



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

**BLUETOOTH LOW ENERGY
CERTIFICATION TEST REPORT**

FOR

CELLULAR PHONE WITH BLUETOOTH AND WLAN RADIOS

MODEL NUMBER: A1661, A1786

**FCC ID: BCG-E3087A
IC: 579C-E3087A**

REPORT NUMBER: 16U23287-E2V5

ISSUE DATE: AUGUST 26, 2016

Prepared for
**APPLE, INC.
1 INFINITE LOOP
CUPERTINO, CA 95014, U.S.A.**

Prepared by
**UL VERIFICATION SERVICES INC.
47173 BENICIA STREET
FREMONT, CA 94538, U.S.A.
TEL: (510) 771-1000
FAX: (510) 661-0888**



NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	7/21/2016	Initial Issue	Hung Thai
V2	7/30/2016	Addressed TCB Questions	Tony Li
V3	8/15/2016	Added test utility info	Tina Chu
V4	8/24/2016	Updated Power, PSD for high power mode base on client new power	Joe Vang
V5	8/26/2016	Revised report to address TCB's questions	Tina Chu

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. 6 dB BANDWIDTH.....	20
7.4. 99% BANDWIDTH.....	24
7.5. AVERAGE POWER	28
7.6. OUTPUT POWER.....	29
7.7. POWER SPECTRAL DENSITY	30
7.8. CONDUCTED SPURIOUS EMISSIONS.....	34
8. RADIATED TEST RESULTS.....	41
8.1. LIMITS AND PROCEDURE	41
8.2. TRANSMITTER ABOVE 1 GHz	42
8.2.1. LOW POWER	42
8.2.2. HARMONICS AND SPURIOUS EMISSIONS	46
8.2.3. HIGH POWER	52
8.2.4. HARMONICS AND SPURIOUS EMISSIONS	56
8.3. WORST-CASE BELOW 1 GHz.....	62
8.4. WORST-CASE 18 to 26 GHz.....	64

9. AC POWER LINE CONDUCTED EMISSIONS	66
9.1. EUT POWERED BY AC/DC ADAPTER VIA USB CABLE	67
9.2. EUT POWERED BY HOST PC VIA USB CABLE	69
10. SETUP PHOTOS	71

1. ATTESTATION OF TEST RESULTS

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

EUT DESCRIPTION: CELLULAR PHONE WITH BLUETOOTH AND WLAN RADIOS

MODEL: A1661, A1786

SERIAL NUMBER: C39RV05THFNN (CONDUCTED), C39RV04CHFNN (RADIATED)

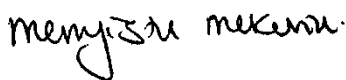
DATE TESTED: MARCH 11, 2016 – AUGUST 24, 2016

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

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

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

Approved & Released For
UL Verification Services Inc. By:



MENGISTU MEKURIA
SENIOR ENGINEER
UL VERIFICATION SERVICES INC.

Prepared By:



HUNG THAI
EMC TECHNICIAN
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	☐ Chamber D
☐ Chamber B	☒ Chamber E
☐ Chamber C	☐ Chamber F
	☐ Chamber G
	☒ Chamber H

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

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 9KHz to 0.15 MHz	± 3.84dB
Conducted Disturbance, 0.15 to 30 MHz	± 3.65 dB
Radiated Disturbance, 9KHz to 30 MHz	± 3.15 dB
Radiated Disturbance, 30 to 1000 MHz	± 5.36 dB
Radiated Disturbance, 1000 to 18000 MHz	± 4.32 dB
Radiated Disturbance, 18000 to 26000 MHz	± 4.45 dB
Radiated Disturbance, 26000 to 40000 MHz	± 5.24dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT, Model A1661, A1786 is a mobile phone with multimedia functions (music, application support, and video), cellular GSM/GPRS/EGPRS/WCDMA/HSPA+/DC-HSDPA/CDMA/EVDO/LTE-radio, IEEE 802.11a/b/g/n/ac, NFC 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	16.62	45.92

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

Frequency Band (GHz)	Antenna Gain (dBi)
2.4	-1.85

5.4. SOFTWARE AND FIRMWARE

The firmware version installed in the EUT during testing was 14.1.39.180
The test utility software used during testing was BlueTool.

5.5. WORST-CASE CONFIGURATION AND MODE

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

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

BLE: 1 Mbps.

There are two vendors of the WiFi/Bluetooth radio modules: variant 1 and variant 2. The Wi-Fi/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.

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Dell	Latitude 3540	9J6WQZ1	NA
Laptop Power Supply	Dell	LA65NM130	QJNKWD	NA

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	2	USB	Shielded	1	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 Used						

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

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	1	AC	Un-shielded	3	N/A

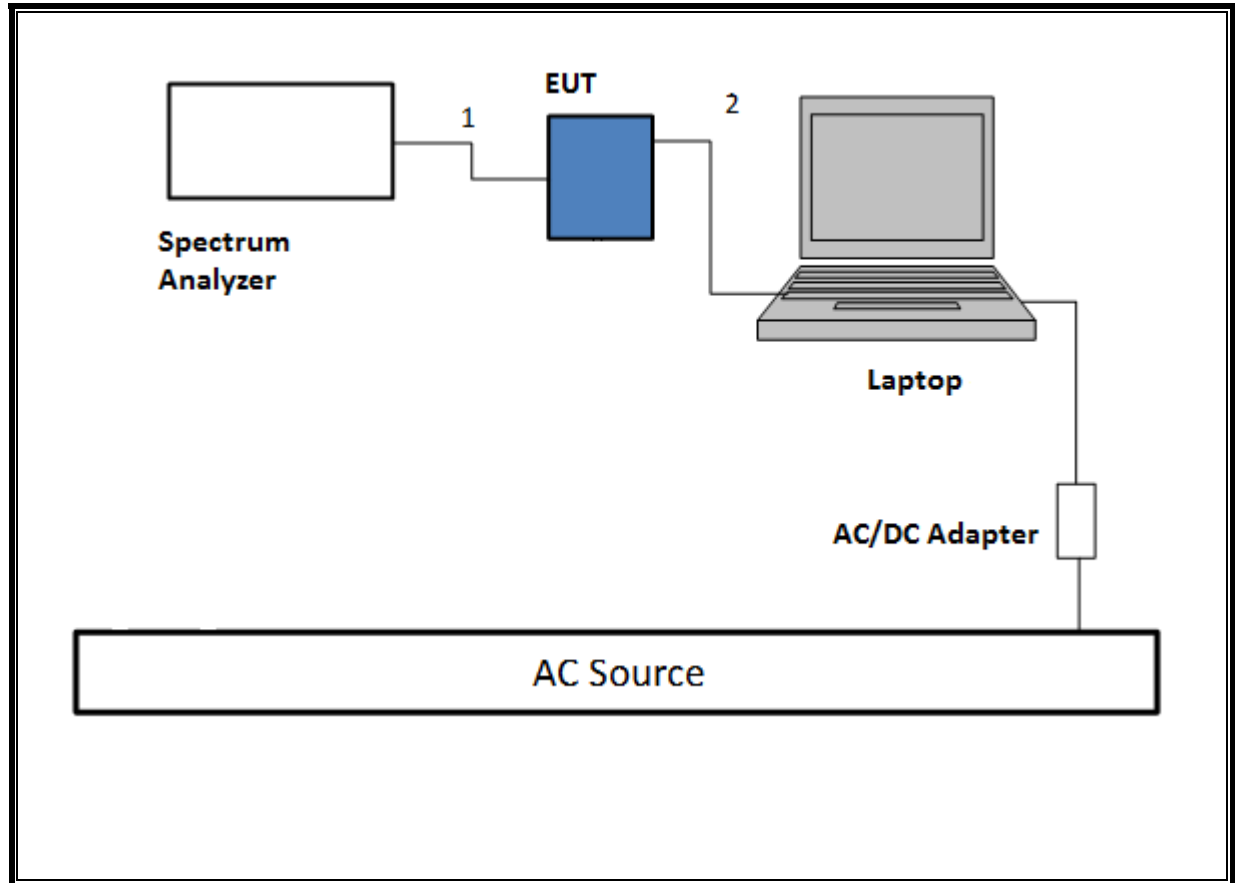
I/O CABLES (AC LINE CONDUCTED: AC/DC ADAPTER)

I/O Cable List						
Cable No	Port	# of identical	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	1	AC	Un-shielded	3	N/A
2	Power Adapter	1	AC	Un-shielded	3	N/A

TEST SETUP- CONDUCTED PORT

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

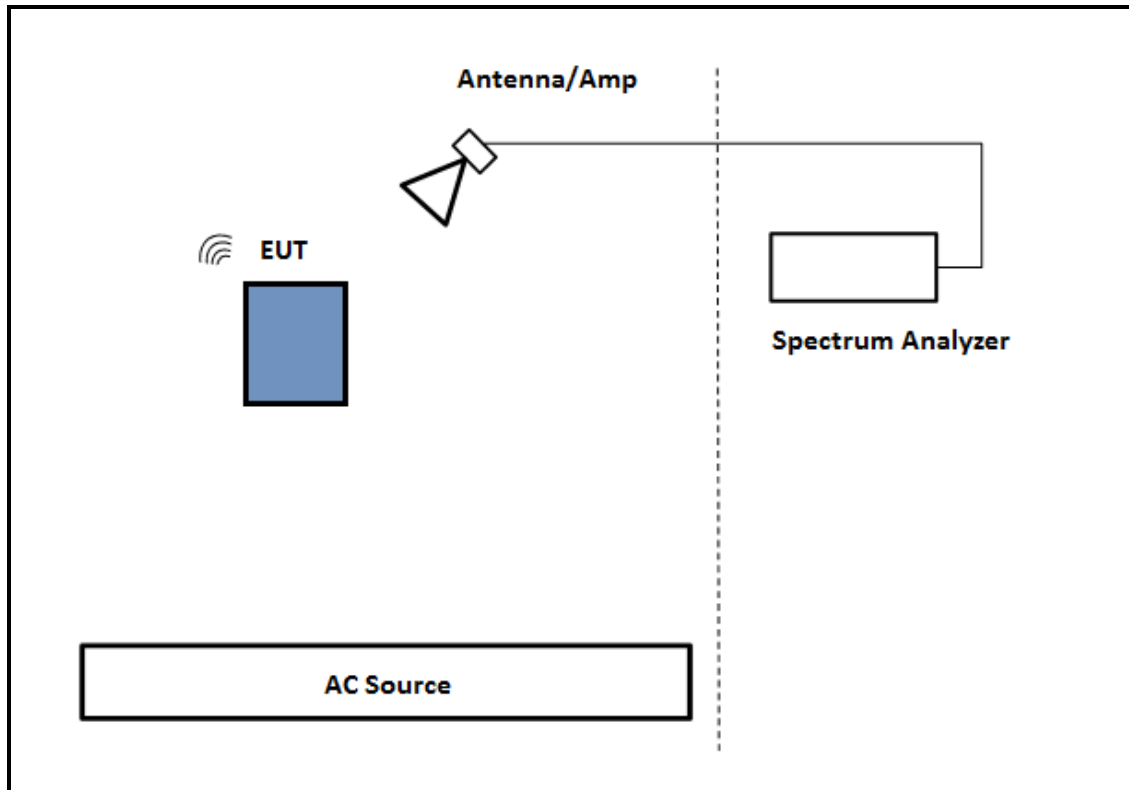
SETUP DIAGRAM



TEST SETUP- RADIATED-ABOVE 1 GHZ

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

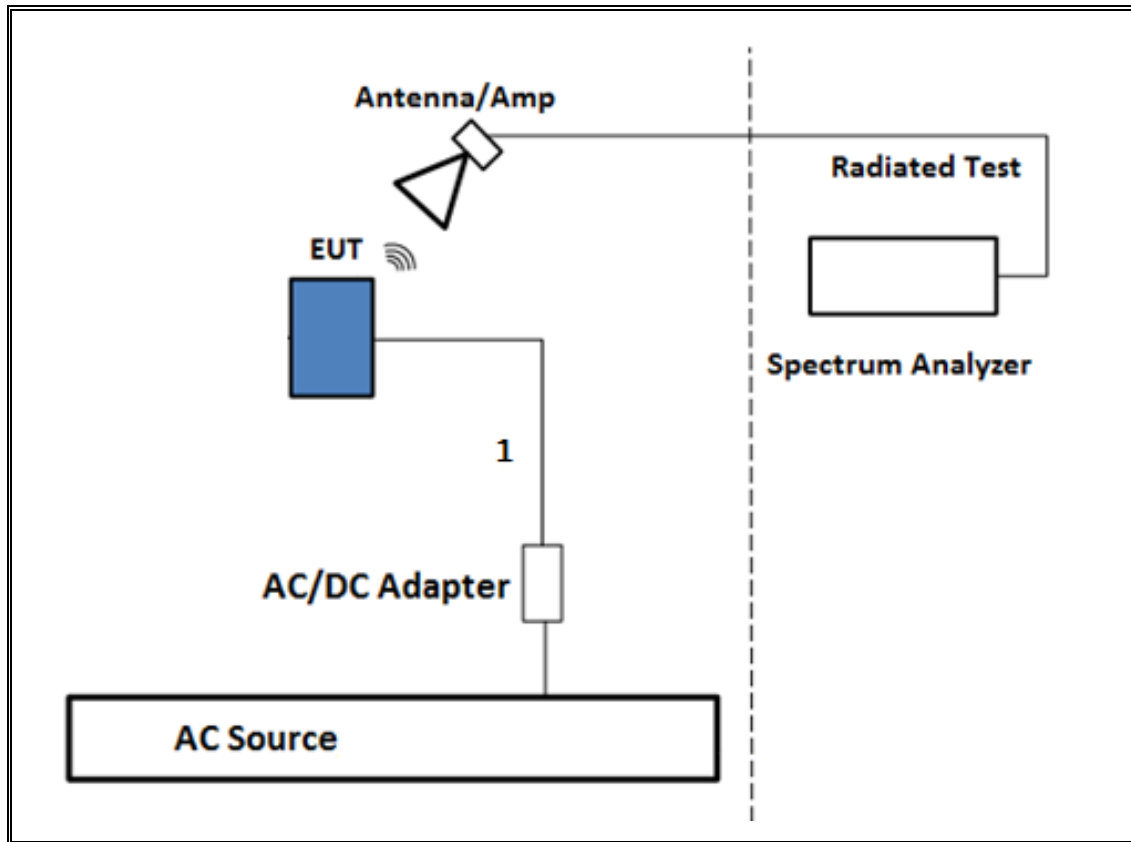
SETUP DIAGRAM



TEST SETUP- BELOW 1GHZ

The EUT was powered by AC cord. Test software exercised the EUT.

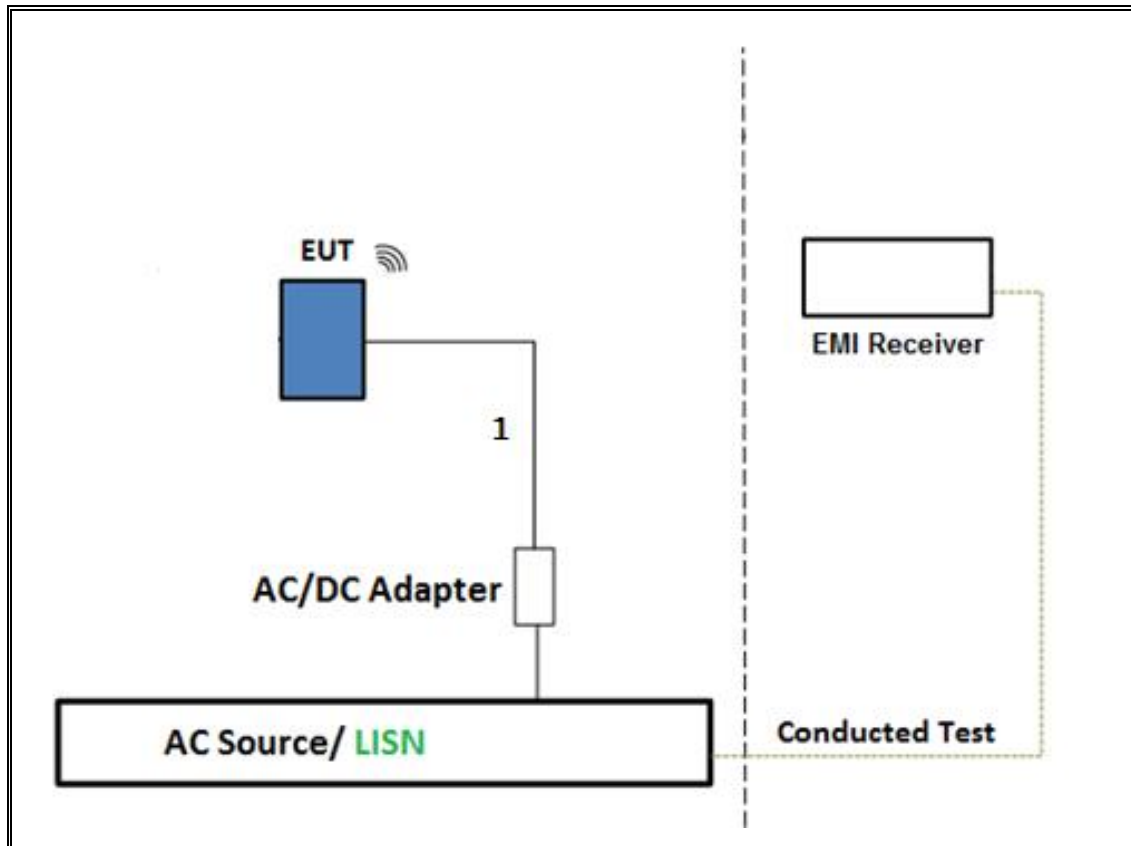
SETUP DIAGRAM



TEST SETUP- AC LINE CONDUCTED: AC/DC ADAPTER

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

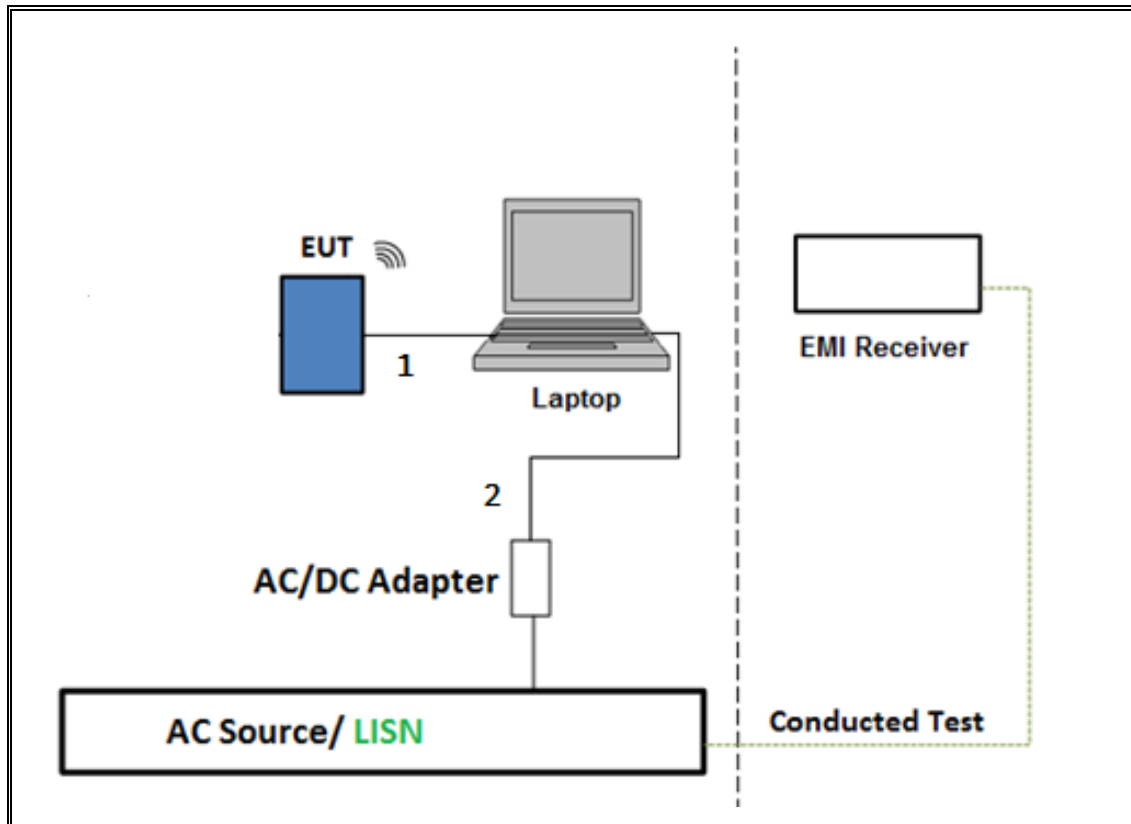
SETUP DIAGRAM



TEST SETUP- AC LINE CONDUCTED: LAPTOP CONFIGURATION

The EUT was tested with 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	00154522	1/12/2017
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	A022813-1	10/28/2016
Amplifier, 1 - 18GHz	Miteq	AFS42-00101800-25-S-42	1782158	1/25/2017
**Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	323561	6/8/2016
**Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent	N9030A	US51350187	6/1/2016
**Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	185623	6/9/2016
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent	N9030A	MY51380911	10/15/2016
Power Meter, P-series single channel	Agilent	N1911A	GB45100212	9/25/2016
**Power Sensor, P - series, 50MHz to 18GHz, Wideband	Agilent	N1921A	MY53260010	7/8/2016
***Power Sensor, P - series, 50MHz to 18GHz, Wideband	Agilent	N1921A	MY55200004	5/18/2017
**Antenna, Horn 18 to 26.5GHz	ARA	MWH-1826	209336	5/12/2016
**Spectrum Analyzer, 40 GHz	Agilent	8564E	3943A01643	8/14/2016
**Amplifier, 1 to 26.5GHz, 23.5dB Gain minimum	Keysight	8449B	3008A04710	6/29/2016
AC Line Conducted				
EMI Test Receiver 9KHz-7GHz	Rohde & Schwarz	ESCI7	100935	9/10/2016
LISN for Conducted Emissions CISPR-16	Fischer	50/250-25-2	161124	9/16/2016
**Power Cable, Line Conducted Emissions	UL	PG1	N/A	7/28/2016
UL SOFTWARE				
* Radiated Software	UL	UL EMC	Ver 9.5, June 24, 2015	
* Conducted Software	UL	UL EMC	Ver 4.0, January 11, 2016	

