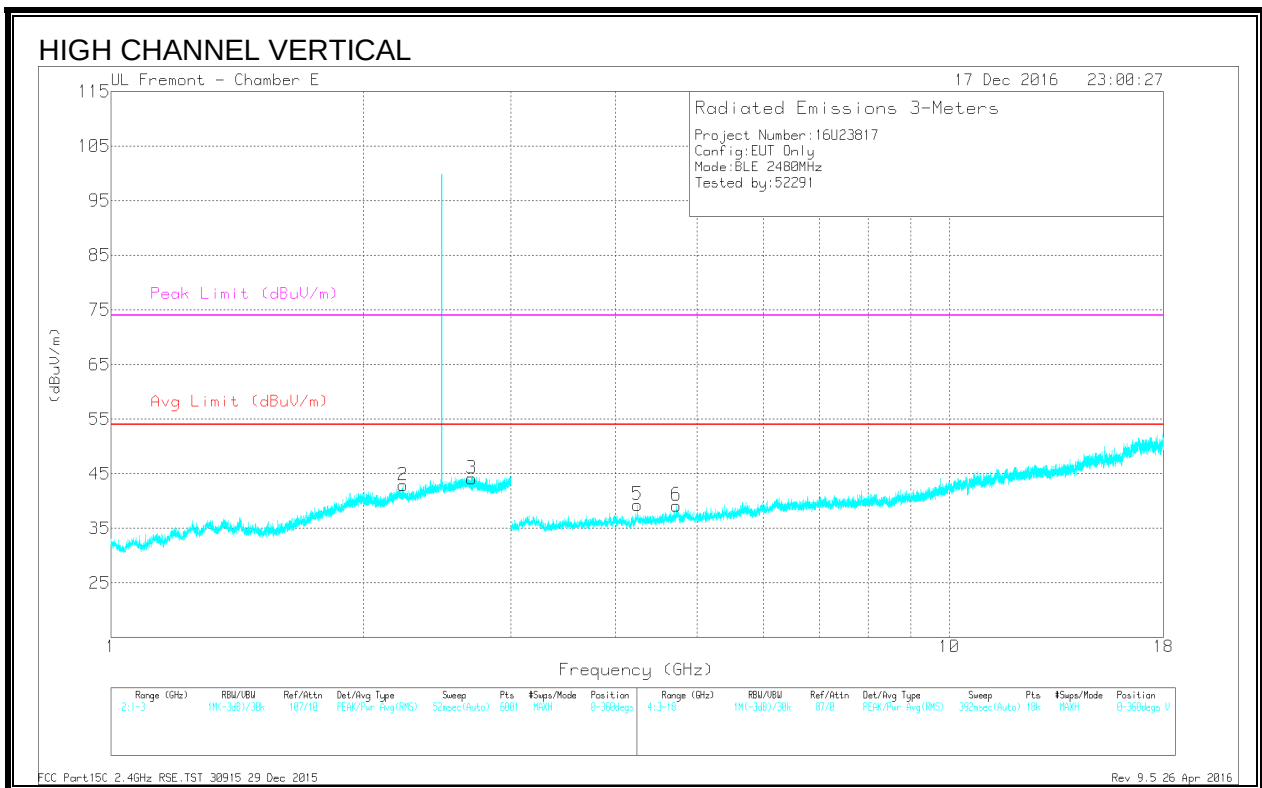
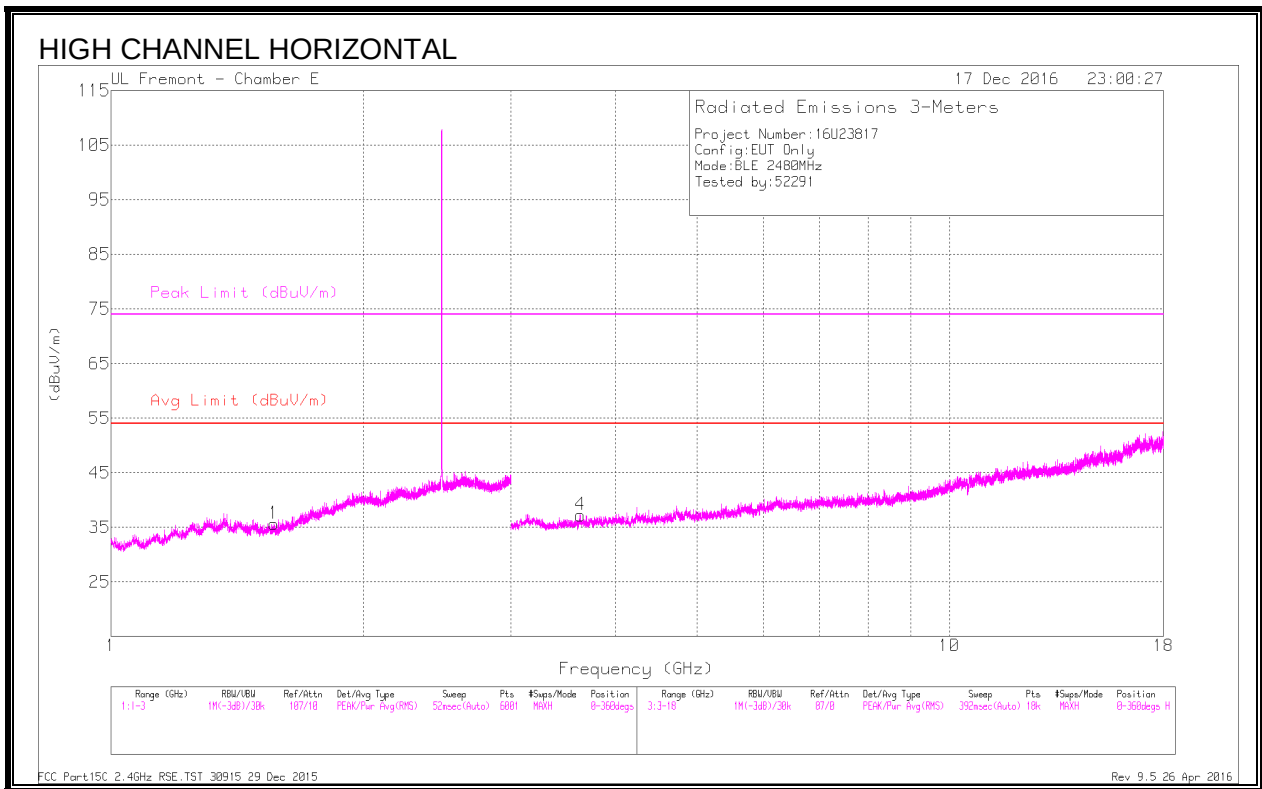
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

