



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

**BLUETOOTH LOW ENERGY
CERTIFICATION TEST REPORT**

CELLULAR PHONE WITH BLUETOOTH AND WLAN RADIOS

MODEL NUMBER: A1660, A1780

**FCC ID: BCG-E3085A
IC: 579C-E3085A**

REPORT NUMBER: 16U23309-E2V4

ISSUE DATE: AUGUST 26, 2016

Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	07/07/2016	Initial Issue	Eric Yu
V2	07/21/2016	Address TCB's Questions	Chin Pang
V3	07/29/2016	Revised Page 12 to address TCB's questions	Tina Chu
V4	08/26/2016	Updated Power, PSD, BE & Spurious for high power mode base on client new power	Joe Vang

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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: A1660, A1780

SERIAL NUMBER: C7CQW07TH2FX (CONDUCTED),
C7CRG0A7H8HN (RADIATED)

DATE TESTED: APRIL 13, 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:

Prepared By:



CHIN PANG
SENIOR ENGINEER
UL VERIFICATION SERVICES INC.

ERIC YU
EMC ENGINEER
UL VERIFICATION SERVICES INC.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, 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:

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

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 9KHz to 0.15 MHz	3.84 dB
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	5.24 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT, Model A1660, A1780 is a mobile phone with multimedia functions (music, application support, and video), cellular GSM/GPRS/EGPRS/WCDMA/HSPA+/DC-HSDPA/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	16.61	45.81

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

Frequency Band (GHz)	Antenna Gain (dBi)
2.4	-2.54

5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was BCM4355C0_14.1.39.180

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	OJNKWD	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 (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

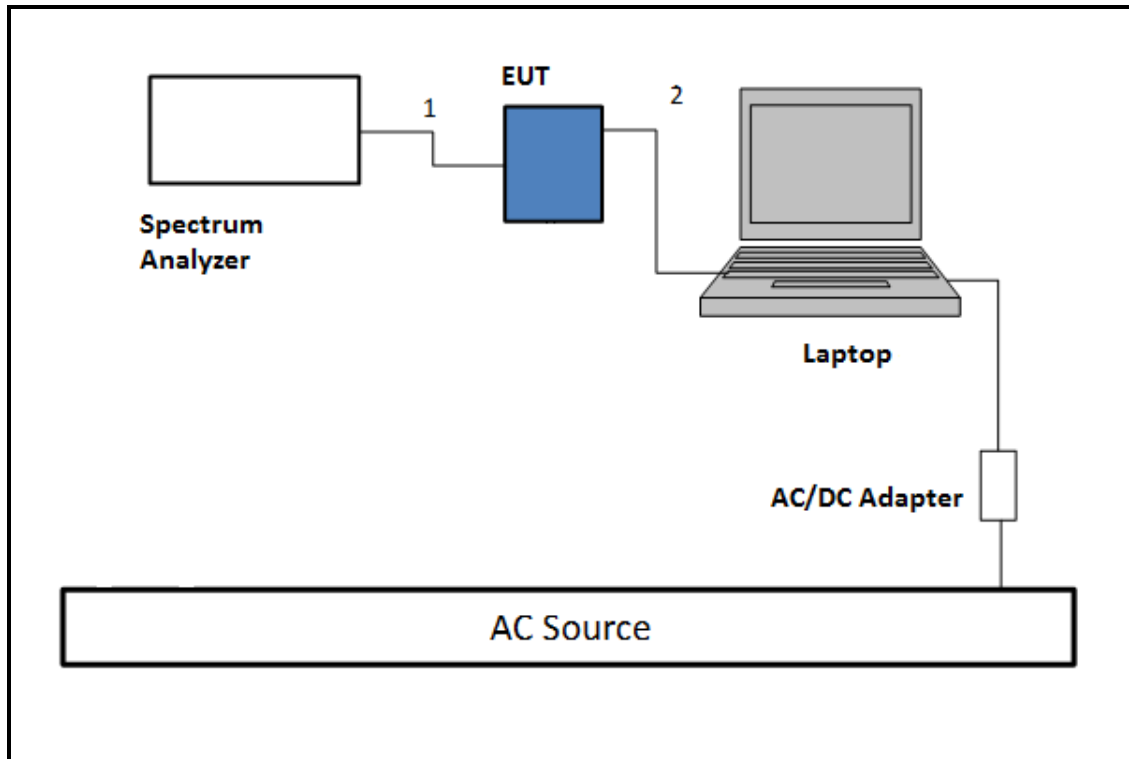
I/O CABLES (AC LINE CONDUCTED: AC/DC ADAPTER & LAPTOP CONFIGURATION)

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.