Note: * indicates automation software version used in the compliance certification testing

**Testing is completed before equipment expiration date.

***Equipment was use after calibration.

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

7.3. 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

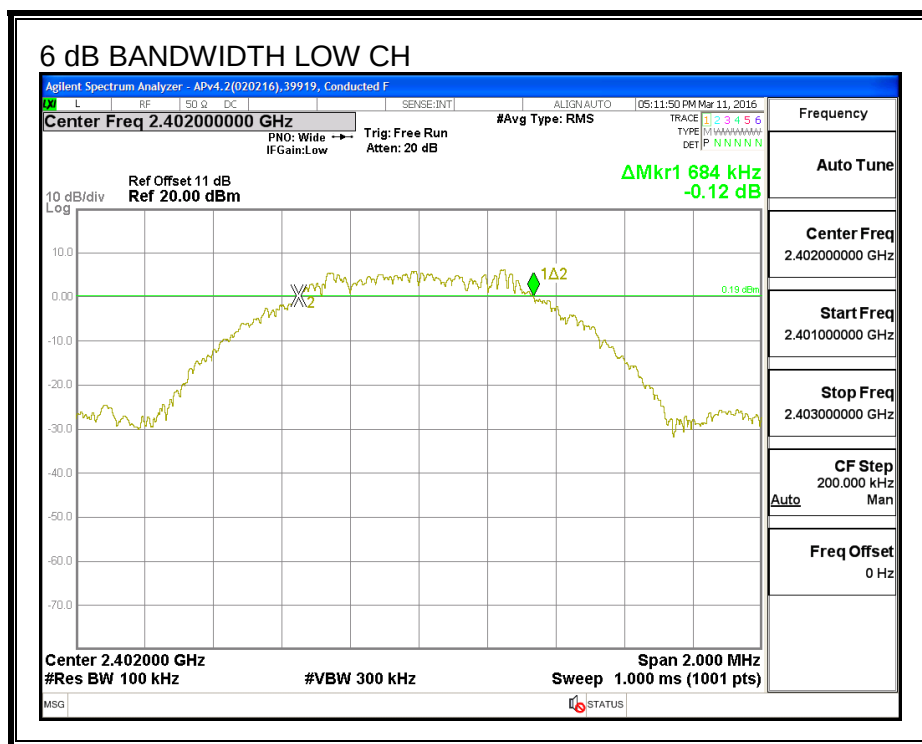
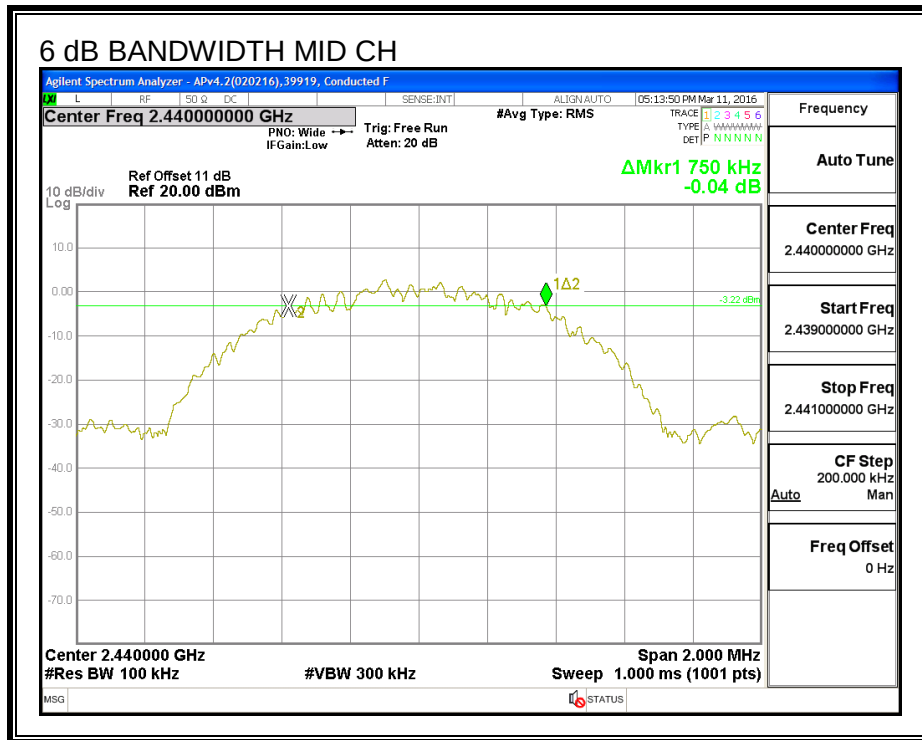
LOW POWER

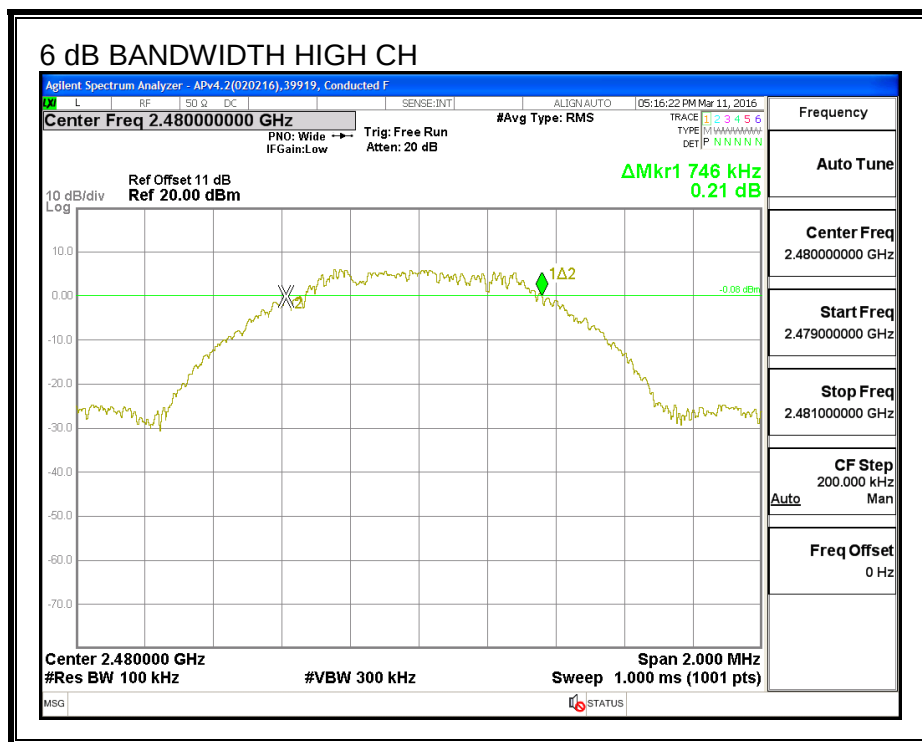
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.684	0.5
Middle	2440	0.750	0.5
High	2480	0.746	0.5

HIGH POWER

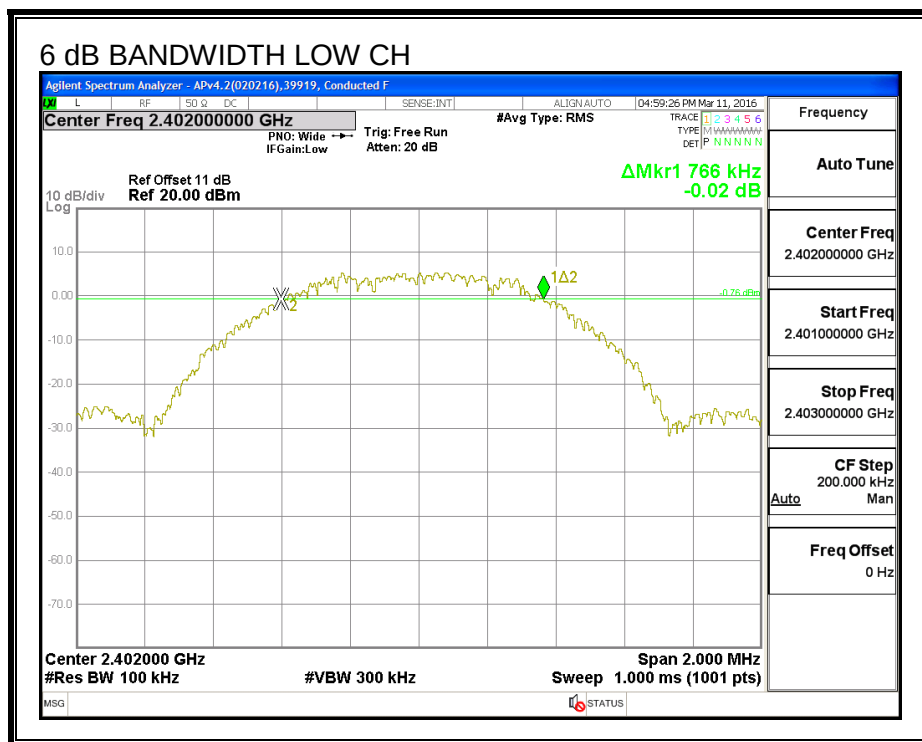
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.766	0.5
Middle	2440	0.746	0.5
High	2480	0.756	0.5

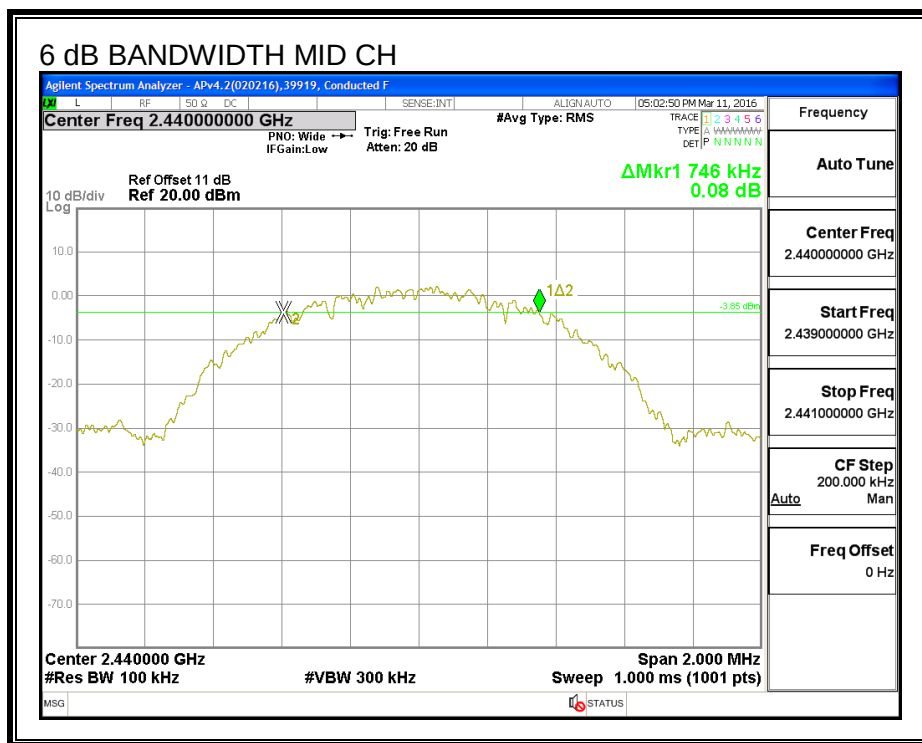
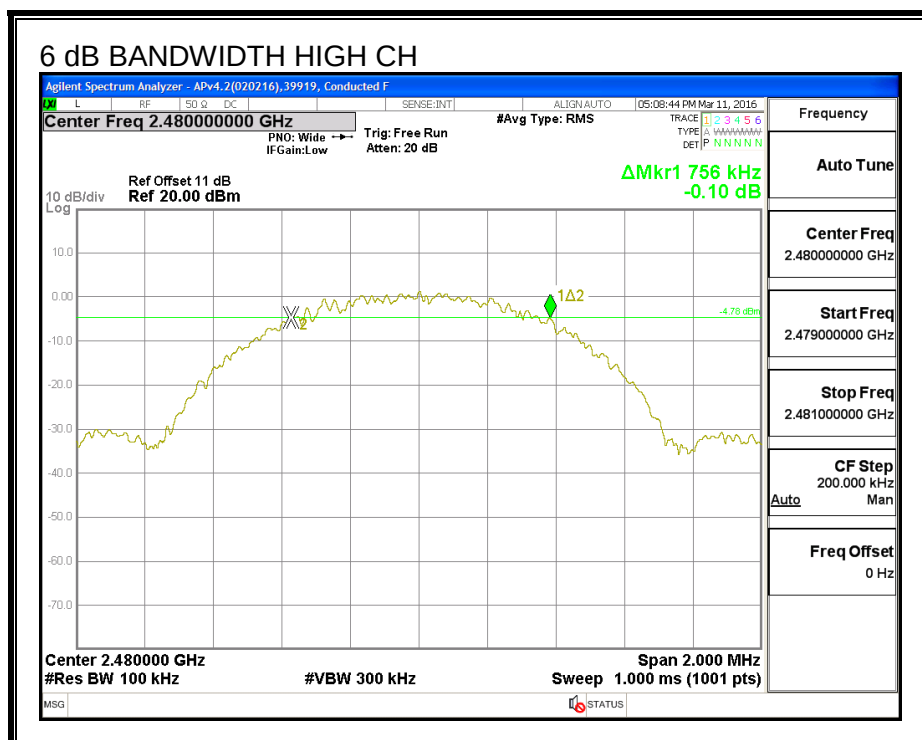
6 dB BANDWIDTH LOW POWER





6 dB BANDWIDTH HIGH POWER





7.4. 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

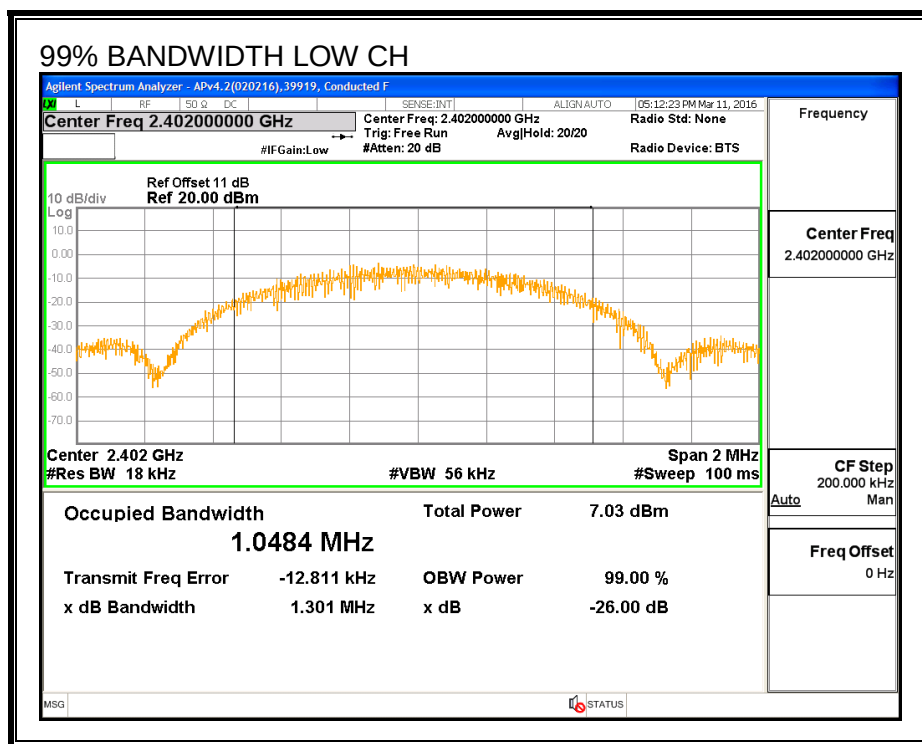
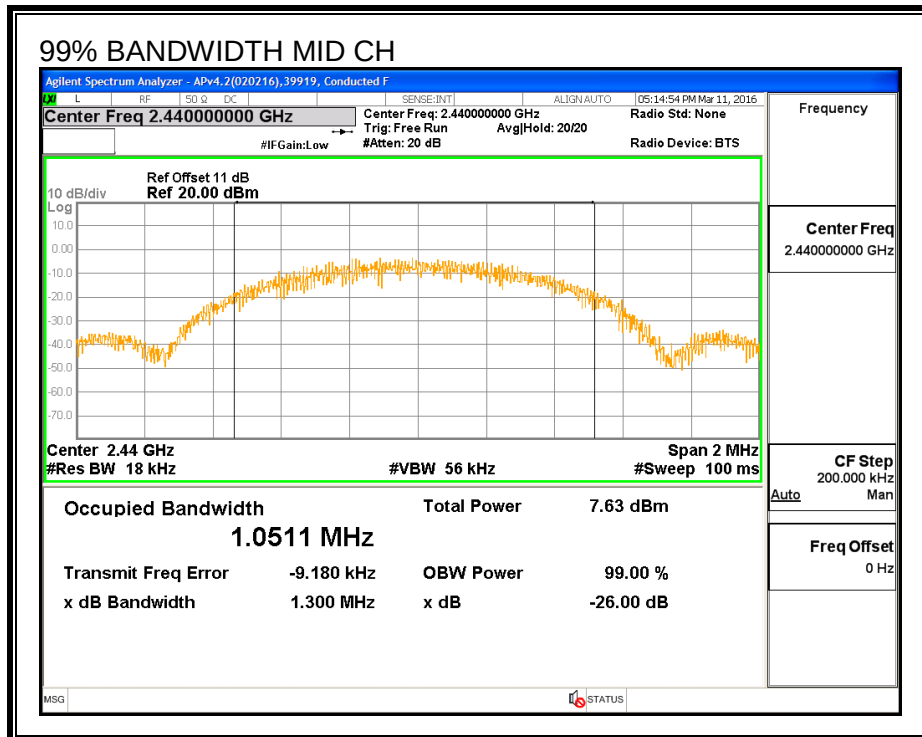
LOW POWER

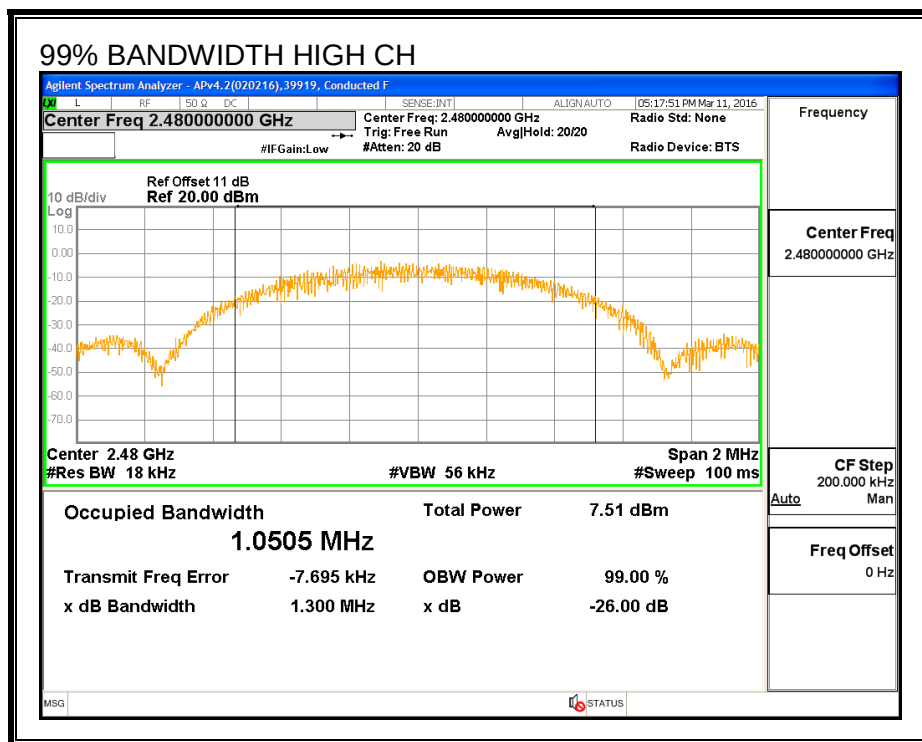
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	1.0484
Middle	2440	1.0511
High	2480	1.0505

HIGH POWER

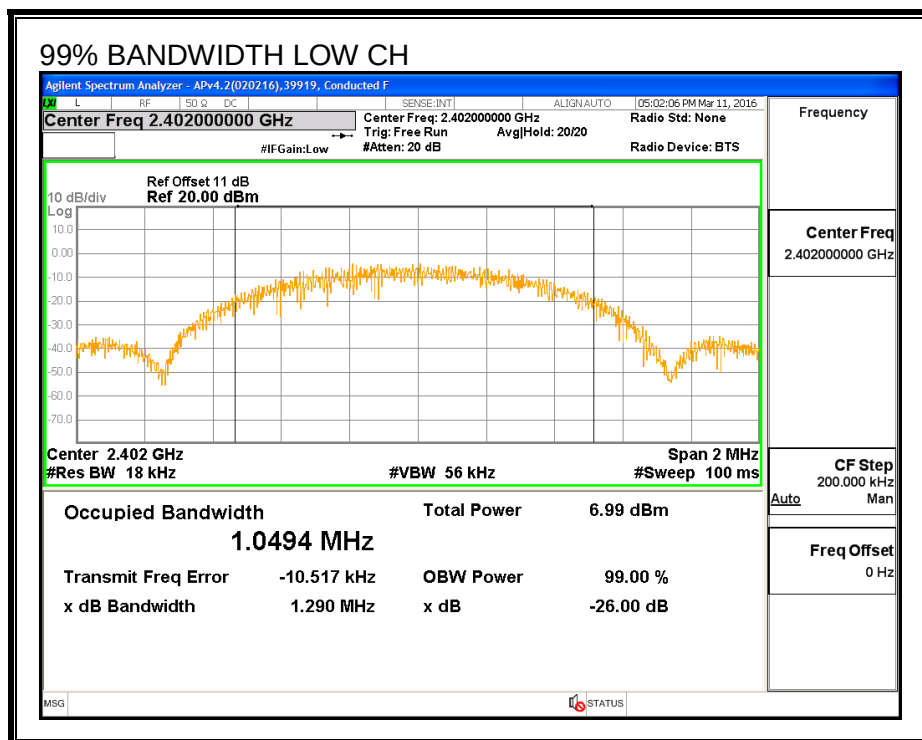
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	1.0494
Middle	2440	1.0474
High	2480	1.0498

