



CERTIFICATION TEST REPORT

Report Number. : 16U23818-E1V4

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

Model : A1709, A1852

FCC ID : BCGA1709

IC : 579C-A1709

EUT Description : TABLET DEVICE

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

Date Of Issue:
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Revision History

Rev.	Issue Date	Revisions	Revised By
V1	02/03/2017	Initial Issue	Chin Pang
V2	02/17/2017	Add Model number	Chin Pang
V3	03/02/2017	Address TCB's Questions	Mengistu Mekuria
V4	03/06/2017	Address TCB's Questions	Chin Pang

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1. ATTESTATION OF TEST RESULTS

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

EUT DESCRIPTION: TABLET DEVICE

MODEL: A1709, A1852

SERIAL NUMBER: CONDUCTED (DLXSR01HHQGC),
RADIATED (DLXSR01JHQGC)

DATE TESTED: SEPTEMBER 28, 2016 – JANUARY 30, 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:



ERIC YU
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, model number A1709, A1852 is a tablet with multimedia functions (music, application support, and video), Cellular GSM/GPRS/EGPRS/CDMA2000 1xRTT/1x Advanced/EVDO Rev.A/EVDO Rev.B WCDMA /HSPA+/DC- HSDPA/LTE FDD & Carrier Aggregation/TDD/TD-SCDMA radio, IEEE 802.11a/b/g/n/ac radio, and Bluetooth radio. The rechargeable battery is not user accessible.

5.2. DESCRIPTION OF MODELS DIFFERENCES

Both Model A1709 and A1852 have identical PCB layout, design and functionality, except that A1709 supports second electronic-UICC based SIM or “soft SIM” (called eSIM) beside the regular UICC based SIM and A1852 will come with eSIM removed. RF and electromagnetic characteristic are independent of the eSIM element. Both Models have exactly same technology and band support. Model A1709 is used for EMC/RSE and that data will be used for both Models

5.3. 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	20.31	107.40

5.4. DESCRIPTION OF AVAILABLE ANTENNAS

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

5.5. SOFTWARE AND FIRMWARE

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

5.6. 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.

For simultaneous transmission of multiple channels from the same antenna in the 2.4GHz and 5GHz bands, tests were conducted for various configurations having the highest power. No noticeable new emission was found.

5.7. 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

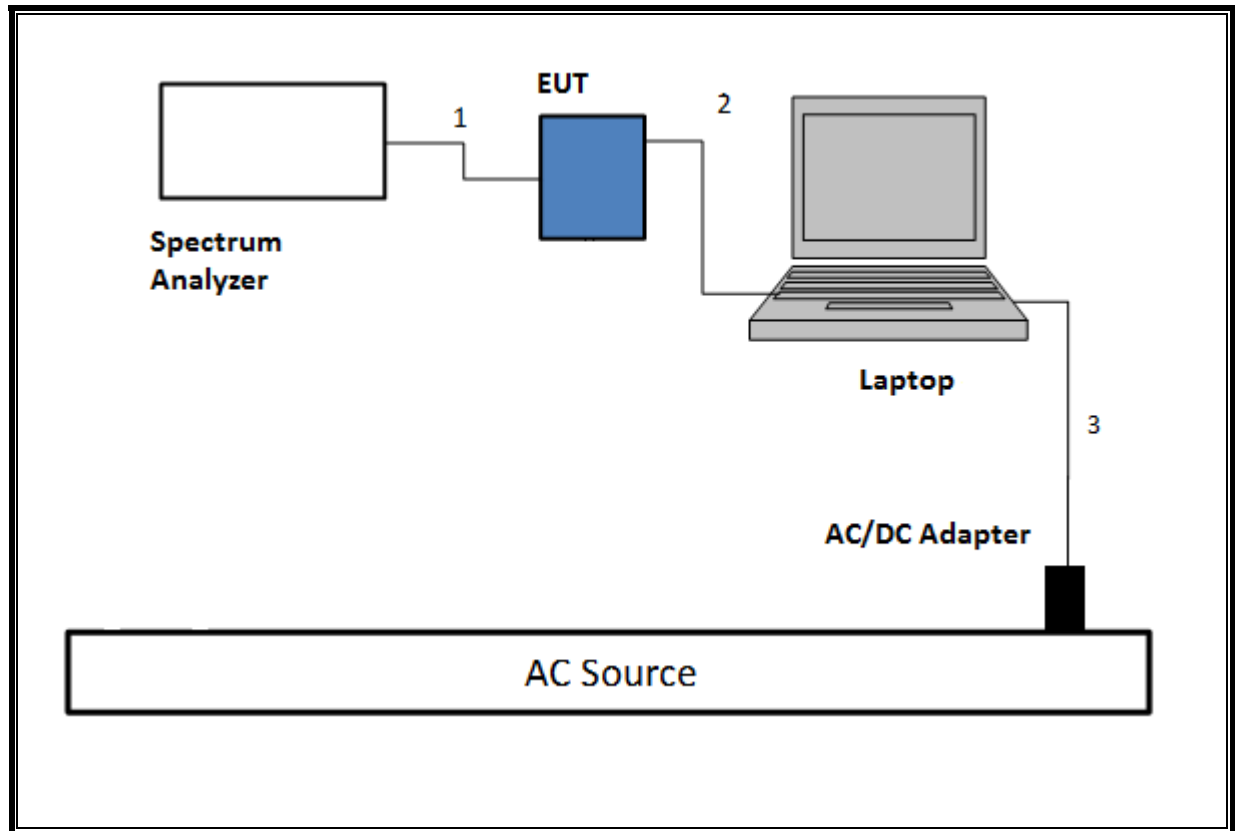
I/O CABLES (AC LINE CONDUCTED: LAPTOP CONFIGUARTION)

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.

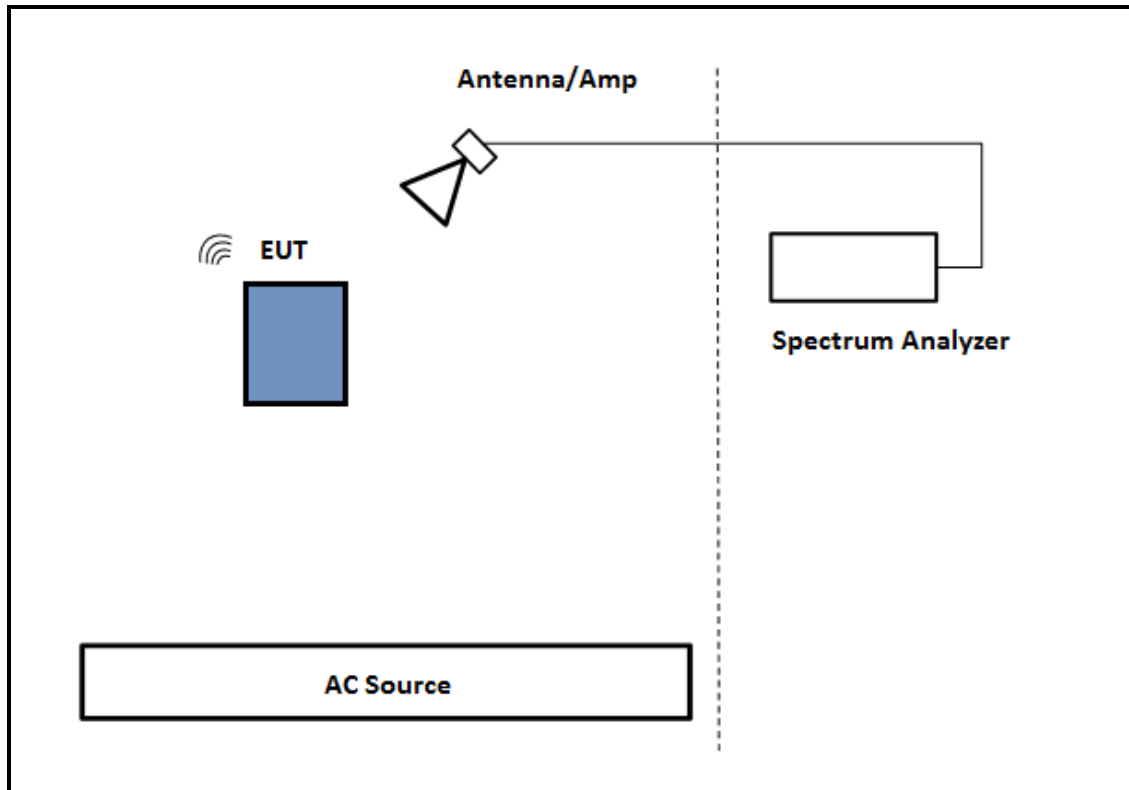
SETUP DIAGRAM



TEST SETUP- RADIATED-ABOVE 1 GHZ

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

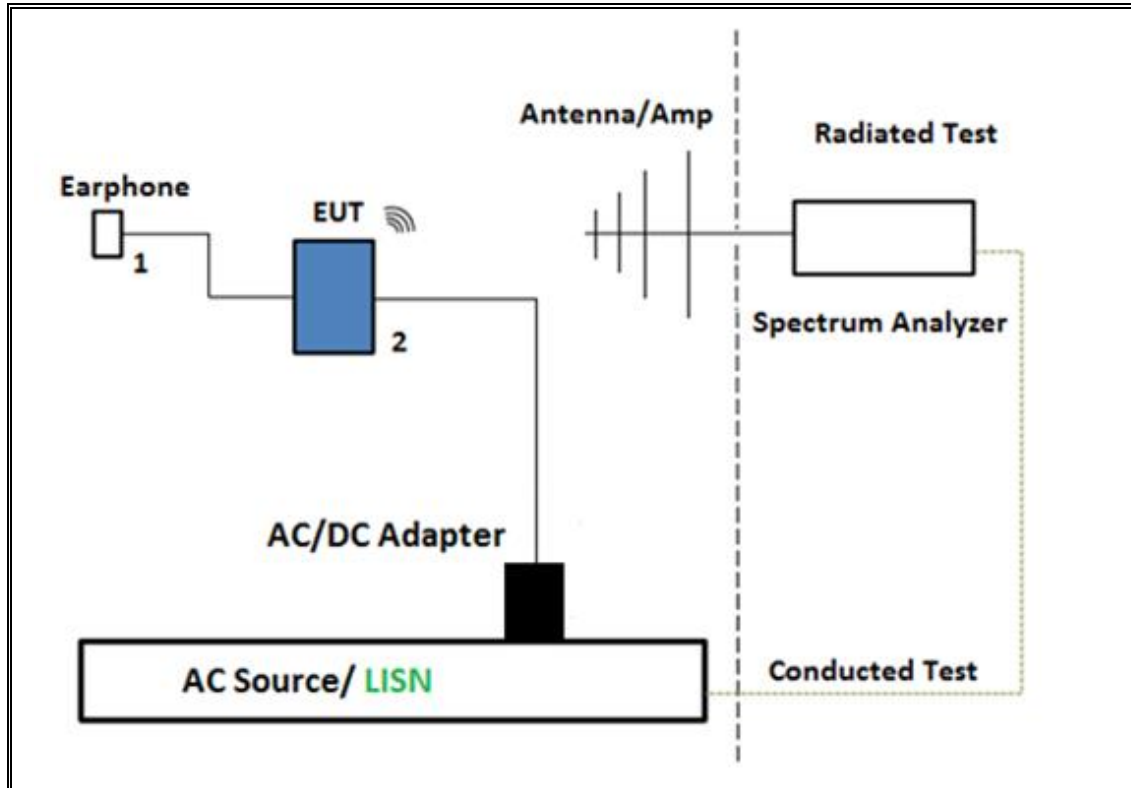
SETUP DIAGRAM



TEST SETUP- BELOW 1GHz

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

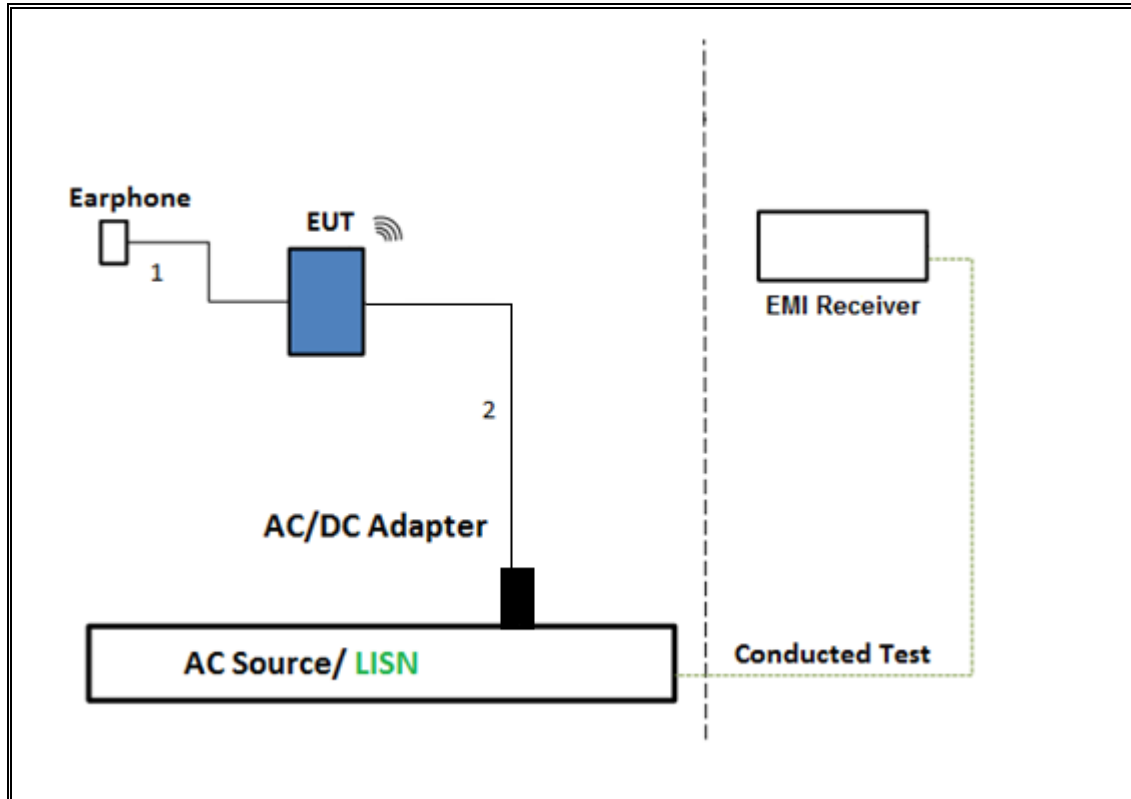
SETUP DIAGRAM



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.

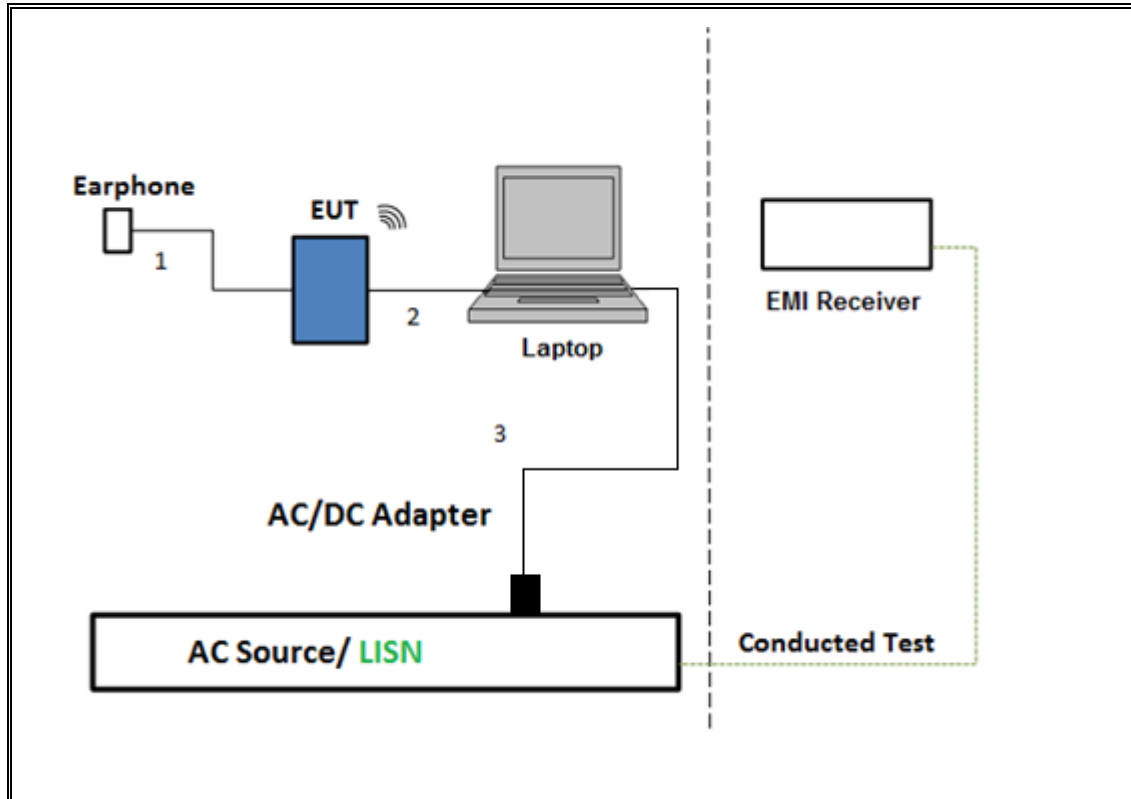
SETUP DIAGRAM



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	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
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T341	10/25/2017
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
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T863	4/26/2017
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	T900	5/3/2017
Amplifier, 1 to 18GHz	Miteq	AFS42-00101800-25-S-42	T740	11/29/2017
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	T835	6/18/2017
Power Meter, P-series single channel	Agilent (Keysight) Technologies	N1912A	T1244	05/03/2017
Power Sensor	ETS LINDGREN	7002-006	T1126	02/10/2017
Spectrum Analyzer, PSA, 3Hz to 44GHz	Agilent (Keysight) Technologies	E4446A	T177	03/21/2017
* Filter, HPF 3.0GHz	MICROTRONICS	HPM17543	T487	01/26/2017
Spectrum Analyzer, PSA, 3Hz to 44GHz	Agilent (Keysight) Technologies	E4446A	T177	03/21/2017
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	10/07/2017
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 9.1.1.

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.

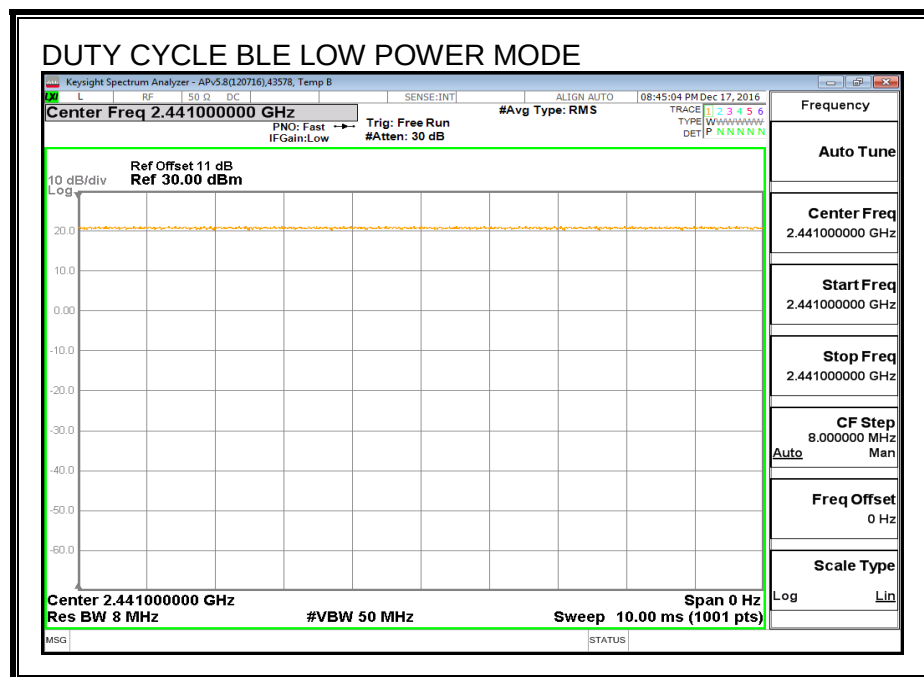
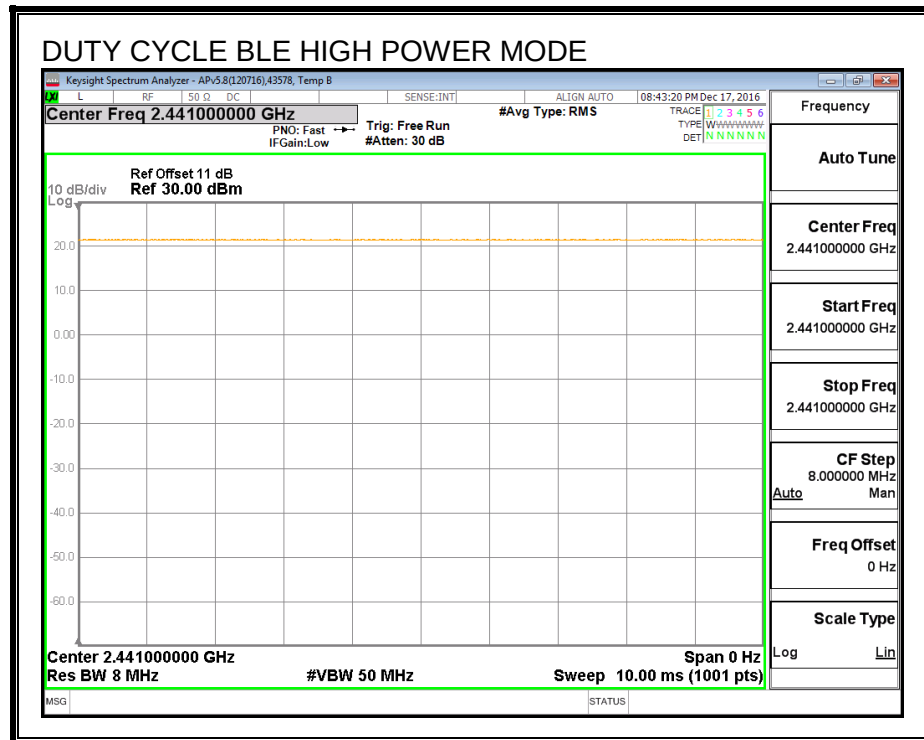
PROCEDURE

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

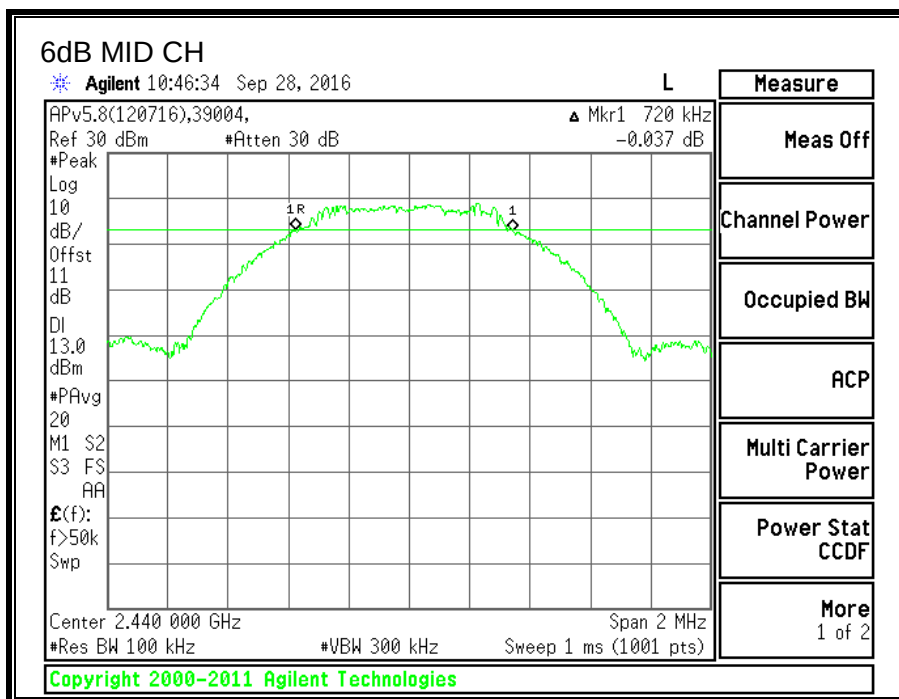
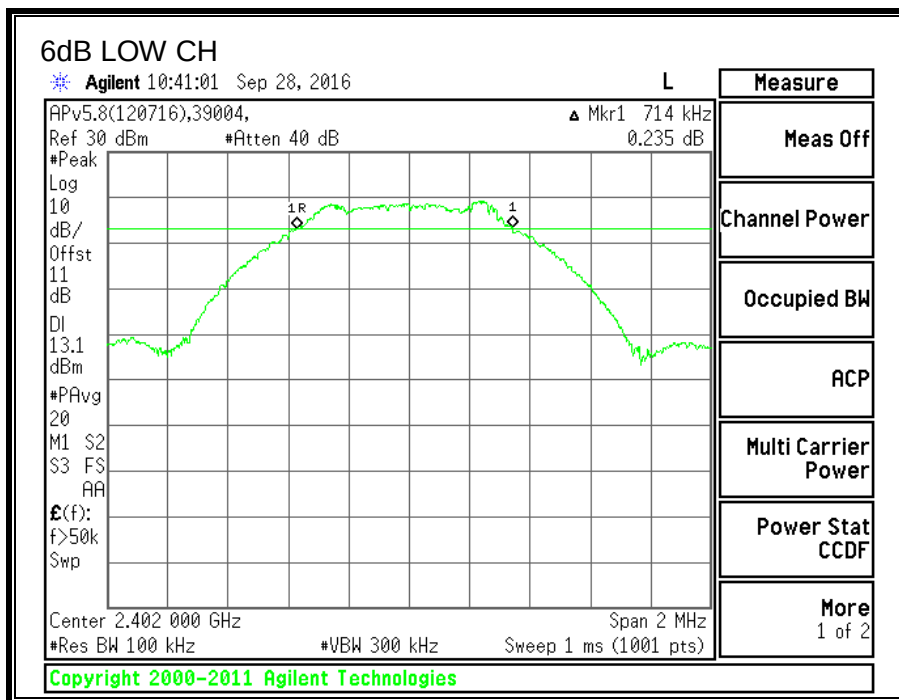
FCC §15.247 (a) (2)