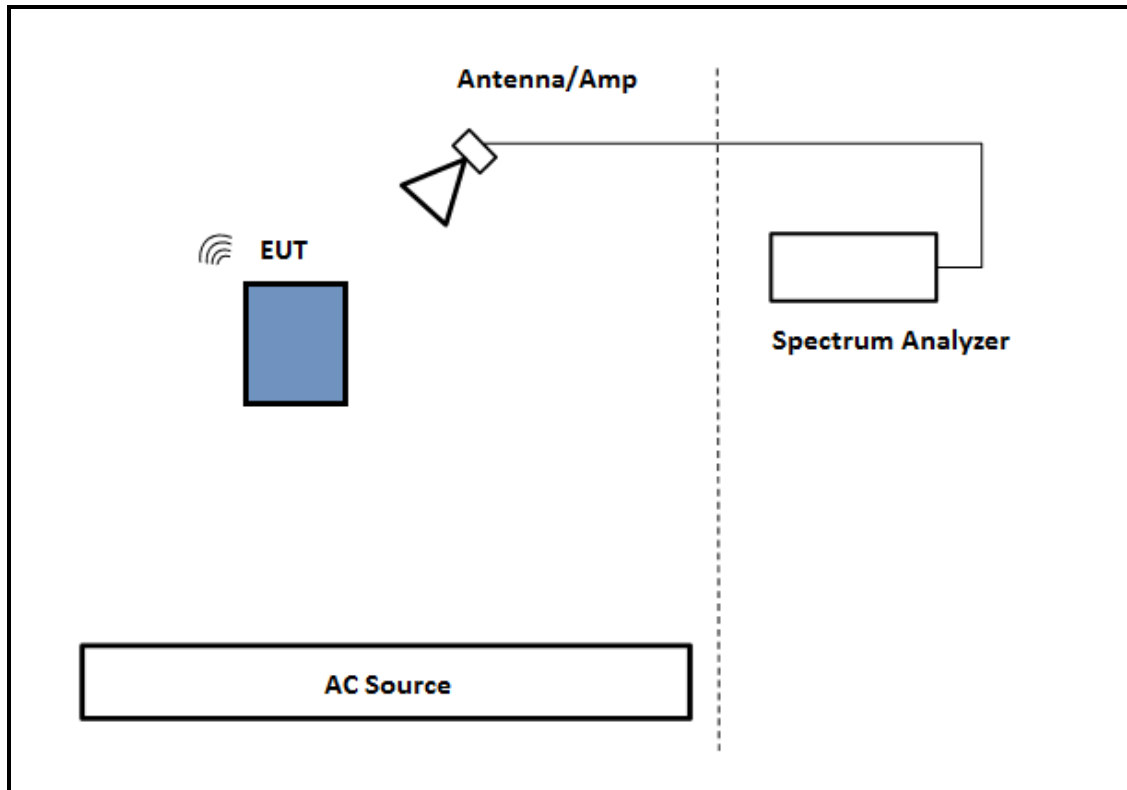
SETUP DIAGRAM



TEST SETUP- RADIATED-ABOVE 1 GHZ

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

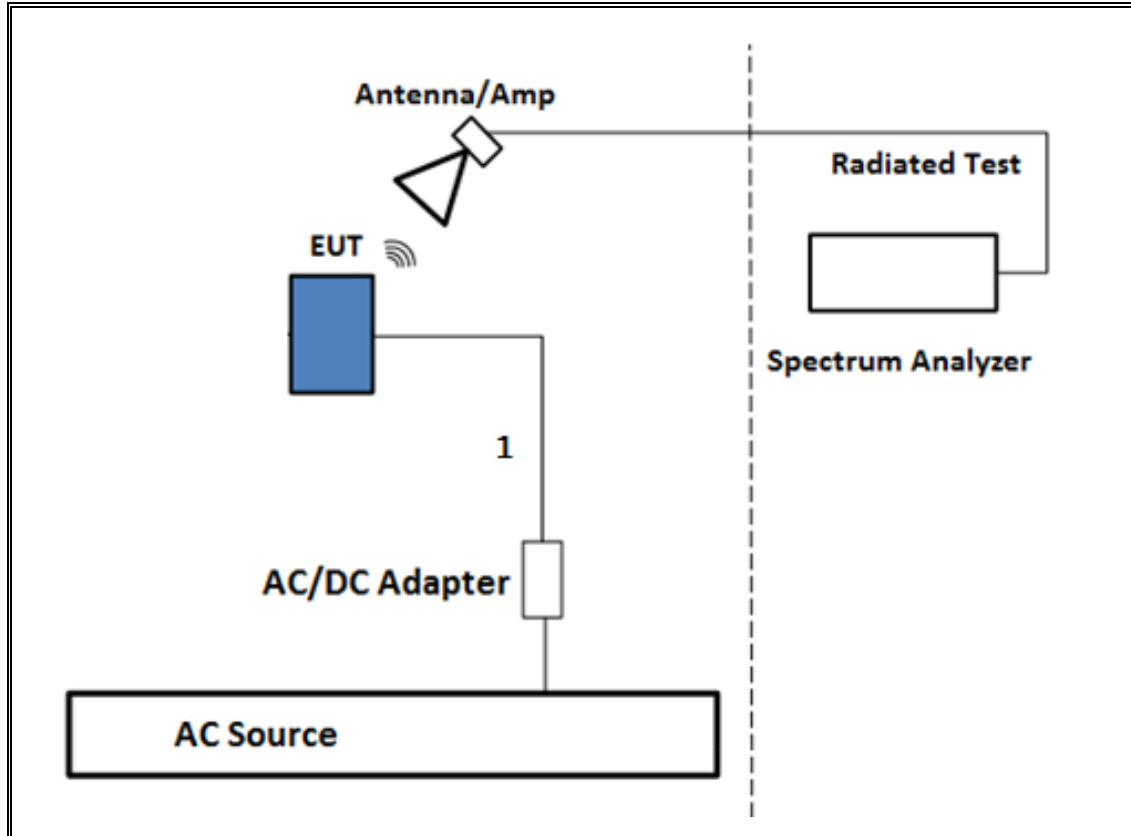
SETUP DIAGRAM