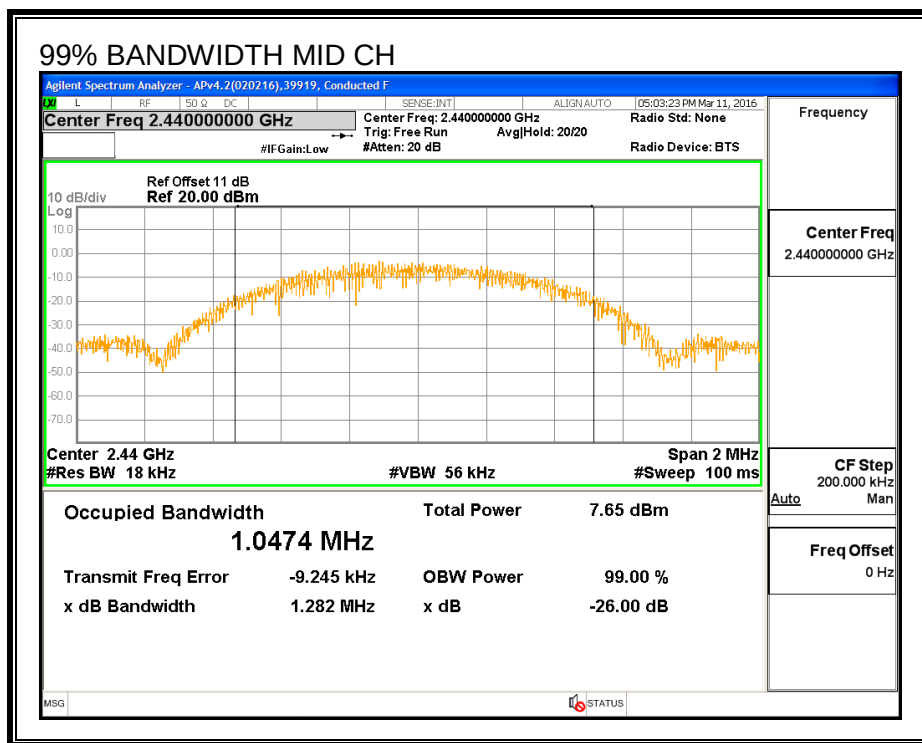
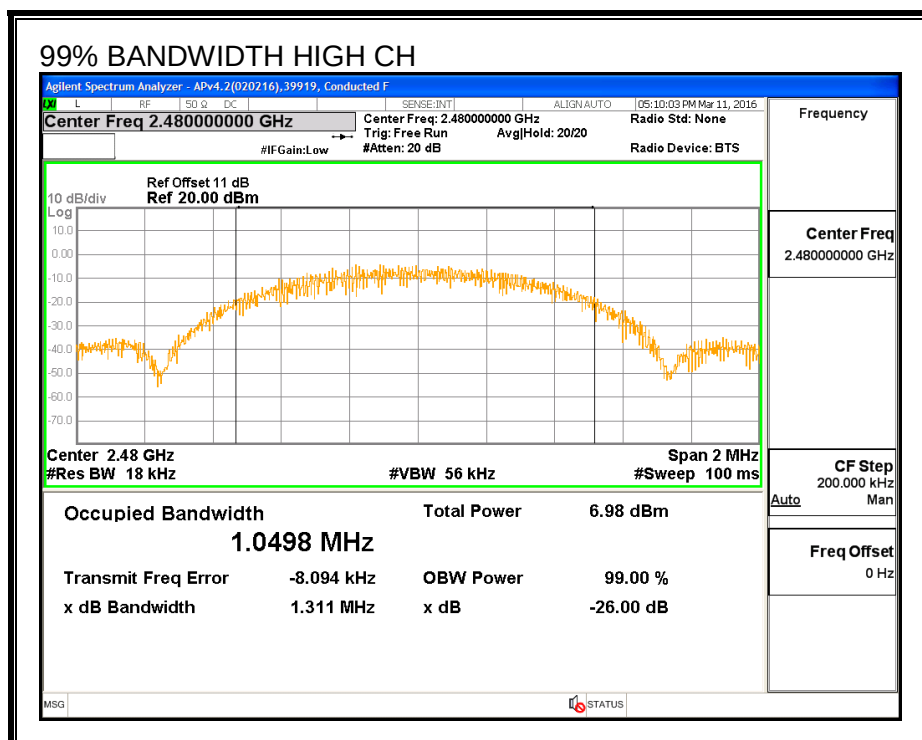
99% BANDWIDTH LOW POWER





99% BANDWIDTH HIGH POWER





7.5. AVERAGE POWER

LIMITS

None; for reporting purposes only.

RESULTS

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.

ID:	30606	Date:	8/24/16
------------	-------	--------------	---------

LOW POWER

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	9.51
Middle	2440	9.61
High	2480	9.96

HIGH POWER

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	16.48
Middle	2440	16.45
High	2480	16.50

7.6. OUTPUT POWER

LIMITS

FCC §15.247 (b)

IC RSS-247 (5.4) (4)

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

RESULTS

ID:	30606	Date:	8/24/16
------------	-------	--------------	---------

LOW POWER

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	9.63	30	-20.370
Middle	2440	9.76	30	-20.240
High	2480	10.10	30	-19.900

HIGH POWER

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	16.59	30	-13.410
Middle	2440	16.55	30	-13.450
High	2480	16.62	30	-13.380

7.7. 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

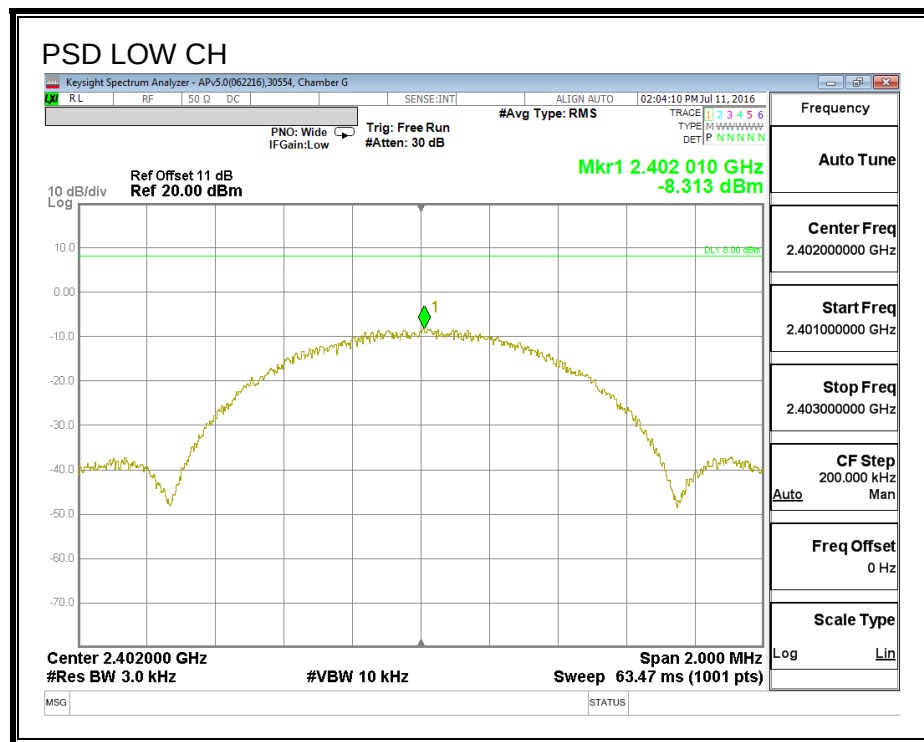
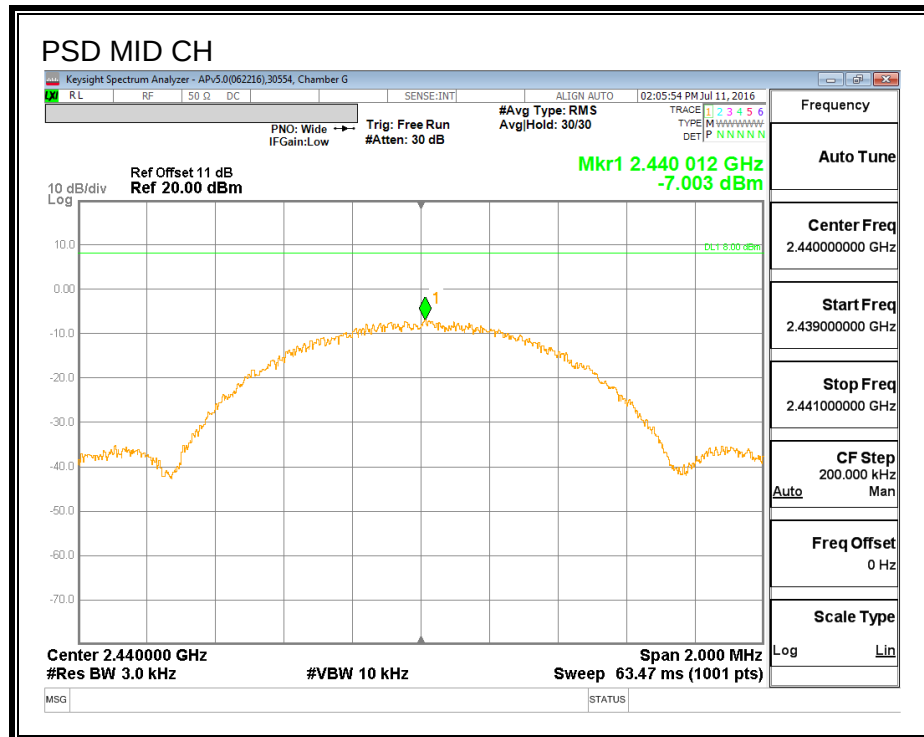
LOW POWER

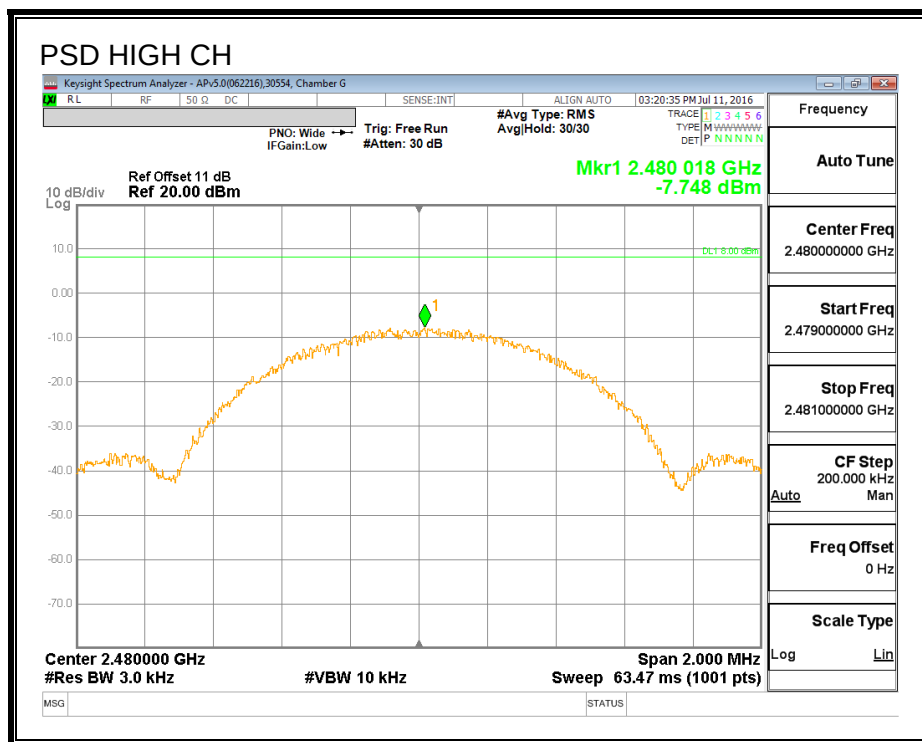
Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2402	-8.31	8	-16.31
Middle	2440	-7.00	8	-15.00
High	2480	-7.75	8	-15.75

HIGH POWER

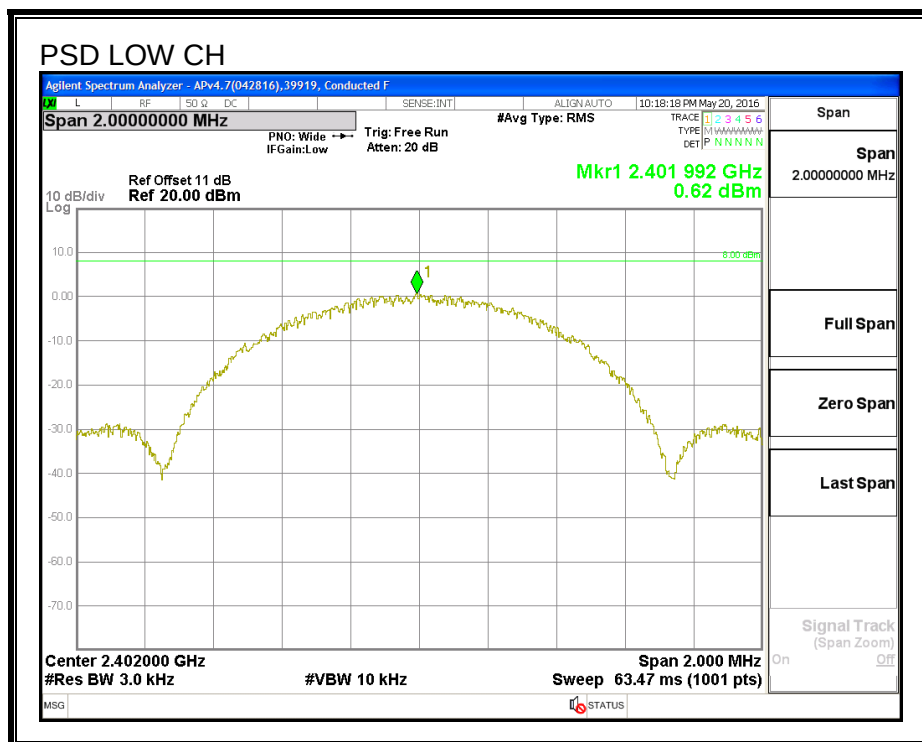
Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2402	0.62	8	-7.38
Middle	2440	0.49	8	-7.51
High	2480	0.85	8	-7.15

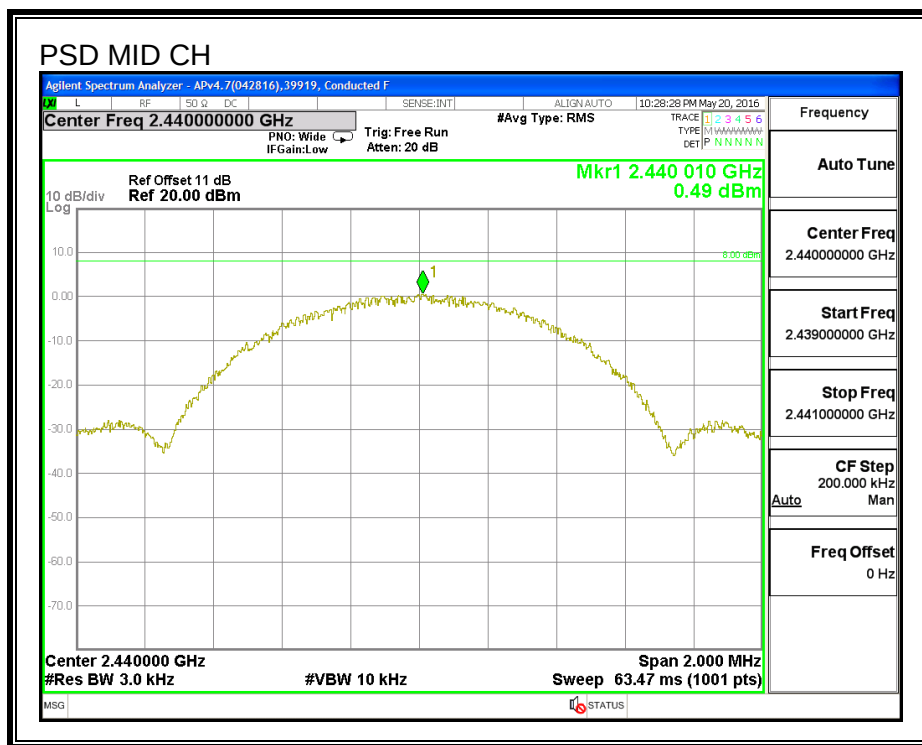
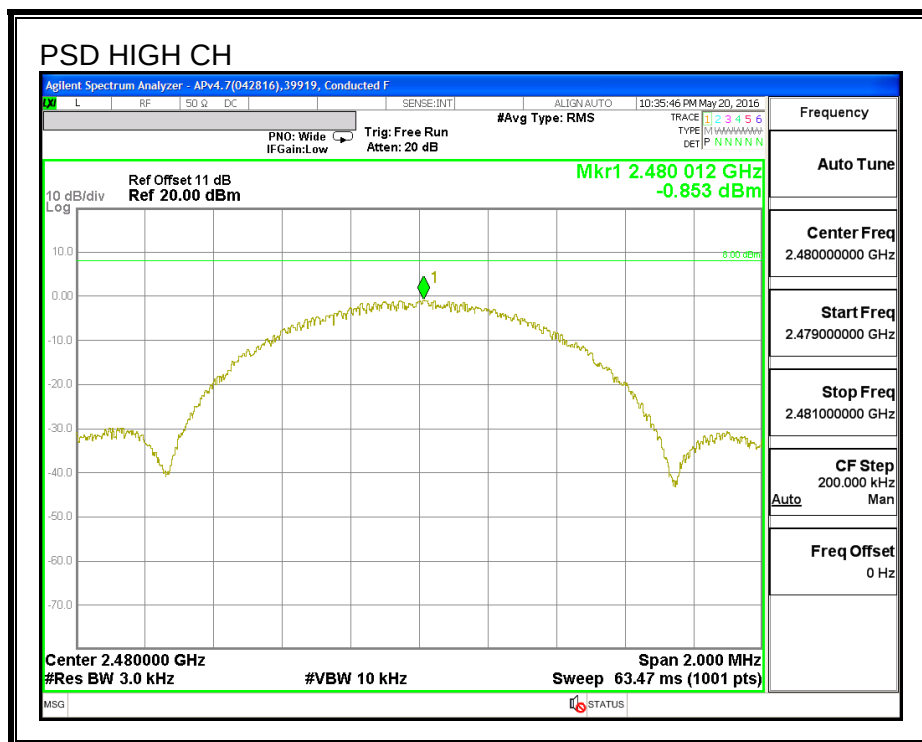
POWER SPECTRAL DENSITY LOW POWER





POWER SPECTRAL DENSITY HIGH POWER





7.8. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

IC RSS-247 (5.5)

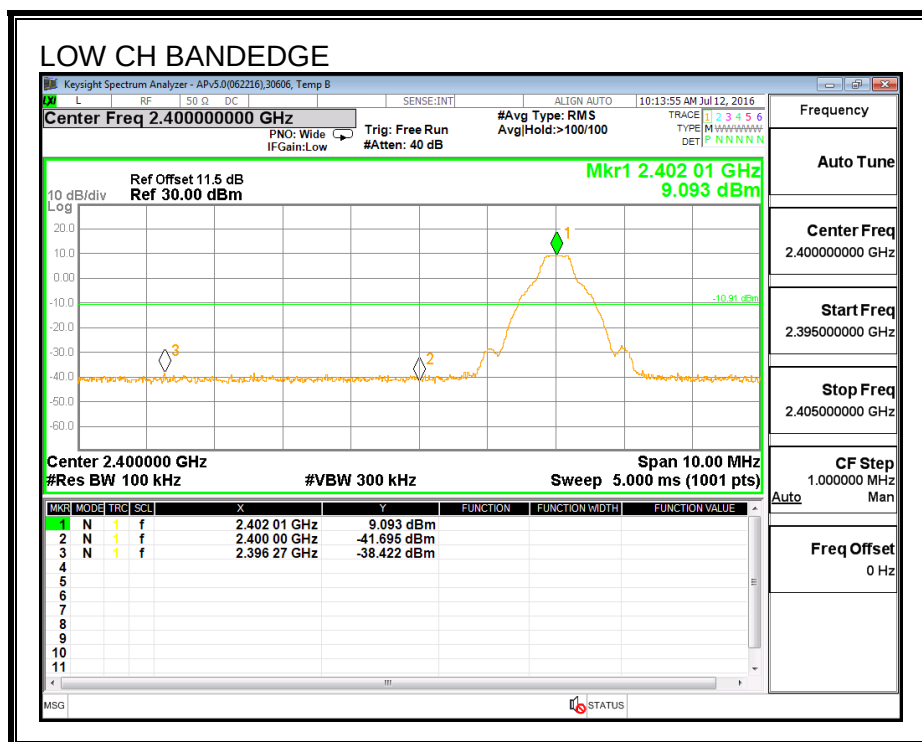
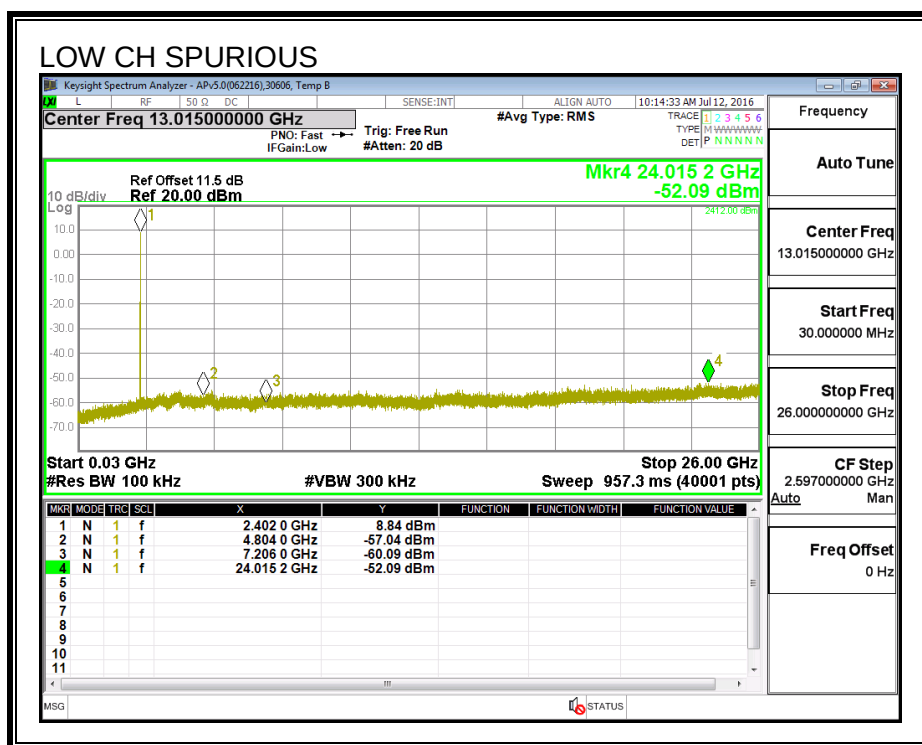
Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