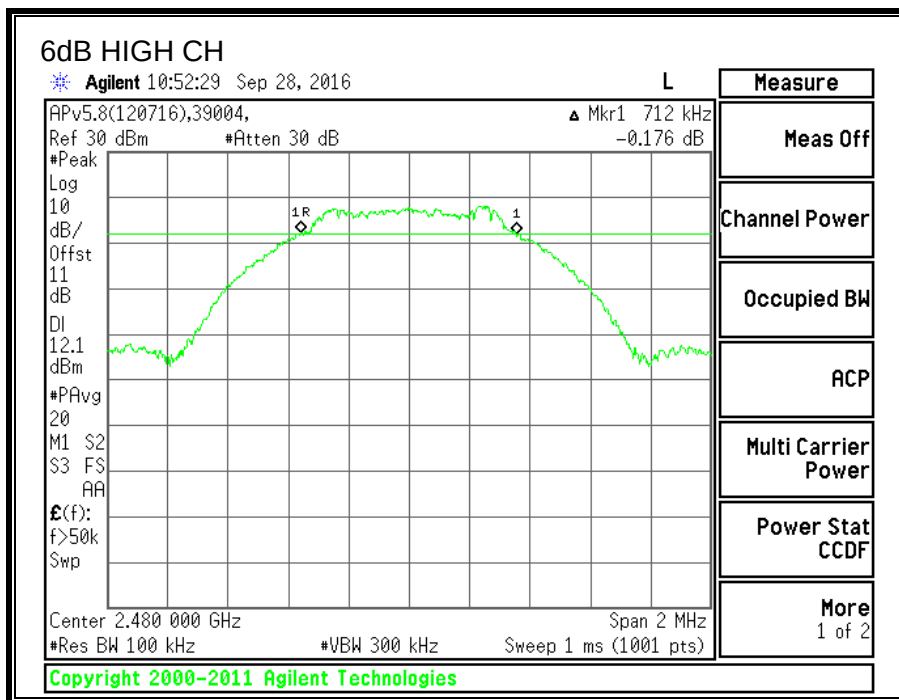
IC RSS-247 (5.2) (1)

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

RESULTS

Channel	Frequency	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.714	0.5
Middle	2440	0.720	0.5
High	2480	0.712	0.5





7.3.2. 99% BANDWIDTH

LIMITS

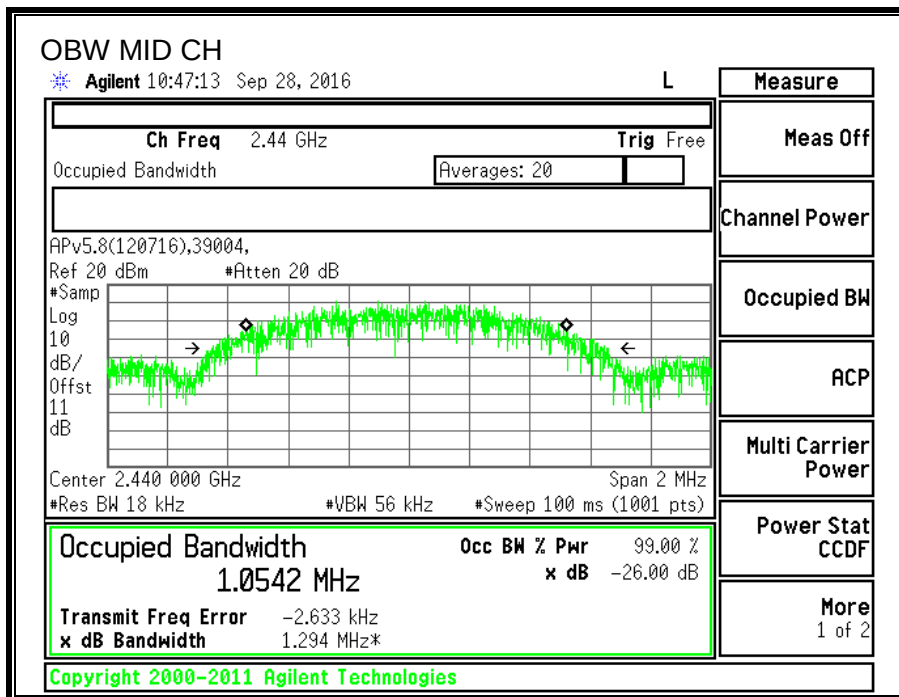
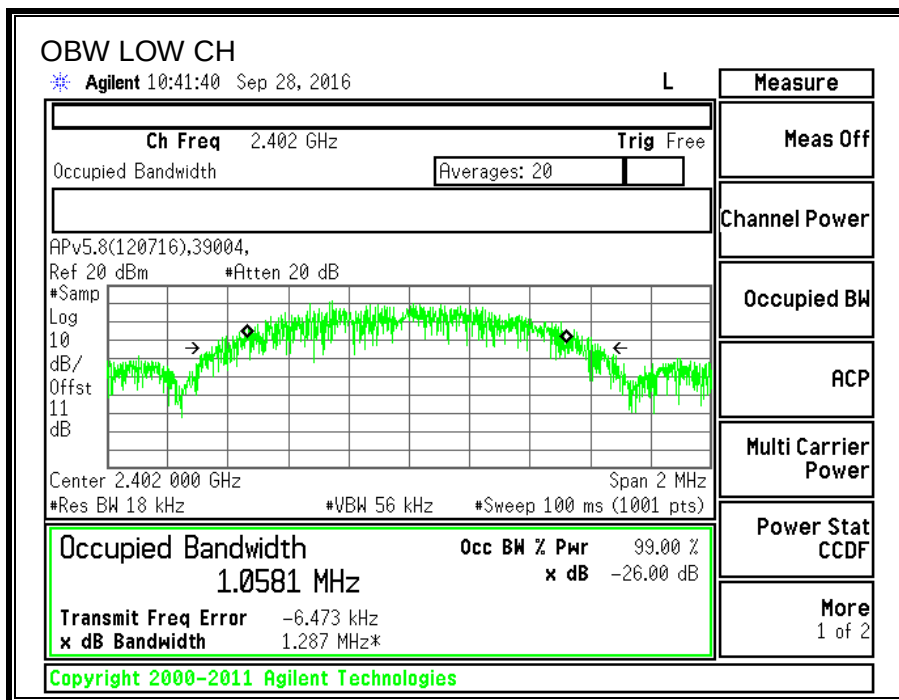
None; for reporting purposes only.

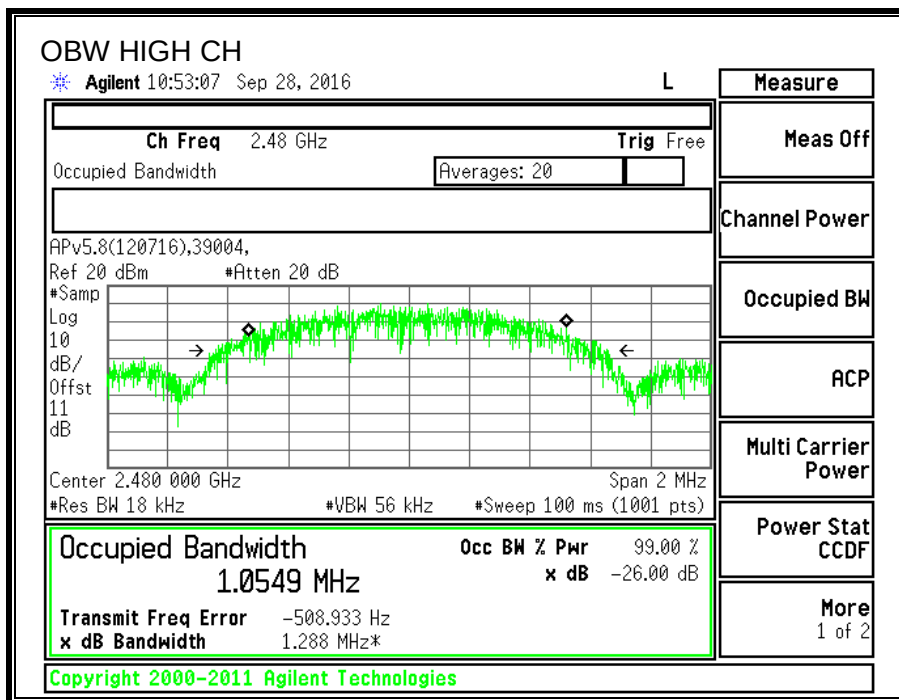
Test Procedure

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	1.0581
Middle	2440	1.0542
High	2480	1.0549





7.3.3. AVERAGE POWER

ID:	39472	Date:	1/23/17
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LIMITS

None; for reporting purposes only.

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 (MHz)
Low	2402	19.92
Middle	2440	19.99
High	2480	19.31

7.3.4. OUTPUT POWER

LIMITS

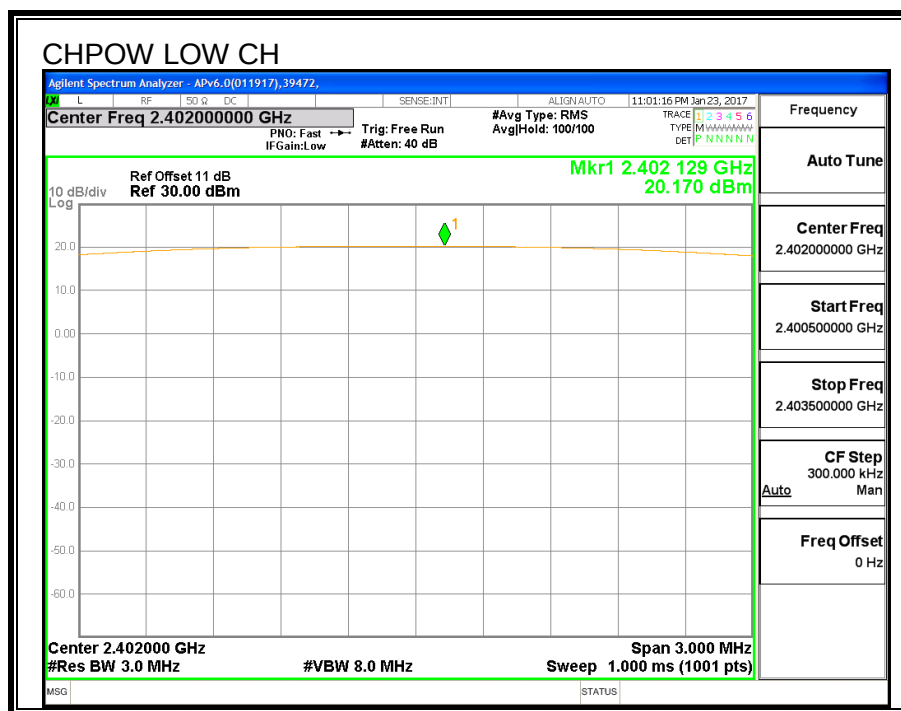
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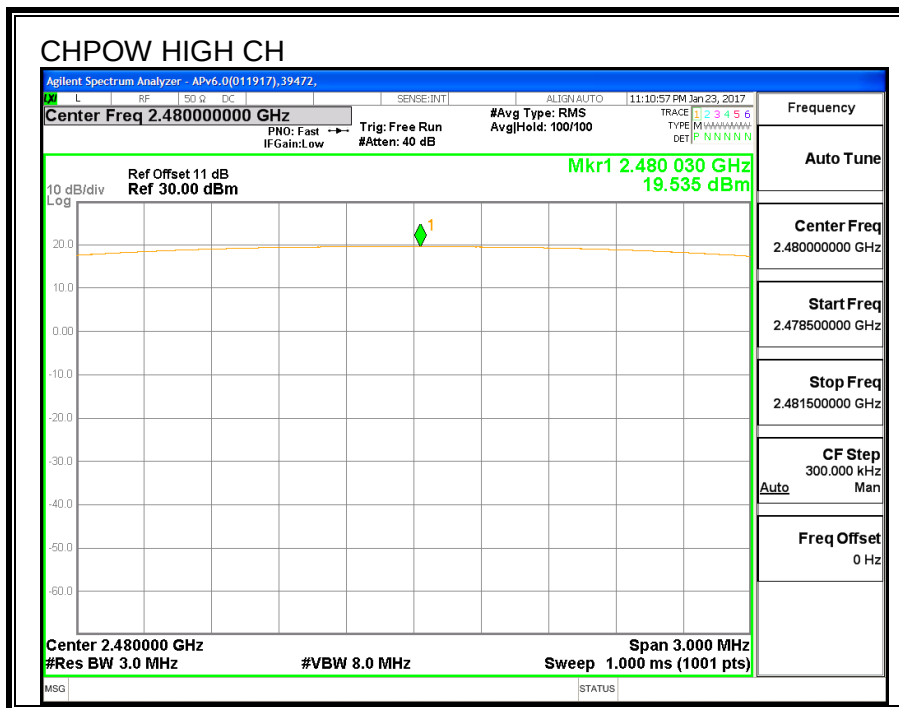
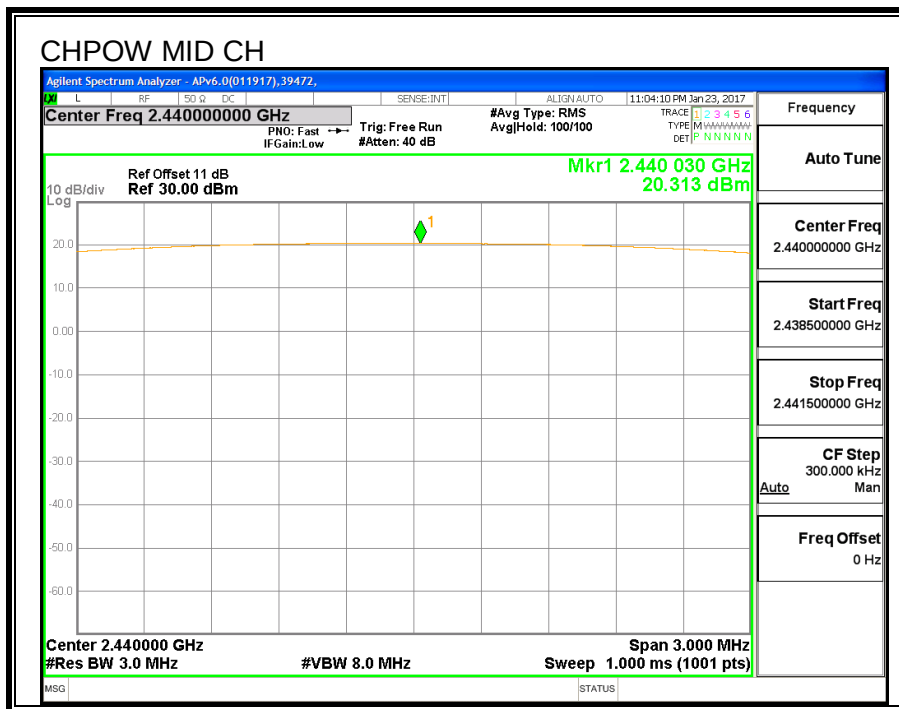
IC RSS-247 (5.4) (4)

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	20.17	30	-9.83
Middle	2440	20.31	30	-9.69
High	2480	19.54	30	-10.46





7.3.5. POWER SPECTRAL DENSITY

LIMITS

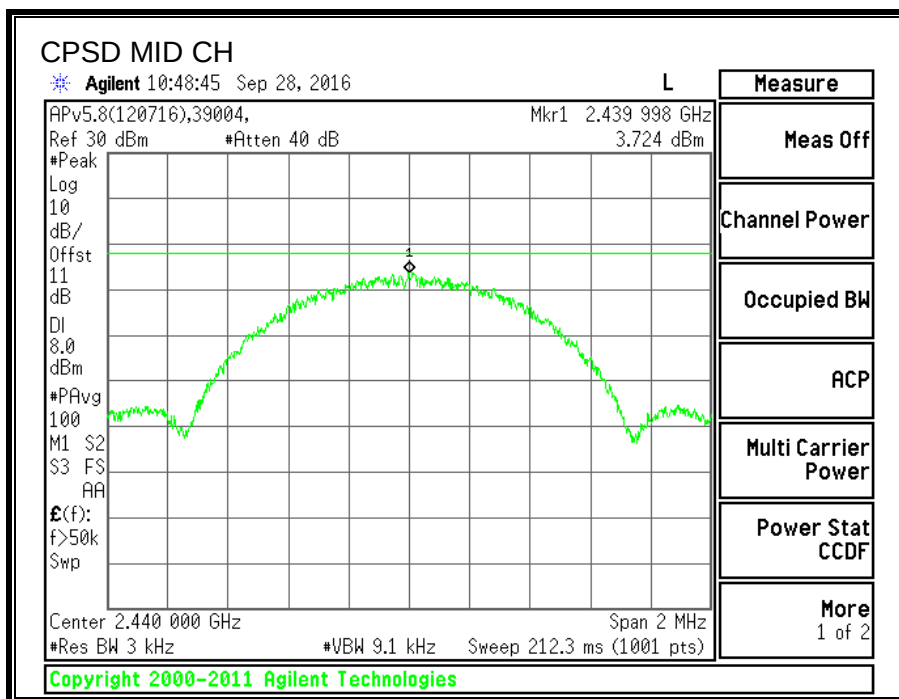
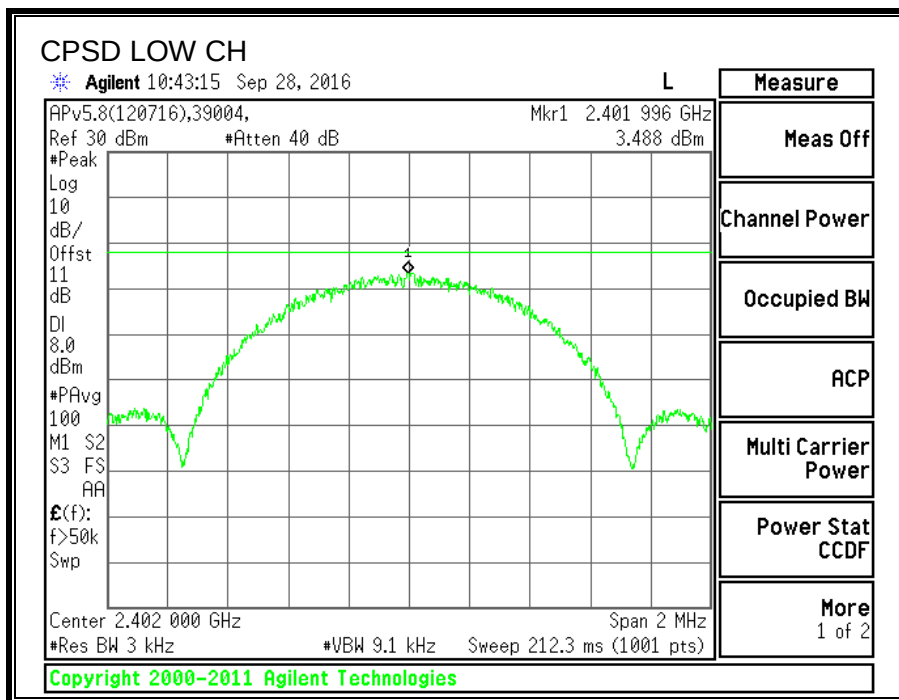
FCC §15.247 (e)

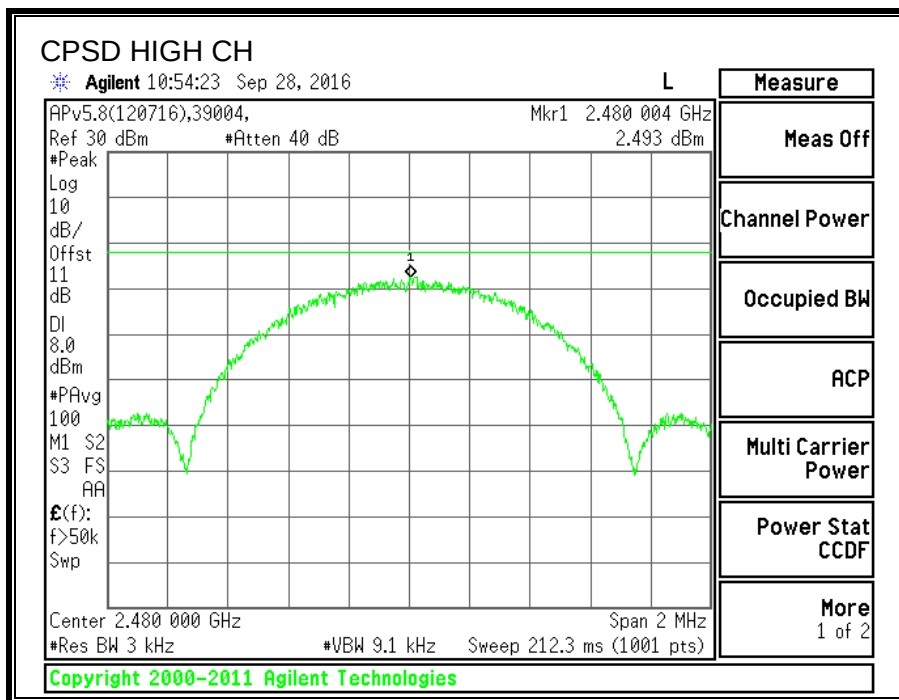
IC RSS-247 (5.2) (2)

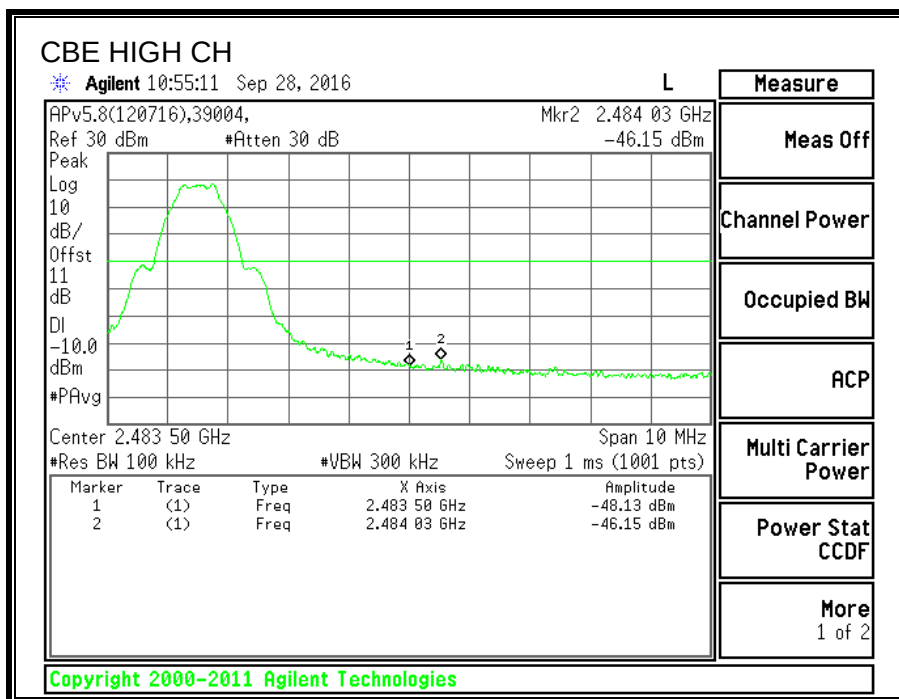
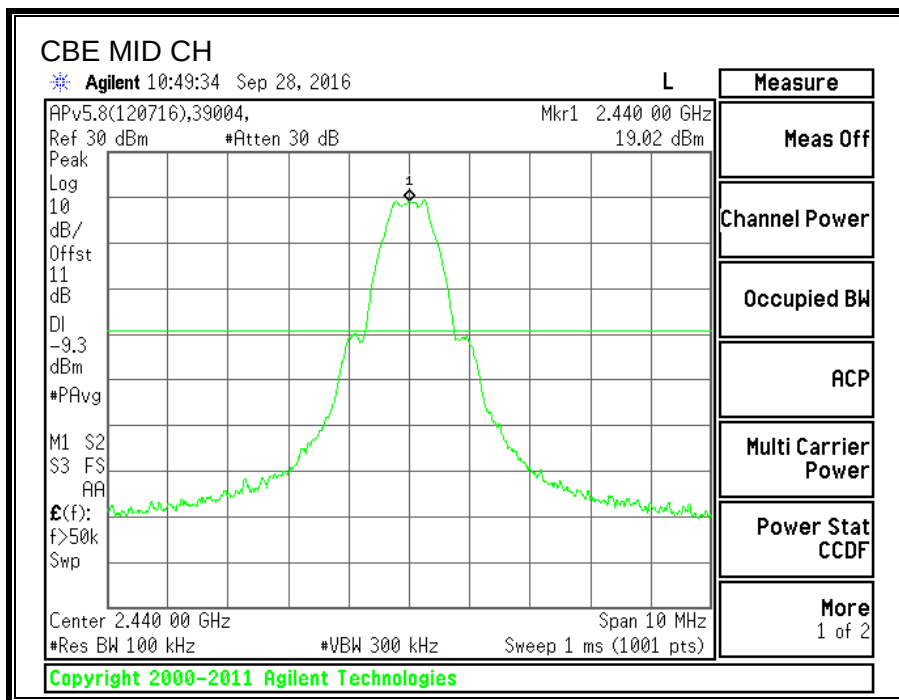
The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