TEST SETUP- BELOW 1GHZ

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

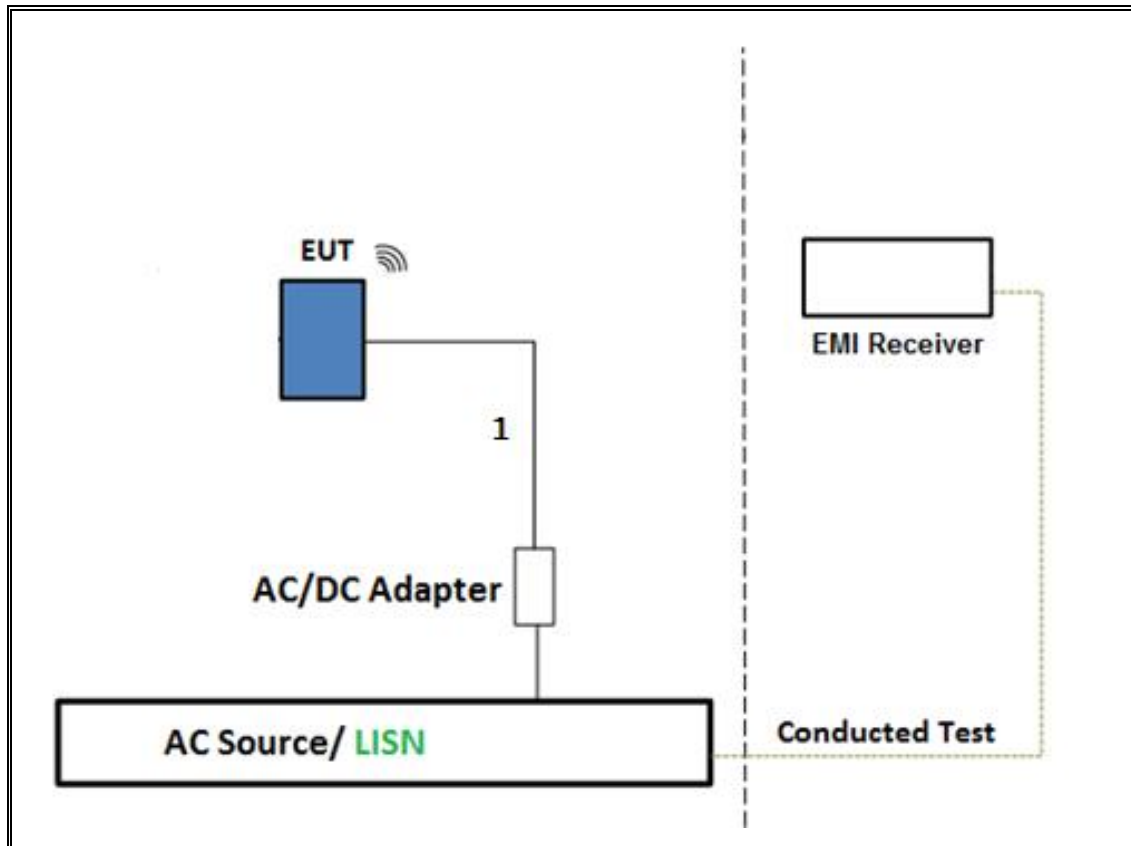
SETUP DIAGRAM



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.