RESULTS

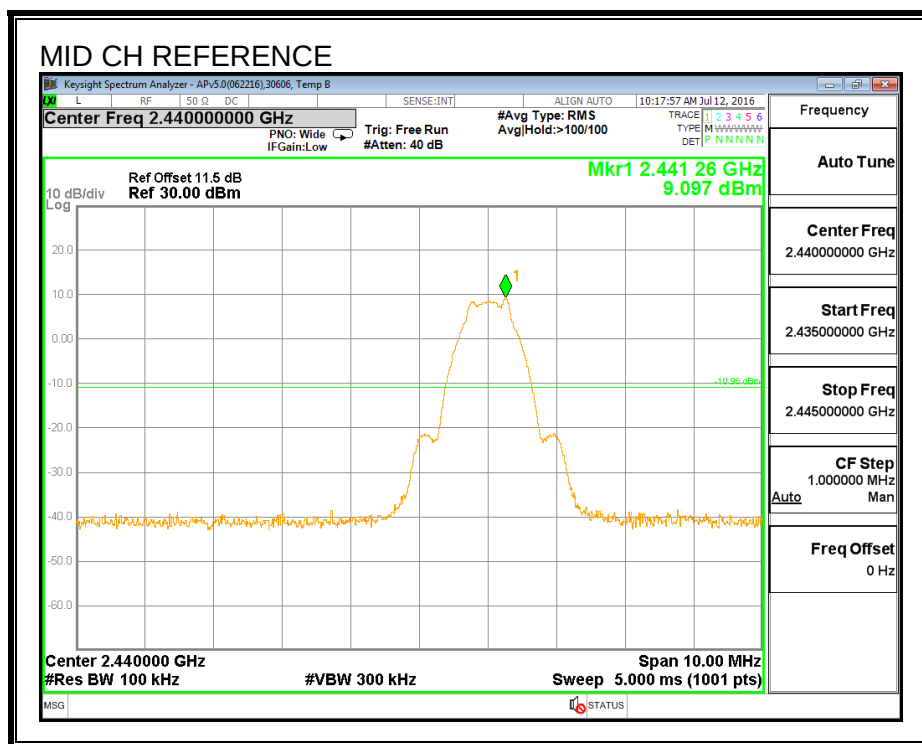
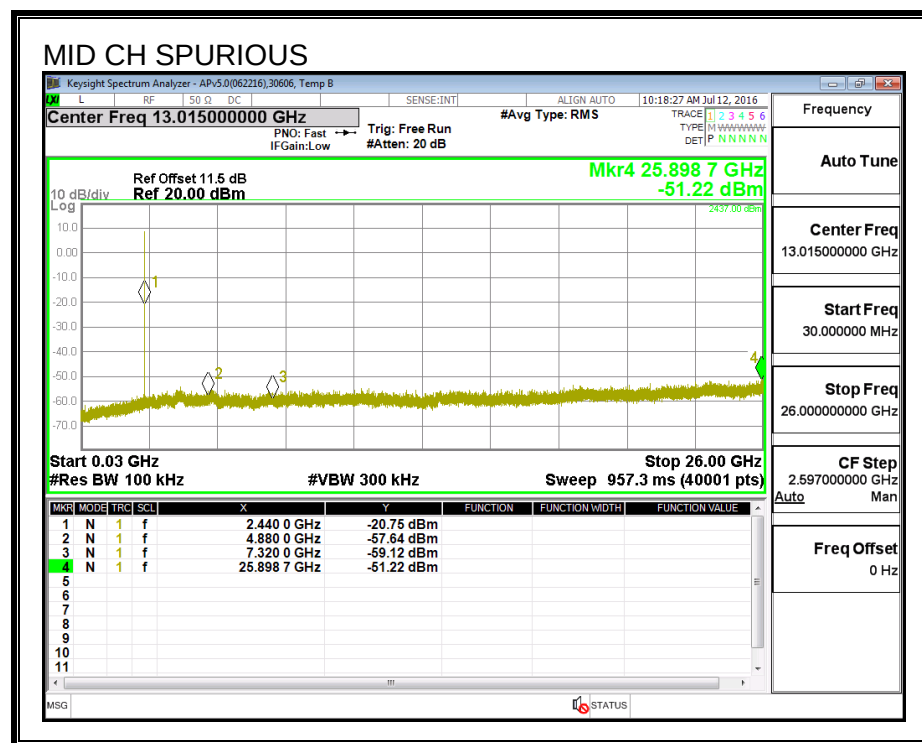
Note: Conducted Spurious Emissions to the high power mode was originally tested with high power than recorded power data of average power table.

LOW POWER

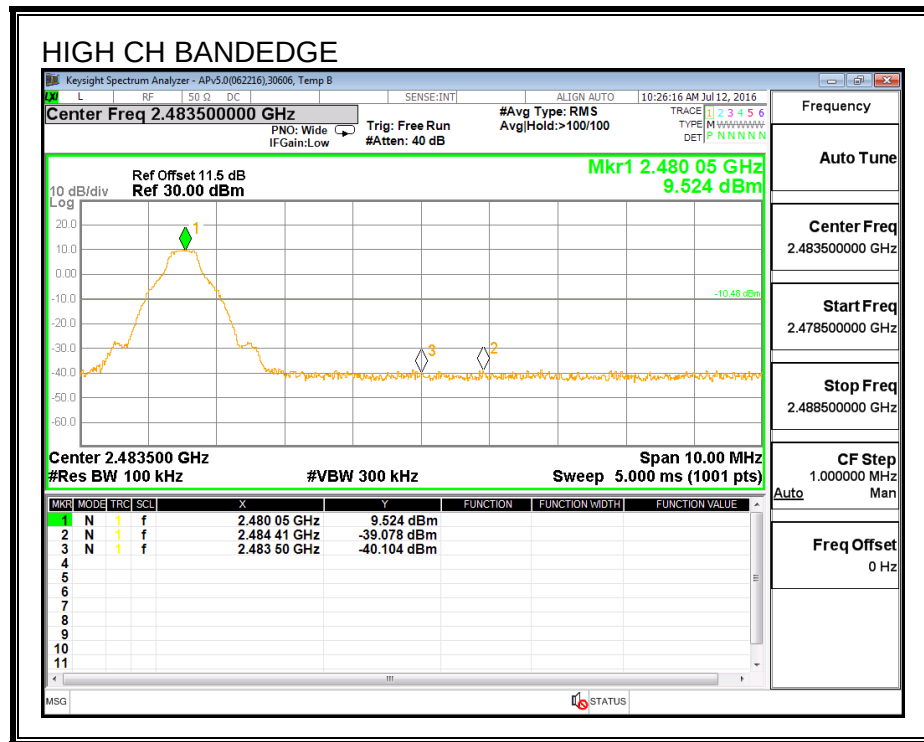
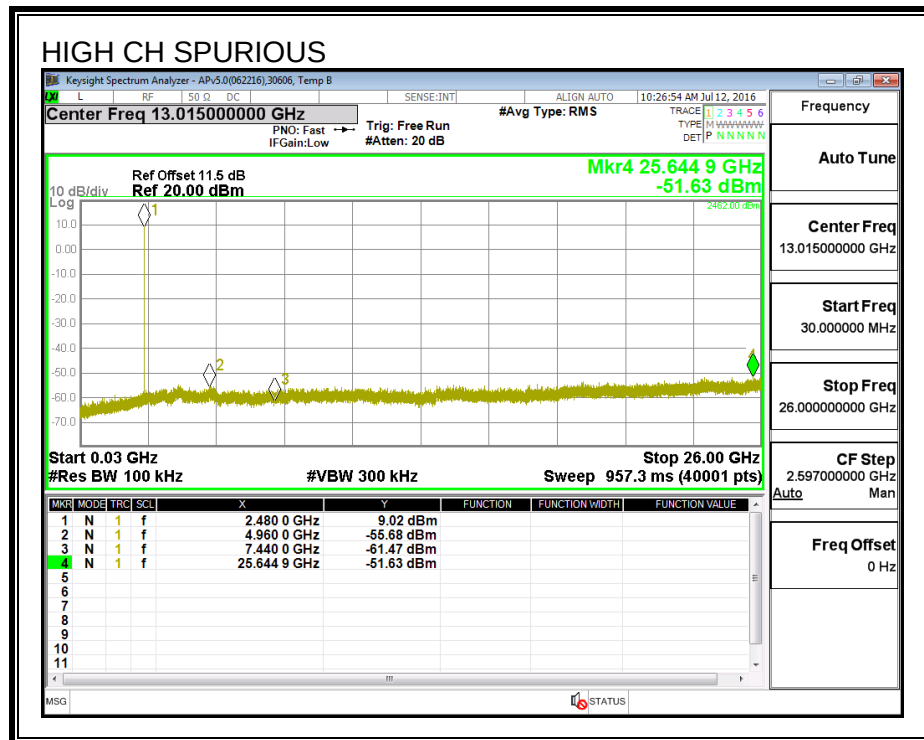
SPURIOUS EMISSIONS, LOW CHANNEL



SPURIOUS EMISSIONS, MID CHANNEL

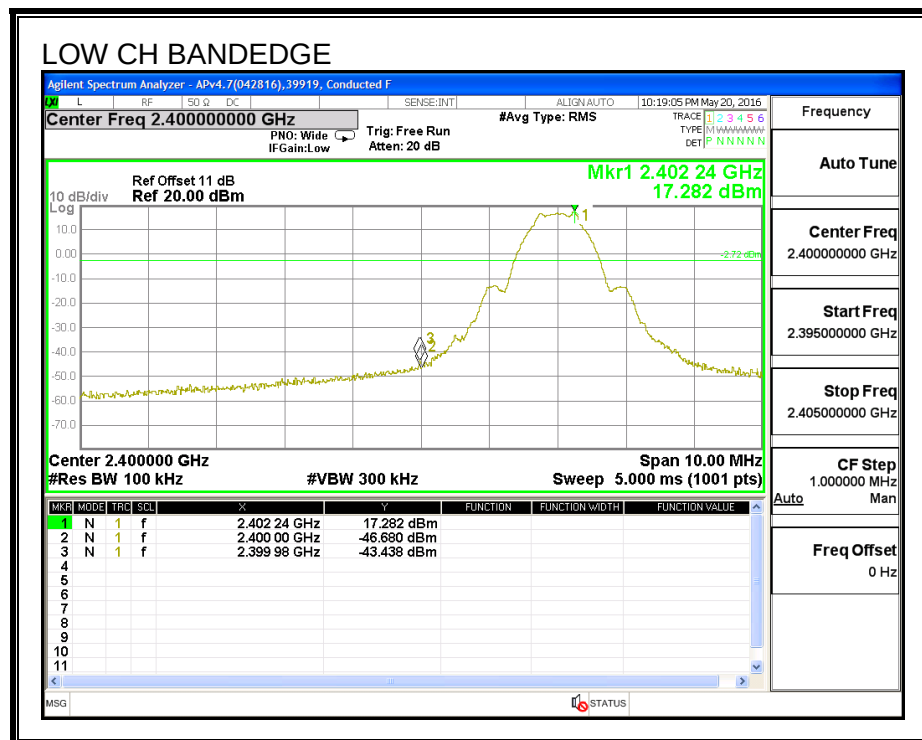
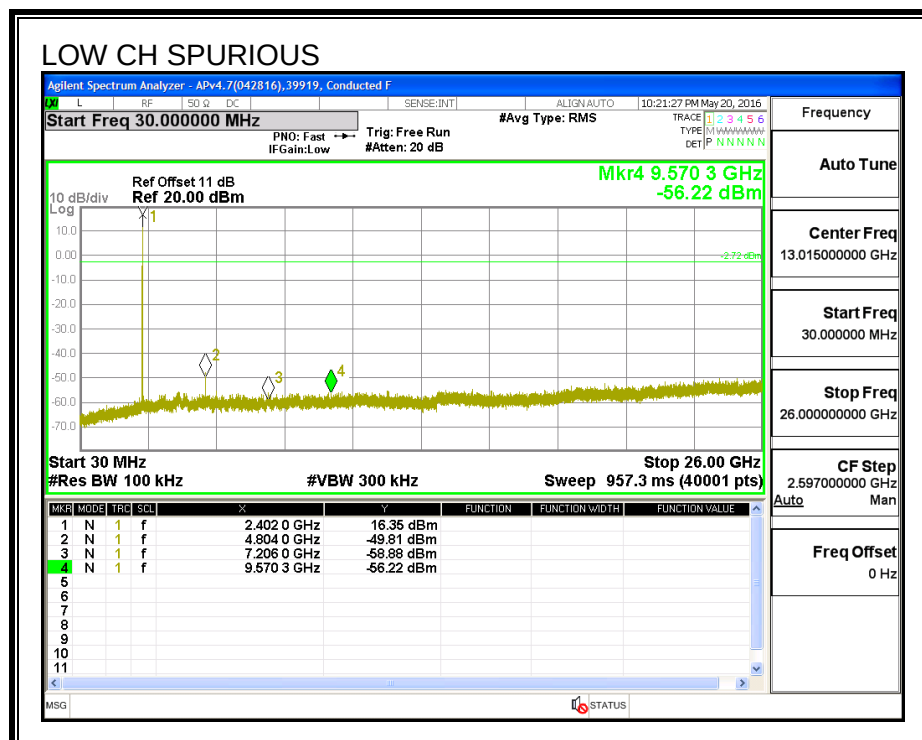


SPURIOUS EMISSIONS, HIGH CHANNEL

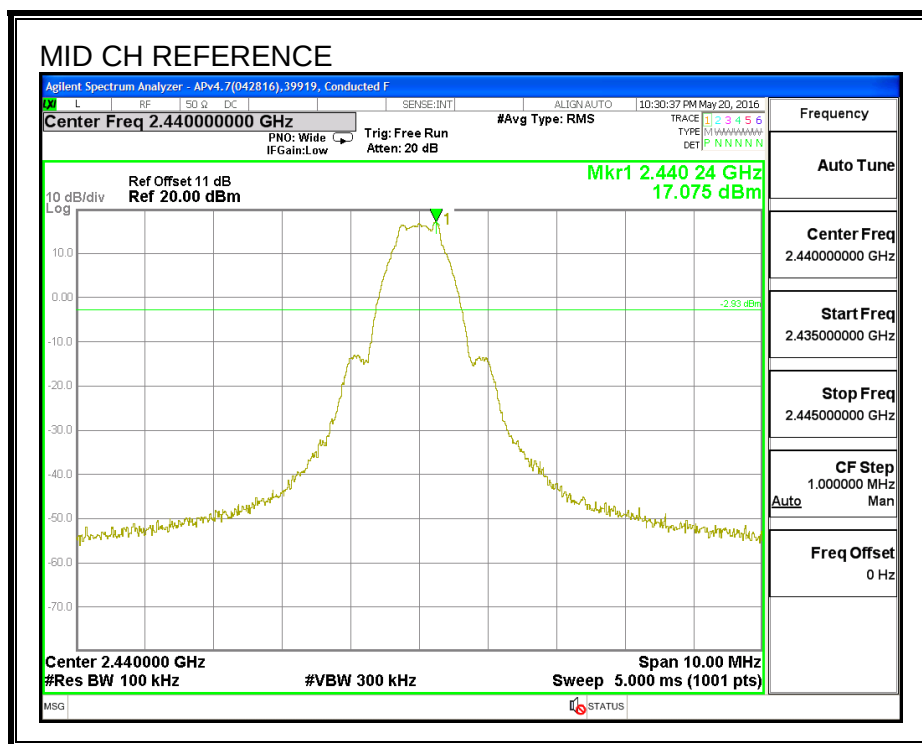
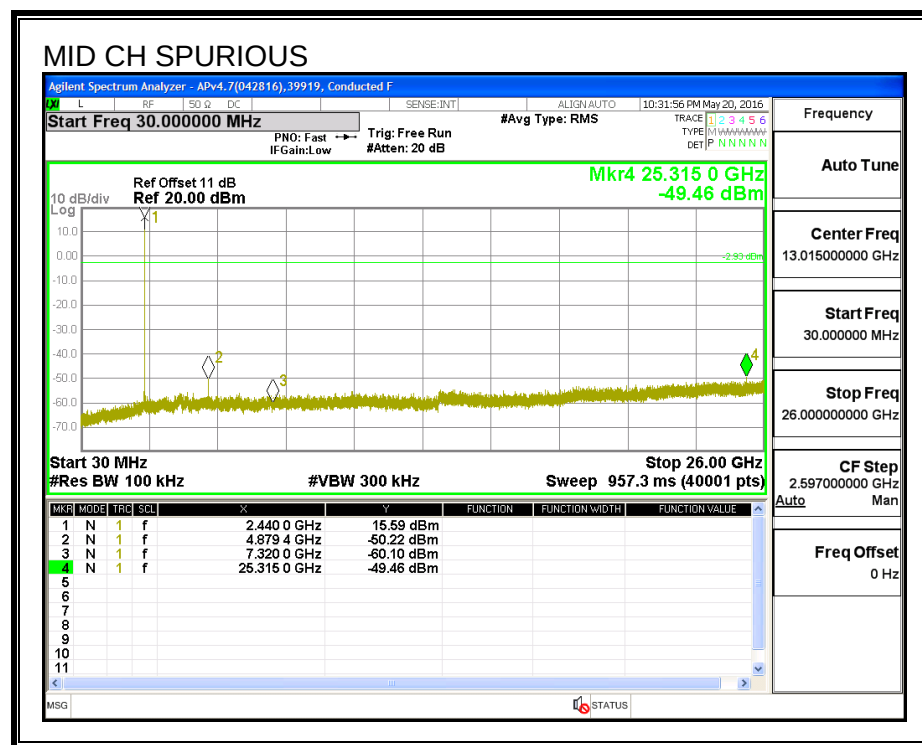


HIGH POWER

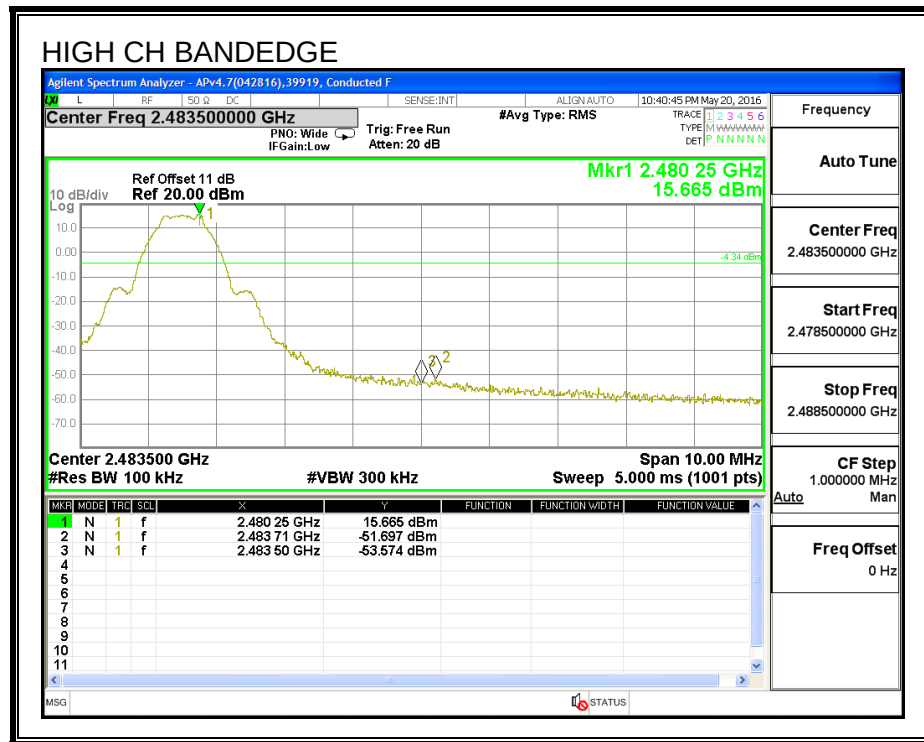
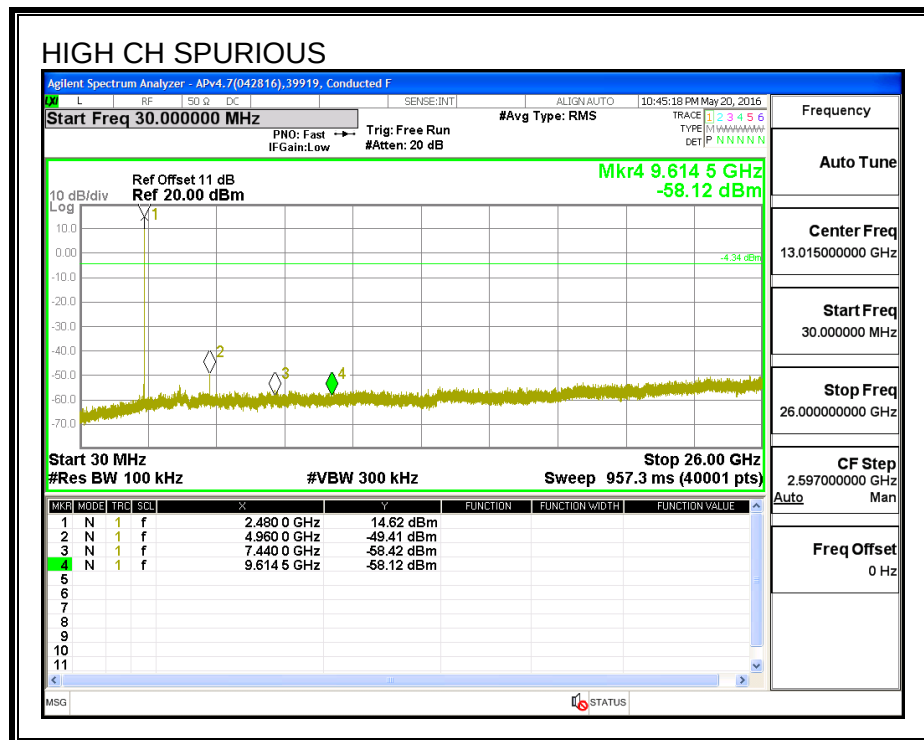
SPURIOUS EMISSIONS, LOW CHANNEL



SPURIOUS EMISSIONS, MID CHANNEL



SPURIOUS EMISSIONS, HIGH CHANNEL



8. RADIATED TEST RESULTS

8.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-GEN, 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.