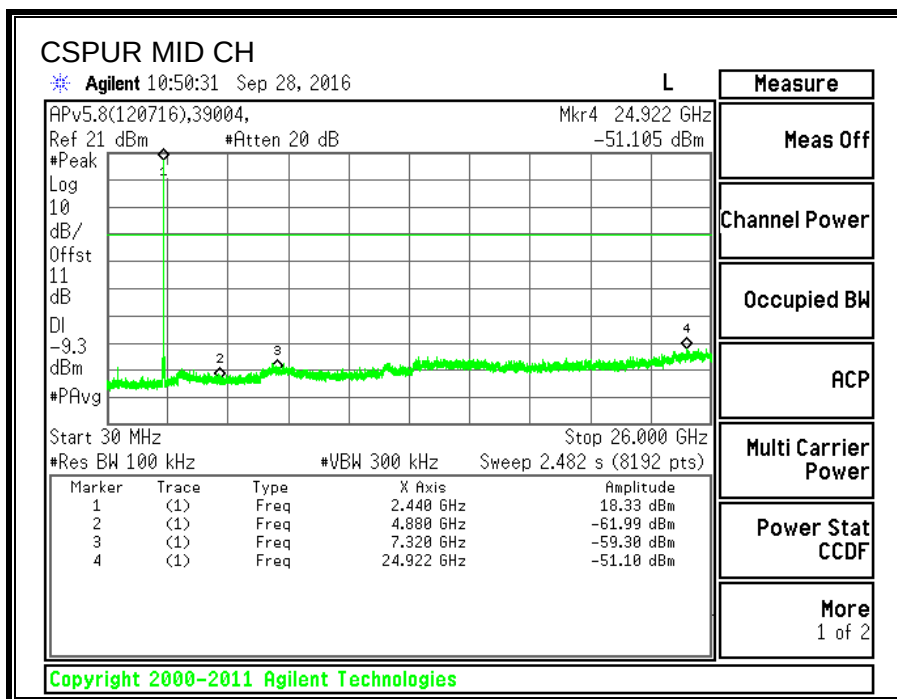
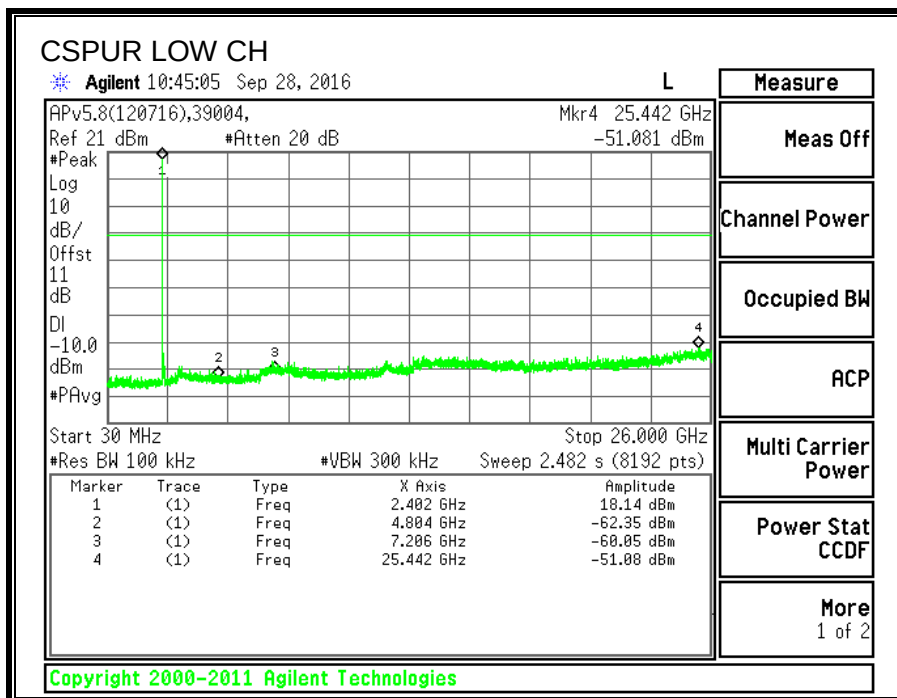
RESULTS

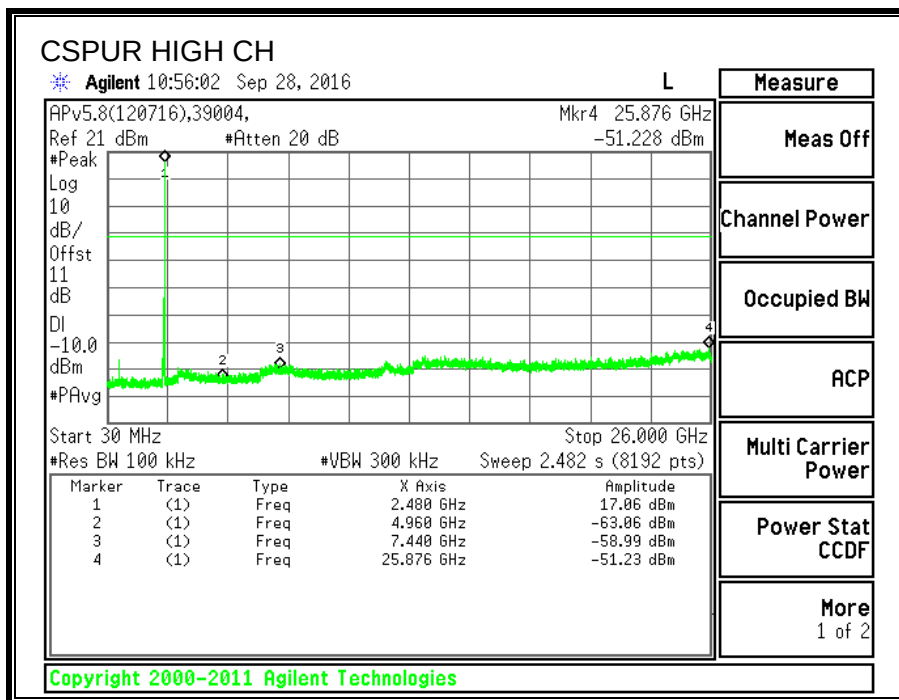
Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2402	3.488	8	-4.512
Middle	2440	3.724	8	-4.276
High	2480	2.493	8	-5.507











7.4. LOW POWER MODE

7.4.1. 6 dB BANDWIDTH

LIMITS

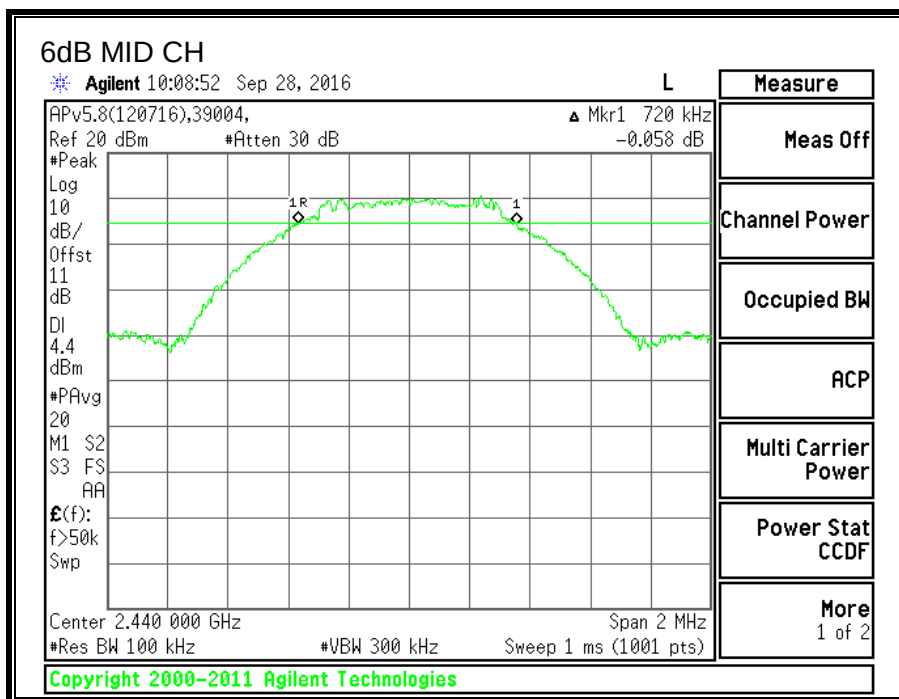
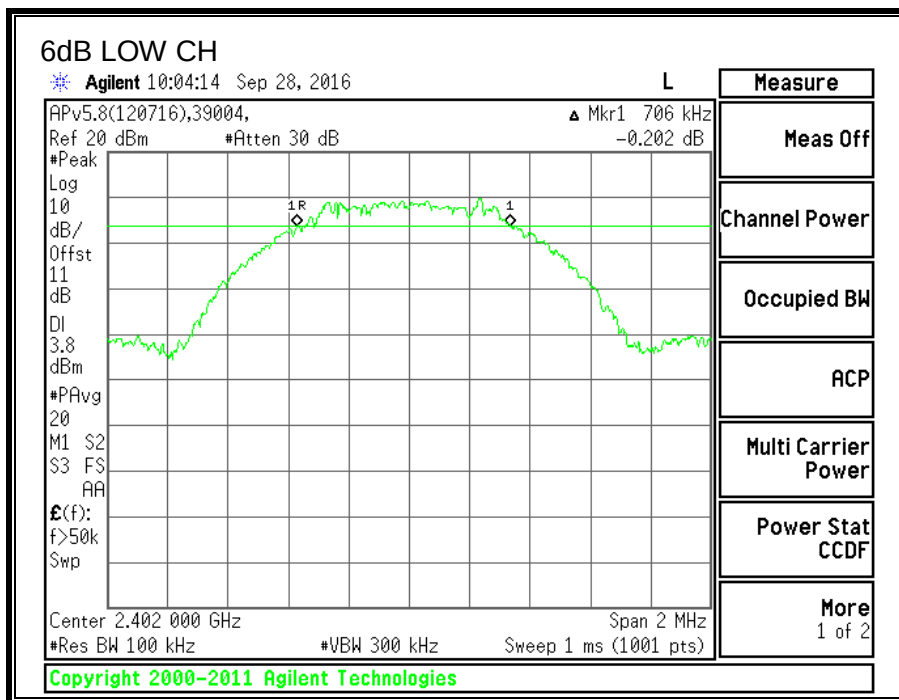
FCC §15.247 (a) (2)

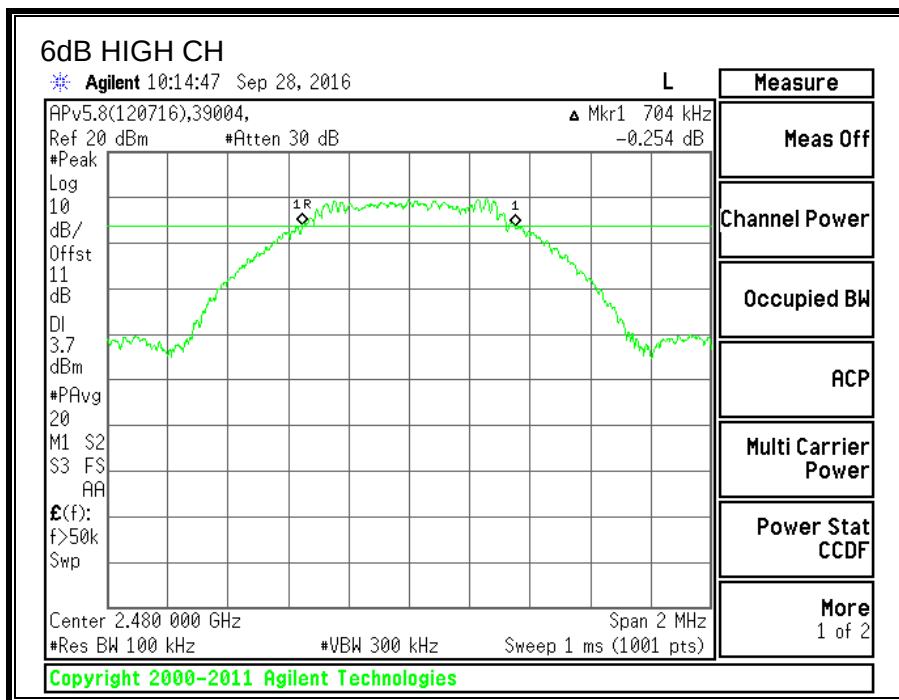
IC RSS-247 (5.2) (1)

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

RESULTS

Channel	Frequency	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.706	0.5
Middle	2440	0.720	0.5
High	2480	0.704	0.5





7.4.2. 99% BANDWIDTH

LIMITS

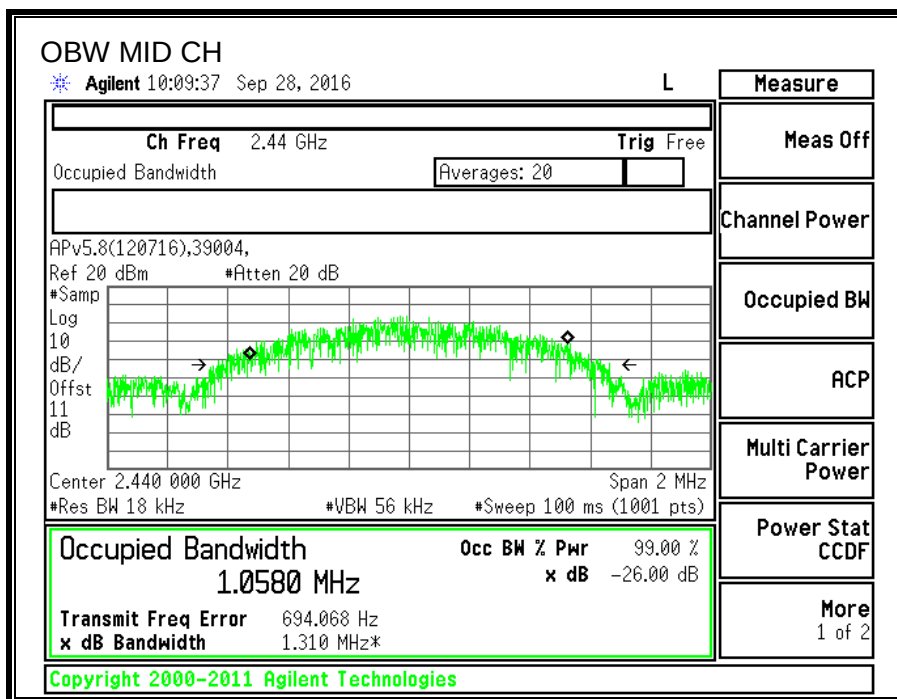
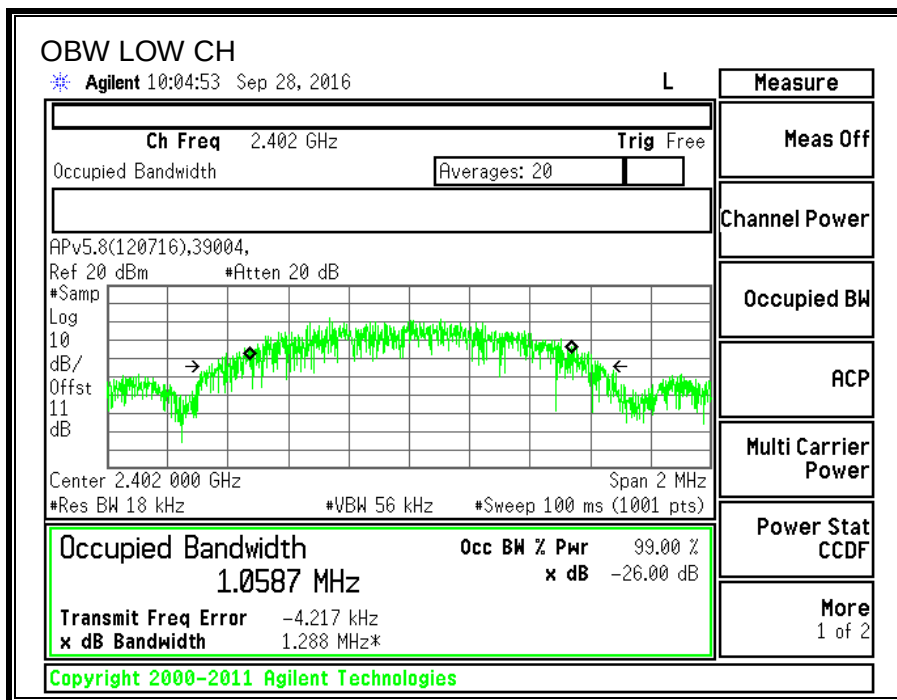
None; for reporting purposes only.

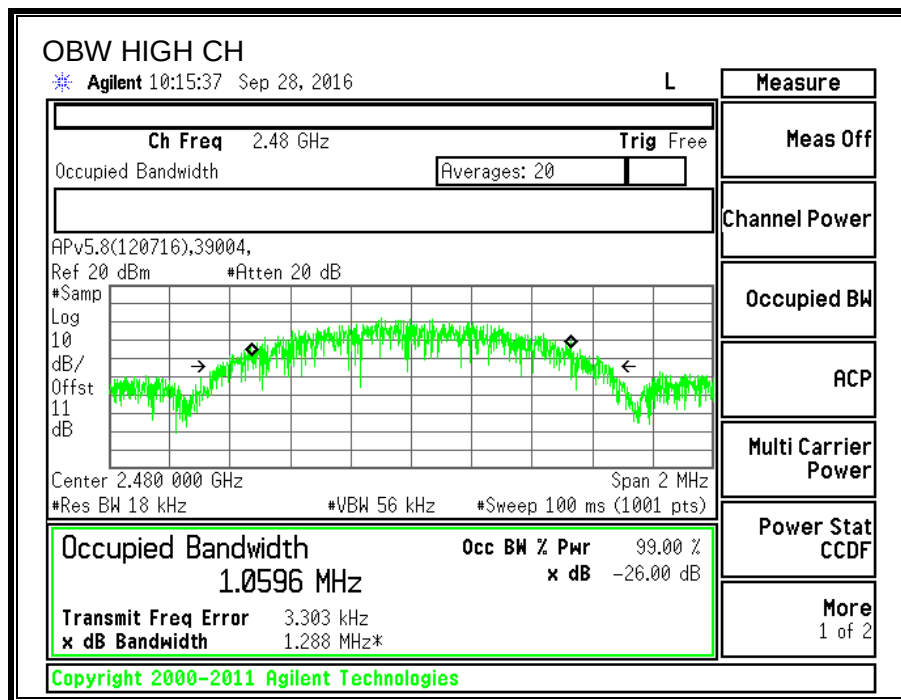
Test Procedure

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	1.0587
Middle	2440	1.0580
High	2480	1.0596





7.4.3. AVERAGE POWER

ID:	30554	Date:	1/20/17
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LIMITS

None; for reporting purposes only.

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 (MHz)
Low	2402	7.8
Middle	2440	7.7
High	2480	7.7

7.4.4. OUTPUT POWER

LIMITS

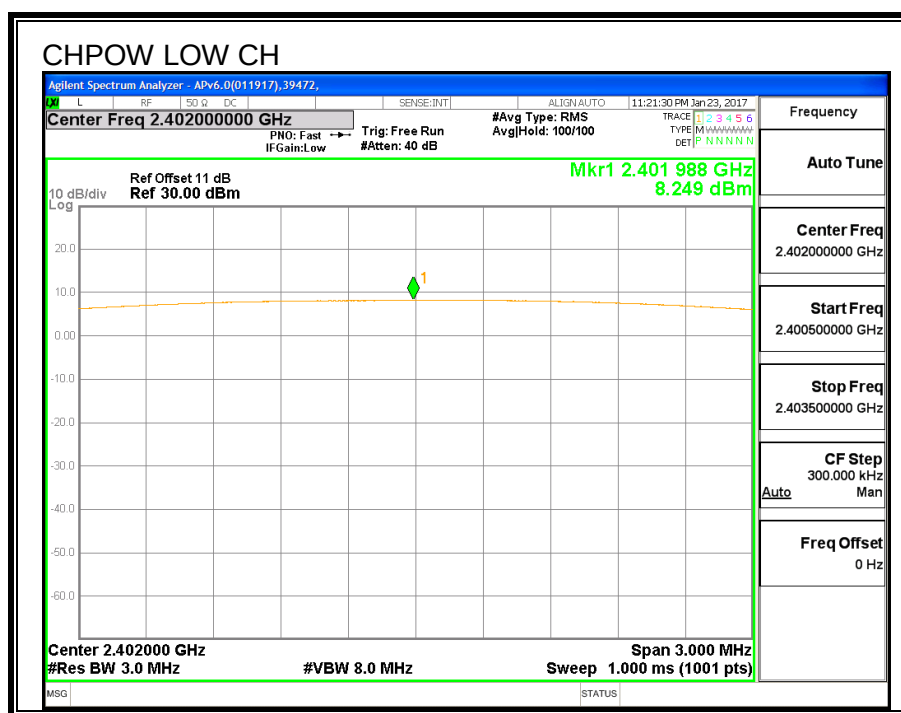
FCC §15.247 (b)(3)

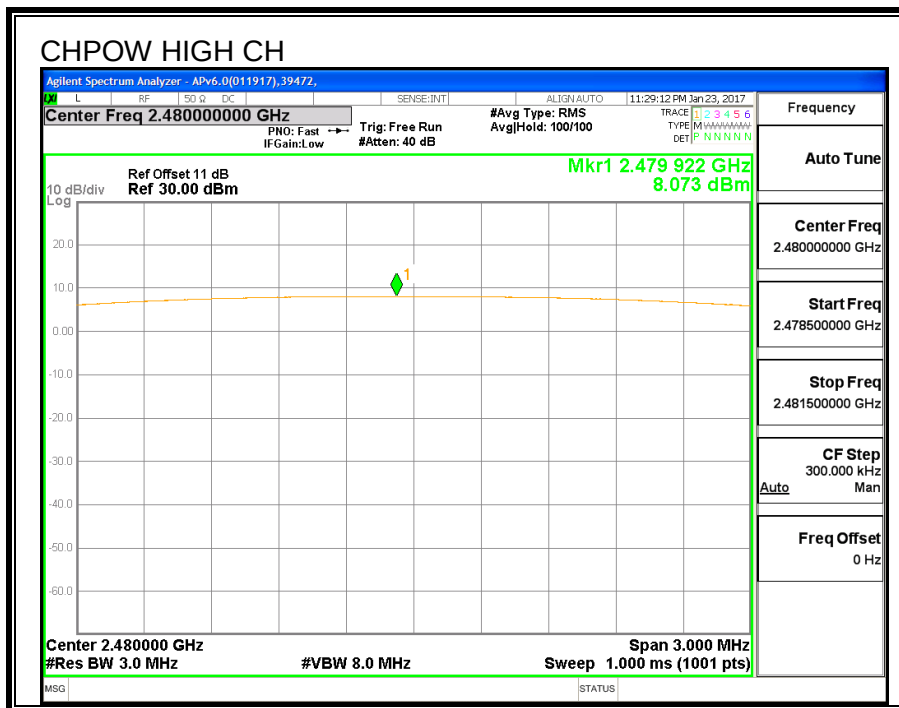
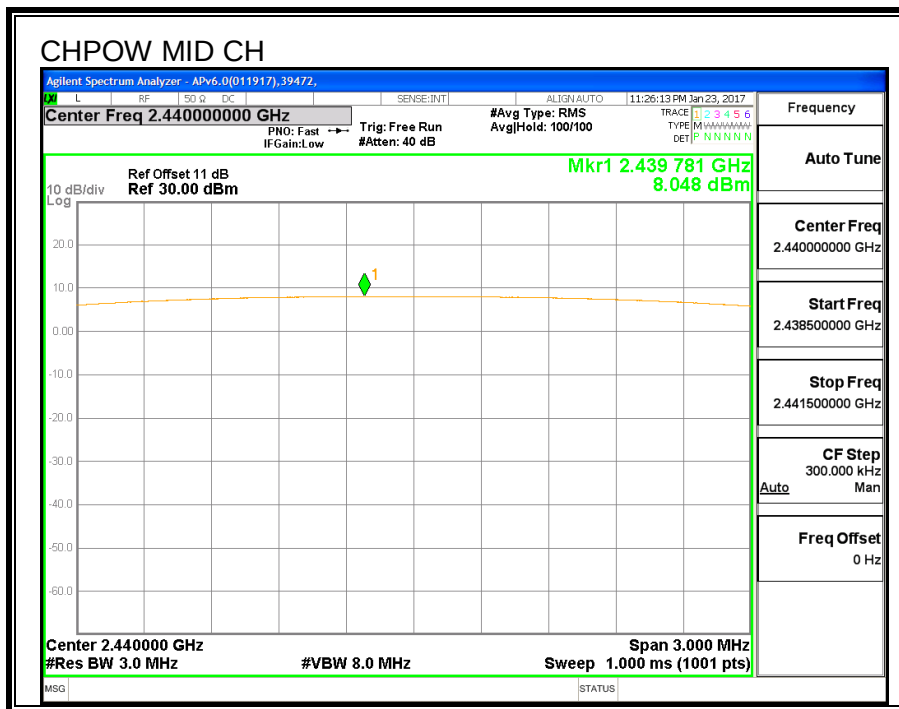
IC RSS-247 (5.4) (4)