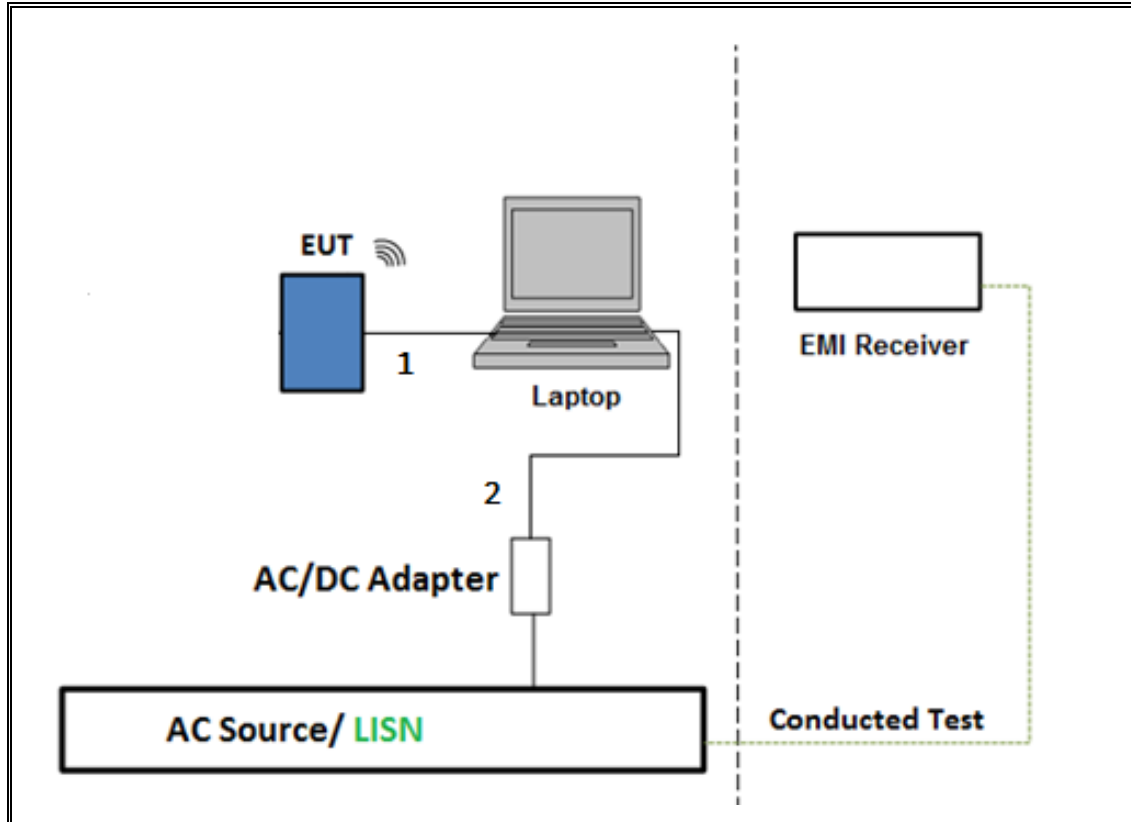
SETUP DIAGRAM



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	171202	11/5/2016
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent	N9030A	MY52350675	11/15/2016
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	5/26/2017
**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	
* Radiated Software	UL	UL EMC	Ver 9.5, June 26, 2016	
* Conducted Software	UL	UL EMC	Ver 4.4, March 30, 2016	
* AC Line Conducted Software	UL	UL EMC	Ver 9.5, May 26, 2015	