FCC Part15C 2.4GHz RSE.TST 30915 29 Dec 2015

Rev 9.5 26 Apr 2016



Marker	Frequen cy (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl /Filtr/Pa d (dB)	Correcte d Reading (dBuV/ m)	Avg Limit (dBuV/ m)	Margin (dB)	Peak Limit (dBuV/ m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.566	34.83	PKFH	27.8	-20.8	41.83	-	-	74	-32.17	343	155	H
	* 1.567	18.39	VA1T	27.8	-20.8	25.39	54	-28.61	-	-	343	155	H
2	* 2.23	34.75	PKFH	31.7	-19.8	46.65	-	-	74	-27.35	228	197	V
	* 2.229	18.16	VA1T	31.7	-19.8	30.06	54	-23.94	-	-	228	197	V
3	* 2.695	35.45	PKFH	32.6	-19.3	48.75	-	-	74	-25.25	268	283	V
	* 2.692	18.57	VA1T	32.6	-19.2	31.97	54	-22.03	-	-	268	283	V
4	* 3.628	39.43	PKFH	33	-30.2	42.23	-	-	74	-31.77	159	326	H
	* 3.63	28.43	VA1T	33	-30.2	31.23	54	-22.77	-	-	159	326	H
5	* 4.245	39.65	PKFH	33.3	-28.6	44.35	-	-	74	-29.65	105	385	V
	* 4.243	27.83	VA1T	33.3	-28.6	32.53	54	-21.47	-	-	105	385	V
6	* 4.723	39.05	PKFH	34	-29.1	43.95	-	-	74	-30.05	26	196	V
	* 4.727	27.56	VA1T	34	-29.1	32.46	54	-21.54	-	-	26	196	V

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

PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

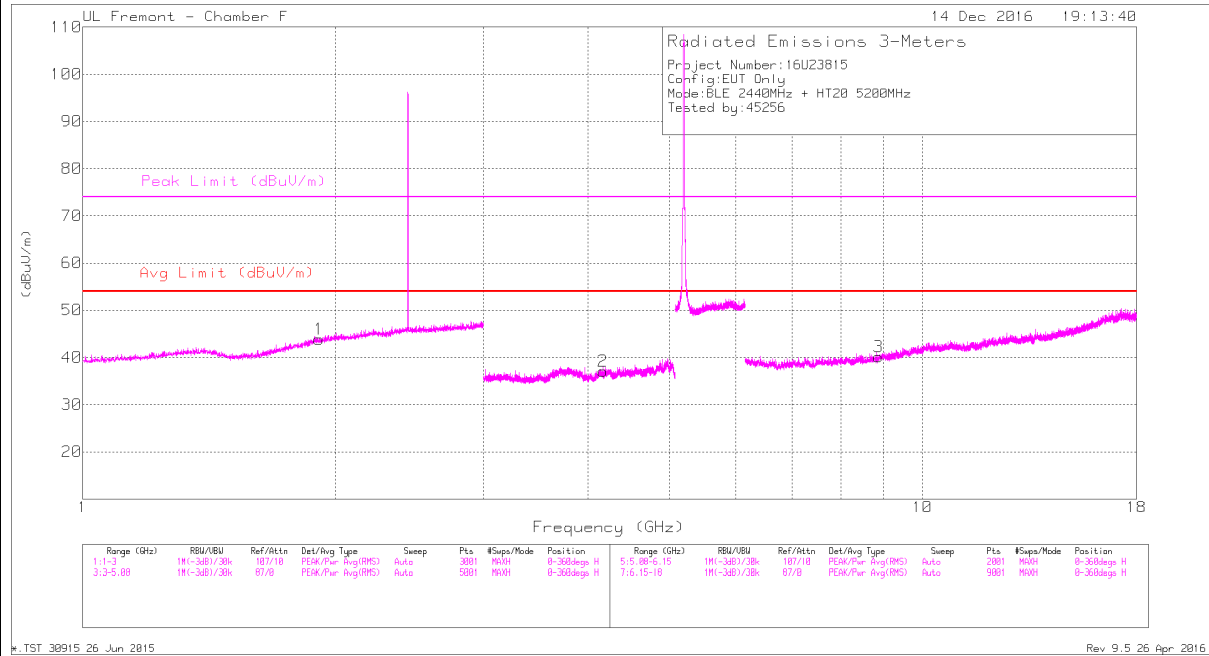
FCC Part15C 2.4GHz RSE.TST 30915 29 Dec 2015