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	8.25	30	-21.75
Middle	2440	8.05	30	-21.95
High	2480	8.07	30	-21.93





7.4.5. POWER SPECTRAL DENSITY

LIMITS

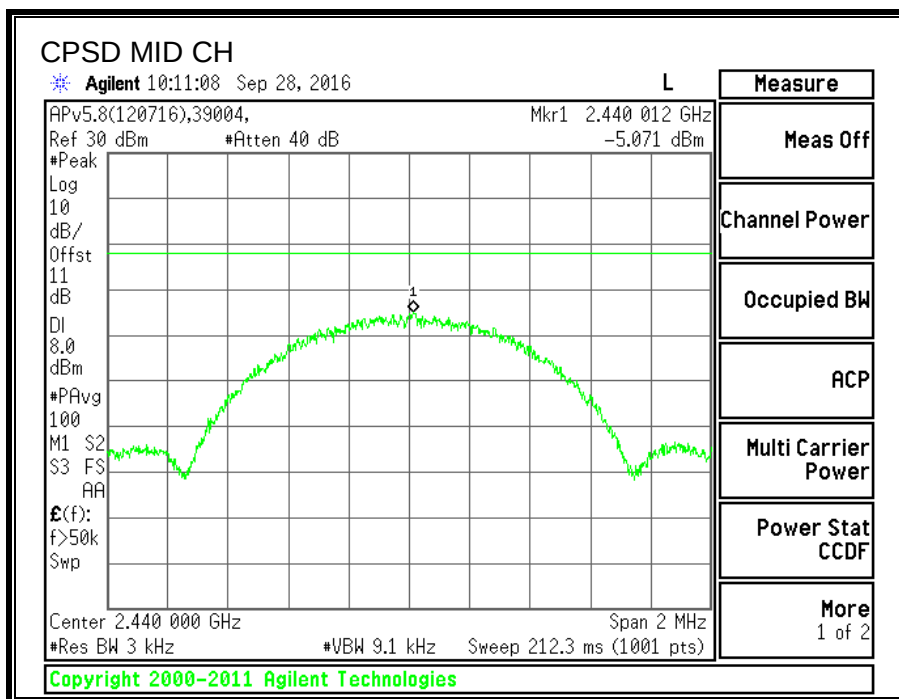
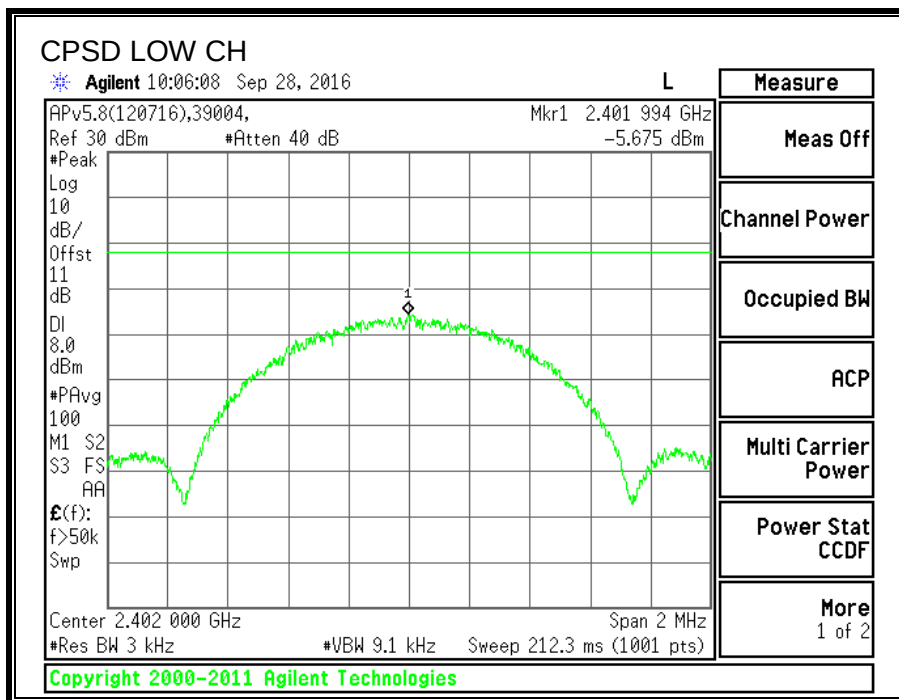
FCC §15.247 (e)

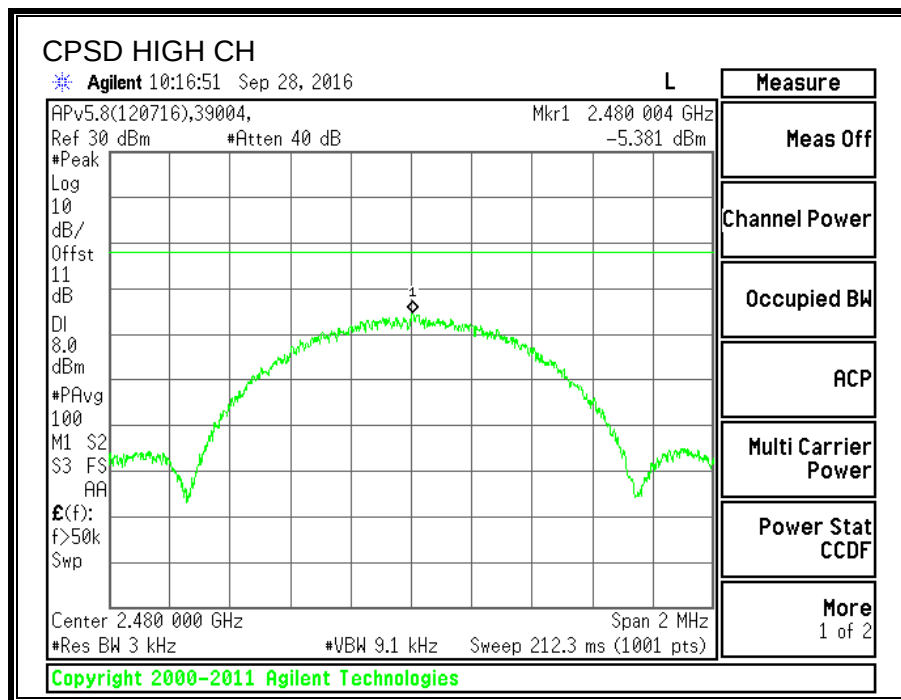
IC RSS-247 (5.2) (2)

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	-5.675	8	-13.675
Middle	2440	-5.071	8	-13.071
High	2480	-5.381	8	-13.379





7.4.6. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

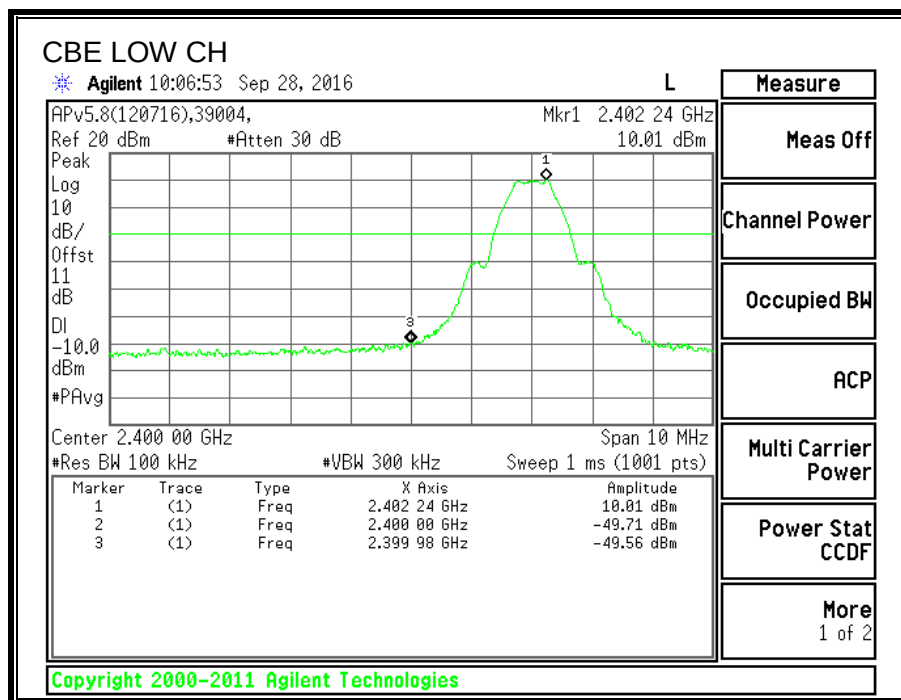
LIMITS

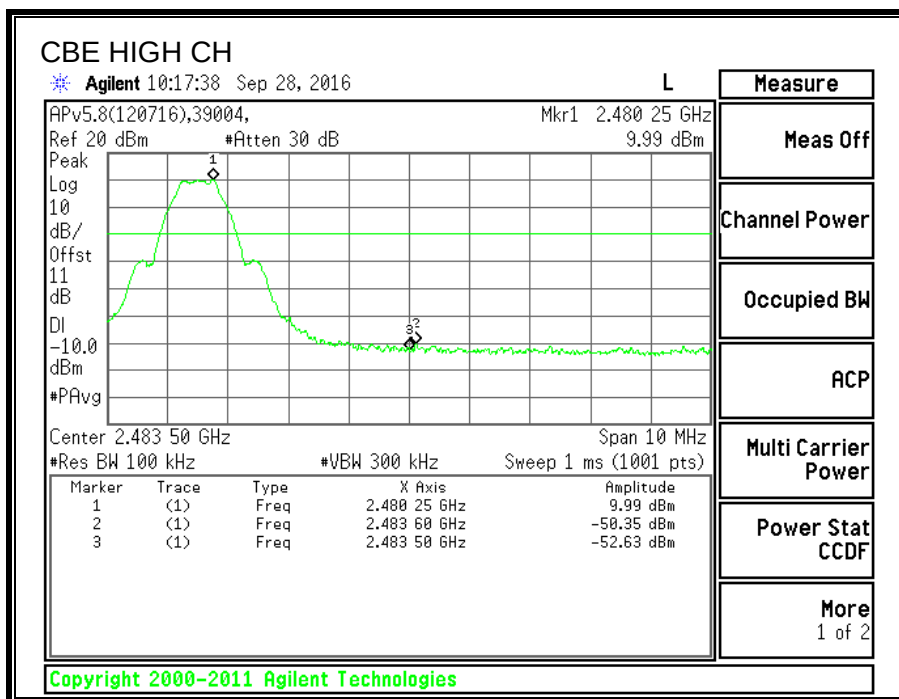
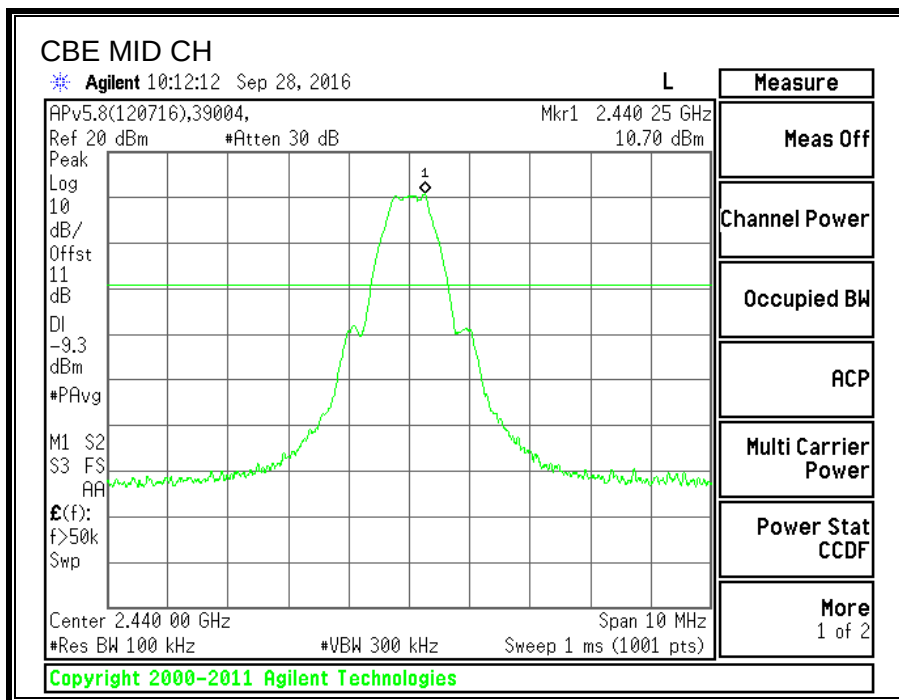
FCC §15.247 (d)

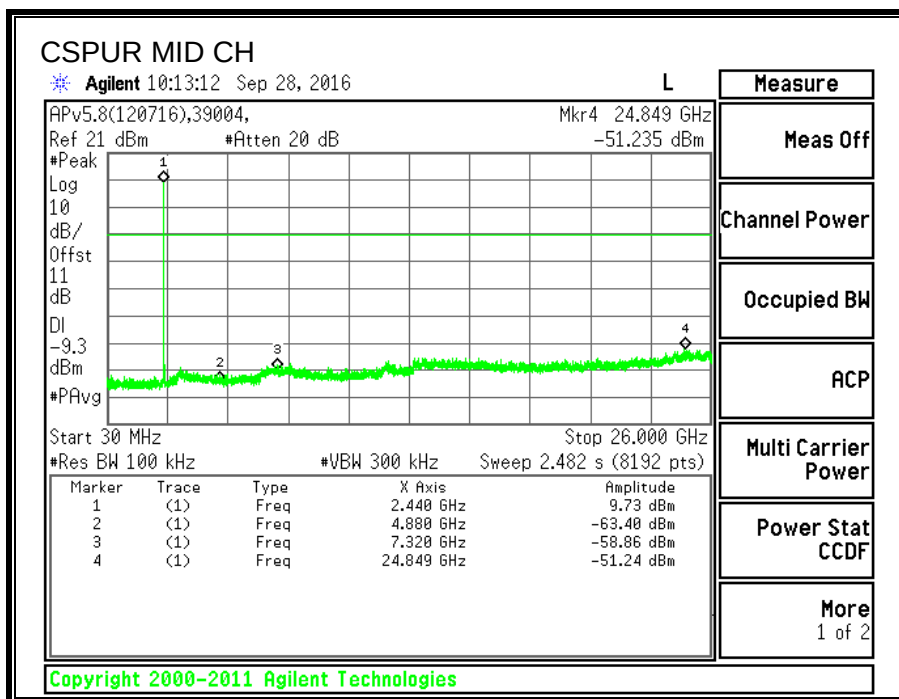
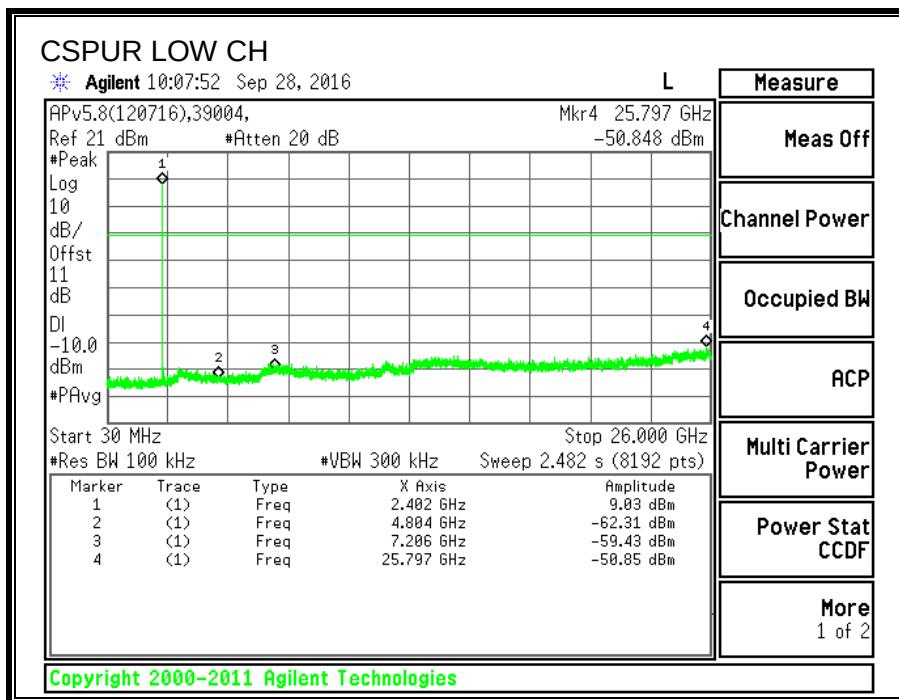
IC RSS-247 (5.5)

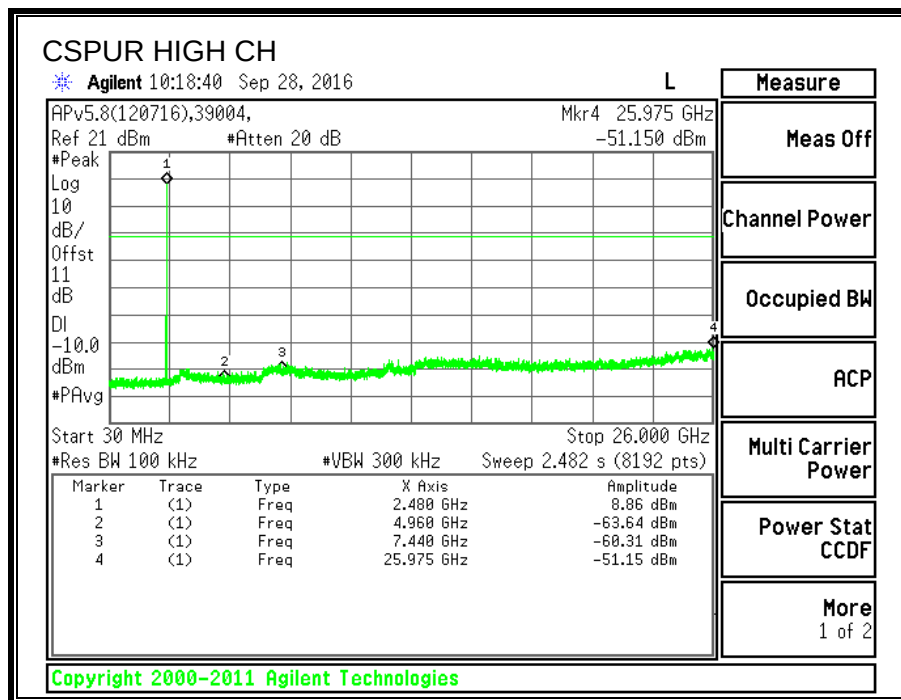
Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

RESULTS









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.

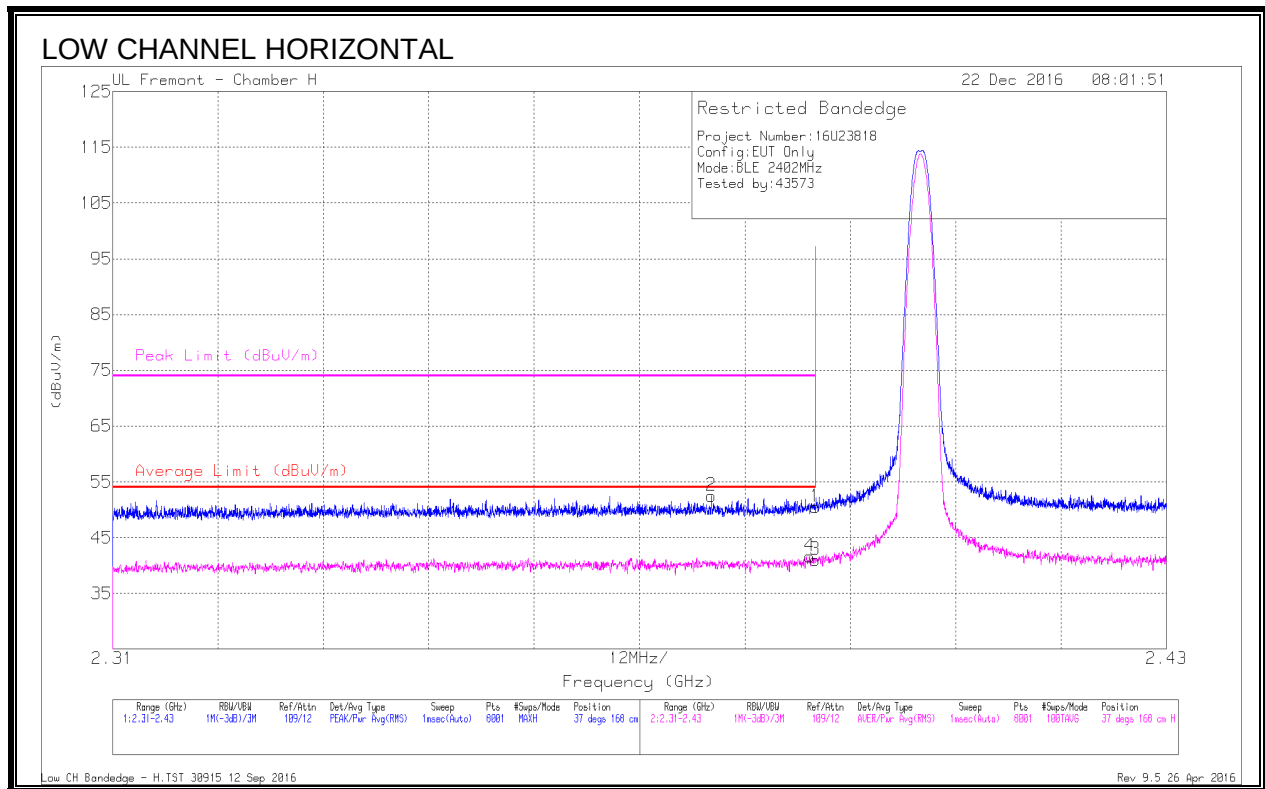
For pre-scans above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 KHz for peak measurements.