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

**Testing is completed before equipment expiration date.

*** equipment was used 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.

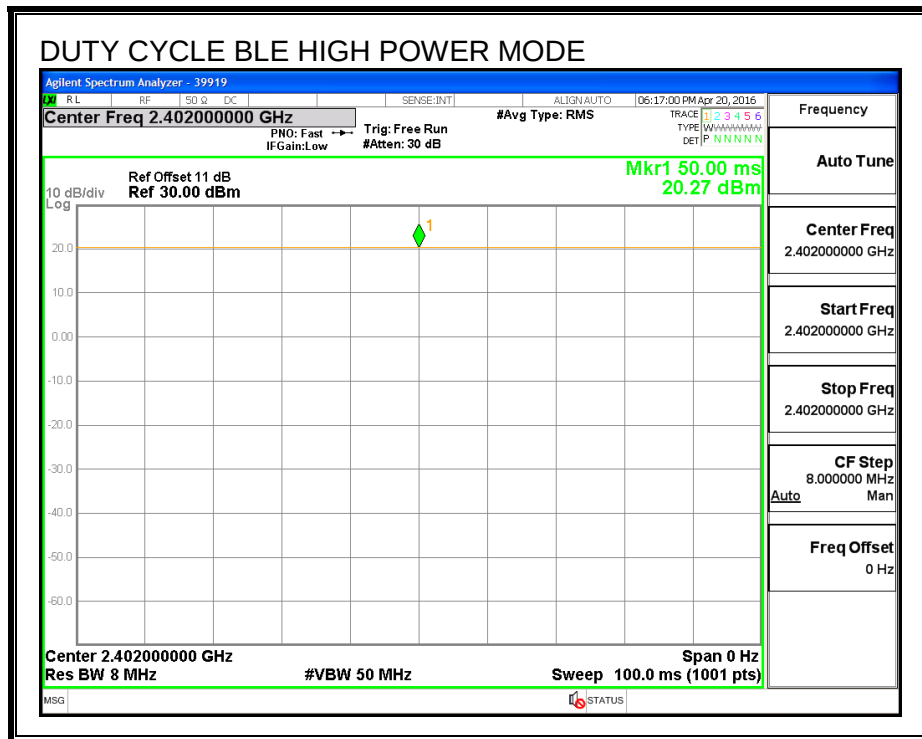
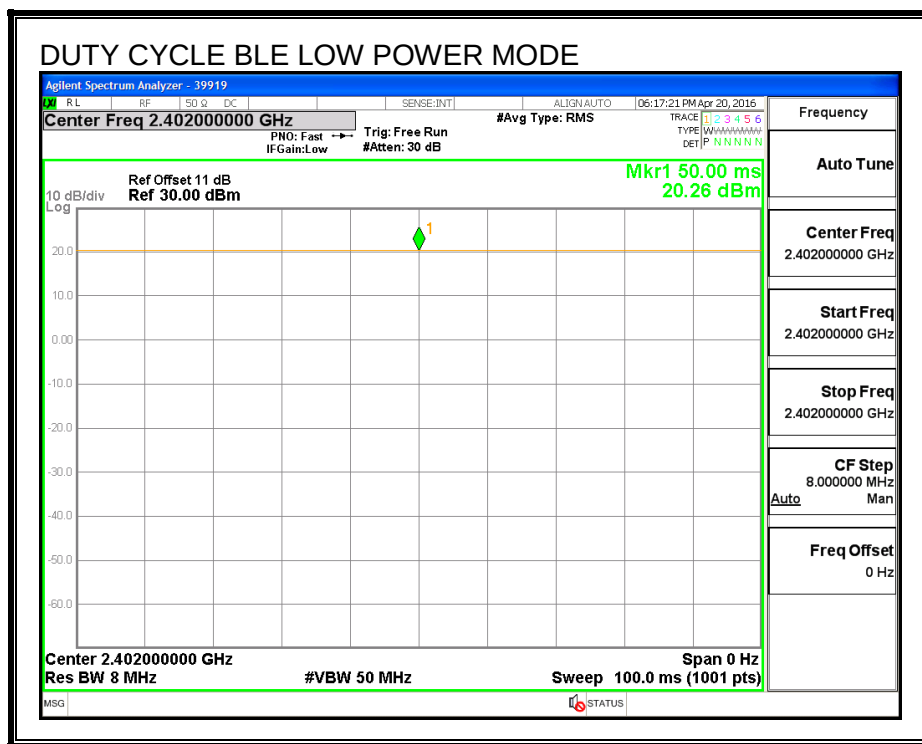
PROCEDURE