Rev 9.5 26 Apr 2016

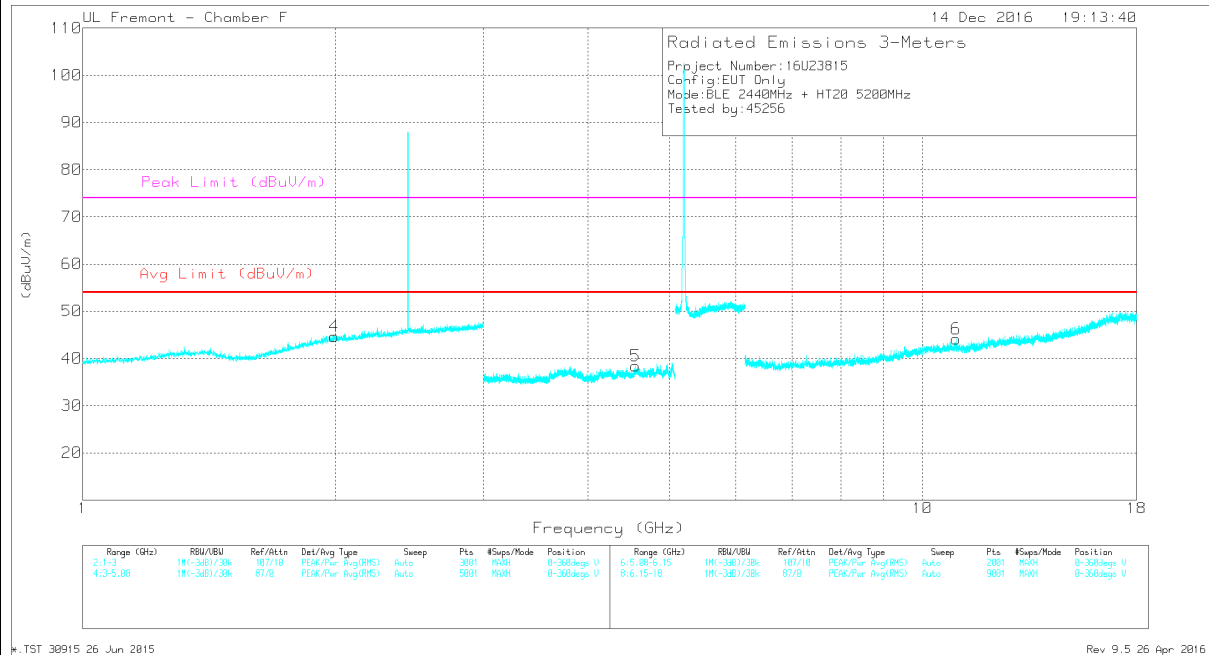
8.4. WORST-CASE CO-LOCATION

BLUETOOTH LOW ENERGY AND 802.11 HT20 2Tx CDD MODE IN THE 5.2GHZ BAND

HORIZONTAL PLOT



VERTICAL PLOT



DATA

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T344 (dB/m)	Amp/Cbl /Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.911	41.24	PK-U	31	-21.4	0	50.84			74	-23.16	10	381	H
1.994	41.39	PK-U	31.5	-21.4	0	51.49			74	-22.51	64	118	V
* 4.169	37.38	PK-U	33.7	-28.6	0	42.48			74	-31.52	181	119	H
* 4.166	27.01	ADR	33.7	-28.6	0	32.11	54	-21.89	-	-	181	119	H
* 4.554	38.41	PK-U	34.1	-27.8	0	44.71			74	-29.29	194	206	V
* 4.554	27.64	ADR	34.1	-27.8	0	33.94	54	-20.06	-	-	194	206	V
8.873	34.28	PK-U	35.9	-23.6	0	46.58			74	-27.42	100	365	H
* 10.98	34.13	PK-U	37.9	-22.1	0	49.93			74	-24.07	238	259	V
* 10.982	22.98	ADR	37.9	-22.1	0	38.78	54	-15.22	-	-	238	259	V