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 T120 (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	38.19	Pk	31.9	-19.6	50.49	-	-	74	-23.51	37	168	H
2	* 2.378	40.23	Pk	31.9	-19.6	52.53	-	-	74	-21.47	37	168	H
3	* 2.39	28.76	RMS	31.9	-19.6	41.06	54	-12.94	-	-	37	168	H
4	* 2.389	29.41	RMS	31.9	-19.6	41.71	54	-12.29	-	-	37	168	H

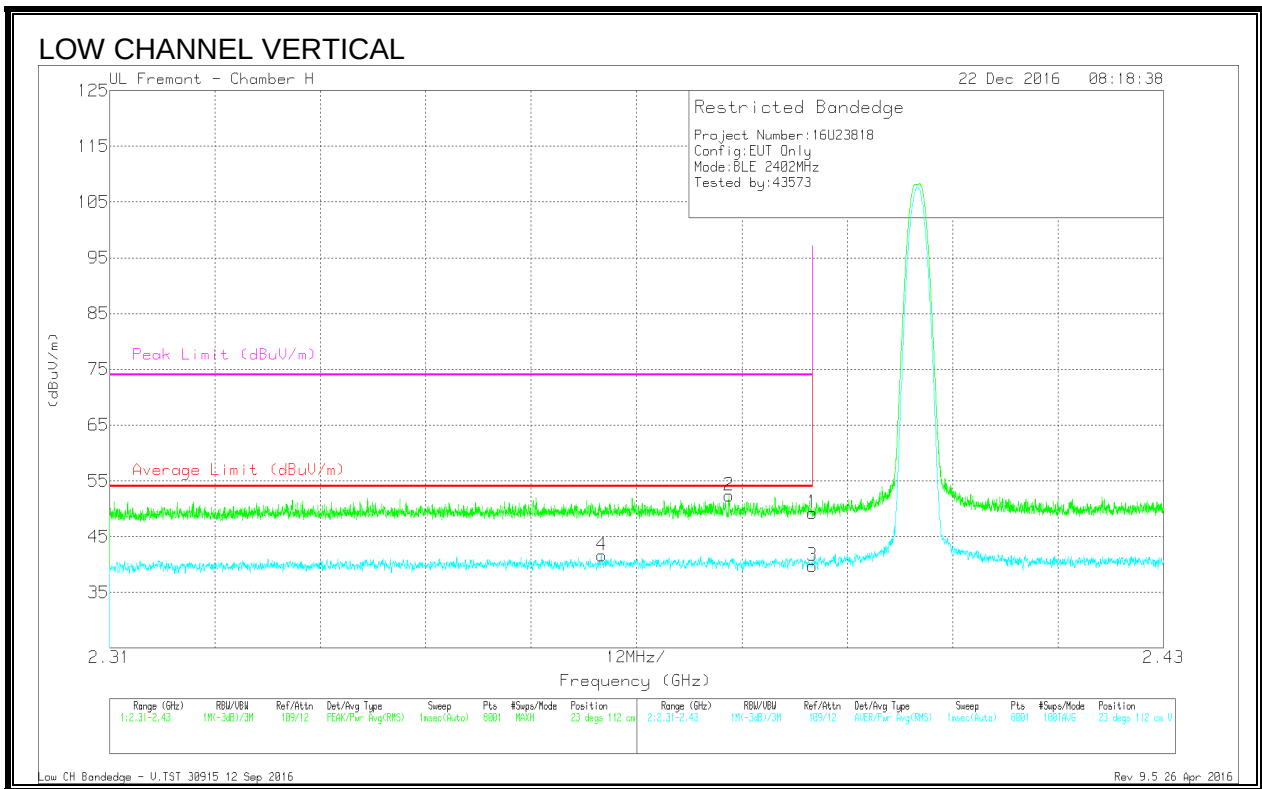
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

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Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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
4	* 2.366	29.55	RMS	31.8	-19.7	41.65	54	-12.35	-	-	23	112	V
2	* 2.381	40.08	Pk	31.9	-19.6	52.38	-	-	74	-21.62	23	112	V
1	* 2.39	36.99	Pk	31.9	-19.6	49.29	-	-	74	-24.71	23	112	V
3	* 2.39	27.46	RMS	31.9	-19.6	39.76	54	-14.24	-	-	23	112	V

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

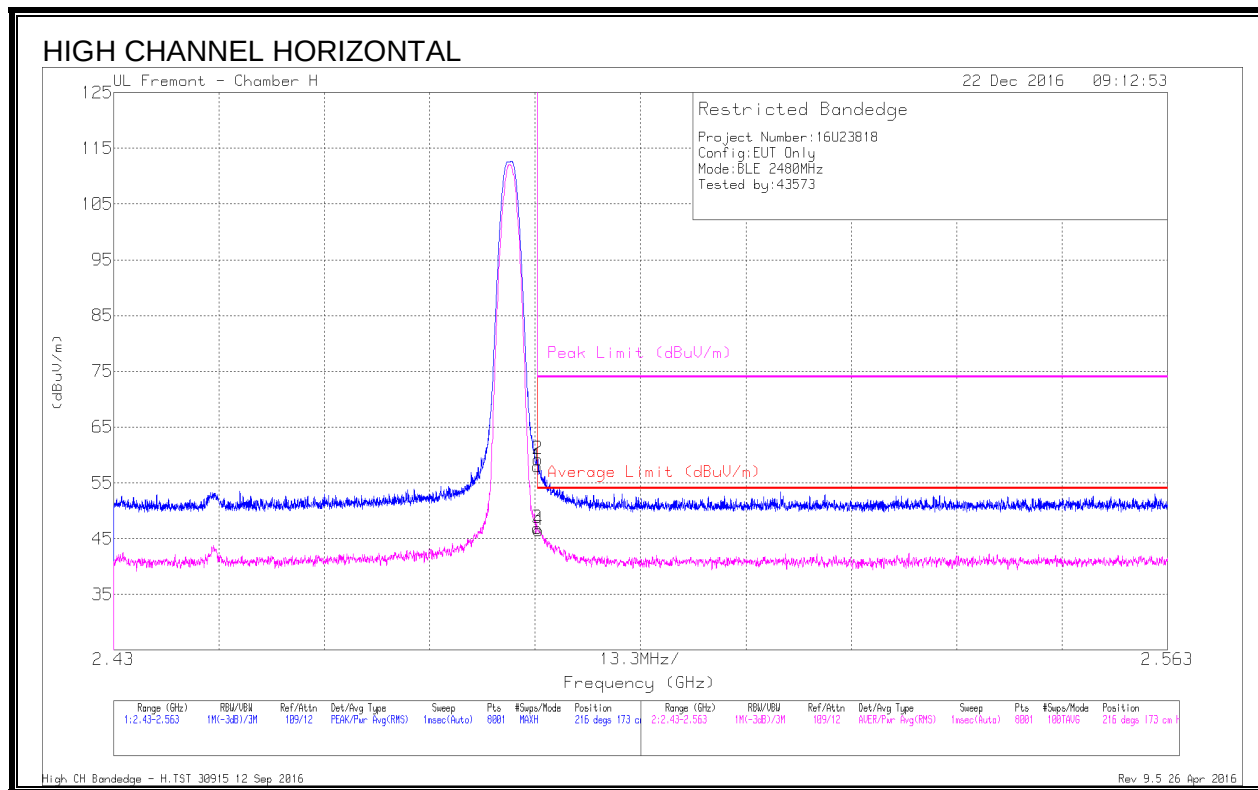
Pk - Peak detector

RMS - RMS detection

Low CH Bandedge - V.TST 30915 12 Sep 2016

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8.2.2. AUTHORIZED BANDEDGE (HIGH CHANNEL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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	45.26	Pk	32.2	-19.5	57.96	-	-	74	-16.04	216	173	H
2	* 2.484	46.55	Pk	32.2	-19.5	59.25	-	-	74	-14.75	216	173	H
3	* 2.484	34.2	RMS	32.2	-19.5	46.9	54	-7.1	-	-	216	173	H
4	* 2.484	33.93	RMS	32.2	-19.6	46.53	54	-7.47	-	-	216	173	H

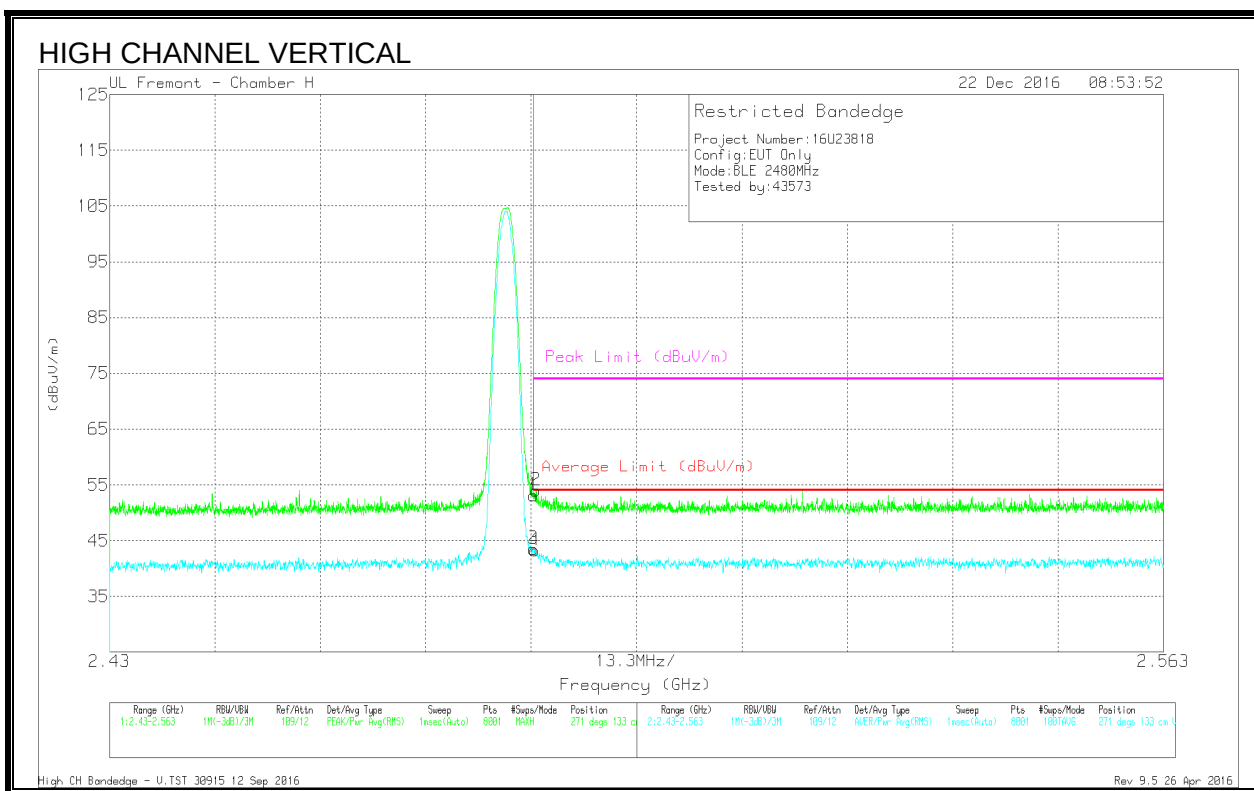
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

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Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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	40.42	Pk	32.2	-19.5	53.12	-	-	74	-20.88	271	133	V
2	* 2.484	41.4	Pk	32.2	-19.6	54	-	-	74	-20	271	133	V
3	* 2.484	30.82	RMS	32.2	-19.5	43.52	54	-10.48	-	-	271	133	V
4	* 2.484	30.64	RMS	32.2	-19.6	43.24	54	-10.76	-	-	271	133	V

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

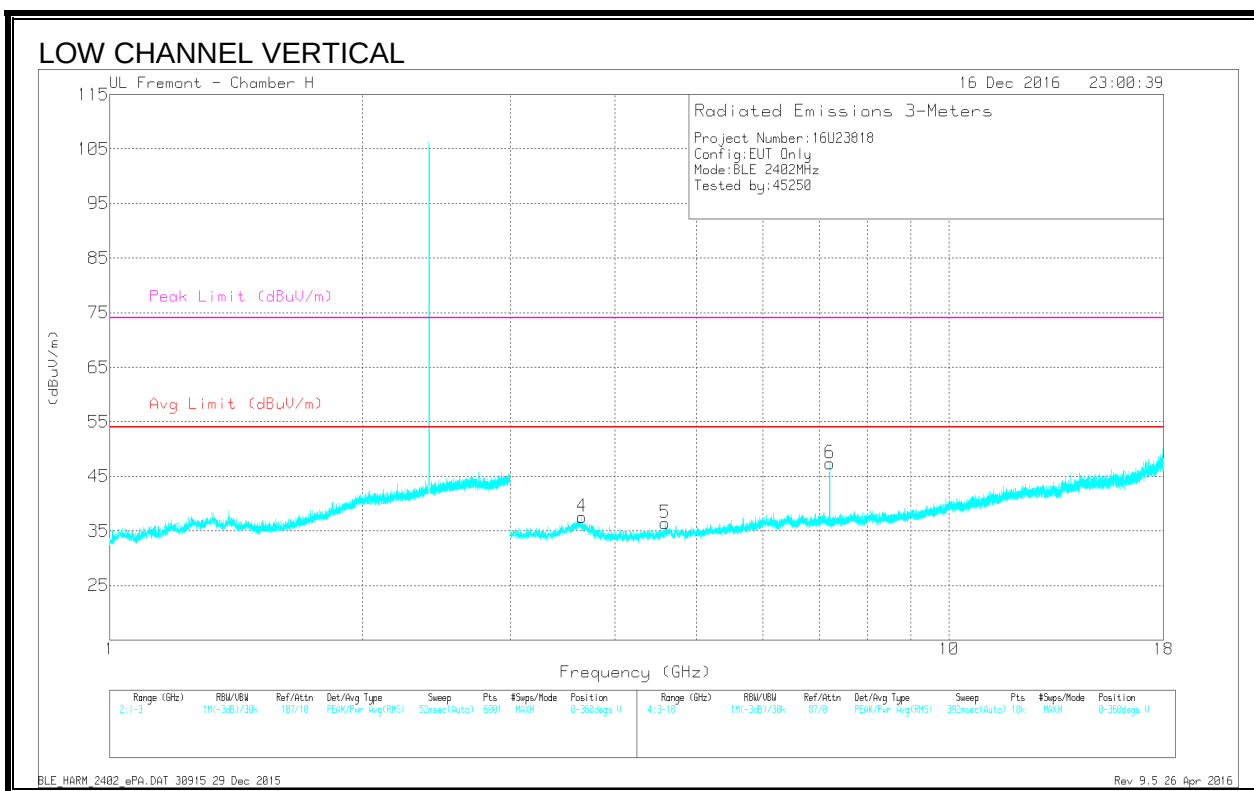
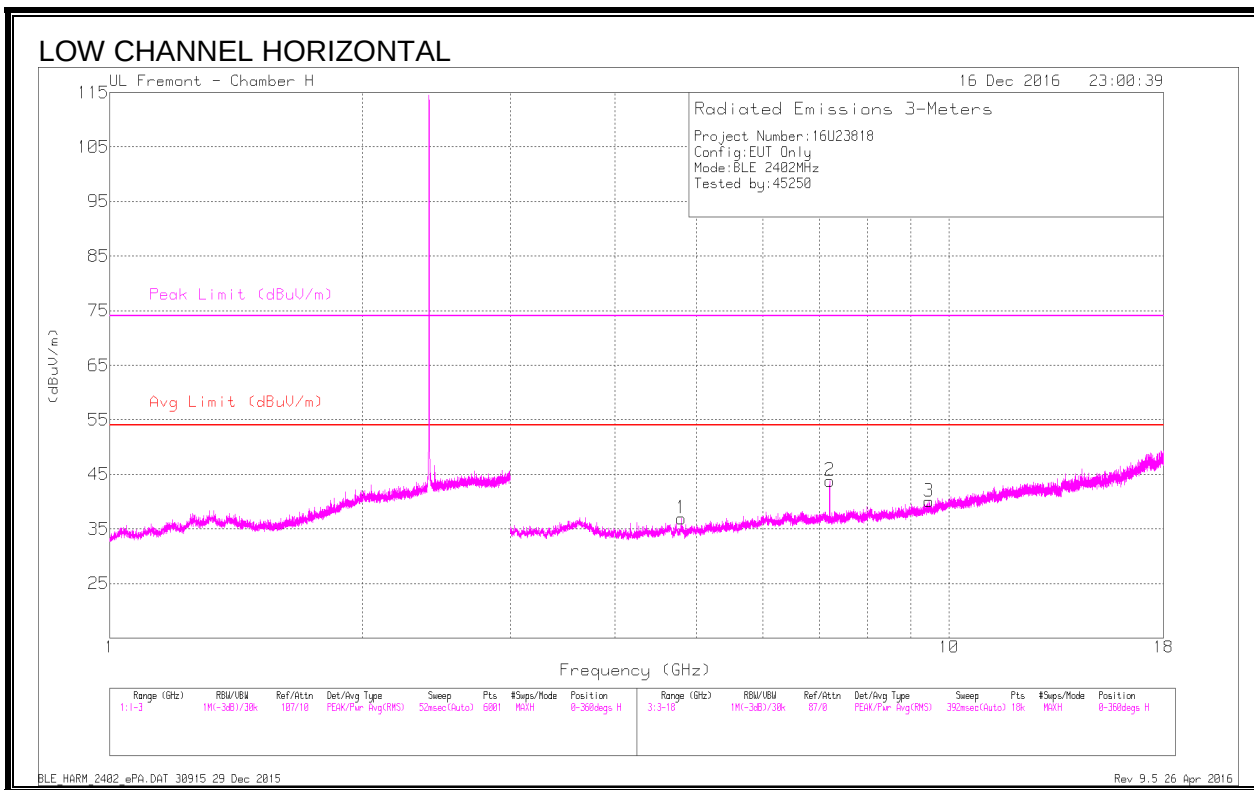
Pk - Peak detector

RMS - RMS detection

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8.2.3. HARMONICS AND SPURIOUS EMISSIONS



Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.799	43.36	PK2	34	-35.1	42.26	-	-	74	-31.74	165	300	H
* 4.801	32.11	MAv1	34	-35.1	31.01	54	-22.99	-	-	165	300	H
* 9.47	37.82	PK2	36.9	-29.1	45.62	-	-	74	-28.38	60	136	H
* 9.467	26.93	MAv1	36.9	-29.1	34.73	54	-19.27	-	-	60	136	H
* 3.656	43.81	PK2	34.9	-35.8	42.91	-	-	74	-31.09	261	359	V
* 3.656	32.58	MAv1	34.9	-35.8	31.68	54	-22.32	-	-	261	359	V
* 4.592	43.53	PK2	34	-34.9	42.63	-	-	74	-31.37	67	287	V
* 4.591	32.24	MAv1	34	-35	31.24	54	-22.76	-	-	67	287	V
7.205	44.22	PK2	35.7	-31.6	48.32	-	-	-	-	252	260	H
7.207	48.38	PK2	35.7	-31.6	52.48	-	-	-	-	209	133	V

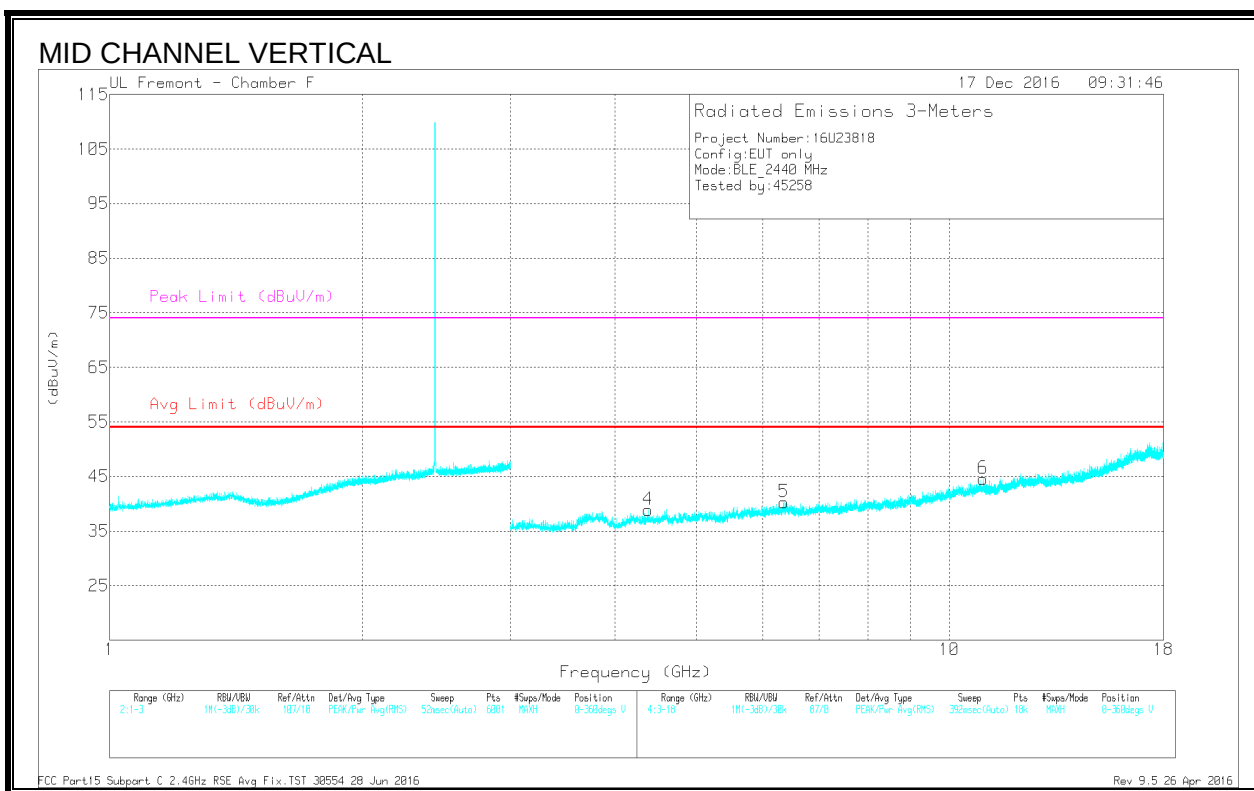
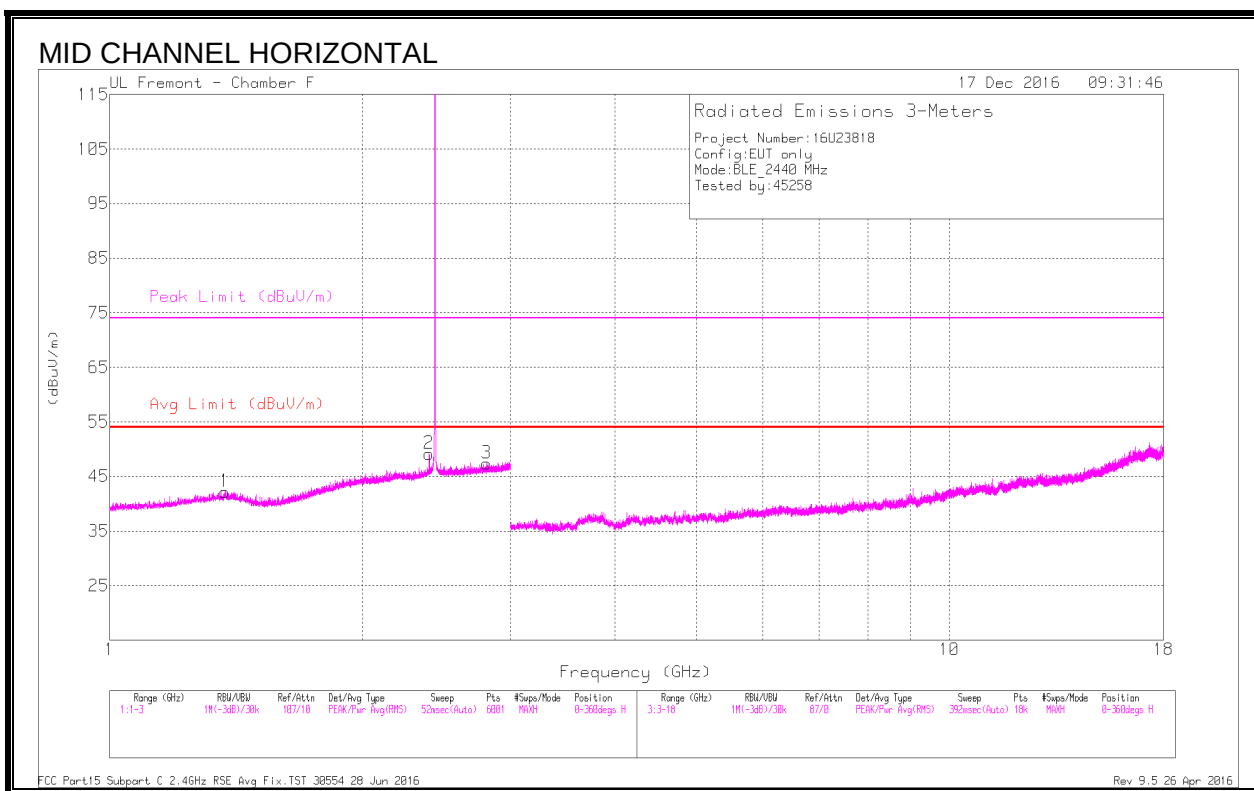
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

BLE_HARM_2402_ePA.DAT 30915 29 Dec 2015

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Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT344 (dB/m)	Amp/Cb I/Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.403	45.01	PK2	32.2	-20.9	56.31	-	-	-	-	348	129	H
	2.403	34.01	MAv1	32.2	-20.9	45.31	-	-	-	-	348	129	H
1	* 1.371	42.14	PK2	29.2	-22.1	49.24	-	-	74	-24.76	244	179	H
	* 1.372	31.09	MAv1	29.2	-22.1	38.19	54	-15.81	-	-	244	179	H
3	* 2.815	41.06	PK2	32.5	-20.3	53.26	-	-	74	-20.74	192	208	H
	* 2.813	30.77	MAv1	32.5	-20.3	42.97	54	-11.03	-	-	192	208	H
5	6.354	37.52	PK2	35.4	-26.7	46.22	-	-	-	-	297	151	V
	6.354	26.84	MAv1	35.4	-26.7	35.54	-	-	-	-	297	151	V
4	* 4.38	38.27	PK2	34	-28.9	43.37	-	-	74	-30.63	127	186	V
	* 4.379	28.44	MAv1	34	-28.9	33.54	54	-20.46	-	-	127	186	V
6	* 10.977	33.1	PK2	37.9	-21.5	49.5	-	-	74	-24.5	55	222	V
	* 10.976	23.78	MAv1	37.9	-21.5	40.18	54	-13.82	-	-	55	222	V