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

DUTY CYCLE PLOTS



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

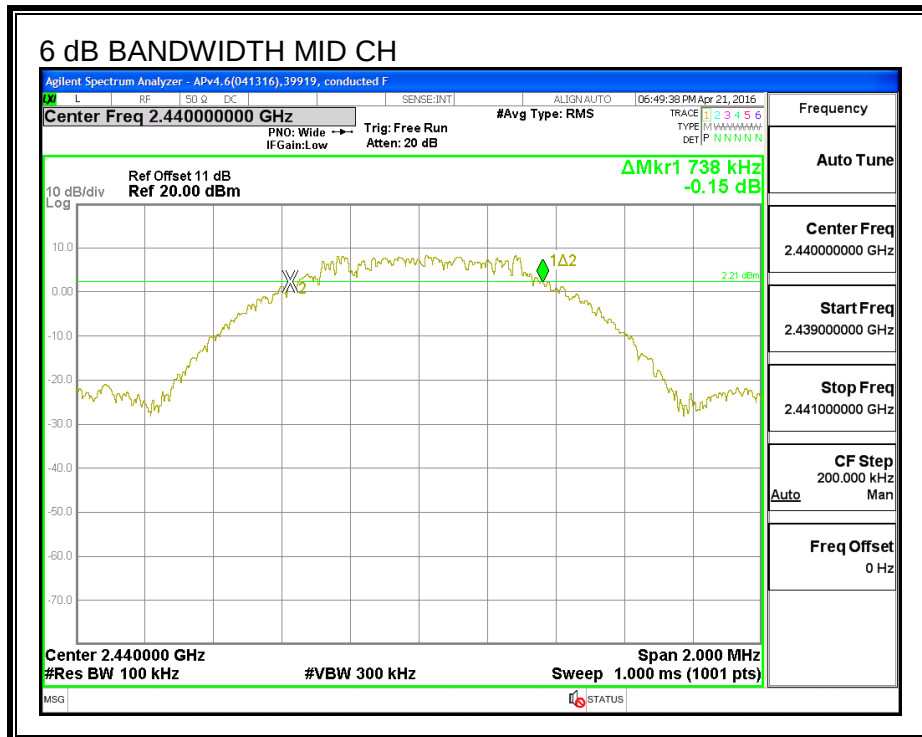
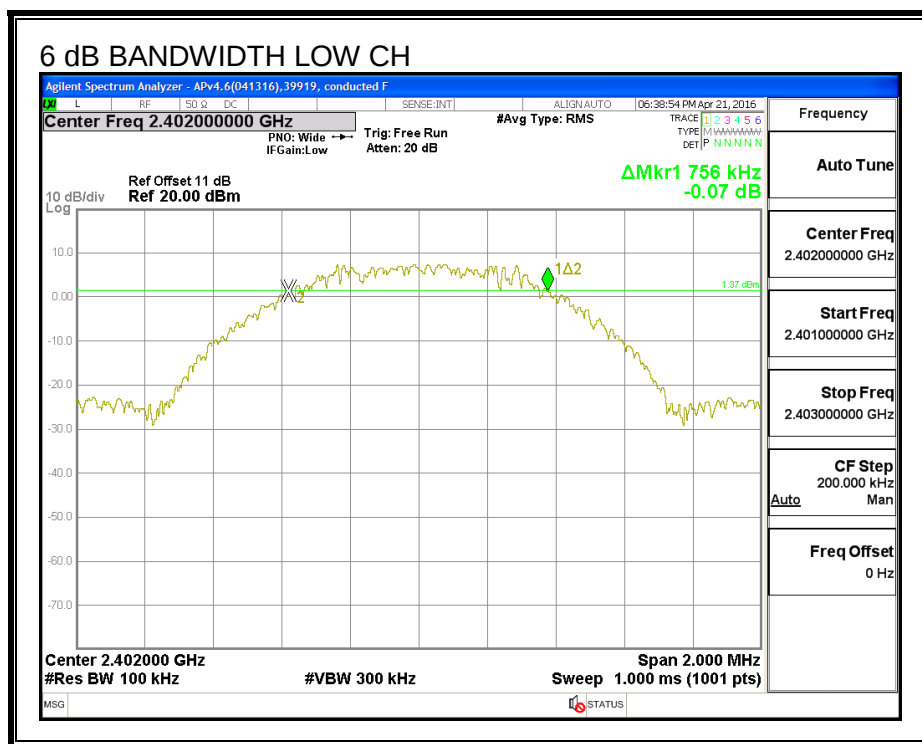
LOW POWER

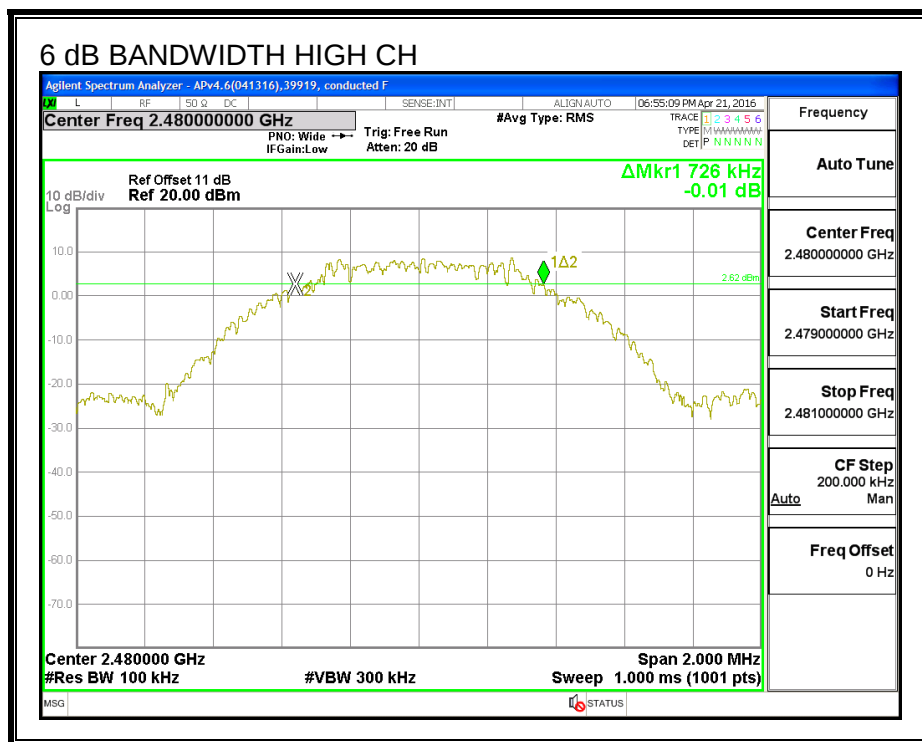
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.756	0.5
Middle	2440	0.738	0.5
High	2480	0.726	0.5