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

PK-U - U-NII: Maximum Peak

ADR - U-NII AD primary method, RMS average

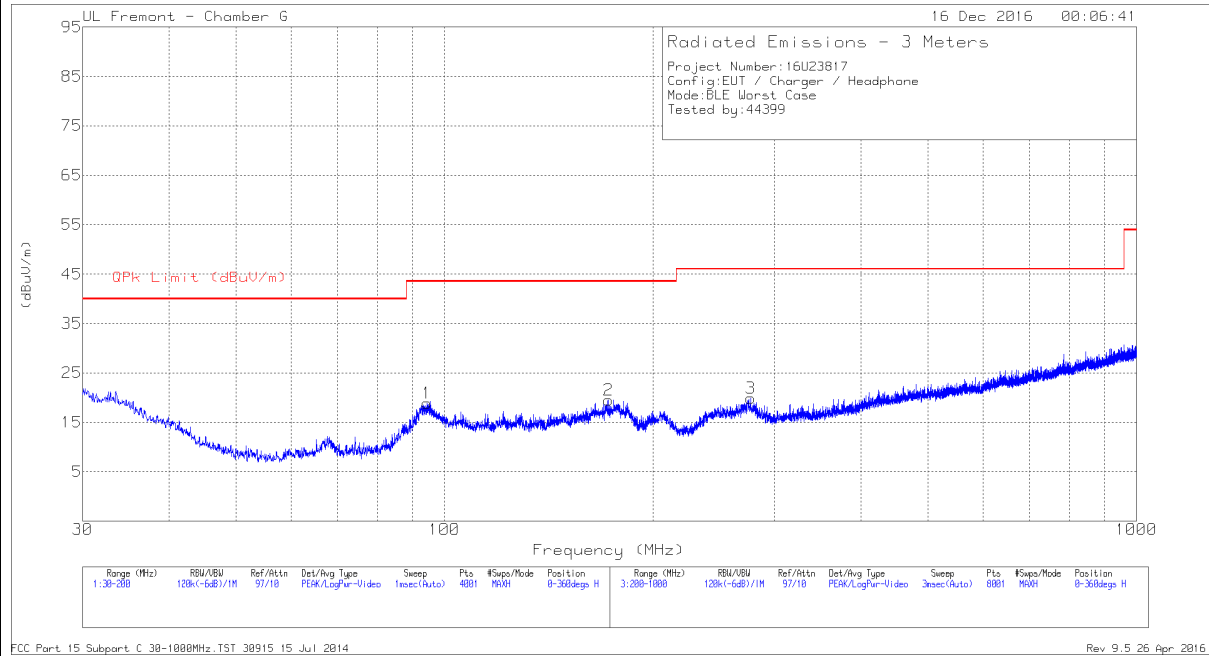
*.TST 30915 26 Jun 2015

Rev 9.5 26 Apr 2016

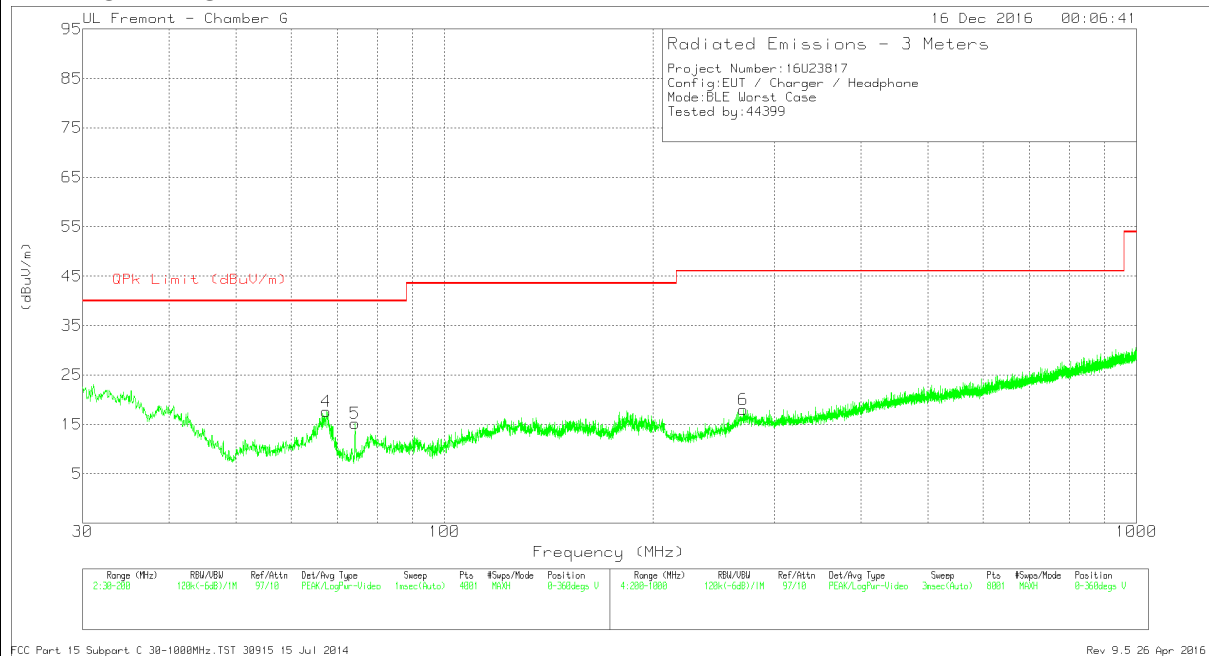
8.5. WORST-CASE BELOW 1 GHz

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

HORIZONTAL PLOT



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
2	* 172.5025	33.88	Pk	15.5	-29.9	19.48	43.52	-24.04	0-360	200	H
5	* 74.2425	33.88	Pk	12	-30.7	15.18	40	-24.82	0-360	100	V
3	* 277	31.57	Pk	17.3	-29	19.87	46.02	-26.15	0-360	100	H
6	* 270.1	29.96	Pk	17.1	-29.1	17.96	46.02	-28.06	0-360	99	V
4	67.4425	36.17	Pk	12.2	-30.8	17.57	40	-22.43	0-360	100	V
1	94.345	36.83	Pk	12.6	-30.5	18.93	43.52	-24.59	0-360	200	H