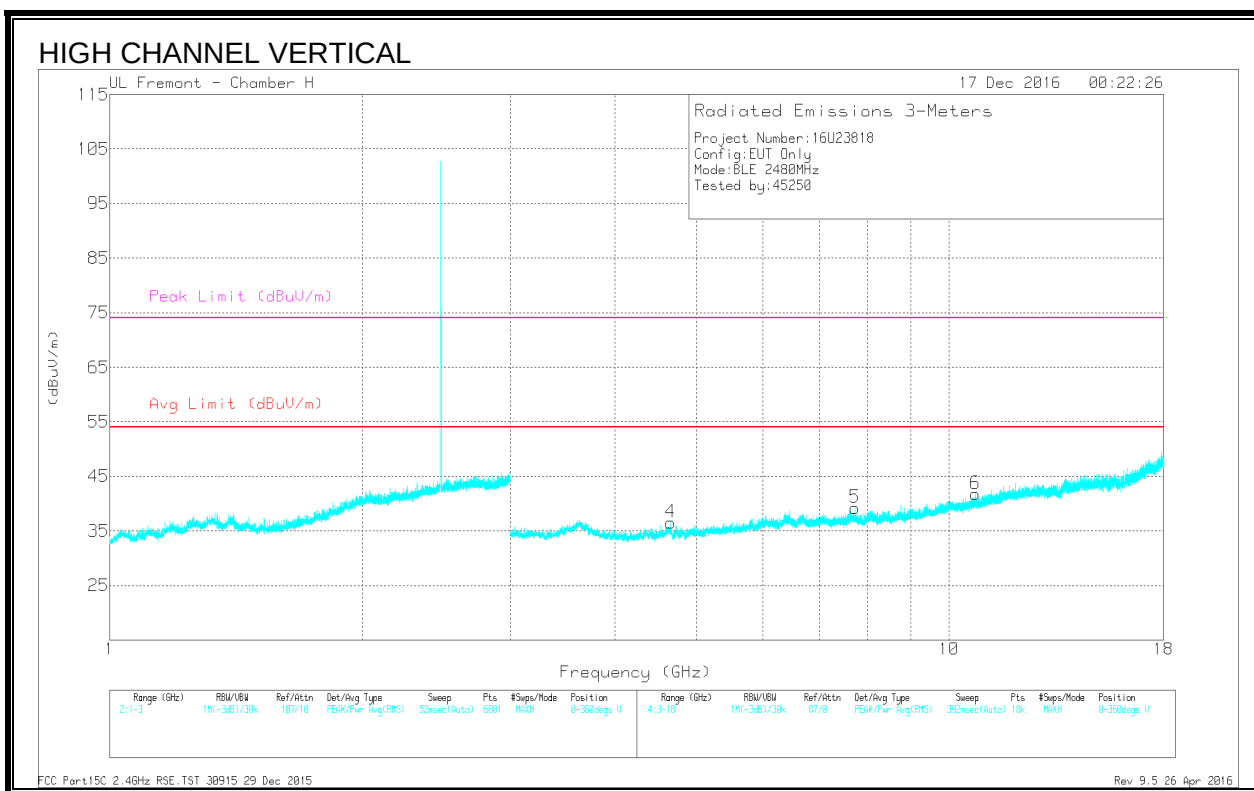
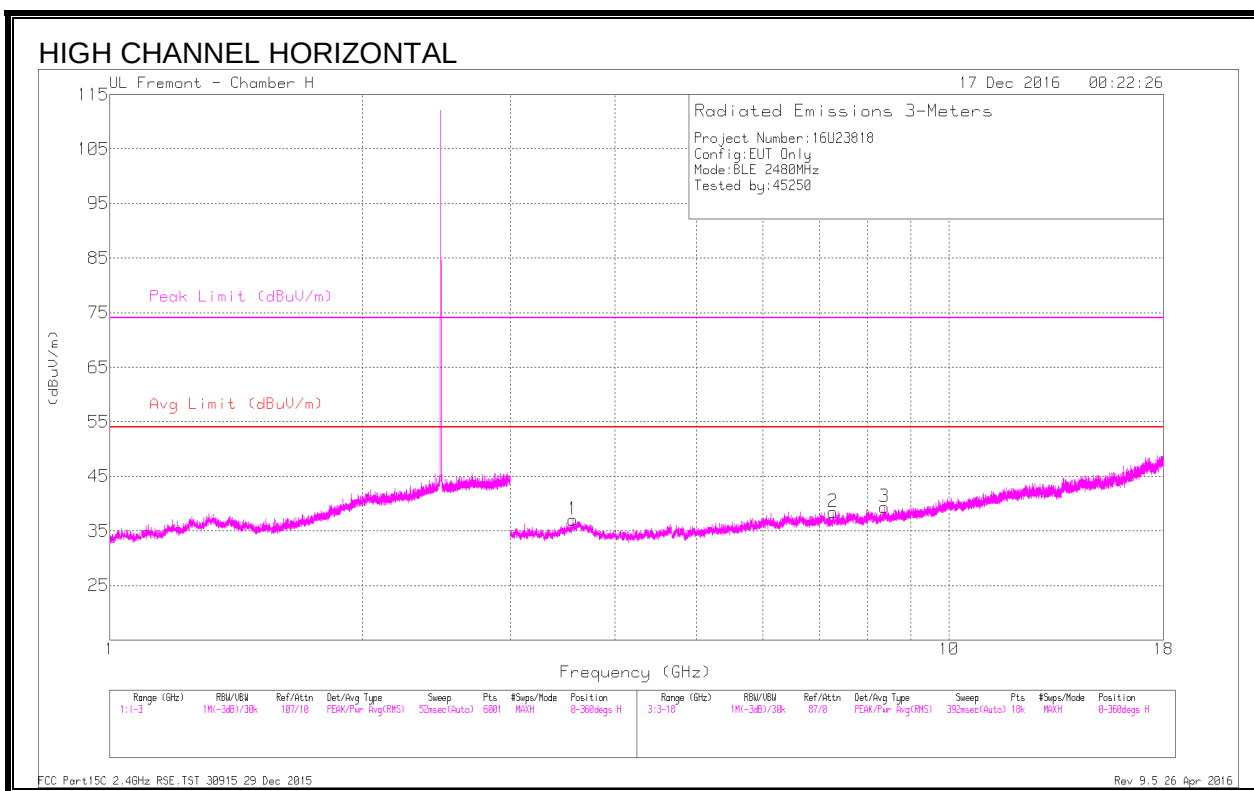
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

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Frequen cy (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl /Fitr/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
* 3.562	45.08	PK2	34.7	-35.7	44.08	-	-	74	-29.92	109	259	H
* 3.563	33.34	MAv1	34.7	-35.7	32.34	54	-21.66	-	-	109	259	H
* 7.275	39.61	PK2	35.7	-31.4	43.91	-	-	74	-30.09	299	360	H
* 7.275	29.04	MAv1	35.7	-31.4	33.34	54	-20.66	-	-	299	360	H
* 8.372	38.85	PK2	35.8	-29.8	44.85	-	-	74	-29.15	10	397	H
* 8.372	28.14	MAv1	35.8	-29.8	34.14	54	-19.86	-	-	10	397	H
* 4.662	42.91	PK2	34	-34.4	42.51	-	-	74	-31.49	360	337	V
* 4.662	32.29	MAv1	34	-34.4	31.89	54	-22.11	-	-	360	337	V
* 7.725	39.65	PK2	35.8	-30.7	44.75	-	-	74	-29.25	23	316	V
* 7.726	28.63	MAv1	35.8	-30.7	33.73	54	-20.27	-	-	23	316	V
* 10.737	37.58	PK2	38.1	-27.9	47.78	-	-	74	-26.22	356	398	V
* 10.738	26.61	MAv1	38.1	-27.9	36.81	54	-17.19	-	-	356	398	V

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

PK2 - KDB558074 Method: Maximum Peak

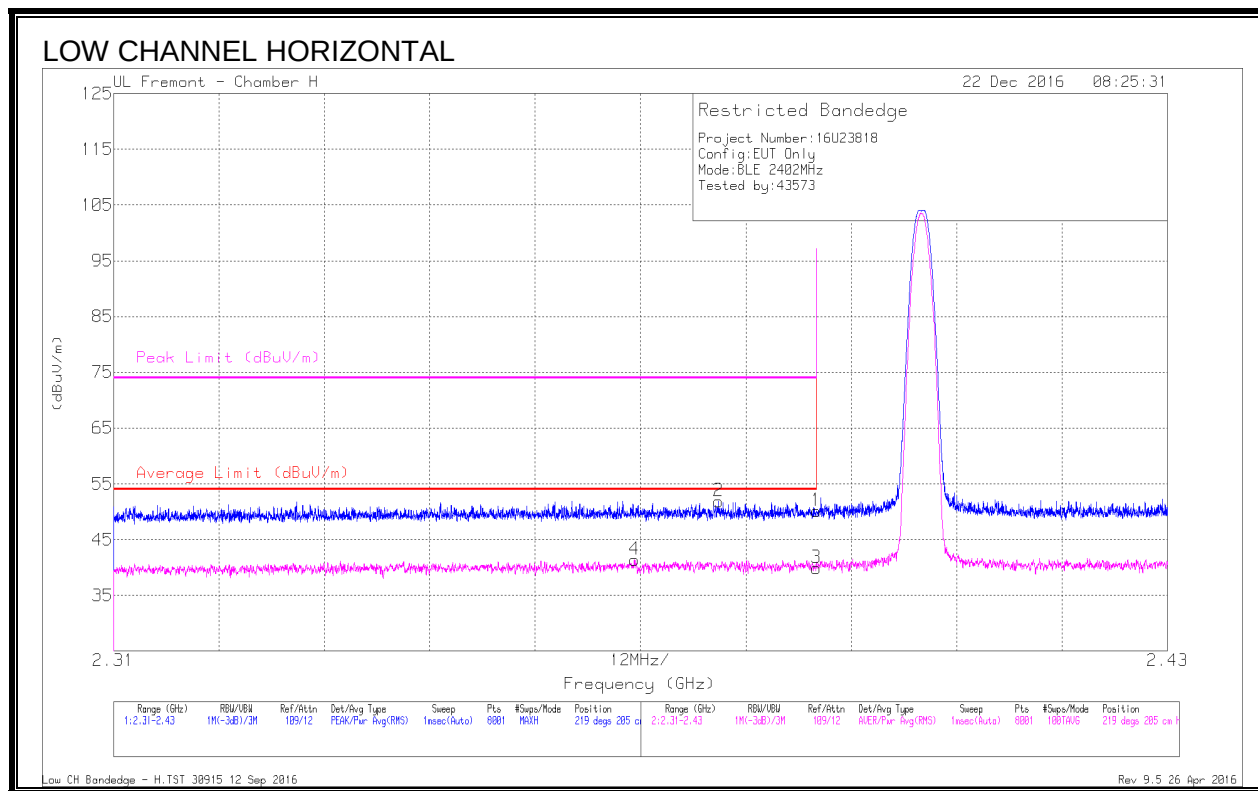
MAv1 - KDB558074 Option 1 Maximum RMS Average

FCC Part15C 2.4GHz RSE.TST 30915 29 Dec 2015

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8.3. LOW POWER MODE

8.3.1. RESTRICTED BANDEDGE (LOW CHANNEL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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
4	* 2.369	29.27	RMS	31.8	-19.7	41.37	54	-12.63	-	-	219	205	H
2	* 2.379	39.54	Pk	31.9	-19.6	51.84	-	-	74	-22.16	219	205	H
1	* 2.39	37.89	Pk	31.9	-19.6	50.19	-	-	74	-23.81	219	205	H
3	* 2.39	27.66	RMS	31.9	-19.6	39.96	54	-14.04	-	-	219	205	H

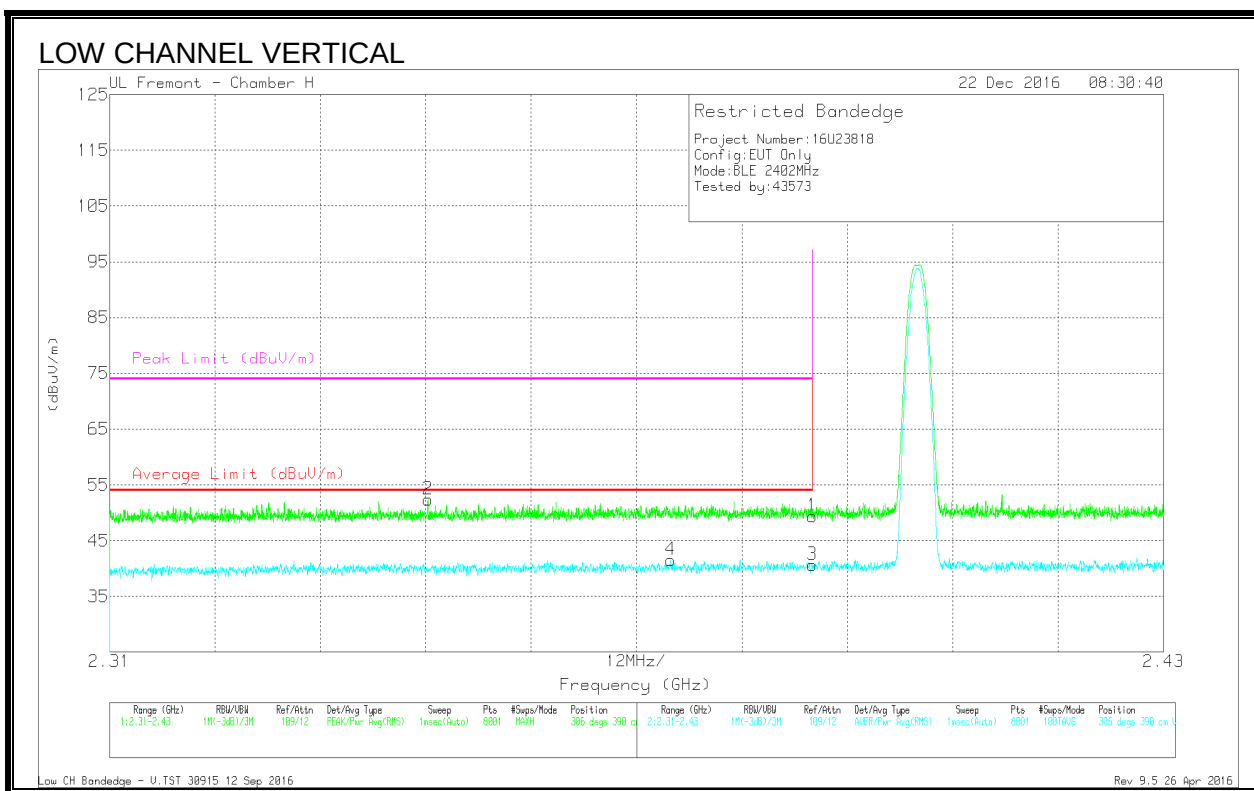
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

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Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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
2	* 2.346	40.51	Pk	31.7	-19.8	52.41	-	-	74	-21.59	306	390	V
4	* 2.374	29.41	RMS	31.8	-19.7	41.51	54	-12.49	-	-	306	390	V
1	* 2.39	37.05	Pk	31.9	-19.6	49.35	-	-	74	-24.65	306	390	V
3	* 2.39	28.4	RMS	31.9	-19.6	40.7	54	-13.3	-	-	306	390	V

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

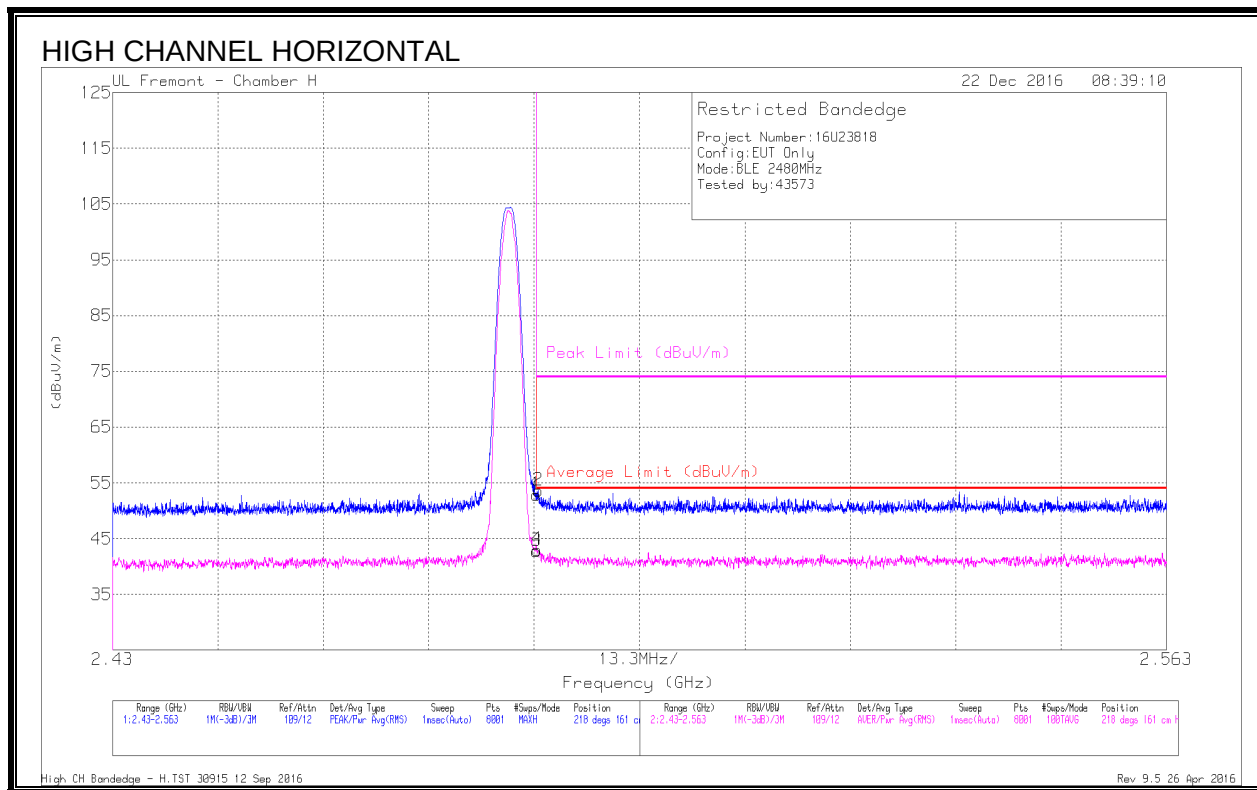
Pk - Peak detector

RMS - RMS detection

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8.3.2. AUTHORIZED BANDEDGE (HIGH CHANNEL)



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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	40.14	Pk	32.2	-19.5	52.84	-	-	74	-21.16	218	161	H
2	* 2.484	41	Pk	32.2	-19.6	53.6	-	-	74	-20.4	218	161	H
3	* 2.484	30.07	RMS	32.2	-19.5	42.77	54	-11.23	-	-	218	161	H
4	* 2.484	30.3	RMS	32.2	-19.5	43	54	-11	-	-	218	161	H

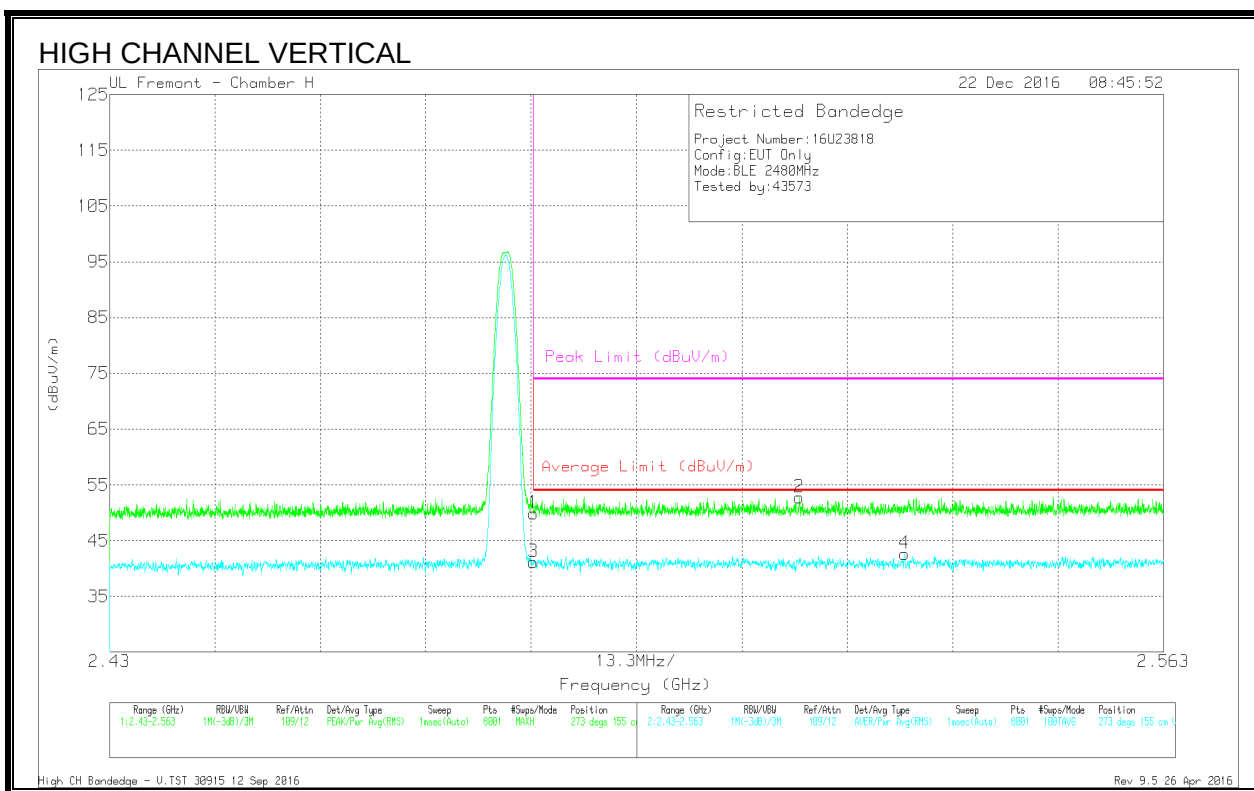
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

High CH Bandedge - H.TST 30915 12 Sep 2016

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Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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	37.22	Pk	32.2	-19.5	49.92	-	-	74	-24.08	273	155	V
3	* 2.484	28.43	RMS	32.2	-19.5	41.13	54	-12.87	-	-	273	155	V
2	2.517	40.08	Pk	32.2	-19.5	52.78	-	-	74	-21.22	273	155	V
4	2.53	29.83	RMS	32.2	-19.4	42.63	54	-11.37	-	-	273	155	V

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

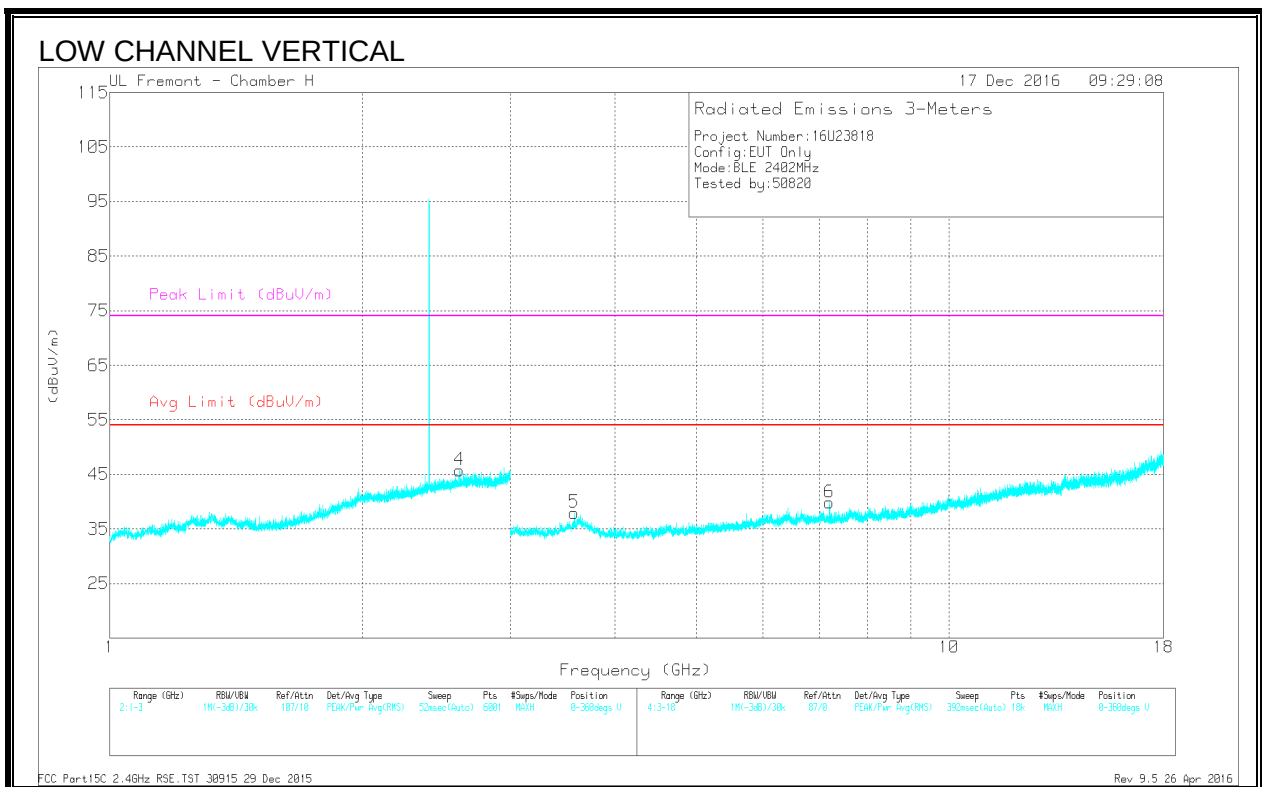
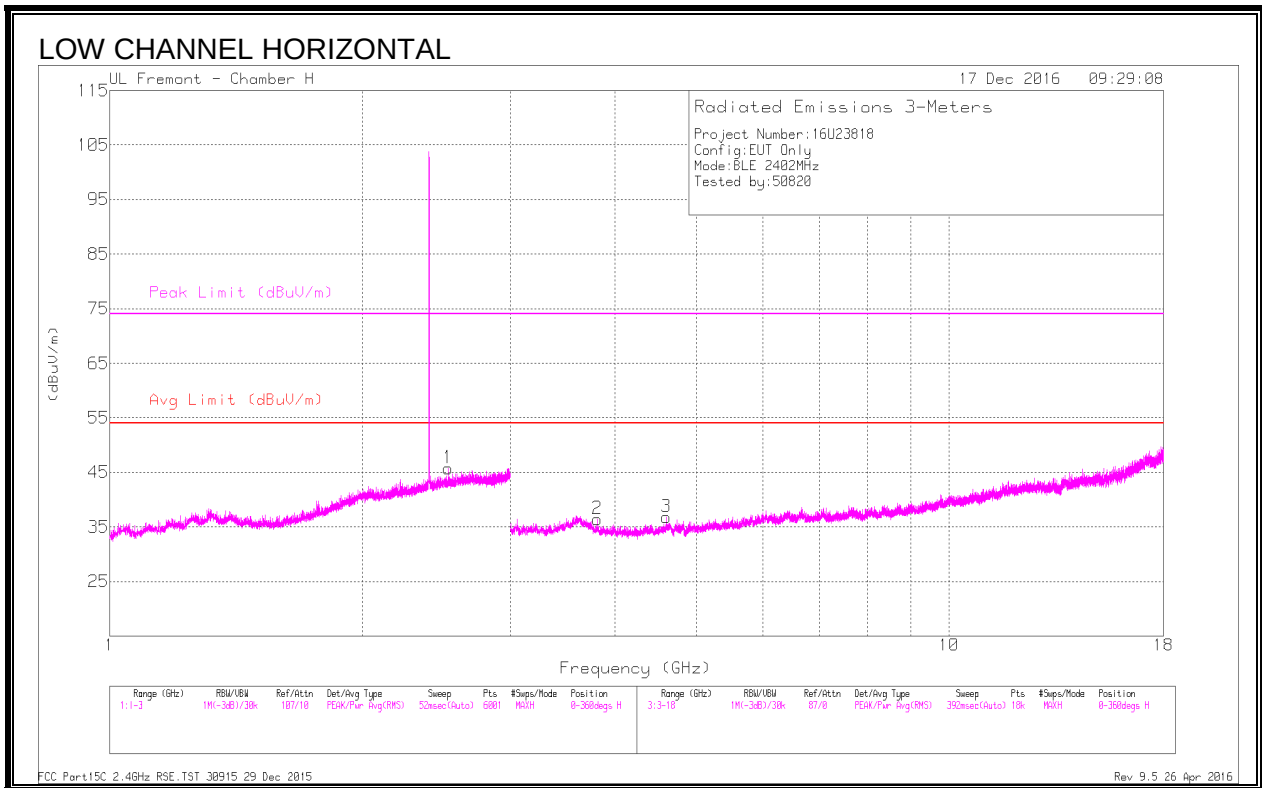
Pk - Peak detector