HIGH POWER

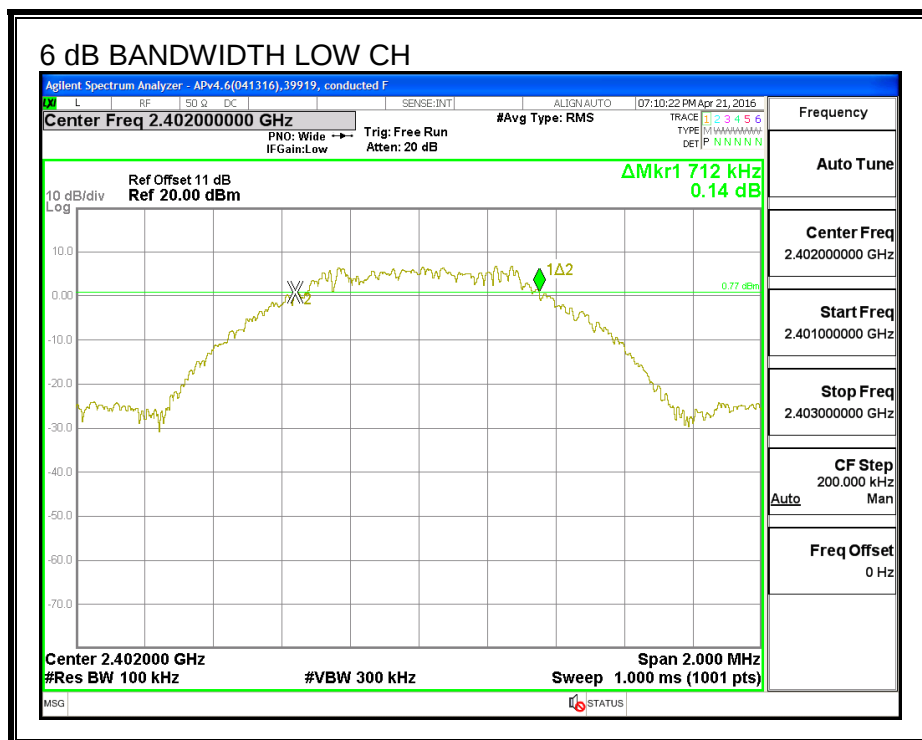
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.712	0.5
Middle	2440	0.738	0.5
High	2480	0.756	0.5