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

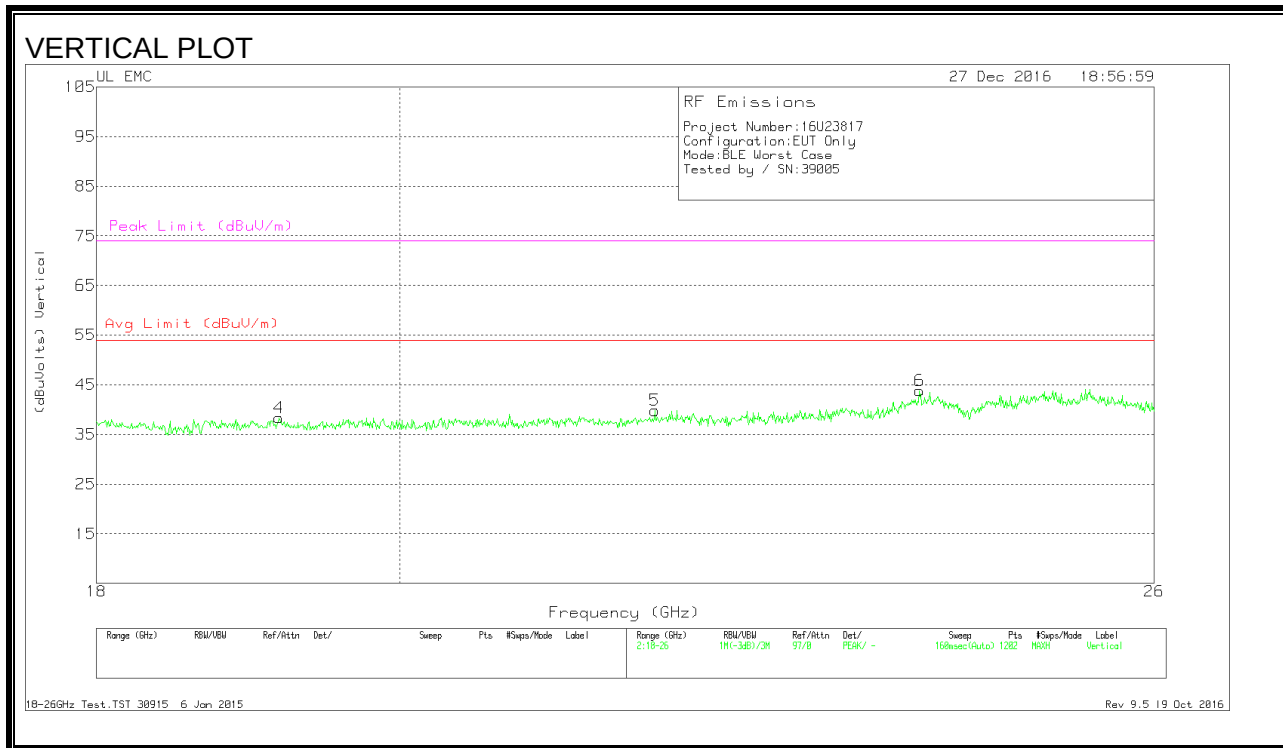
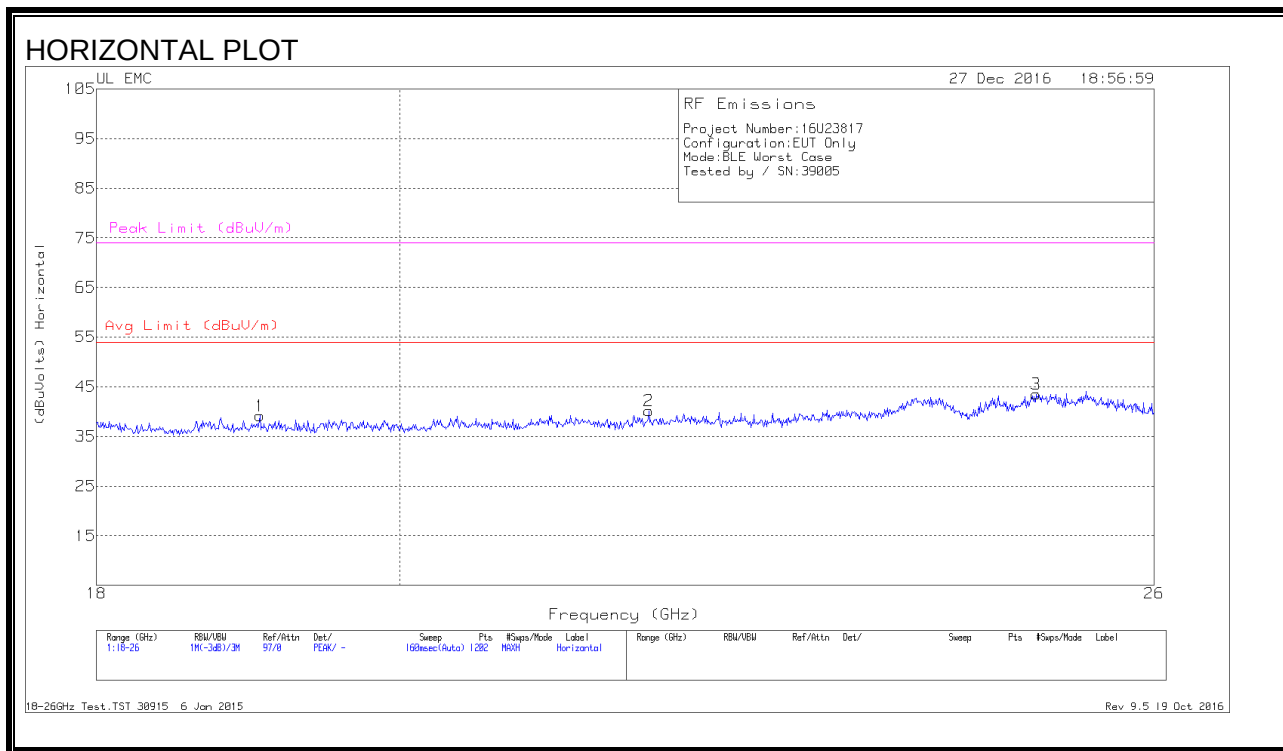
Pk - Peak detector

FCC Part 15 Subpart C 30-1000MHz.TST 30915 15 Jul 2014

Rev 9.5 26 Apr 2016

8.6. WORST-CASE ABOVE 18 GHz

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



Data

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	19.052	41.07	Pk	32.6	-25	-9.5	39.17	54	-14.83	74	-34.83
2	21.81	40.77	Pk	33.3	-24.4	-9.5	40.17	54	-13.83	74	-33.83
3	24.954	43.2	Pk	34.2	-24.4	-9.5	43.5	54	-10.5	74	-30.5
4	19.179	39.83	Pk	32.7	-24.7	-9.5	38.33	54	-15.67	74	-35.67
5	21.857	40.63	Pk	33.3	-24.6	-9.5	39.83	54	-14.17	74	-34.17
6	23.962	43.53	Pk	34	-24.2	-9.5	43.83	54	-10.17	74	-30.17

Pk - Peak detector

18-26GHz Test.TST 30915 6 Jan 2015
Rev 9.5 19 Oct 2016

9. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

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

*Decreases with the logarithm of the frequency.