RMS - RMS detection

High CH Bandedge - V.TST 30915 12 Sep 2016

Rev 9.5 26 Apr 2016

8.3.3. HARMONICS AND SPURIOUS EMISSIONS



Marker	Frequen cy (GHz)	Meter Reading (dBuV)	Det	AFT120 (dB/m)	Amp/Cb l/Filtr/P ad (dB)	Correct ed Reading (dBuV/ m)	Avg Limit (dBuV/ m)	Margin (dB)	Peak Limit (dBuV/ m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.814	43.26	PK2	34	-35.3	41.96	-	-	74	-32.04	137	143	H
	* 3.816	32.64	MAv1	34	-35.3	31.34	54	-22.66	-	-	137	143	H
3	* 4.602	42.94	PK2	34	-34.9	42.04	-	-	74	-31.96	61	355	H
	* 4.602	32.16	MAv1	34	-34.9	31.26	54	-22.74	-	-	61	355	H
5	* 3.58	44.22	PK2	34.8	-35.6	43.42	-	-	74	-30.58	345	297	V
	* 3.581	33.31	MAv1	34.8	-35.6	32.51	54	-21.49	-	-	345	297	V
1	2.533	39.42	PK2	32.2	-19.3	52.32	-	-	-	-	79	151	H
	2.535	21.89	MAv1	32.2	-19.4	34.69	-	-	-	-	79	151	H
4	2.612	22.46	MAv1	32.2	-19.3	35.36	-	-	-	-	161	262	V
	2.613	38.43	PK2	32.2	-19.3	51.33	-	-	-	-	161	262	V
6	7.206	35.11	MAv1	35.7	-31.6	39.21	-	-	-	-	148	157	V
	7.207	43.69	PK2	35.7	-31.6	47.79	-	-	-	-	148	157	V

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

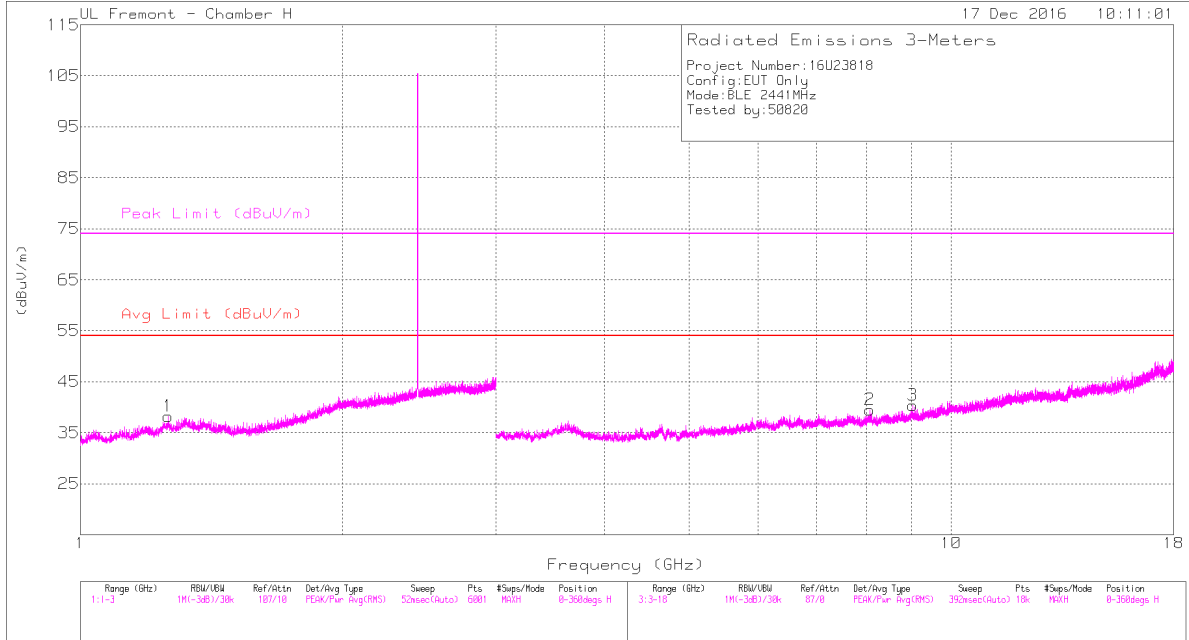
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

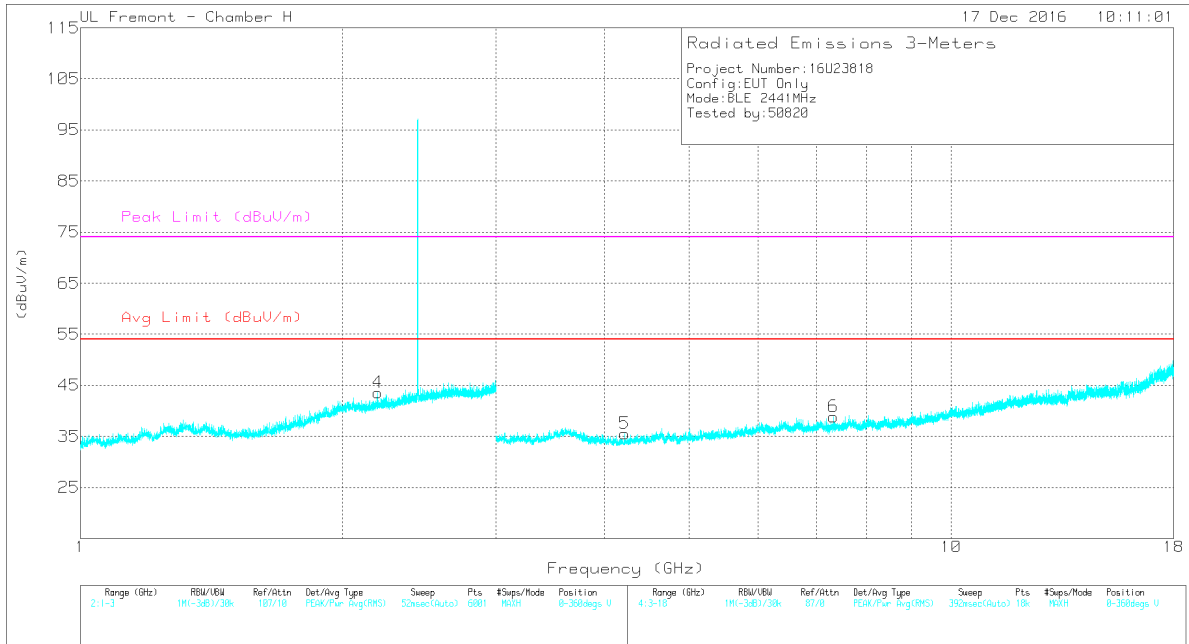
FCC Part15C 2.4GHz RSE.TST 30915 29 Dec 2015

Rev 9.5 26 Apr 2016

MID CHANNEL HORIZONTAL



MID CHANNEL VERTICAL



DATA

Radiated Emissions

Marker	Frequen cy (GHz)	Meter Reading (dBuV)	Det	AF T120 (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	* 1.264	37.6	PK2	29.4	-22.2	44.8	-	-	74	-29.2	95	242	H
	* 1.261	23.46	MAv1	29.3	-22.2	30.56	54	-23.44	-	-	95	242	H
2	* 8.065	39.55	PK2	35.9	-30.1	45.35	-	-	74	-28.65	171	317	H
	* 8.066	28.26	MAv1	35.9	-30.1	34.06	54	-19.94	-	-	171	317	H
3	* 9.031	39.31	PK2	36.3	-28.7	46.91	-	-	74	-27.09	207	318	H
	* 9.033	27.28	MAv1	36.3	-28.7	34.88	54	-19.12	-	-	207	318	H
5	* 4.219	43.83	PK2	33.4	-35.4	41.83	-	-	74	-32.17	335	297	V
	* 4.218	32.31	MAv1	33.4	-35.4	30.31	54	-23.69	-	-	335	297	V
6	* 7.321	43.38	PK2	35.7	-31.2	47.88	-	-	74	-26.12	146	157	V
	* 7.321	34.16	MAv1	35.7	-31.2	38.66	54	-15.34	-	-	146	157	V
4	2.197	39.42	PK2	31.7	-20.2	50.92	-	-	-	-	31	151	V
	2.197	22.92	MAv1	31.7	-20.2	34.42	-	-	-	-	31	151	V

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

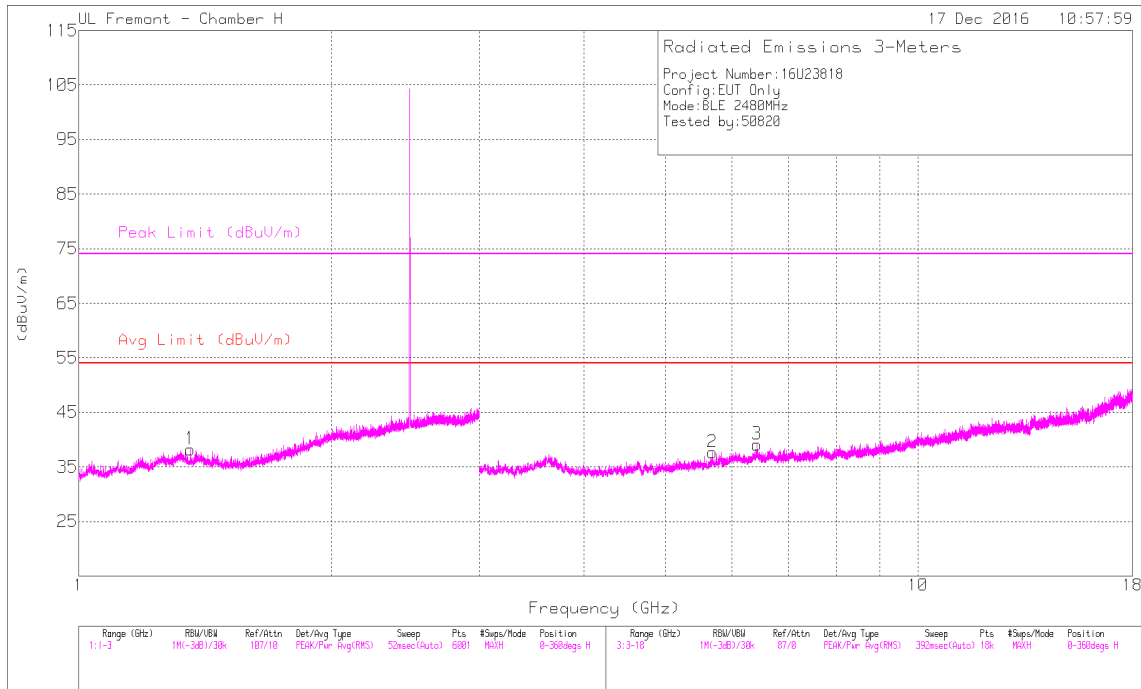
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

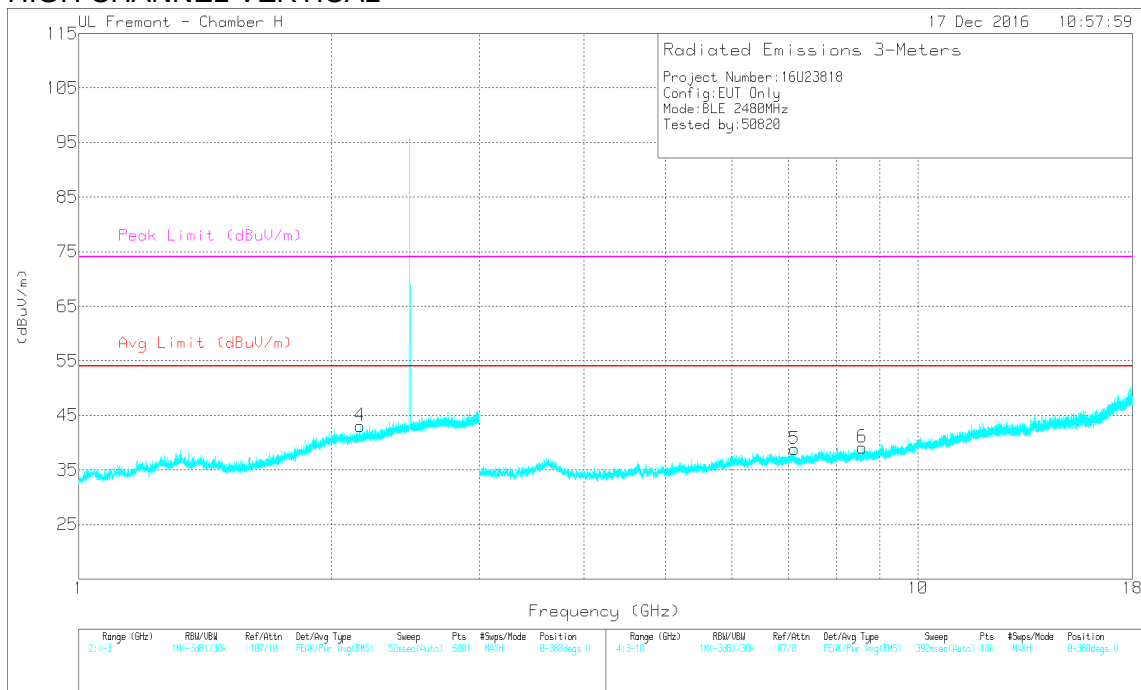
BLE_HARM_2441__(USI-13258).DAT 30915 29 Dec 2015

Rev 9.5 26 Apr 2016

HIGH CHANNEL HORIZONTAL



HIGH CHANNEL VERTICAL



Marker	Frequen cy (GHz)	Meter Reading (dBuV)	Det	AFT120 (dB/m)	Amp/Cb l/Filtr/P ad (dB)	Correct ed Reading (dBuV/ m)	Avg Limit (dBuV/ m)	Margin (dB)	Peak Limit (dBuV/ m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.358	37.16	PK2	29.5	-22	44.66	-	-	74	-29.34	350	242	H
	* 1.357	22.51	MAv1	29.5	-22	30.01	54	-23.99	-	-	350	242	H
4	2.164	37.84	PK2	31.6	-20.2	49.24	-	-	-	-	271	220	V
	2.164	22.32	MAv1	31.6	-20.2	33.72	-	-	-	-	271	220	V
2	5.685	31.2	MAv1	34.8	-33.5	32.5	-	-	-	-	143	179	H
	5.687	42.01	PK2	34.8	-33.4	43.41	-	-	-	-	143	179	H
3	6.432	40.99	PK2	35.7	-31.3	45.39	-	-	-	-	342	121	H
	6.434	29.37	MAv1	35.7	-31.3	33.77	-	-	-	-	342	121	H
5	7.121	40.6	PK2	35.7	-31.4	44.9	-	-	-	-	51	277	V
	7.124	28.56	MAv1	35.7	-31.3	32.96	-	-	-	-	51	277	V
6	8.58	27.44	MAv1	35.9	-29.8	33.54	-	-	-	-	177	280	V
	8.581	39.35	PK2	35.9	-29.8	45.45	-	-	-	-	177	280	V

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

PK2 - KDB558074 Method: Maximum Peak

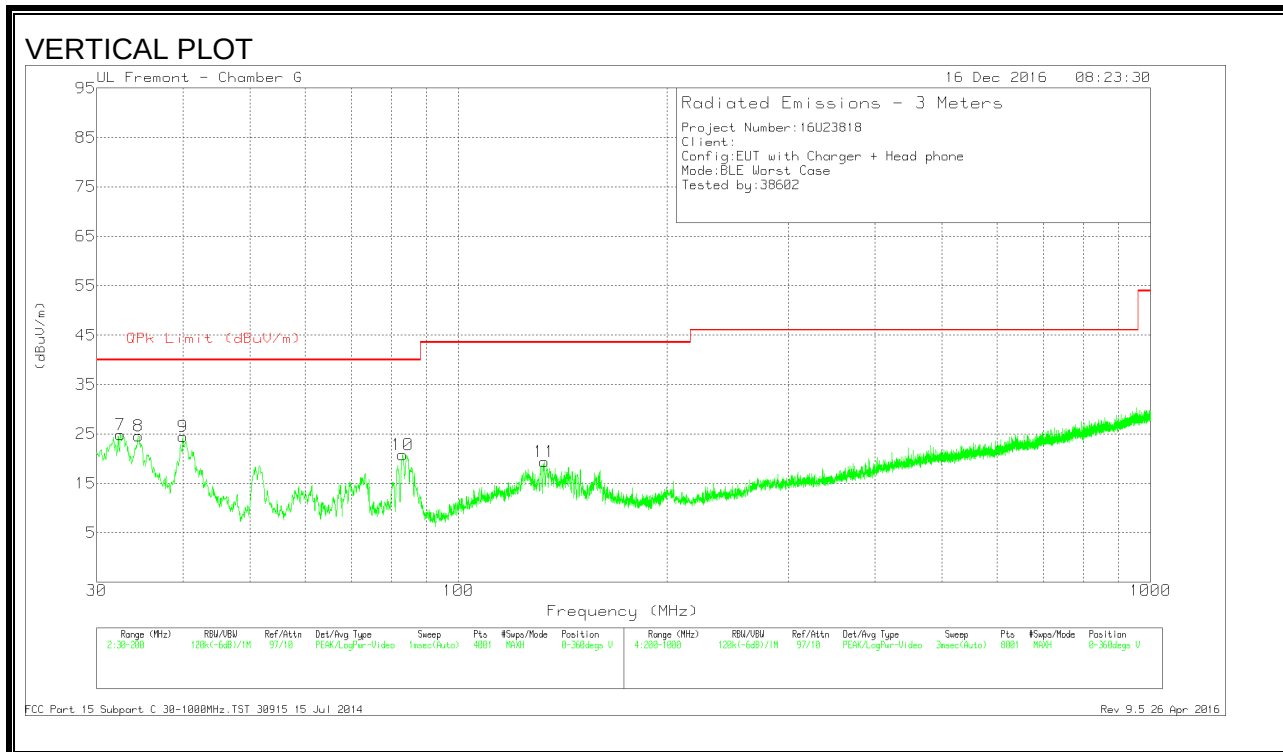
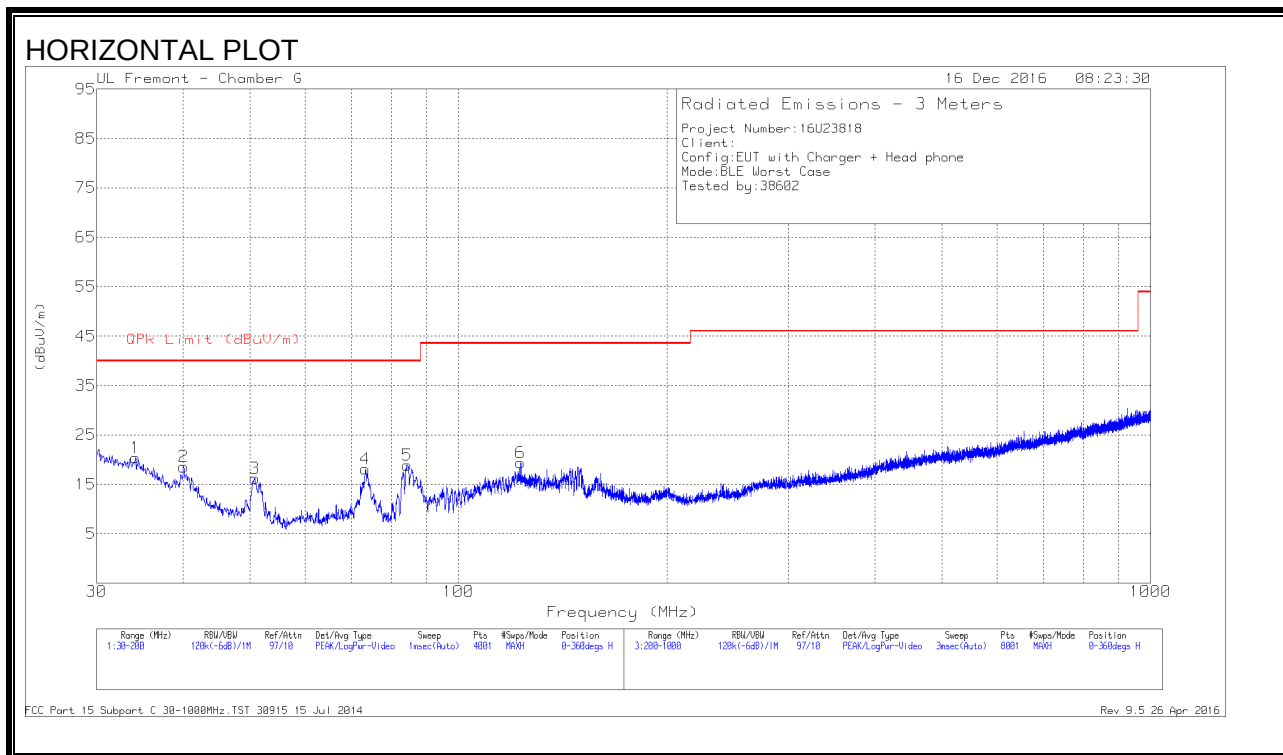
MAv1 - KDB558074 Option 1 Maximum RMS Average

FCC Part15C 2.4GHz RSE.TST 30915 29 Dec 2015

Rev 9.5 26 Apr 2016

8.4. WORST-CASE BELOW 1 GHz

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



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
4	* 73.35	36.84	Pk	12	-30.7	18.14	40	-21.86	0-360	200	H
6	* 123.033	31.84	Pk	17.8	-30.3	19.34	43.52	-24.18	0-360	200	H
11	* 132.978	31.73	Pk	17.8	-30.2	19.33	43.52	-24.19	0-360	100	V
7	32.465	32.32	Pk	23.8	-31.3	24.82	40	-15.18	0-360	100	V
1	34.1225	29.11	Pk	22.6	-31.3	20.41	40	-19.59	0-360	400	H
8	34.505	33.58	Pk	22.3	-31.3	24.58	40	-15.42	0-360	100	V
9	39.945	37.27	Pk	18.3	-31.1	24.47	40	-15.53	0-360	100	V
2	40.03	31.36	Pk	18.3	-31.1	18.56	40	-21.44	0-360	400	H
3	50.7613	36.01	Pk	11.3	-31.1	16.21	40	-23.79	0-360	400	H
10	82.9975	40.13	Pk	11.2	-30.6	20.73	40	-19.27	0-360	100	V
5	84.23	38.32	Pk	11.2	-30.6	18.92	40	-21.08	0-360	200	H