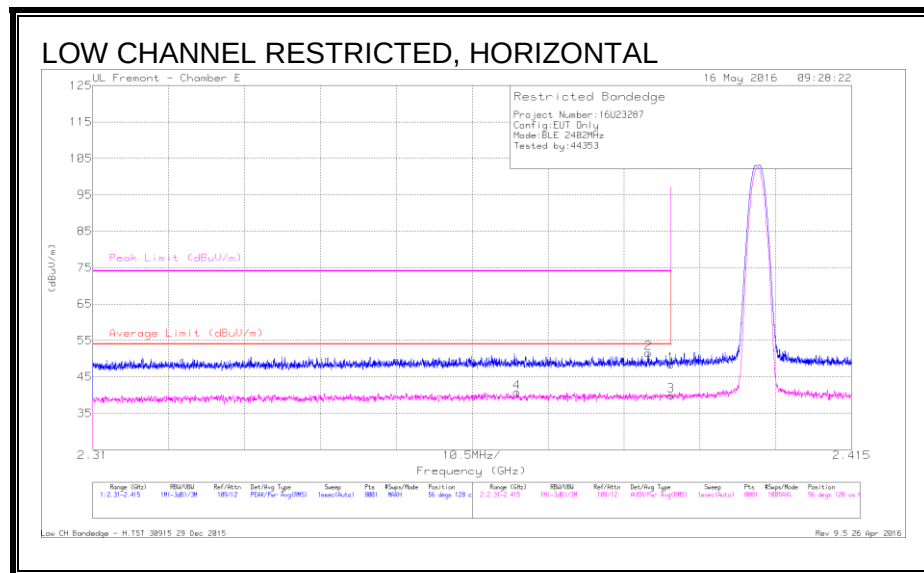
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

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

8.2. TRANSMITTER ABOVE 1 GHz

8.2.1. LOW POWER

RESTRICTED BANDEDGE



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cb/Ftr/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	28.81	RMS	31.9	-20	40.71	54	-13.29	-	-	56	128	H
2	* 2.387	39.3	Pk	32.1	-19.9	51.5	-	-	74	-22.5	56	128	H
1	* 2.39	36.27	Pk	32.1	-19.9	48.47	-	-	74	-25.53	56	128	H
3	* 2.39	27.61	RMS	32.1	-19.9	39.81	54	-14.19	-	-	56	128	H

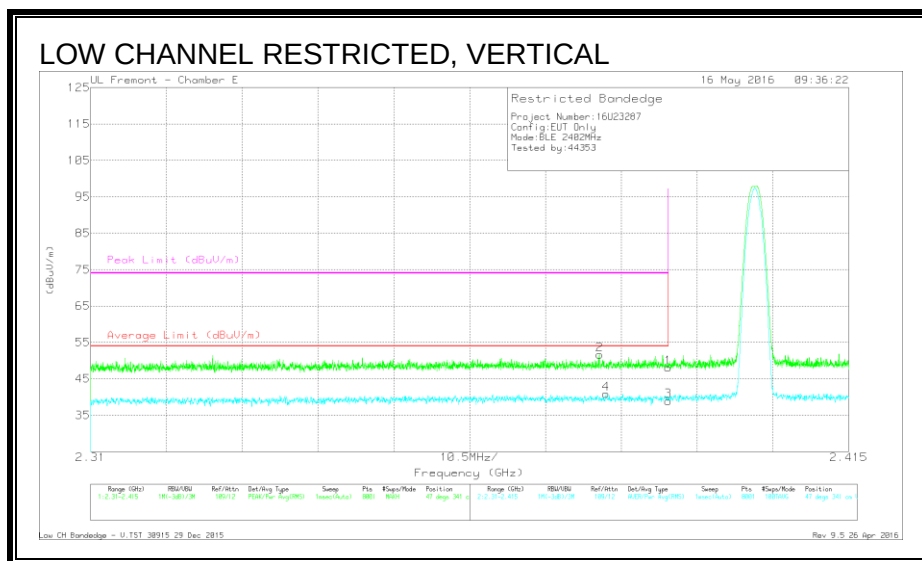
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

Low CH Bandedge - H.TST 30915 29 Dec 2015

Rev 9.5 26 Apr 2016



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Filtz/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	* 2.381	39.55	Pk	32	-19.9	51.65	-	-	74	-22.35	47	341	V
4	* 2.381	28.71	RMS	32	-19.9	40.81	54	-13.19	-	-	47	341	V
1	* 2.39	35.87	Pk	32.1	-19.9	48.07	-	-	74	-25.93	47	341	V
3	* 2.39	26.73	RMS	32.1	-19.9	38.93	54	-15.07	-	-	47	341	V

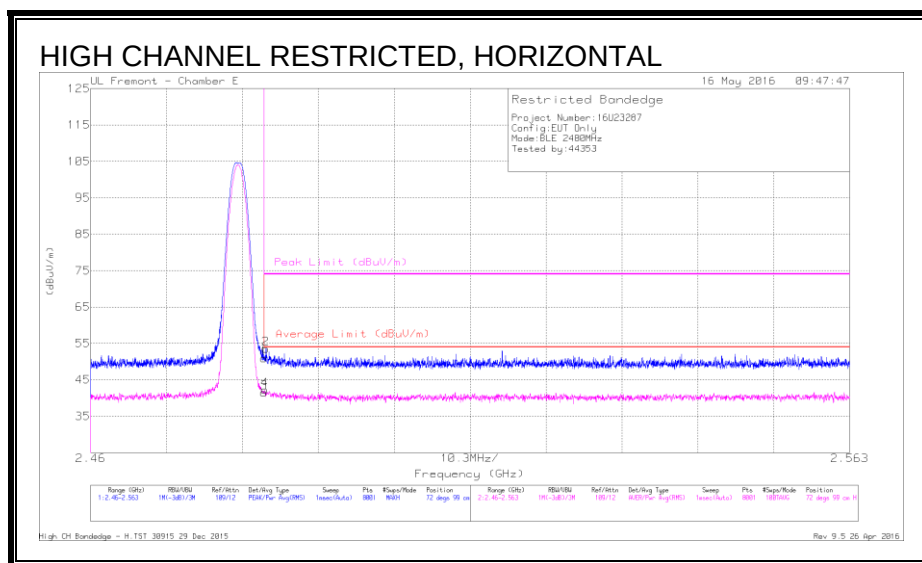
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

Low CH Bandedge - V.TST 30915 29 Dec 2015

Rev 9.5 26 Apr 2016



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Ftr/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	38.66	Pk	32.3	-20	50.96	-	-	74	-23.04	72	99	H
2	* 2.484	41.25	Pk	32.3	-20	53.55	-	-	74	-20.45	72	99	H
3	* 2.484	29.13	RMS	32.3	-20	41.43	54	-12.57	-	-	72	99	H
4	* 2.484	29.89	RMS	32.3	-20	42.19	54	-11.81	-	-	72	99	H

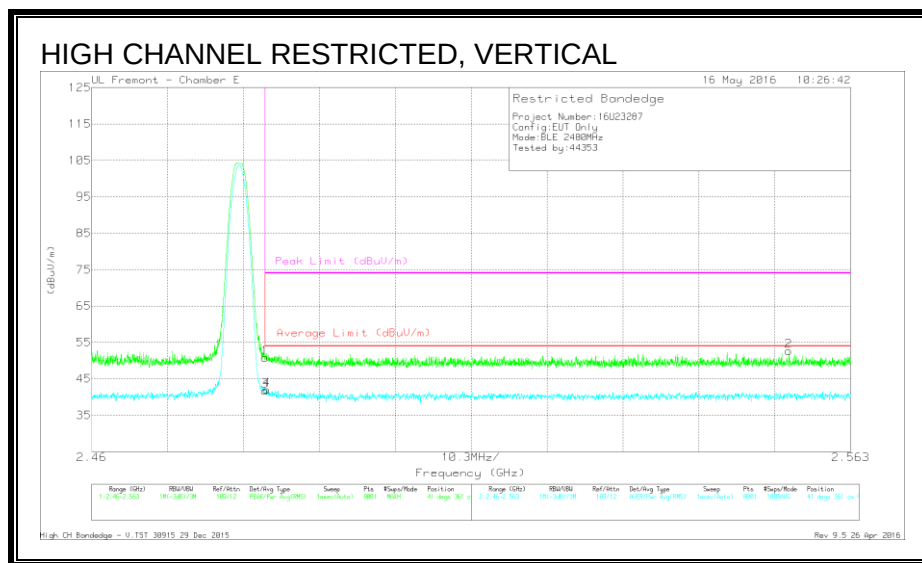
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

High CH Bandedge - H.TST 30915 29 Dec 2015

Rev 9.5 26 Apr 2016



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cb/Filt/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	38.49	Pk	32.3	-20	50.79	-	-	74	-23.21	41	361	V
3	* 2.484	29.38	RMS	32.3	-20	41.68	54	-12.32	-	-	41	361	V
4	* 2.484	29.62	RMS	32.3	-20	41.92	54	-12.08	-	-	41	361	V
2	2.555	40.41	Pk	32.4	-20.2	52.61	-	-	74	-21.39	41	361	V

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

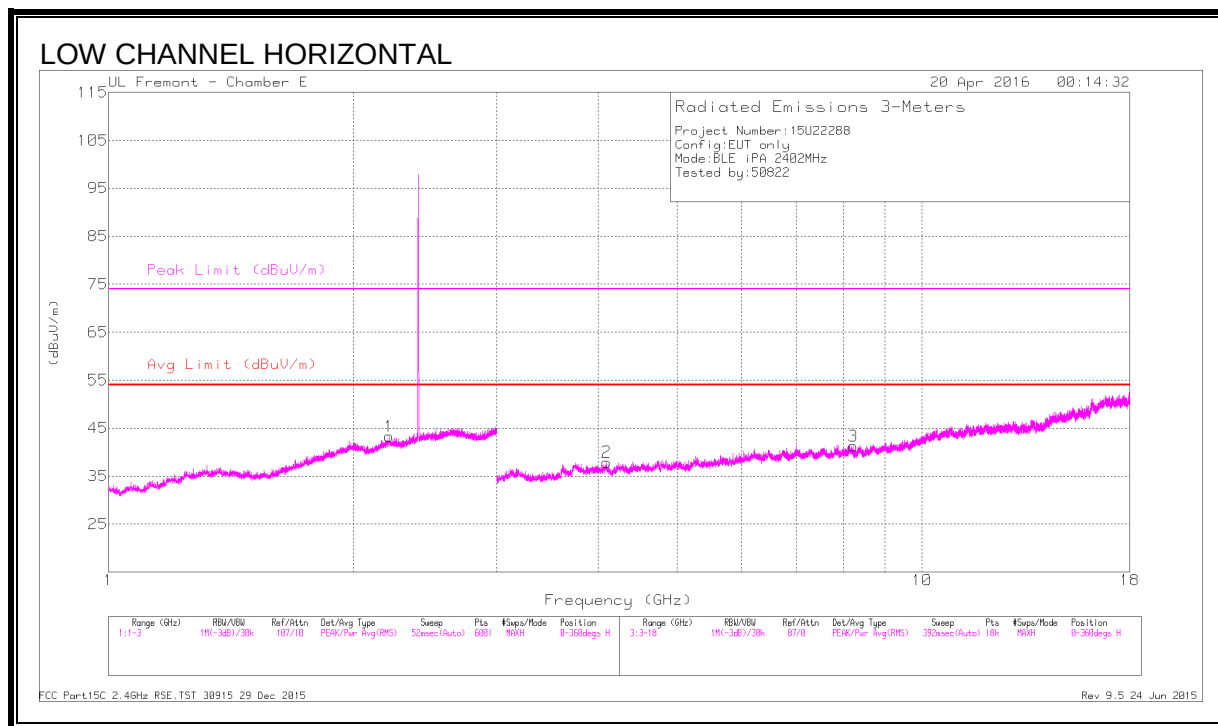
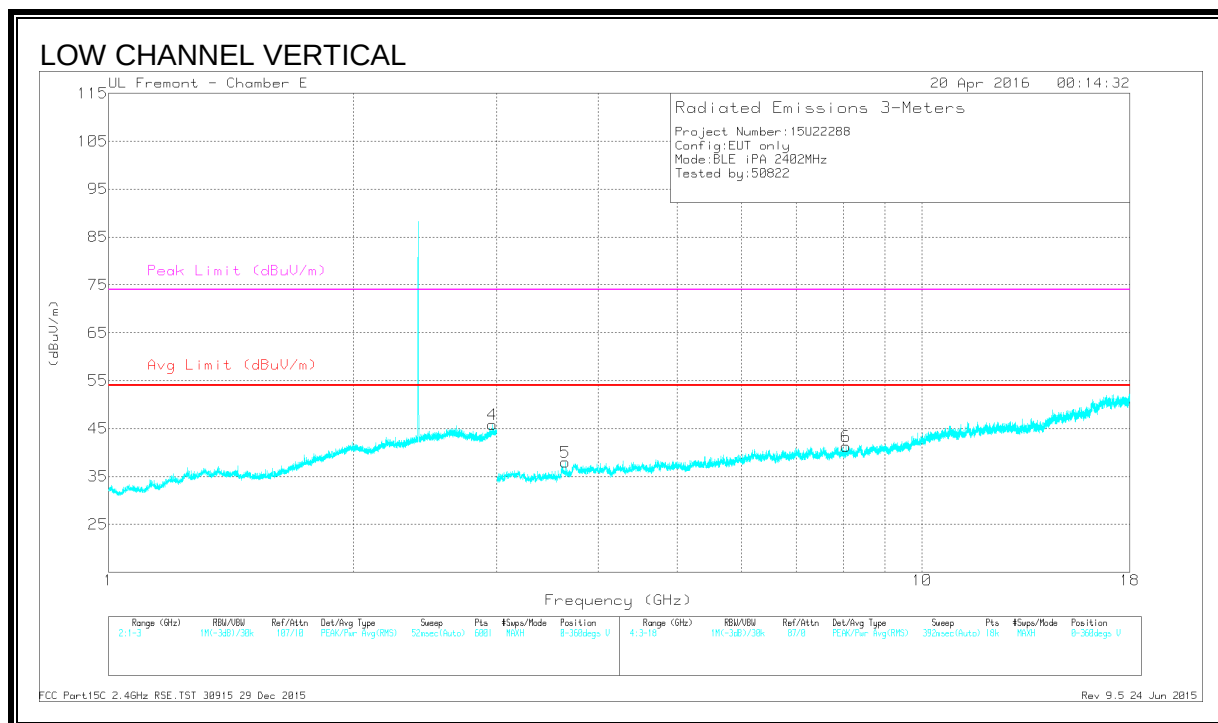
Pk - Peak detector

RMS - RMS detection

High CH Bandedge - V.TST 30915 29 Dec 2015

Rev 9.5 26 Apr 2016

8.2.2. HARMONICS AND SPURIOUS EMISSIONS



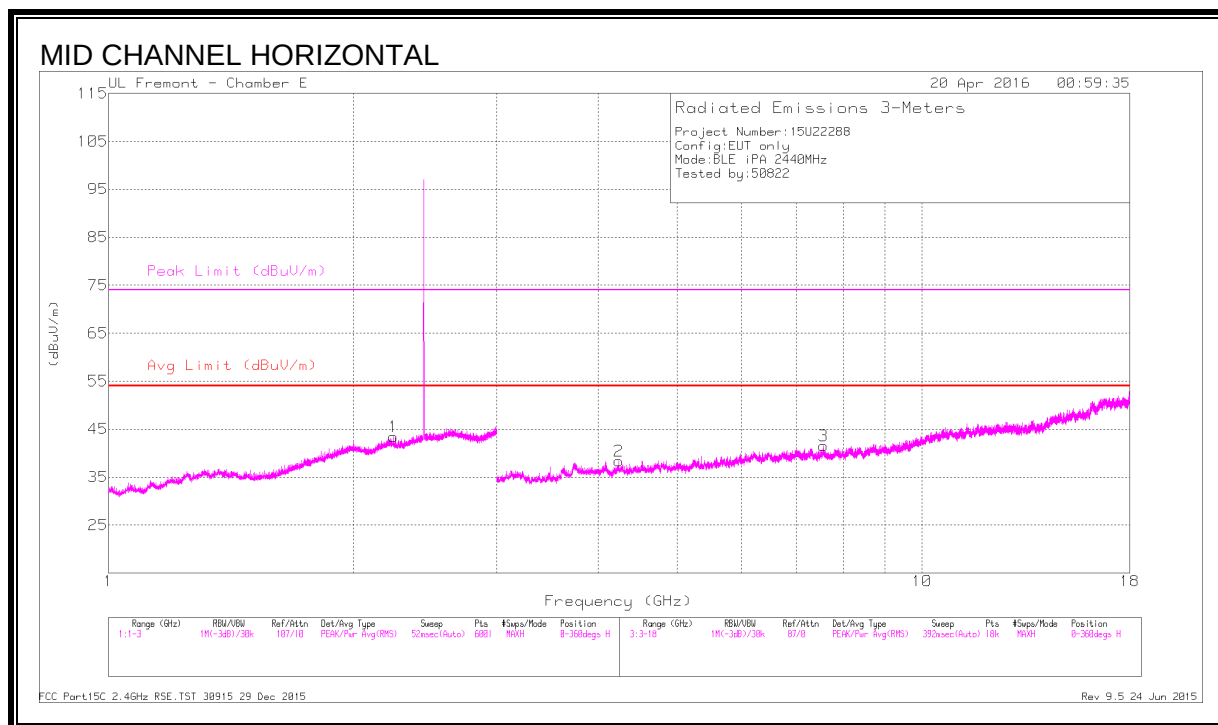
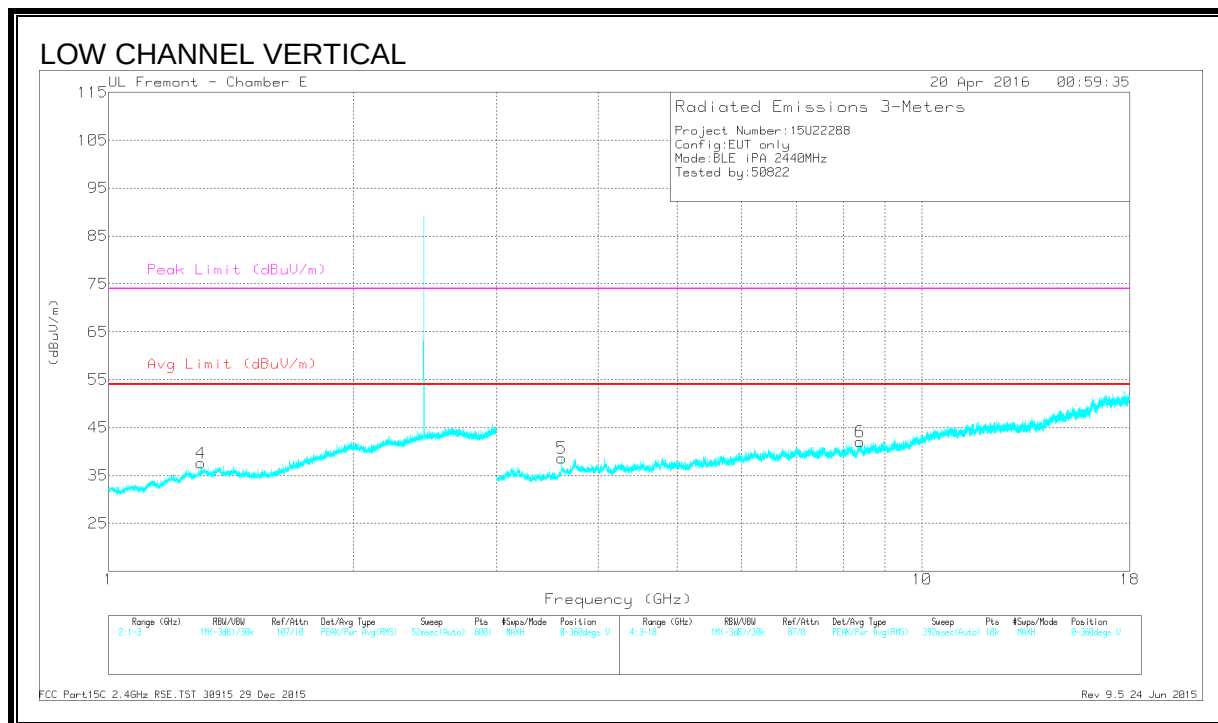
DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fitr/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	* 2.212	37.92	PK2	31.8	-20	49.72	-	-	74	-24.28	271	173	H
	* 2.212	25.5	MAv1	31.8	-20	37.3	54	-16.7	-	-	271	173	H
2	* 4.096	41.53	PK2	33.4	-30.8	44.13	-	-	74	-29.87	163	236	H
	* 4.094	29.82	MAv1	33.4	-30.8	32.42	54	-21.58	-	-	163	236	H
3	* 8.234	39.67	PK2	35.8	-27	48.47	-	-	74	-25.53	238	151	H
	* 8.235	27.04	MAv1	35.8	-27	35.84	54	-18.16	-	-	238	151	H
5	* 3.643	41.99	PK2	33.1	-30.4	44.69	-	-	74	-29.31	162	156	V
	* 3.644	29.84	MAv1	33.1	-30.4	32.54	54	-21.46	-	-	162	156	V
6	* 8.067	38.28	PK2	35.7	-26.7	47.28	-	-	74	-26.72	190	204	V
	* 8.068	26.96	MAv1	35.7	-26.7	35.96	54	-18.04	-	-	190	204	V
4	2.963	38.01	PK2	32.3	-19.3	51.01	-	-	-	-	332	171	V
	2.964	26.29	MAv1	32.3	-19.3	39.29	-	-	-	-	332	171	V

* Indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average



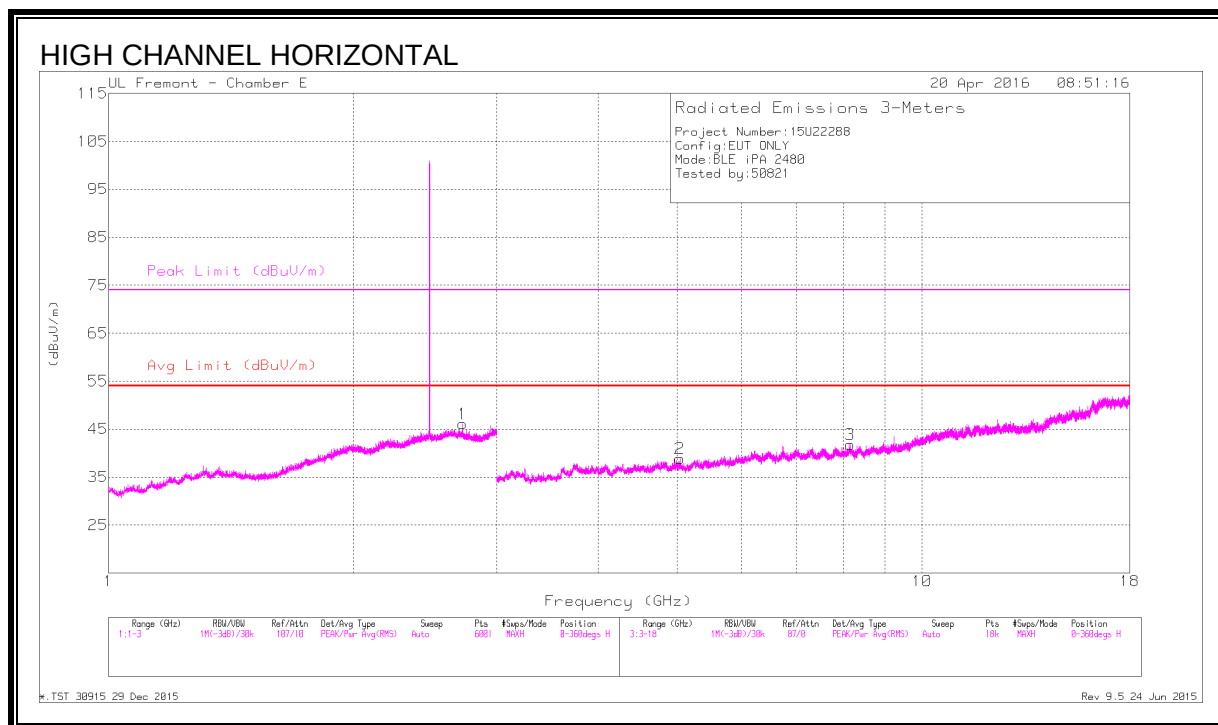
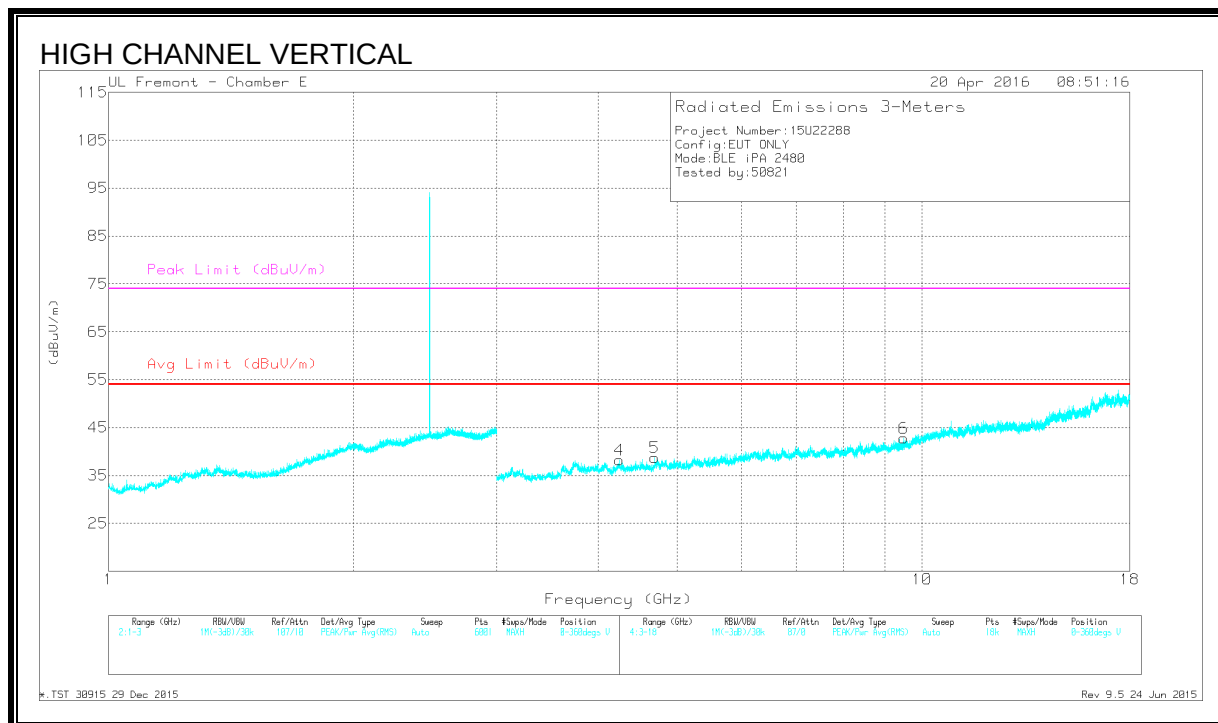
DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fitr/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	* 2.24	37.3	PK2	31.7	-20	49	-	-	74	-25	85	243	H
	* 2.24	25.45	MAv1	31.7	-20	37.15	54	-16.85	-	-	85	243	H
4	* 1.297	36.71	PK2	29.3	-22.6	43.41	-	-	74	-30.59	60	252	V
	* 1.3	24.76	MAv1	29.3	-22.5	31.56	54	-22.44	-	-	60	252	V
2	* 4.239	41.56	PK2	33.3	-29	45.86	-	-	74	-28.14	311	264	H
	* 4.239	28.76	MAv1	33.3	-29	33.06	54	-20.94	-	-	311	264	H
3	* 7.566	38.24	PK2	35.6	-25.8	48.04	-	-	74	-25.96	6	260	H
	* 7.567	26.25	MAv1	35.6	-25.7	36.15	54	-17.85	-	-	6	260	H
5	* 3.606	42.14	PK2	33	-30.6	44.54	-	-	74	-29.46	59	387	V
	* 3.607	30.26	MAv1	33	-30.5	32.76	54	-21.24	-	-	59	387	V
6	* 8.389	38.96	PK2	35.7	-25.5	49.16	-	-	74	-24.84	224	246	V
	* 8.391	26.79	MAv1	35.7	-25.4	37.09	54	-16.91	-	-	224	246	V

* Indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fitr/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	* 2.721	38.21	PK2	32.6	-19.7	51.11	-	-	74	-22.89	211	232	H
	* 2.723	24.97	MAv1	32.5	-19.7	37.77	54	-16.23	-	-	211	232	H
2	* 5.039	41.57	PK2	34	-29.8	45.77	-	-	74	-28.23	167	152	H
	* 5.039	28.71	MAv1	34	-29.8	32.91	54	-21.09	-	-	167	152	H
3	* 8.153	38.14	PK2	35.7	-25.6	48.24	-	-	74	-25.76	0	101	H
	* 8.154	25.28	MAv1	35.7	-25.7	35.28	54	-18.72	-	-	0	101	H
4	* 4.243	40.84	PK2	33.3	-29	45.14	-	-	74	-28.86	360	319	V
	* 4.247	27.45	MAv1	33.3	-29	31.75	54	-22.25	-	-	360	319	V
5	* 4.692	41.52	PK2	34	-29.7	45.82	-	-	74	-28.18	324	107	V
	* 4.69	28.59	MAv1	34	-29.7	32.89	54	-21.11	-	-	324	107	V
6	* 9.485	37.49	PK2	36.4	-25	48.89	-	-	74	-25.11	37	226	V
	* 9.486	24.52	MAv1	36.4	-25	35.92	54	-18.08	-	-	37	226	V

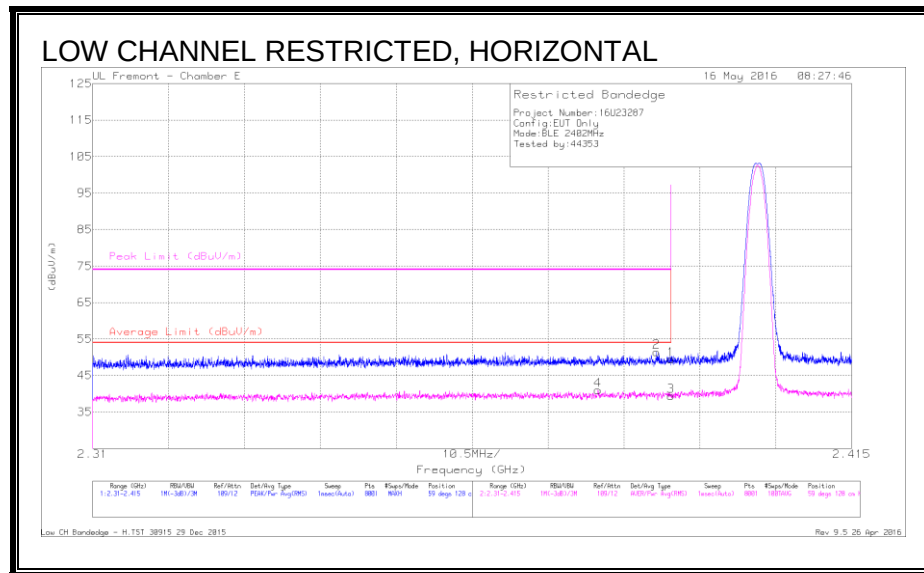
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

8.2.3. HIGH POWER

RESTRICTED BANDEDGE



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Ftr/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	37.18	Pk	32.1	-19.9	49.38	-	-	74	-24.62	59	128	H
2	* 2.388	39.27	Pk	32.1	-19.9	51.47	-	-	74	-22.53	59	128	H
3	* 2.39	27.15	RMS	32.1	-19.9	39.35	54	-14.65	-	-	59	128	H
4	* 2.38	28.85	RMS	32	-19.9	40.95	54	-13.05	-	-	59	128	H

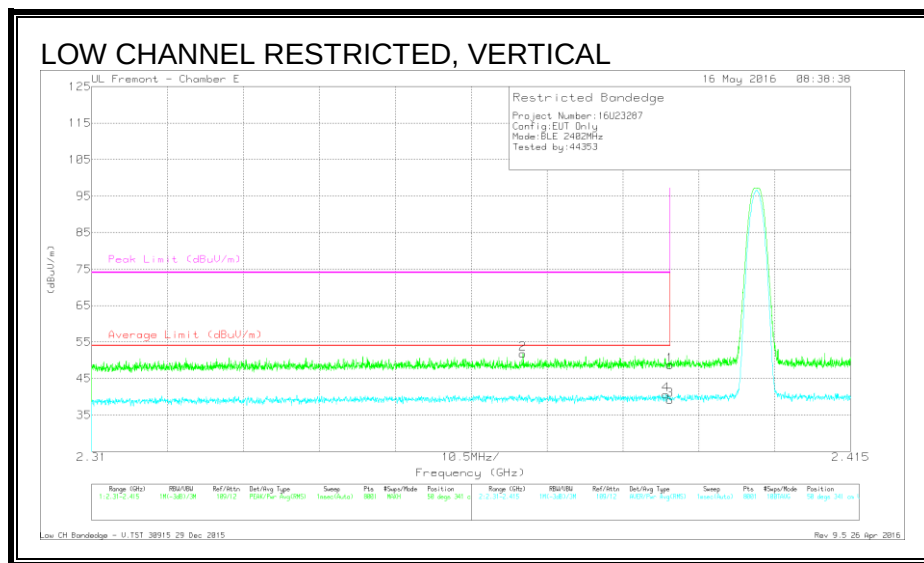
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

Low CH Bandedge - H.TST 30915 29 Dec 2015

Rev 9.5 26 Apr 2016



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Fitr/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	* 2.37	39.74	Pk	32	-20	51.74	-	-	74	-22.26	50	341	V
4	* 2.389	28.44	RMS	32.1	-19.9	40.64	54	-13.36	-	-	50	341	V
1	* 2.39	36.51	Pk	32.1	-19.9	48.71	-	-	74	-25.29	50	341	V
3	* 2.39	26.92	RMS	32.1	-19.9	39.12	54	-14.88	-	-	50	341	V

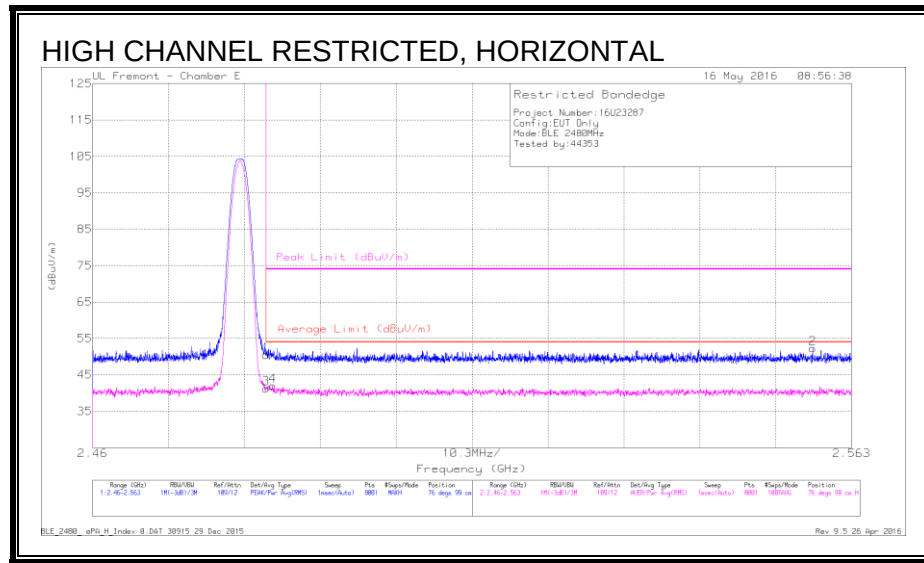
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

Low CH Bandedge - V.TST 30915 29 Dec 2015

Rev 9.5 26 Apr 2016



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Ftr/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	38.18	Pk	32.3	-20	50.48	-	-	74	-23.52	76	99	H
3	* 2.484	28.99	RMS	32.3	-20	41.29	54	-12.71	-	-	76	99	H
4	* 2.484	29.66	RMS	32.3	-20	41.96	54	-12.04	-	-	76	99	H
2	2.558	40.03	Pk	32.4	-20.1	52.33	-	-	74	-21.67	76	99	H

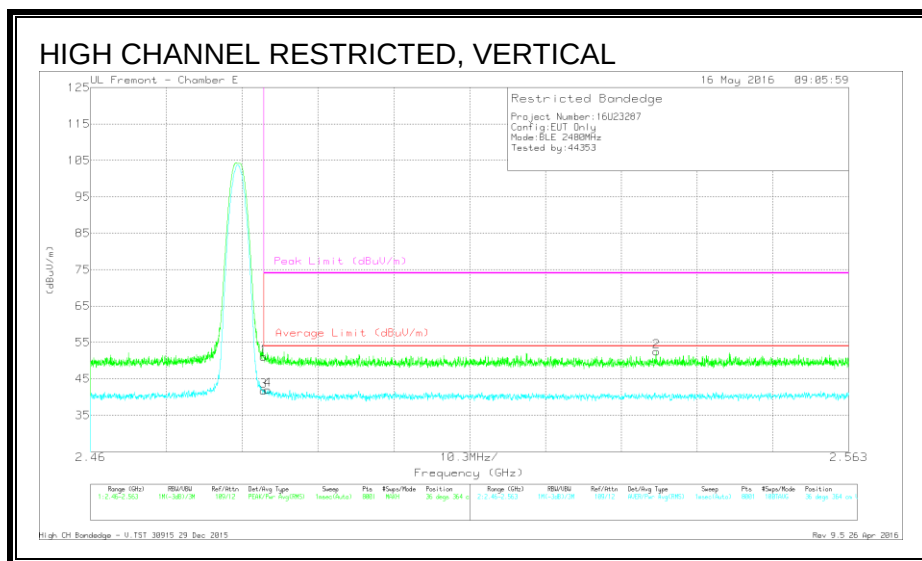
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

High CH Bandedge - H.TST 30915 29 Dec 2015

Rev 9.5 26 Apr 2016



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/Filtz/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	38.76	Pk	32.3	-20	51.06	-	-	74	-22.94	36	364	V
3	* 2.484	29.41	RMS	32.3	-20	41.71	54	-12.29	-	-	36	364	V
4	* 2.484	29.63	RMS	32.3	-20	41.93	54	-12.07	-	-	36	364	V
2	2.537	40.28	Pk	32.4	-20.2	52.48	-	-	74	-21.52	36	364	V

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

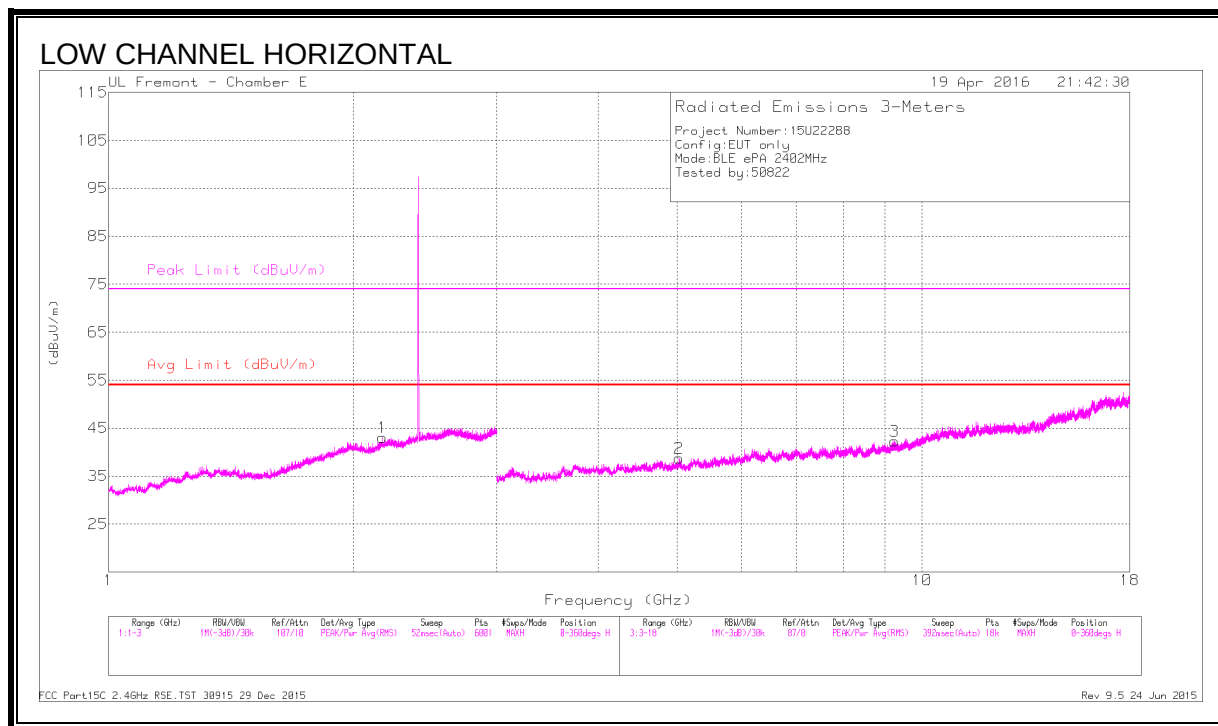
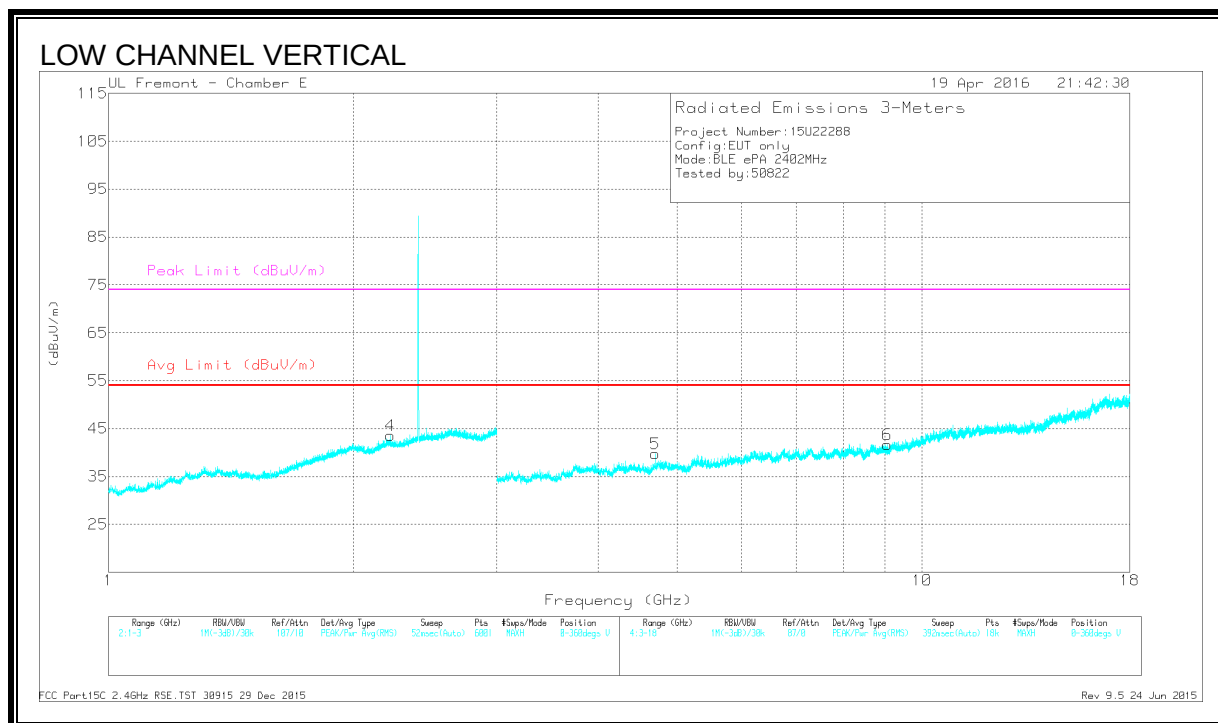
Pk - Peak detector