TEST PROCEDURE

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

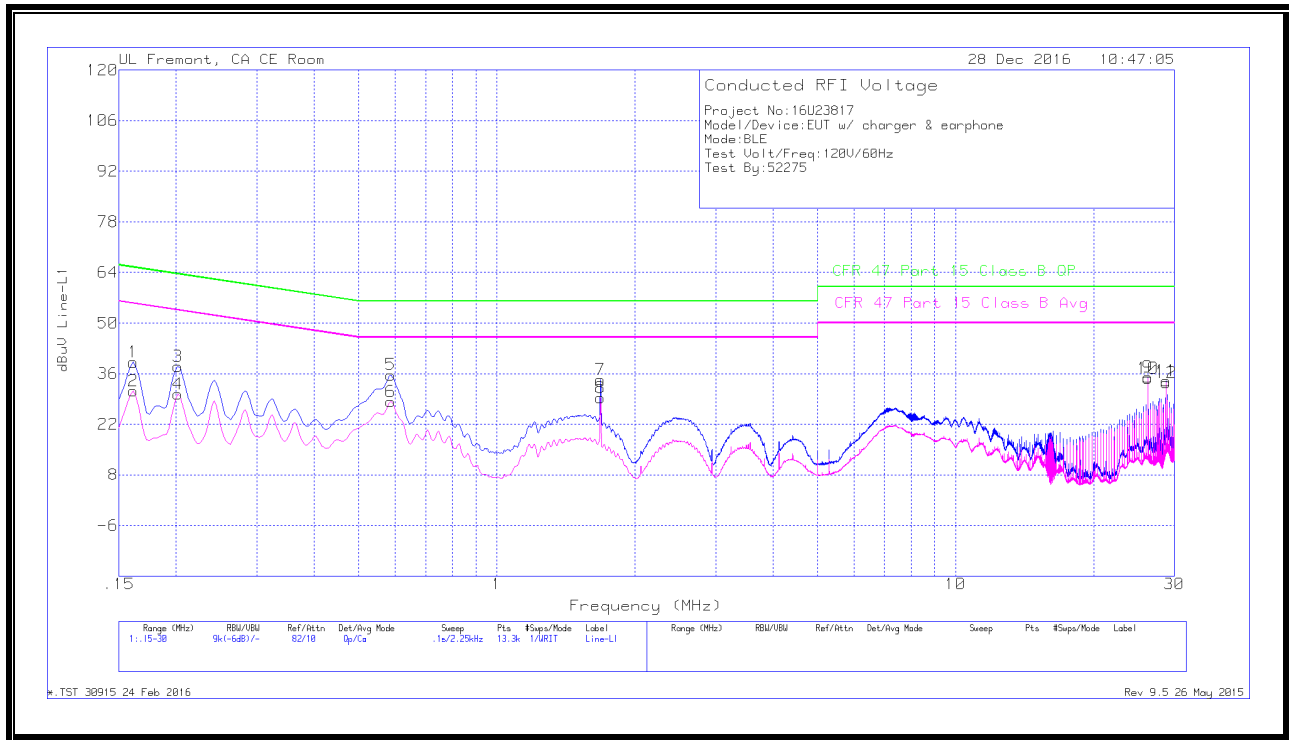
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