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

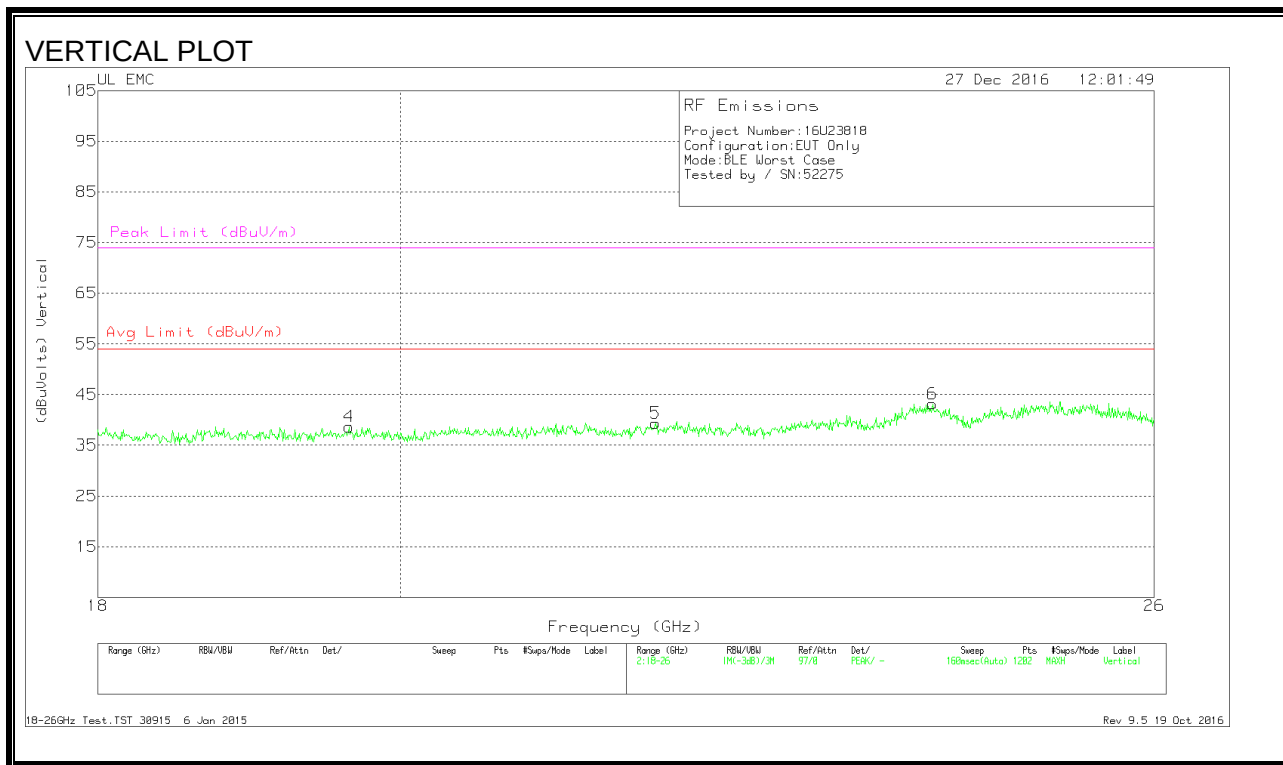
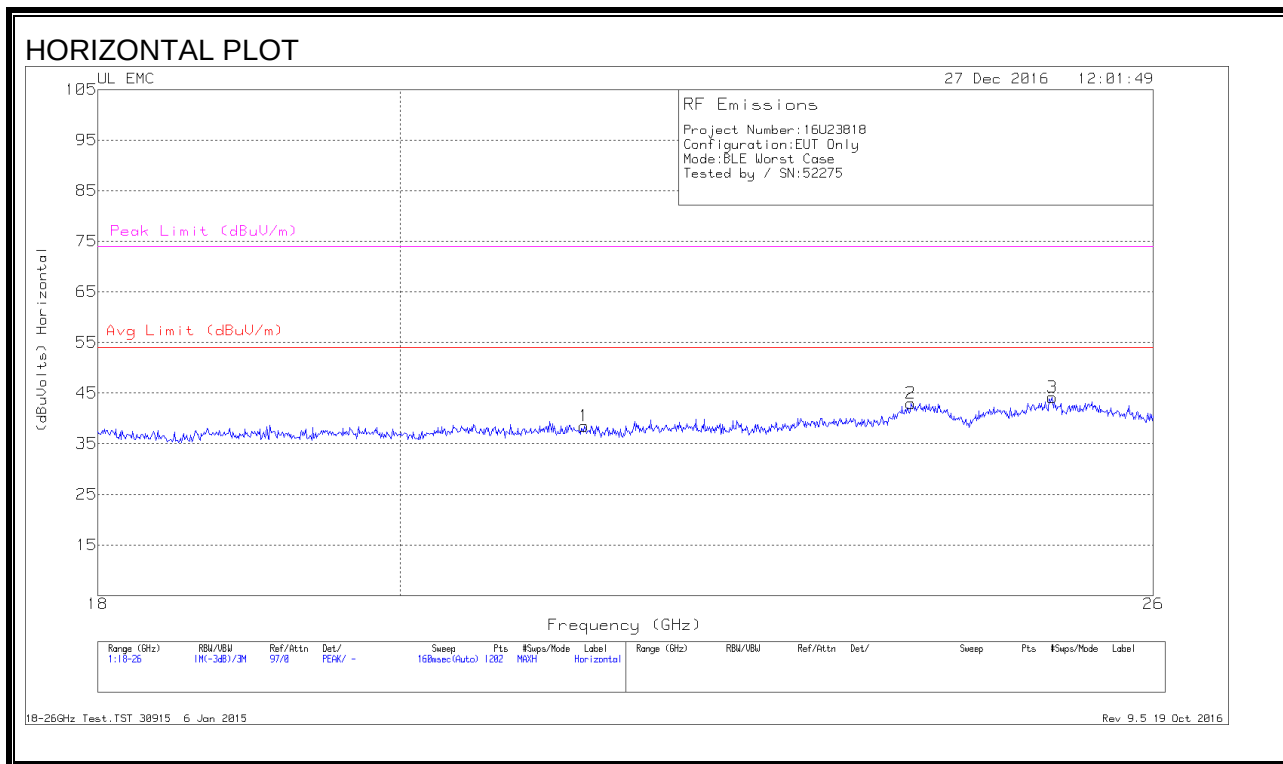
Pk - Peak detector

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

Rev 9.5 26 Apr 2016

8.5. 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/Cb l (dB)	Dist Corr (dB)	Correct ed Reading (dBuVol ts)	Avg Limit (dBuV/ m)	Margin (dB)	Peak Limit (dBuV/ m)	PK Margin (dB)
1	21.324	40	Pk	33.1	-25.1	-9.5	38.5	54	-15.5	74	-35.5
2	23.895	42.3	Pk	34	-23.8	-9.5	43	54	-11	74	-31
3	25.101	43.77	Pk	34.3	-24.4	-9.5	44.17	54	-9.83	74	-29.83
4	19.645	40.47	Pk	32.7	-25	-9.5	38.67	54	-15.33	74	-35.33
5	21.857	40.13	Pk	33.3	-24.6	-9.5	39.33	54	-14.67	74	-34.67
6	24.068	43.17	Pk	34	-24.5	-9.5	43.17	54	-10.83	74	-30.83

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.

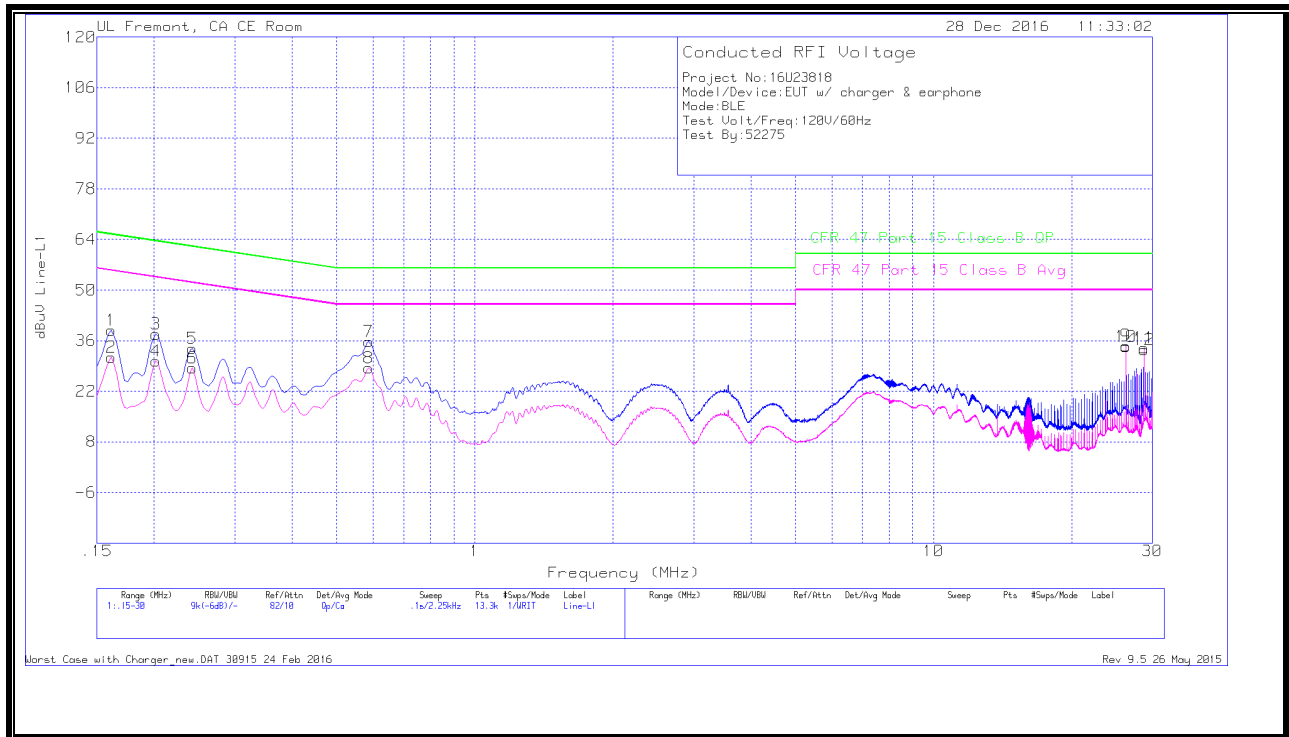
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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



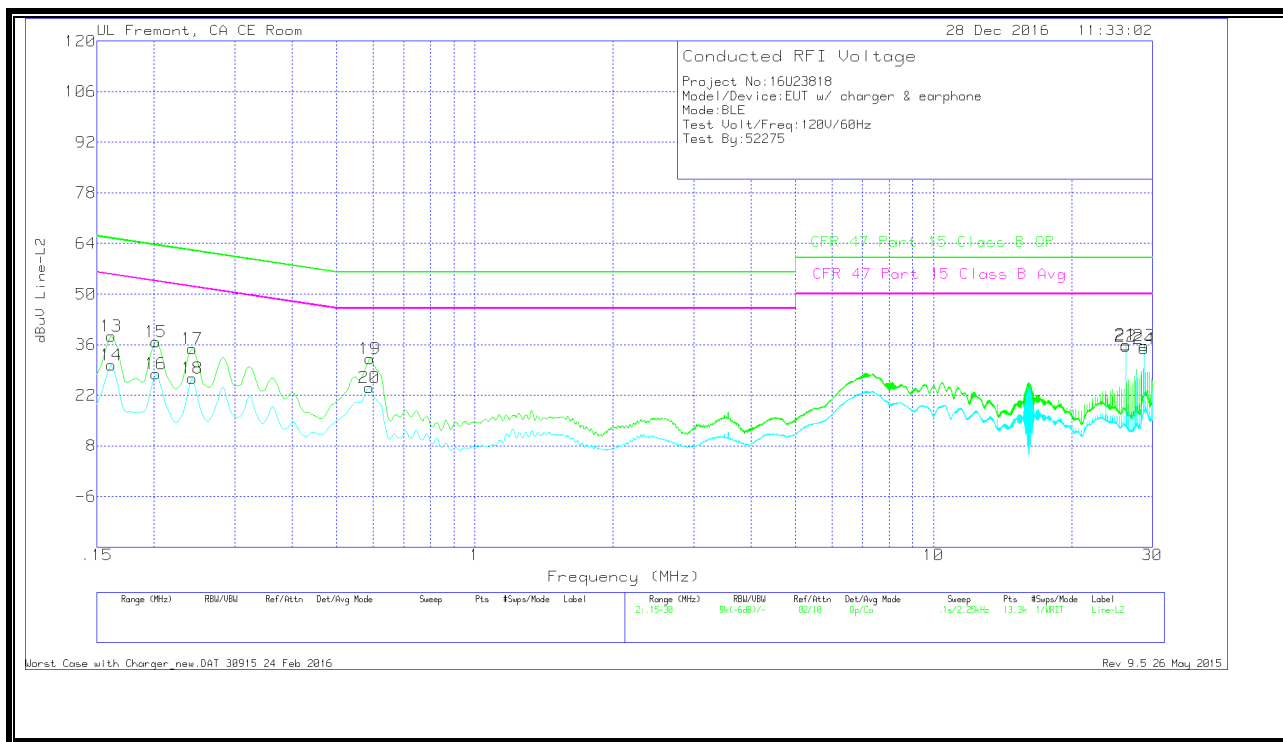
WORST EMISSIONS

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	28.74	Qp	0	0	10.1	38.84	65.4	-26.56	-	-
2	.16125	21.25	Ca	0	0	10.1	31.35	-	-	55.4	-24.05
3	.20175	27.65	Qp	0	0	10.1	37.75	63.54	-25.79	-	-
4	.20175	20.31	Ca	0	0	10.1	30.41	-	-	53.54	-23.13
5	.24225	23.7	Qp	0	0	10.1	33.8	62.02	-28.22	-	-
6	.24225	18.37	Ca	0	0	10.1	28.47	-	-	52.02	-23.55
7	.5865	25.61	Qp	0	0	10.1	35.71	56	-20.29	-	-
8	.5865	18.28	Ca	0	0	10.1	28.38	-	-	46	-17.62
9	26.25	23.71	Qp	.1	.3	10.5	34.61	60	-25.39	-	-
10	26.25	23.46	Ca	.1	.3	10.5	34.36	-	-	50	-15.64
11	28.7498	23.14	Qp	.1	.3	10.4	33.94	60	-26.06	-	-
12	28.7498	22.7	Ca	.1	.3	10.4	33.5	-	-	50	-16.5

Qp - Quasi-Peak detector

Ca - CISPR average detection

LINE 2 RESULTS



WORST EMISSIONS

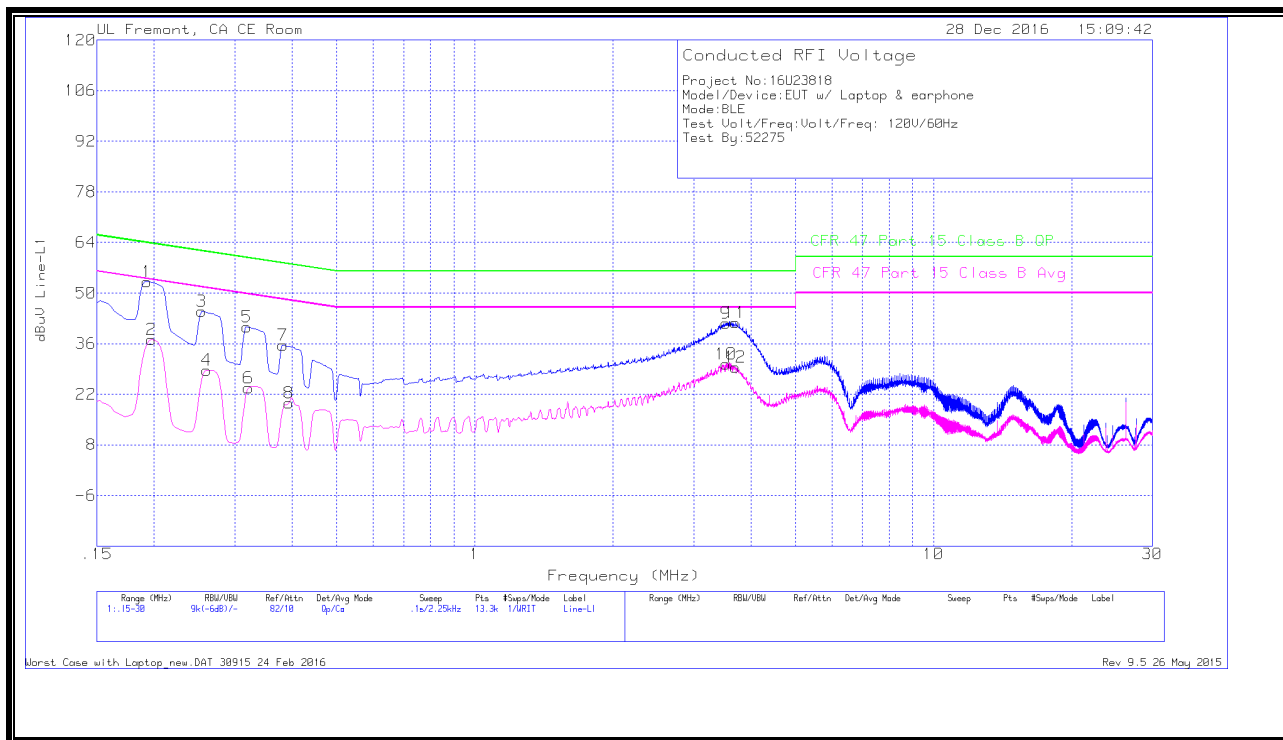
Range 2: Line-L2 .15 - 30MHz											
Marker	Frequen cy (MHz)	Meter Reading (dBuV)	Det	LISN L2	LC Cables 2&3	Limiter (dB)	Correct ed Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISP R)Margi n (dB)
13	.16125	28.33	Qp	0	0	10.1	38.43	65.4	-26.97	-	-
14	.16125	20.18	Ca	0	0	10.1	30.28	-	-	55.4	-25.12
15	.20175	26.75	Qp	0	0	10.1	36.85	63.54	-26.69	-	-
16	.20175	17.77	Ca	0	0	10.1	27.87	-	-	53.54	-25.67
17	.24225	24.71	Qp	0	0	10.1	34.81	62.02	-27.21	-	-
18	.24225	16.66	Ca	0	0	10.1	26.76	-	-	52.02	-25.26
19	.591	22.01	Qp	0	0	10.1	32.11	56	-23.89	-	-
20	.58875	14.06	Ca	0	0	10.1	24.16	-	-	46	-21.84
21	26.25	25.04	Qp	.1	.3	10.5	35.94	60	-24.06	-	-
22	26.25	24.75	Ca	.1	.3	10.5	35.65	-	-	50	-14.35
23	28.7498	24.92	Qp	.1	.3	10.4	35.72	60	-24.28	-	-
24	28.7498	24.11	Ca	.1	.3	10.4	34.91	-	-	50	-15.09

Qp - Quasi-Peak detector

Ca - CISPR average detection

9.2. EUT POWERED BY HOST PC VIA USB CABLE

LINE 1 RESULTS



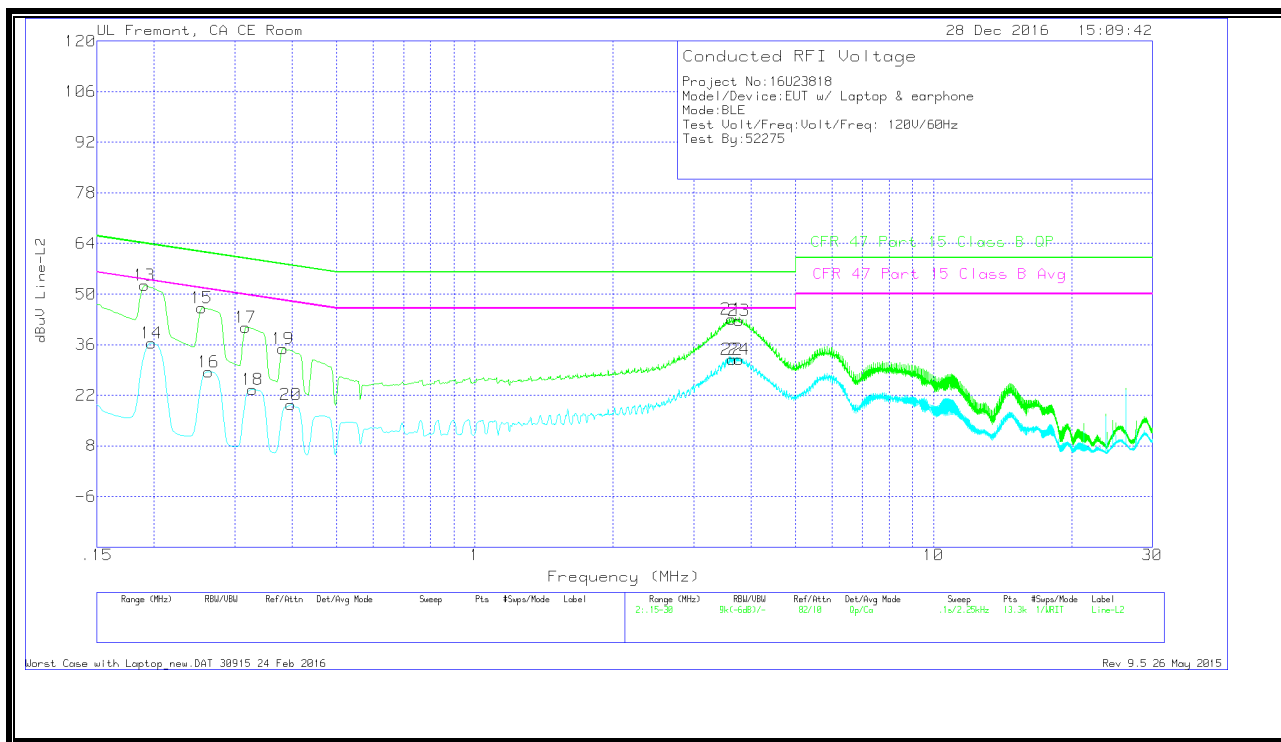
WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz											
Marker	Frequen cy (MHz)	Meter Reading (dBuV)	Det	LISN L1	LC Cables 1&3	Limiter (dB)	Correct ed Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISP R) Margi n (dB)
1	.19275	43.03	Qp	0	0	10.1	53.13	63.92	-10.79	-	-
2	.19725	27.08	Ca	0	0	10.1	37.18	-	-	53.73	-16.55
3	.2535	34.86	Qp	0	0	10.1	44.96	61.64	-16.68	-	-
4	.26025	18.6	Ca	0	0	10.1	28.7	-	-	51.42	-22.72
5	.31875	30.51	Qp	0	0	10.1	40.61	59.74	-19.13	-	-
6	.321	13.59	Ca	0	0	10.1	23.69	-	-	49.68	-25.99
7	.38175	25.49	Qp	0	0	10.1	35.59	58.24	-22.65	-	-
8	.393	9.47	Ca	0	0	10.1	19.57	-	-	48	-28.43
9	3.52725	31.4	Qp	0	.1	10.1	41.6	56	-14.4	-	-
10	3.52275	20.2	Ca	0	.1	10.1	30.4	-	-	46	-15.6
11	3.69825	31.58	Qp	0	.1	10.1	41.78	56	-14.22	-	-
12	3.70275	19.28	Ca	0	.1	10.1	29.48	-	-	46	-16.52

Qp - Quasi-Peak detector

Ca - CISPR average detection

LINE 2 RESULTS



WORST EMISSIONS

Range 2: Line-L2 .15 - 30MHz											
Marker	Frequen cy (MHz)	Meter Reading (dBuV)	Det	LISN L2	LC Cables 2&3	Limiter (dB)	Correct ed Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISP R)Margi n (dB)
13	.1905	42.29	Qp	0	0	10.1	52.39	64.01	-11.62	-	-
14	.19725	26.34	Ca	0	0	10.1	36.44	-	-	53.73	-17.29
15	.2535	36.12	Qp	0	0	10.1	46.22	61.64	-15.42	-	-
16	.2625	18.37	Ca	0	0	10.1	28.47	-	-	51.35	-22.88
17	.3165	30.74	Qp	0	0	10.1	40.84	59.8	-18.96	-	-
18	.32775	13.46	Ca	0	0	10.1	23.56	-	-	49.51	-25.95
19	.38175	24.77	Qp	0	0	10.1	34.87	58.24	-23.37	-	-
20	.3975	9.31	Ca	0	0	10.1	19.41	-	-	47.91	-28.5
21	3.6285	32.79	Qp	0	.1	10.1	42.99	56	-13.01	-	-
22	3.63525	21.7	Ca	0	.1	10.1	31.9	-	-	46	-14.1
23	3.77025	32.57	Qp	0	.1	10.1	42.77	56	-13.23	-	-
24	3.77025	21.73	Ca	0	.1	10.1	31.93	-	-	46	-14.07

Qp - Quasi-Peak detector

Ca - CISPR average detection