RMS - RMS detection

High CH Bandedge - V.TST 30915 29 Dec 2015

Rev 9.5 26 Apr 2016

8.2.4. HARMONICS AND SPURIOUS EMISSIONS



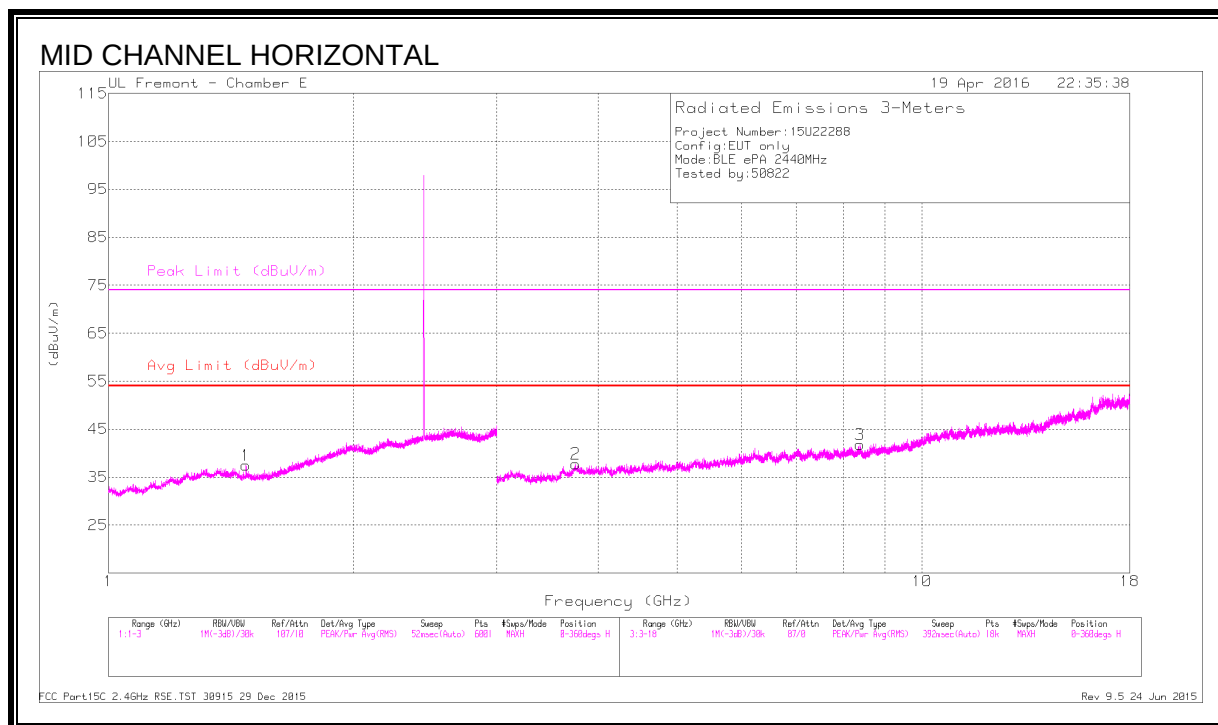
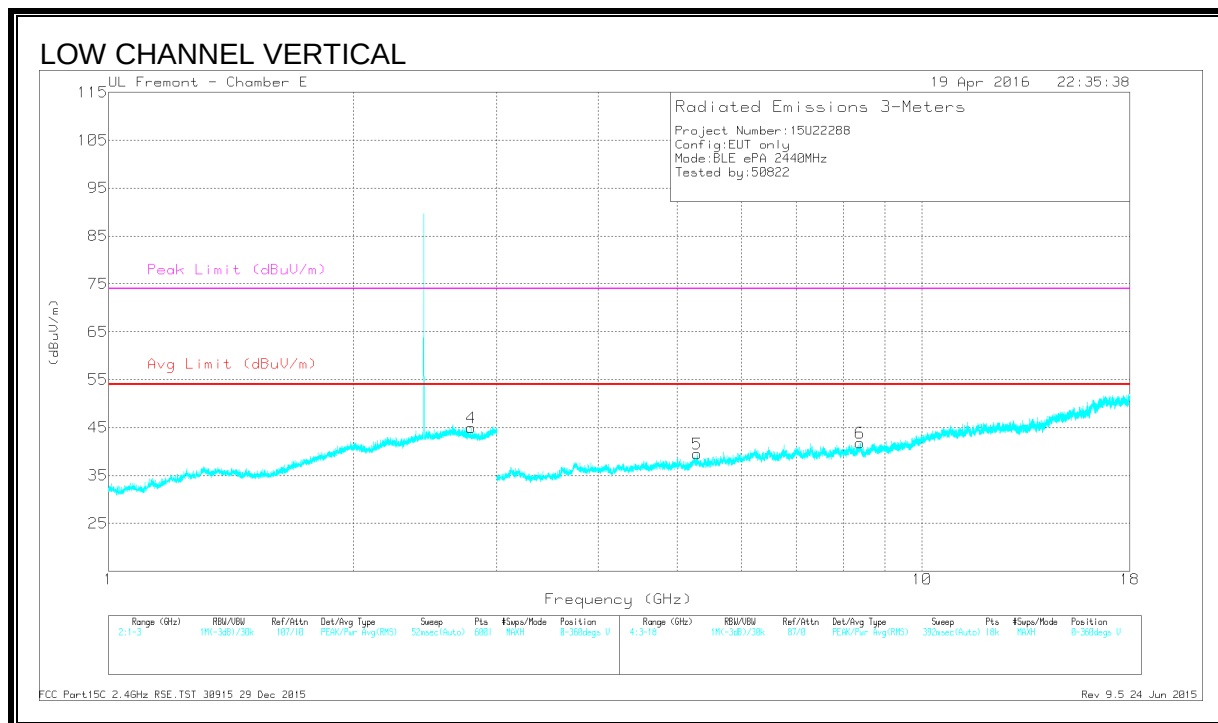
DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fitr/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	* 2.22	38.36	PK2	31.8	-20	50.16	-	-	74	-23.84	129	119	V
	* 2.22	25.53	MAv1	31.8	-20	37.33	54	-16.67	-	-	129	119	V
2	* 5.028	41.33	PK2	34	-30	45.33	-	-	74	-28.67	220	208	H
	* 5.027	29.65	MAv1	34	-30	33.65	54	-20.35	-	-	220	208	H
5	* 4.698	41.37	PK2	34	-29.6	45.77	-	-	74	-28.23	194	144	V
	* 4.699	29.86	MAv1	34	-29.6	34.26	54	-19.74	-	-	194	144	V
6	* 9.066	37.09	PK2	36.1	-25.8	47.39	-	-	74	-26.61	34	291	V
	* 9.068	25.93	MAv1	36.1	-25.8	36.23	54	-17.77	-	-	34	291	V
1	2.172	37.47	PK2	31.6	-20.1	48.97	-	-	-	-	214	328	H
	2.172	25.63	MAv1	31.6	-20.1	37.13	-	-	-	-	214	328	H
3	9.245	37.73	PK2	36.2	-25	48.93	-	-	-	-	269	393	H
	9.245	25.7	MAv1	36.2	-25	36.9	-	-	-	-	269	393	H

* Indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average



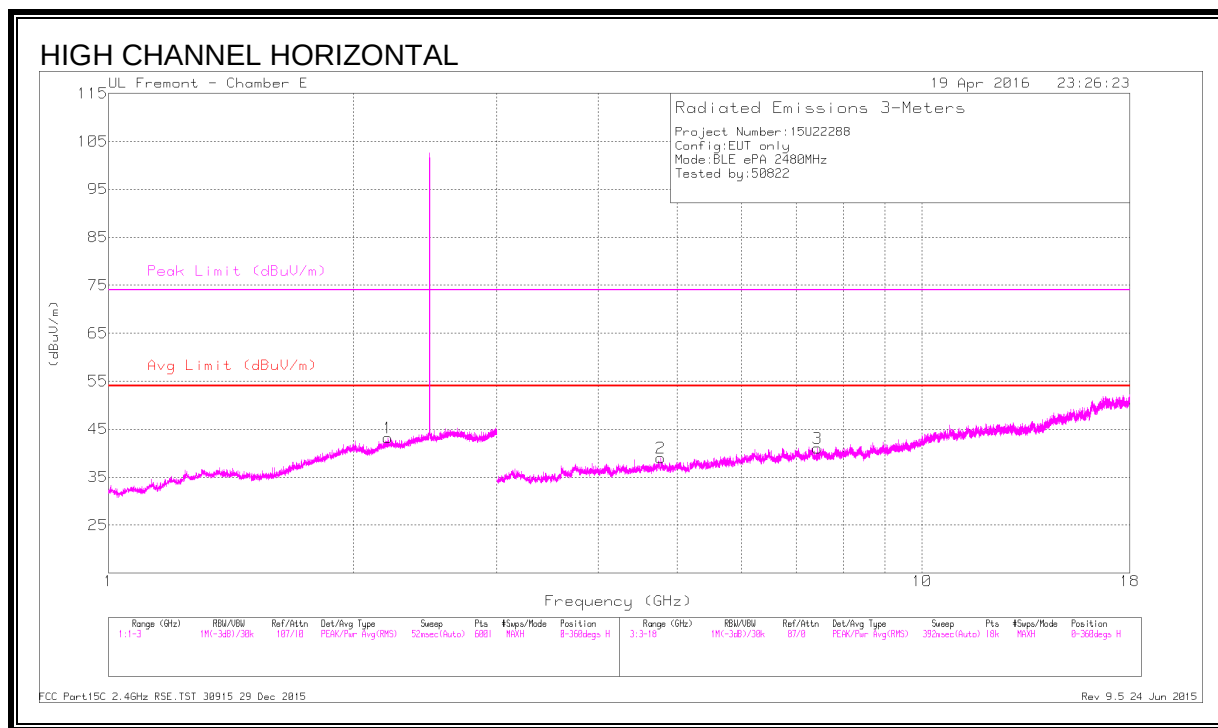
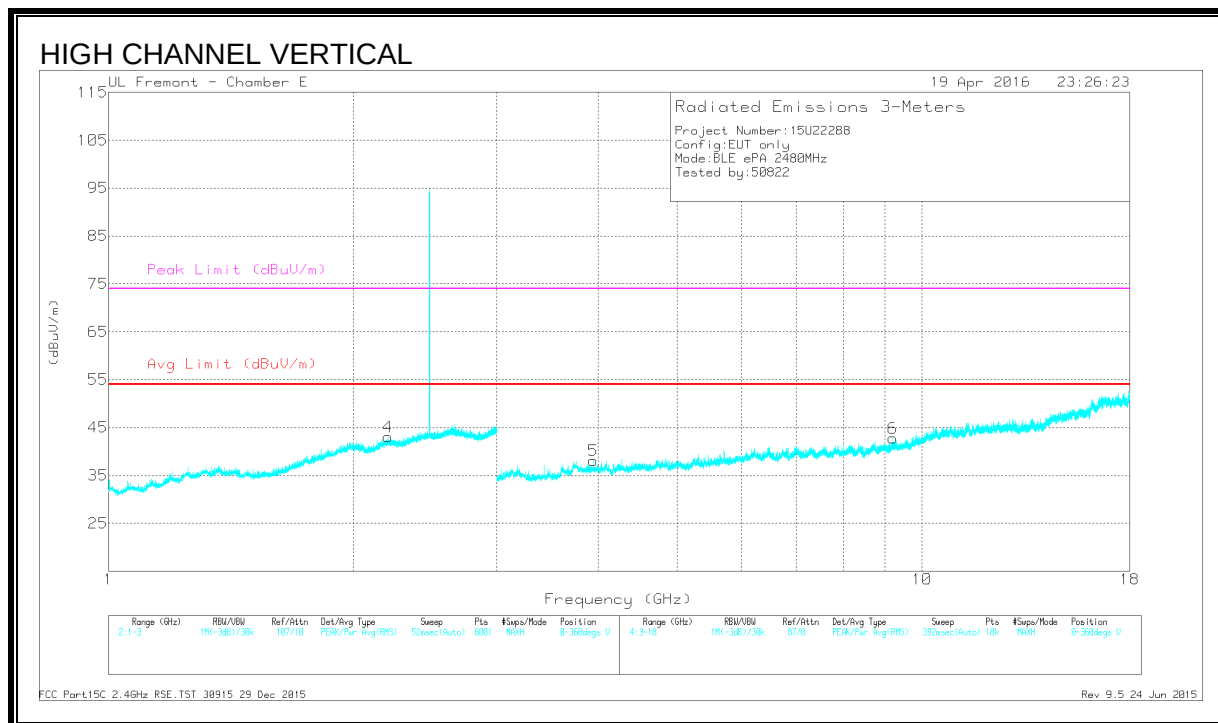
DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fitr/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	* 1.474	36.73	PK2	28.1	-21.6	43.23	-	-	74	-30.77	127	234	H
	* 1.477	24.61	MAv1	28	-21.5	31.11	54	-22.89	-	-	127	234	H
4	* 2.794	38.25	PK2	32.4	-20.1	50.55	-	-	74	-23.45	277	147	V
	* 2.792	26.19	MAv1	32.4	-20	38.59	54	-15.41	-	-	277	147	V
2	* 3.751	41.53	PK2	33.1	-30.1	44.53	-	-	74	-29.47	151	367	H
	* 3.75	29.87	MAv1	33.1	-30.1	32.87	54	-21.13	-	-	151	367	H
3	* 8.393	38.8	PK2	35.7	-25.4	49.1	-	-	74	-24.9	52	157	H
	* 8.391	26.77	MAv1	35.7	-25.4	37.07	54	-16.93	-	-	52	157	H
6	* 8.392	38.11	PK2	35.7	-25.4	48.41	-	-	74	-25.59	74	299	V
	* 8.391	26.8	MAv1	35.7	-25.4	37.1	54	-16.9	-	-	74	299	V
5	5.29	29.86	MAv1	34.3	-29.9	34.26	-	-	-	-	96	132	V
	5.291	41.35	PK2	34.3	-29.9	45.75	-	-	-	-	96	132	V

* Indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fitr/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	* 2.205	37.97	PK2	31.8	-20	49.77	-	-	74	-24.23	161	349	H
	* 2.206	25.51	MAv1	31.8	-20	37.31	54	-16.69	-	-	161	349	H
4	* 2.204	37.54	PK2	31.8	-20	49.34	-	-	74	-24.66	164	204	V
	* 2.203	25.44	MAv1	31.8	-20	37.24	54	-16.76	-	-	164	204	V
2	* 4.775	42.56	PK2	34	-29.3	47.26	-	-	74	-26.74	74	125	H
	* 4.774	29.42	MAv1	34	-29.3	34.12	54	-19.88	-	-	74	125	H
3	* 7.436	39.09	PK2	35.5	-27.6	46.99	-	-	74	-27.01	295	343	H
	* 7.435	27.12	MAv1	35.5	-27.6	35.02	54	-18.98	-	-	295	343	H
5	* 3.945	40.58	PK2	33.2	-29.6	44.18	-	-	74	-29.82	342	359	V
	* 3.947	29.21	MAv1	33.2	-29.6	32.81	54	-21.19	-	-	342	359	V
6	* 9.198	38.05	PK2	36.2	-25.5	48.75	-	-	74	-25.25	219	211	V
	* 9.198	26.09	MAv1	36.2	-25.5	36.79	54	-17.21	-	-	219	211	V

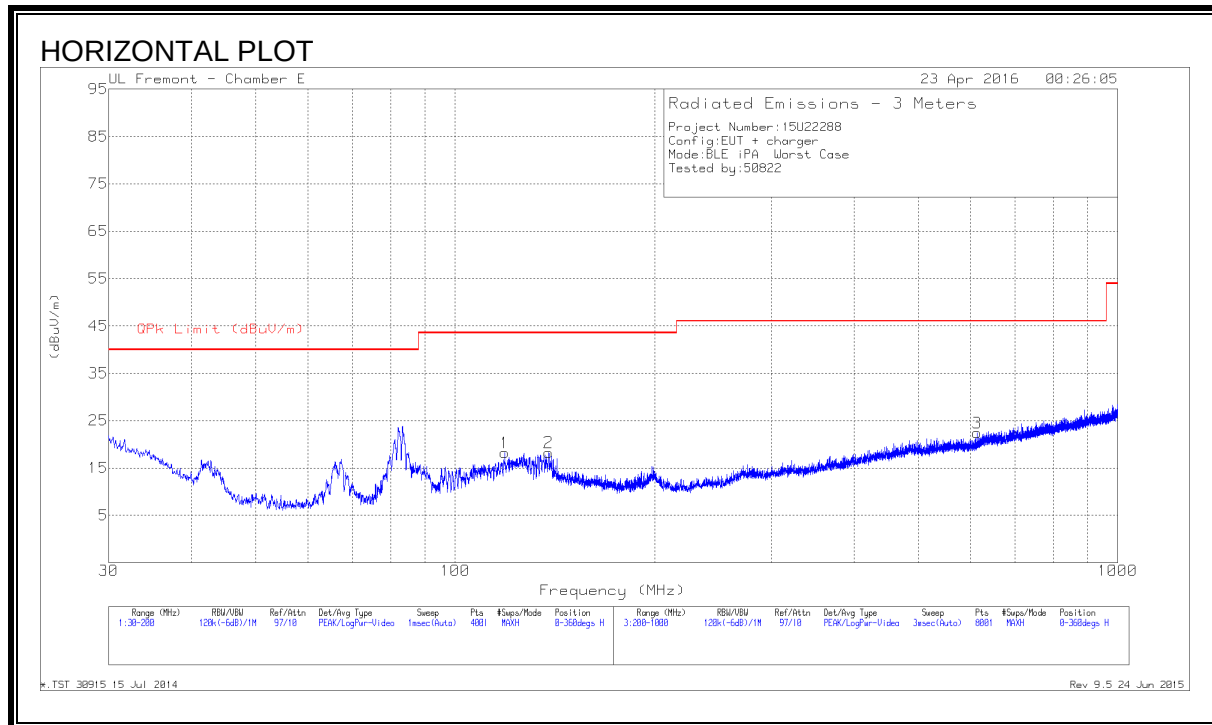
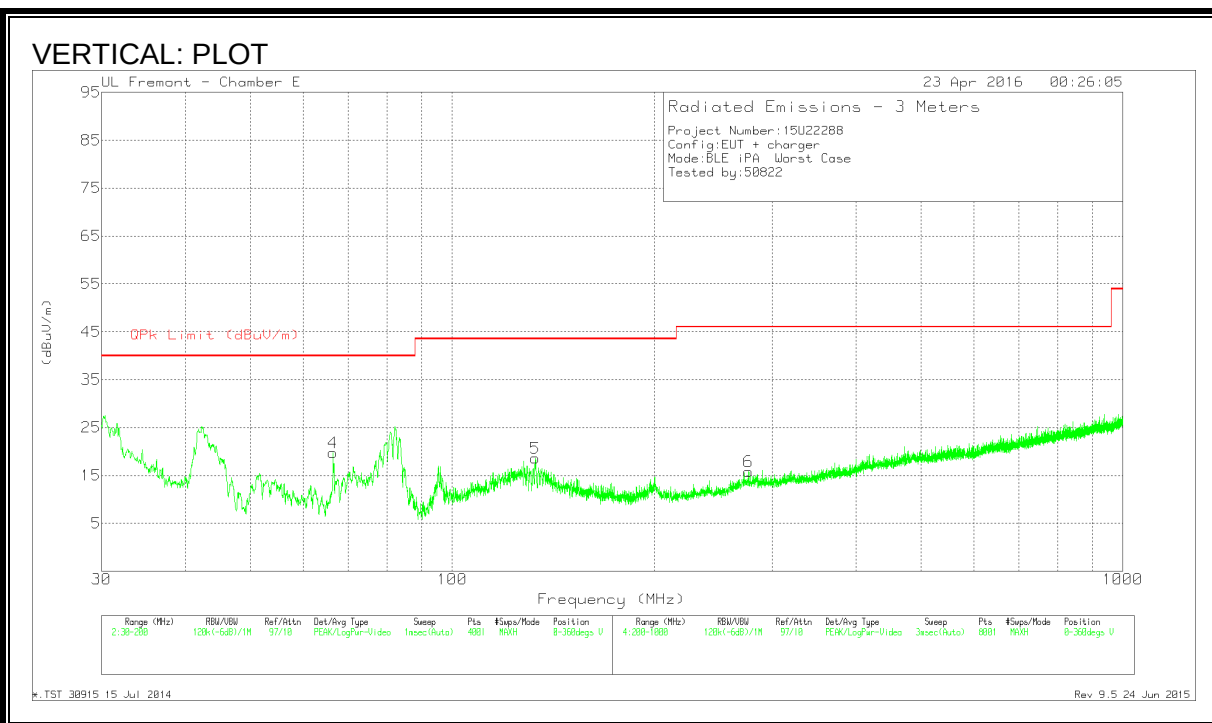
* Indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