9.1. EUT POWERED BY AC/DC ADAPTER VIA USB CABLE

LINE 1 RESULTS

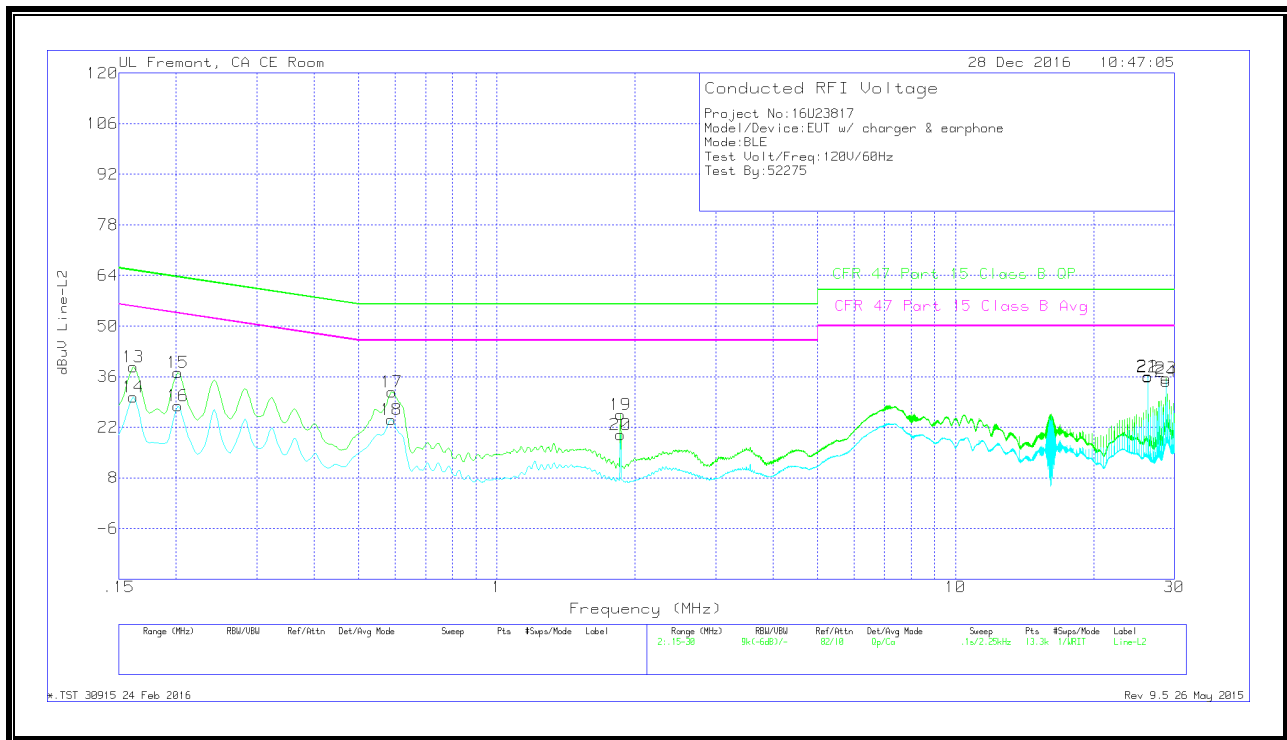


WORST EMISSIONS

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	.16125	29.04	Qp	0	0	10.1	39.14	65.4	-26.26	-	-
2	.16125	21.2	Ca	0	0	10.1	31.3	-	-	55.4	-24.1
3	.20175	27.95	Qp	0	0	10.1	38.05	63.54	-25.49	-	-
4	.20175	20.27	Ca	0	0	10.1	30.37	-	-	53.54	-23.17
5	.5865	25.56	Qp	0	0	10.1	35.66	56	-20.34	-	-
6	.58762	18.19	Ca	0	0	10.1	28.29	-	-	46	-17.71
7	1.68225	24.15	Qp	0	.1	10.1	34.35	56	-21.65	-	-
8	1.68338	19.12	Ca	0	.1	10.1	29.32	-	-	46	-16.68
9	26.25	24.07	Qp	.1	.3	10.5	34.97	60	-25.03	-	-
10	26.25	23.85	Ca	.1	.3	10.5	34.75	-	-	50	-15.25
11	28.74975	23.18	Qp	.1	.3	10.4	33.98	60	-26.02	-	-
12	28.74975	22.64	Ca	.1	.3	10.4	33.44	-	-	50	-16.56

Qp - Quasi-Peak detector
Ca - CISPR average detection

LINE 2 RESULTS



WORST EMISSIONS

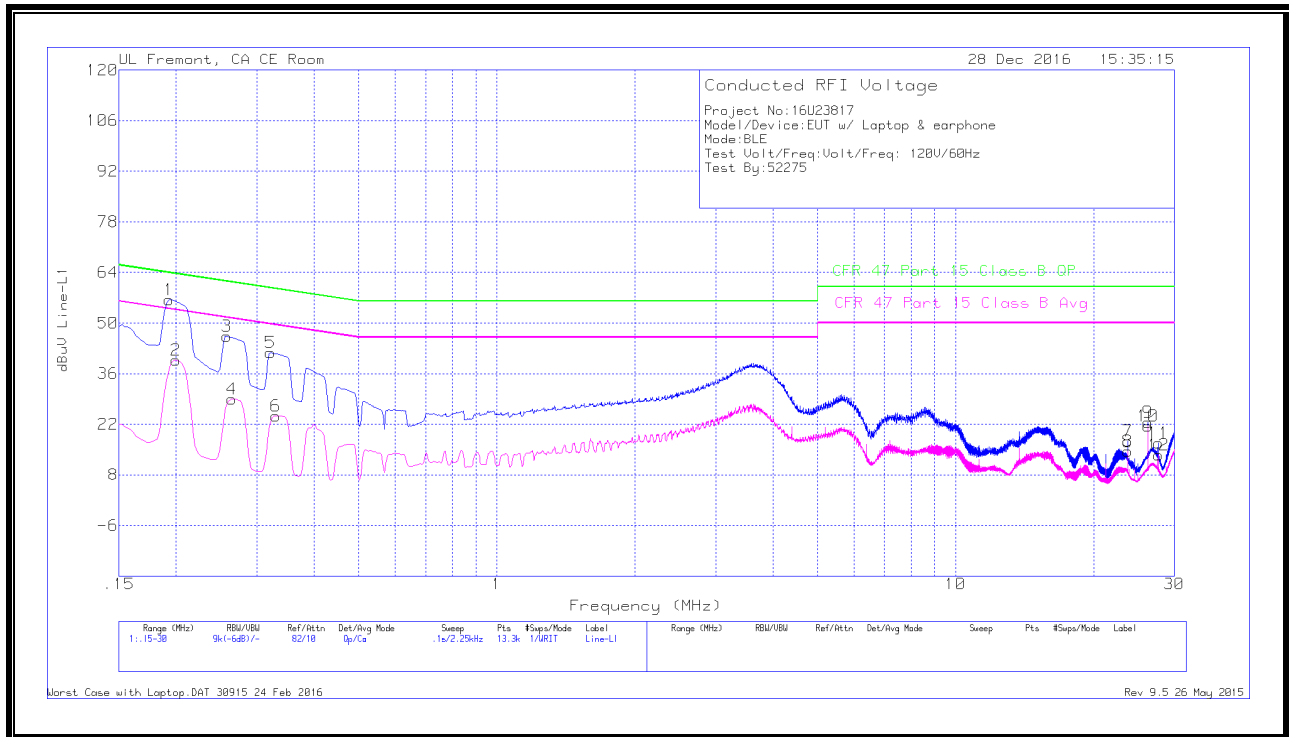
Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L2	LC Cables 2&3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR)M argin (dB)
13	.16125	28.65	Qp	0	0	10.1	38.75	65.4	-26.65	-	-
14	.16125	20.23	Ca	0	0	10.1	30.33	-	-	55.4	-25.07
15	.20175	27.02	Qp	0	0	10.1	37.12	63.54	-26.42	-	-
16	.20175	17.8	Ca	0	0	10.1	27.9	-	-	53.54	-25.64
17	.591	21.67	Qp	0	0	10.1	31.77	56	-24.23	-	-
18	.58875	13.96	Ca	0	0	10.1	24.06	-	-	46	-21.94
19	1.86	15.21	Qp	0	.1	10.1	25.41	56	-30.59	-	-
20	1.86	9.79	Ca	0	.1	10.1	19.99	-	-	46	-26.01
21	26.25	25.27	Qp	.1	.3	10.5	36.17	60	-23.83	-	-
22	26.25	24.95	Ca	.1	.3	10.5	35.85	-	-	50	-14.15
23	28.74975	24.82	Qp	.1	.3	10.4	35.62	60	-24.38	-	-
24	28.74975	23.92	Ca	.1	.3	10.4	34.72	-	-	50	-15.28