8.3. WORST-CASE BELOW 1 GHz

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



DATA

Trace Markers

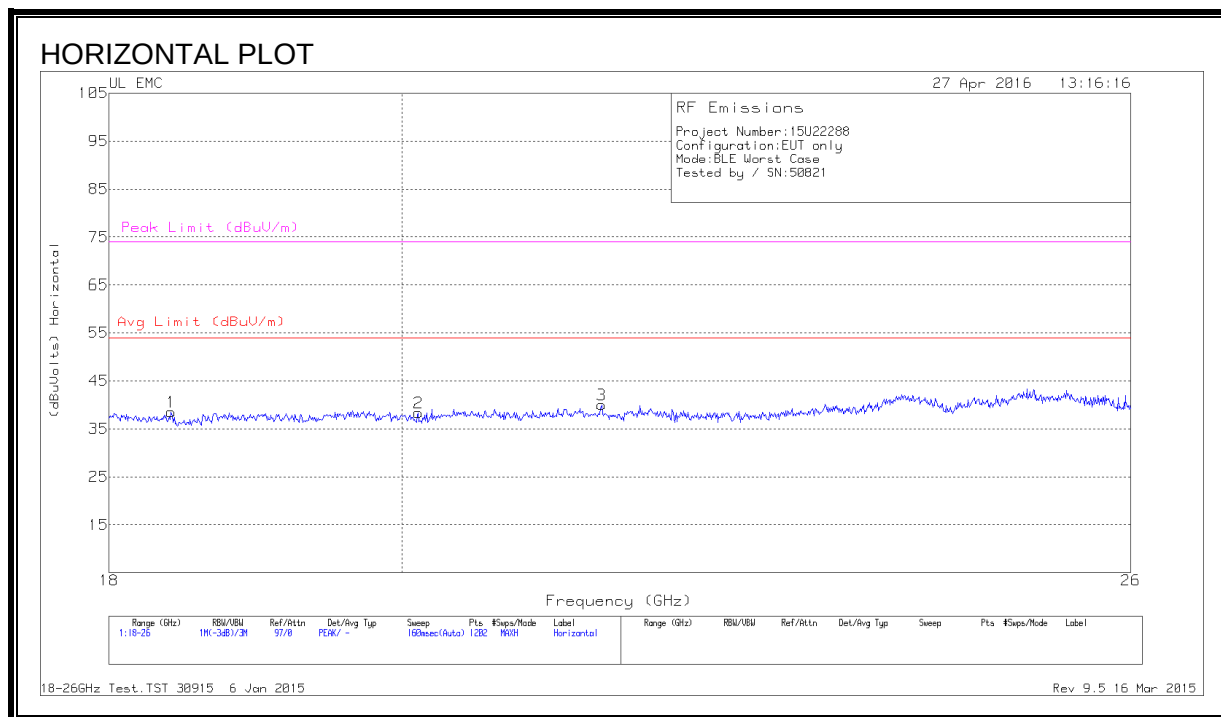
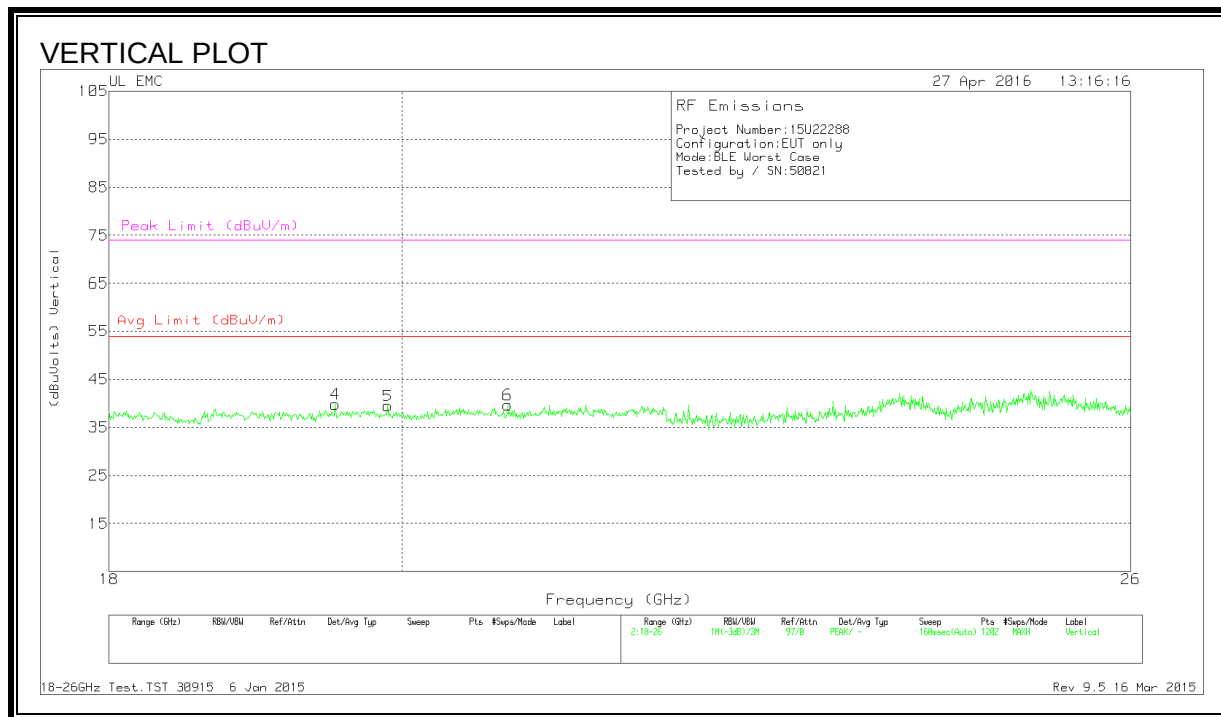
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T243 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 118.825	31.59	Pk	17.9	-31.2	18.29	43.52	-25.23	0-360	301	H
5	* 133.105	32.04	Pk	17.7	-31.1	18.64	43.52	-24.88	0-360	100	V
3	* 613.8	28.96	Pk	22.9	-29.4	22.46	46.02	-23.56	0-360	201	H
6	* 276.8	28.79	Pk	17.4	-30.4	15.79	46.02	-30.23	0-360	301	V
4	66.4225	39.42	Pk	11.8	-31.5	19.72	40	-20.28	0-360	100	V
2	138.5025	32.2	Pk	17.2	-31.1	18.3	43.52	-25.22	0-360	201	H

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

Pk - Peak detector

8.4. WORST-CASE 18 to 26 GHz

SPURIOUS EMISSIONS 18 to 26 GHz



DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T477 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	18.406	40.8	Pk	32.3	-25.1	-9.5	38.5	54	-15.5	74	-35.5
2	20.118	40.43	Pk	32.6	-25.2	-9.5	38.33	54	-15.67	74	-35.67
3	21.49	41.7	Pk	33.1	-25.3	-9.5	40	54	-14	74	-34
4	19.525	41.83	Pk	32.7	-25.2	-9.5	39.83	54	-14.17	74	-34.17
5	19.898	41.3	Pk	32.7	-25	-9.5	39.5	54	-14.5	74	-34.5
6	20.778	41.17	Pk	32.9	-24.9	-9.5	39.67	54	-14.33	74	-34.33

Pk - Peak detector

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 C63.10-2013

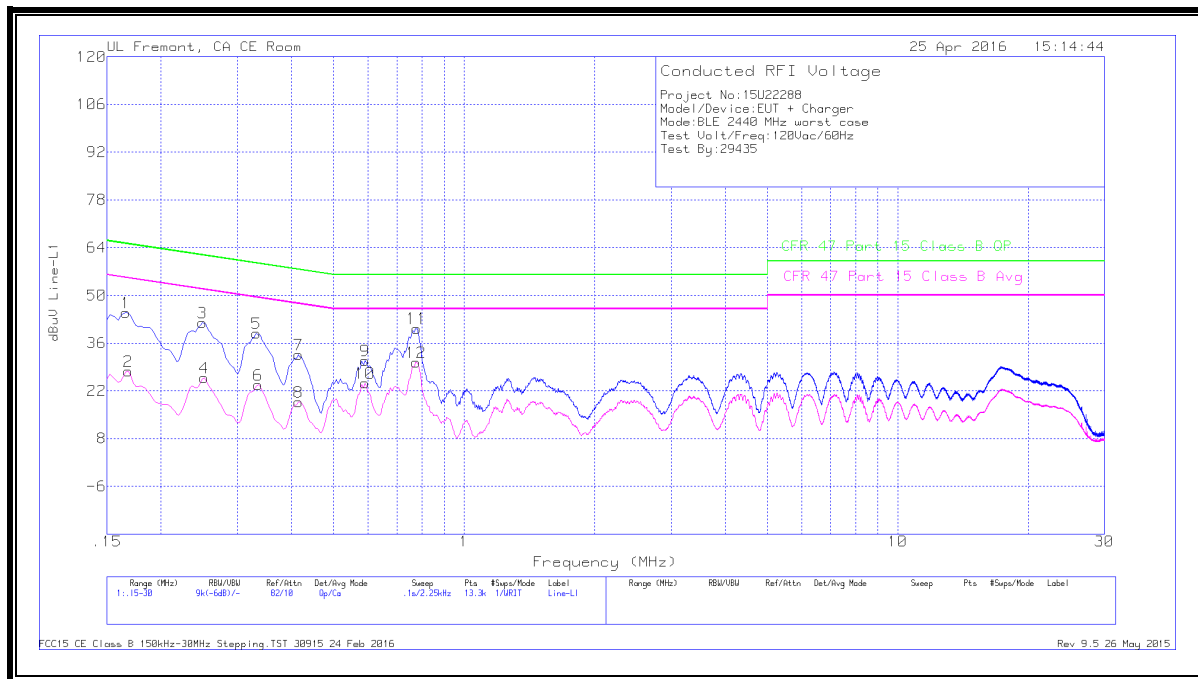
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

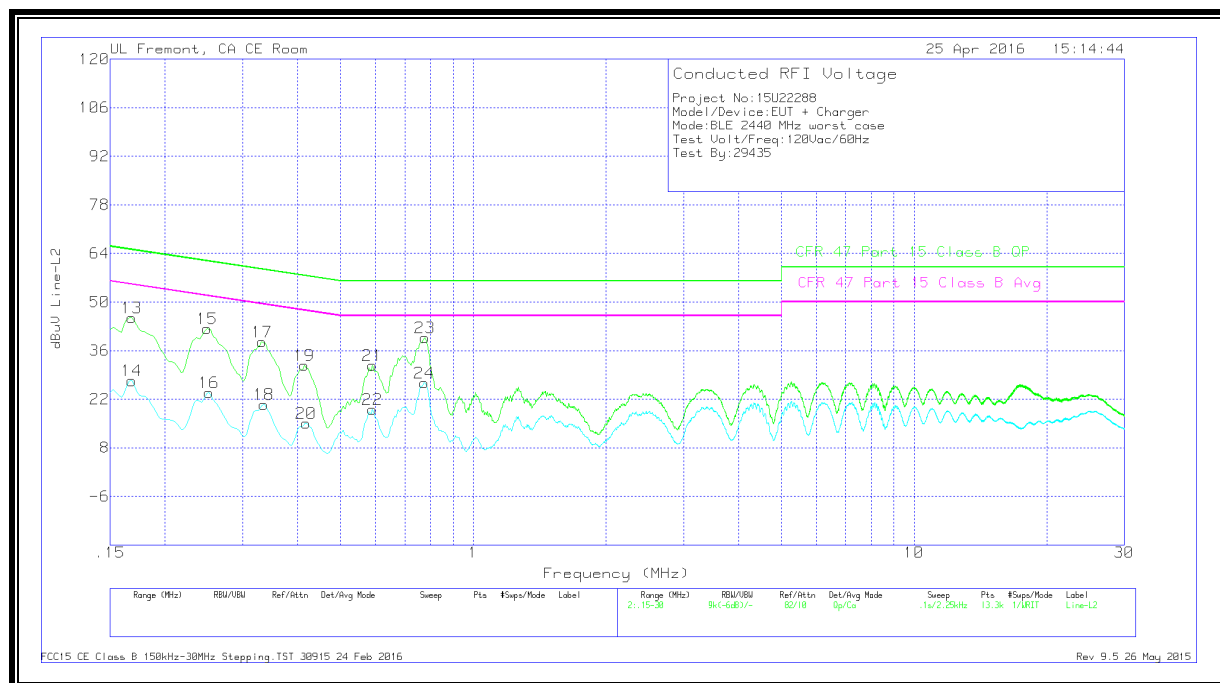
RESULTS

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

LINE 1 RESULTS



LINE 2 RESULTS



WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL 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	.16575	33.61	Qp	1.2	0	10.1	44.91	65.17	-20.26	-	-
2	.168	16.4	Ca	1.2	0	10.1	27.7	-	-	55.06	-27.36
3	.249	31.2	Qp	.7	0	10.1	42	61.79	-19.79	-	-
4	.25125	15.04	Ca	.7	0	10.1	25.84	-	-	51.72	-25.88
5	.33225	28.28	Qp	.5	0	10.1	38.88	59.39	-20.51	-	-
6	.3345	13.23	Ca	.5	0	10.1	23.83	-	-	49.34	-25.51
7	.4155	22.06	Qp	.4	0	10.1	32.56	57.54	-24.98	-	-
8	.4155	8.25	Ca	.4	0	10.1	18.75	-	-	47.54	-28.79
9	.591	20.54	Qp	.3	0	10.1	30.94	56	-25.06	-	-
10	.591	13.92	Ca	.3	0	10.1	24.32	-	-	46	-21.68
11	.77775	29.95	Qp	.3	0	10.1	40.35	56	-15.65	-	-
12	.7755	20	Ca	.3	0	10.1	30.4	-	-	46	-15.6

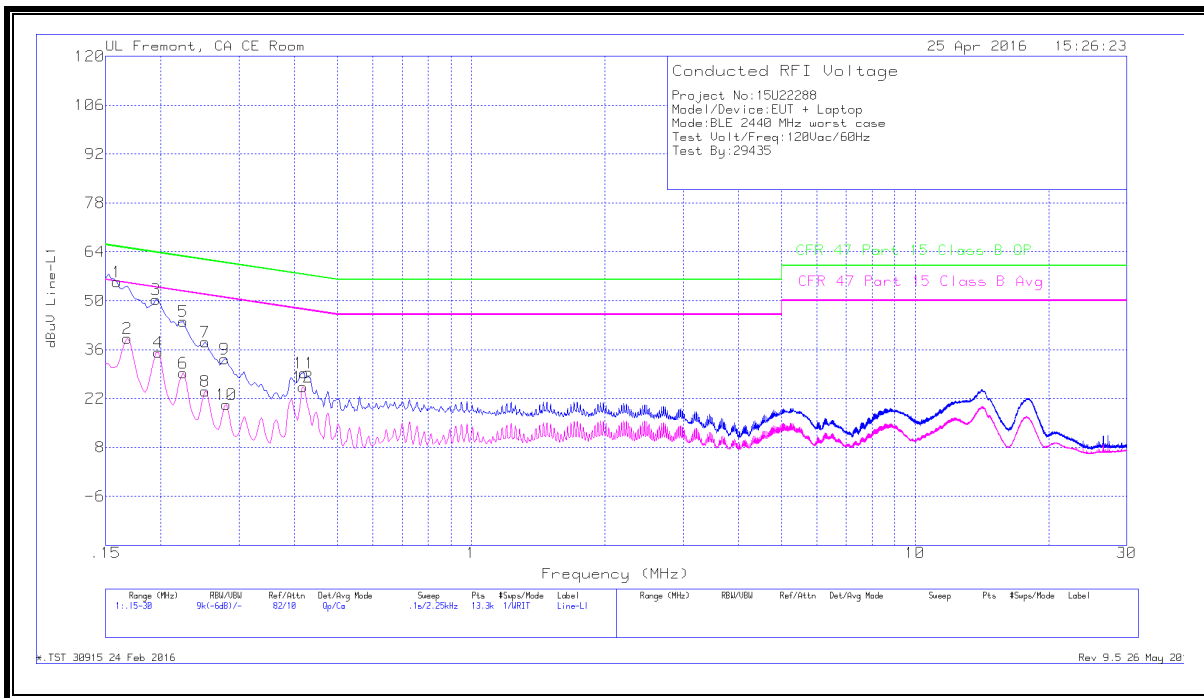
Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
13	.168	34.07	Qp	1.3	0	10.1	45.47	65.06	-19.59	-	-
14	.168	15.92	Ca	1.3	0	10.1	27.32	-	-	55.06	-27.74
15	.249	31.54	Qp	.7	0	10.1	42.34	61.79	-19.45	-	-
16	.25125	13.15	Ca	.7	0	10.1	23.95	-	-	51.72	-27.77
17	.33225	27.97	Qp	.5	0	10.1	38.57	59.39	-20.82	-	-
18	.3345	9.93	Ca	.5	0	10.1	20.53	-	-	49.34	-28.81
19	.41325	21.22	Qp	.4	0	10.1	31.72	57.58	-25.86	-	-
20	.41775	4.53	Ca	.4	0	10.1	15.03	-	-	47.49	-32.46
21	.591	21.3	Qp	.3	0	10.1	31.7	56	-24.3	-	-
22	.591	8.67	Ca	.3	0	10.1	19.07	-	-	46	-26.93
23	.77775	29.31	Qp	.3	0	10.1	39.71	56	-16.29	-	-
24	.7755	16.35	Ca	.3	0	10.1	26.75	-	-	46	-19.25

Qp - Quasi-Peak detector

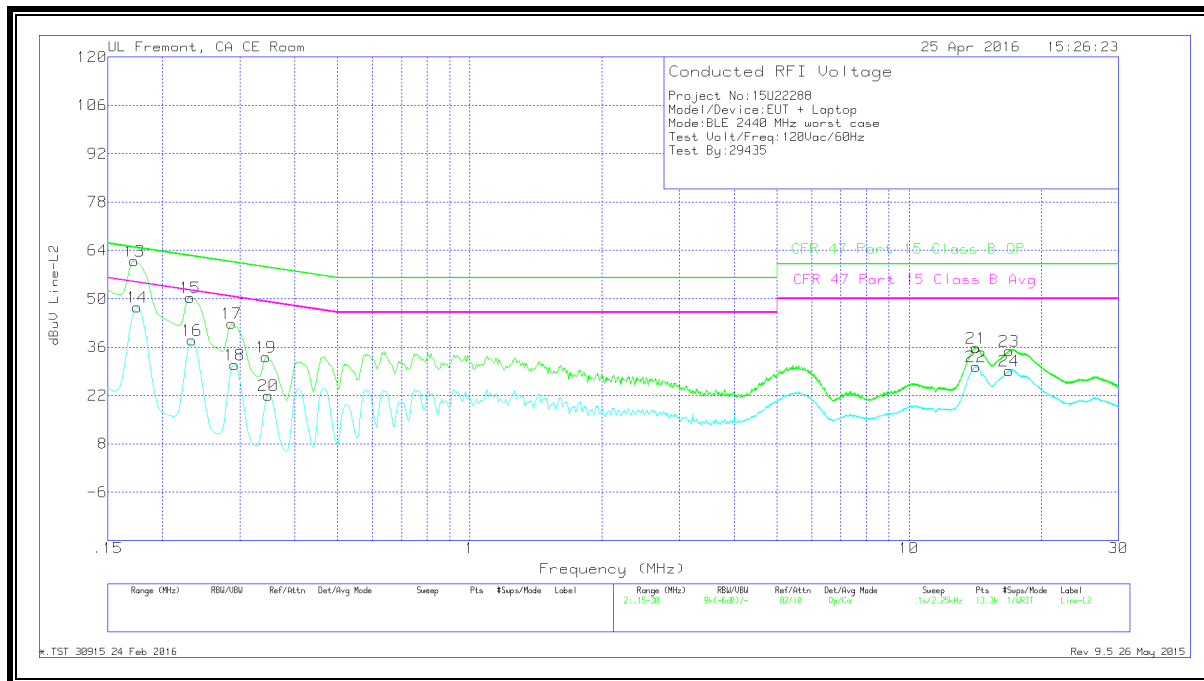
Ca - CISPR average detection

9.2. EUT POWERED BY HOST PC VIA USB CABLE

LINE 1 RESULTS



LINE 2 RESULTS



WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL 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	.159	43.96	Qp	1.3	0	10.1	55.36	65.52	-10.16	-	-
2	.168	27.89	Ca	1.2	0	10.1	39.19	-	-	55.06	-15.87
3	.195	39.31	Qp	1	0	10.1	50.41	63.82	-13.41	-	-
4	.19725	24.12	Ca	1	0	10.1	35.22	-	-	53.73	-18.51
5	.22425	33.19	Qp	.8	0	10.1	44.09	62.66	-18.57	-	-
6	.22425	18.37	Ca	.8	0	10.1	29.27	-	-	52.66	-23.39
7	.25125	27.4	Qp	.7	0	10.1	38.2	61.72	-23.52	-	-
8	.25125	13.36	Ca	.7	0	10.1	24.16	-	-	51.72	-27.56
9	.27825	22.65	Qp	.6	0	10.1	33.35	60.87	-27.52	-	-
10	.2805	9.58	Ca	.6	0	10.1	20.28	-	-	50.8	-30.52
11	.42	18.8	Qp	.4	0	10.1	29.3	57.45	-28.15	-	-
12	.41775	14.82	Ca	.4	0	10.1	25.32	-	-	47.49	-22.17

Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
13	.1725	49.72	Qp	1.2	0	10.1	61.02	64.84	-3.82	-	-
14	.17475	36.28	Ca	1.2	0	10.1	47.58	-	-	54.73	-7.15
15	.231	39.49	Qp	.8	0	10.1	50.39	62.41	-12.02	-	-
16	.23325	27.11	Ca	.8	0	10.1	38.01	-	-	52.33	-14.32
17	.28725	32.12	Qp	.6	0	10.1	42.82	60.6	-17.78	-	-
18	.29175	20.24	Ca	.6	0	10.1	30.94	-	-	50.47	-19.53
19	.3435	22.6	Qp	.5	0	10.1	33.2	59.12	-25.92	-	-
20	.348	11.39	Ca	.5	0	10.1	21.99	-	-	49.01	-27.02
21	14.2125	25.2	Qp	.2	.2	10.2	35.8	60	-24.2	-	-
22	14.20575	19.73	Ca	.2	.2	10.2	30.33	-	-	50	-19.67
23	16.8855	24.08	Qp	.3	.2	10.3	34.88	60	-25.12	-	-
24	16.88663	18.3	Ca	.3	.2	10.3	29.1	-	-	50	-20.9

Qp - Quasi-Peak detector

Ca - CISPR average detection