Qp - Quasi-Peak detector

Ca - CISPR average detection

9.2. EUT POWERED BY HOST PC VIA USB CABLE

LINE 1 RESULTS



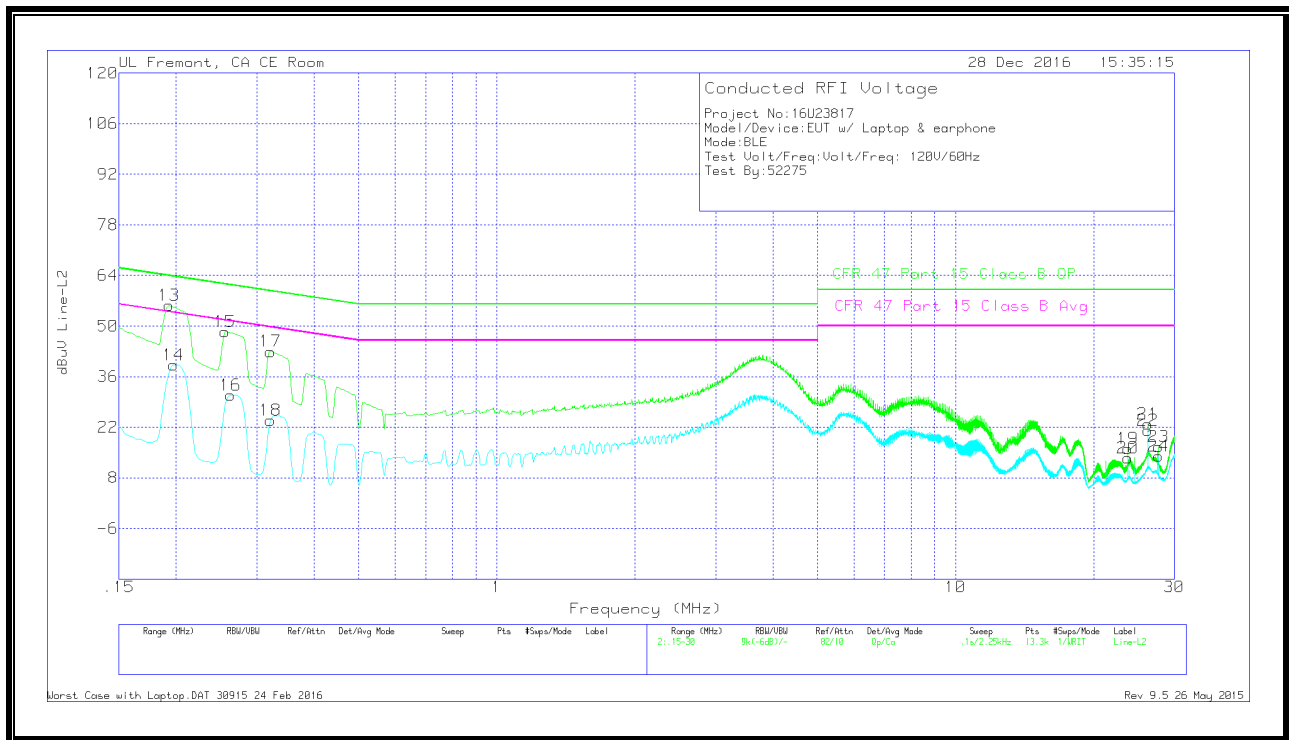
WORST EMISSIONS

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	.19275	46.39	Qp	0	0	10.1	56.49	63.92	-7.43	-	-
2	.1995	29.58	Ca	0	0	10.1	39.68	-	-	53.63	-13.95
3	.258	36.2	Qp	0	0	10.1	46.3	61.5	-15.2	-	-
4	.26475	18.81	Ca	0	0	10.1	28.91	-	-	51.28	-22.37
5	.321	31.68	Qp	0	0	10.1	41.78	59.68	-17.9	-	-
6	.33	14.16	Ca	0	0	10.1	24.26	-	-	49.45	-25.19
7	23.75025	6.54	Qp	.1	.2	10.4	17.24	60	-42.76	-	-
8	23.75025	3.88	Ca	.1	.2	10.4	14.58	-	-	50	-35.42
9	26.25	11.65	Qp	.1	.3	10.5	22.55	60	-37.45	-	-
10	26.25	10.56	Ca	.1	.3	10.5	21.46	-	-	50	-28.54
11	27.69225	5.89	Qp	.1	.3	10.5	16.79	60	-43.21	-	-
12	27.69225	2.6	Ca	.1	.3	10.5	13.5	-	-	50	-36.5

Qp - Quasi-Peak detector

Ca - CISPR average detection

LINE 2 RESULTS



WORST EMISSIONS

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)M argin (dB)
13	.19275	45.63	Qp	0	0	10.1	55.73	63.92	-8.19	-	-
14	.19725	29.13	Ca	0	0	10.1	39.23	-	-	53.73	-14.5
15	.25575	38.37	Qp	0	0	10.1	48.47	61.57	-13.1	-	-
16	.2625	20.73	Ca	0	0	10.1	30.83	-	-	51.35	-20.52
17	.321	32.86	Qp	0	0	10.1	42.96	59.68	-16.72	-	-
18	.321	13.85	Ca	0	0	10.1	23.95	-	-	49.68	-25.73
19	23.75025	5.38	Qp	.1	.2	10.4	16.08	60	-43.92	-	-
20	23.75025	2.85	Ca	.1	.2	10.4	13.55	-	-	50	-36.45
21	26.25	11.93	Qp	.1	.3	10.5	22.83	60	-37.17	-	-
22	26.25	10.17	Ca	.1	.3	10.5	21.07	-	-	50	-28.93
23	27.69225	5.66	Qp	.1	.3	10.5	16.56	60	-43.44	-	-
24	27.69225	3.16	Ca	.1	.3	10.5	14.06	-	-	50	-35.94

Qp - Quasi-Peak detector

Ca - CISPR average detection