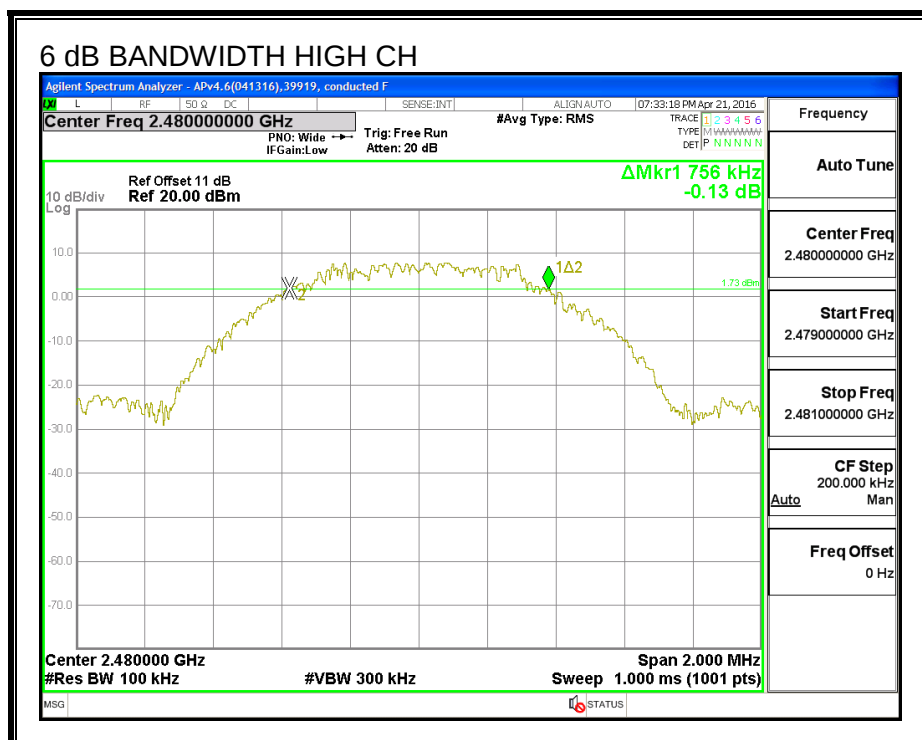
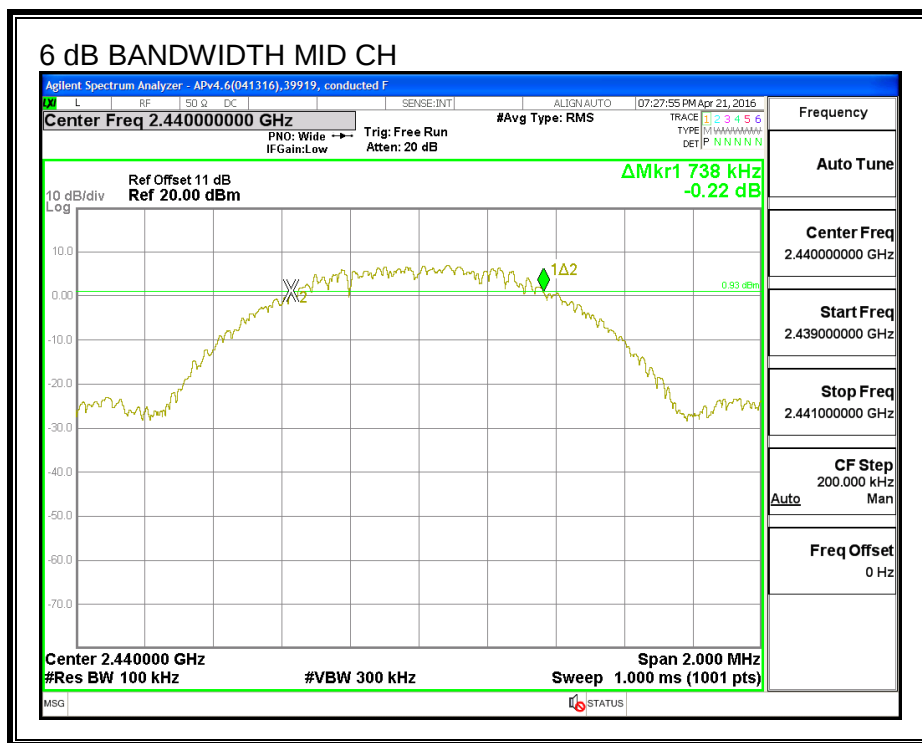
6 dB BANDWIDTH LOW POWER





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

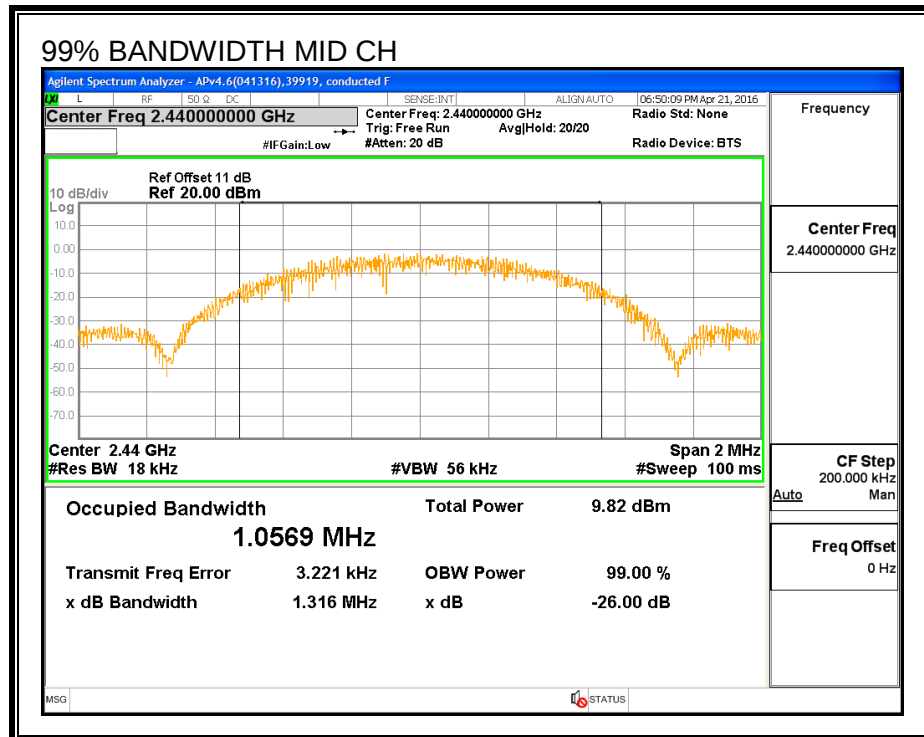
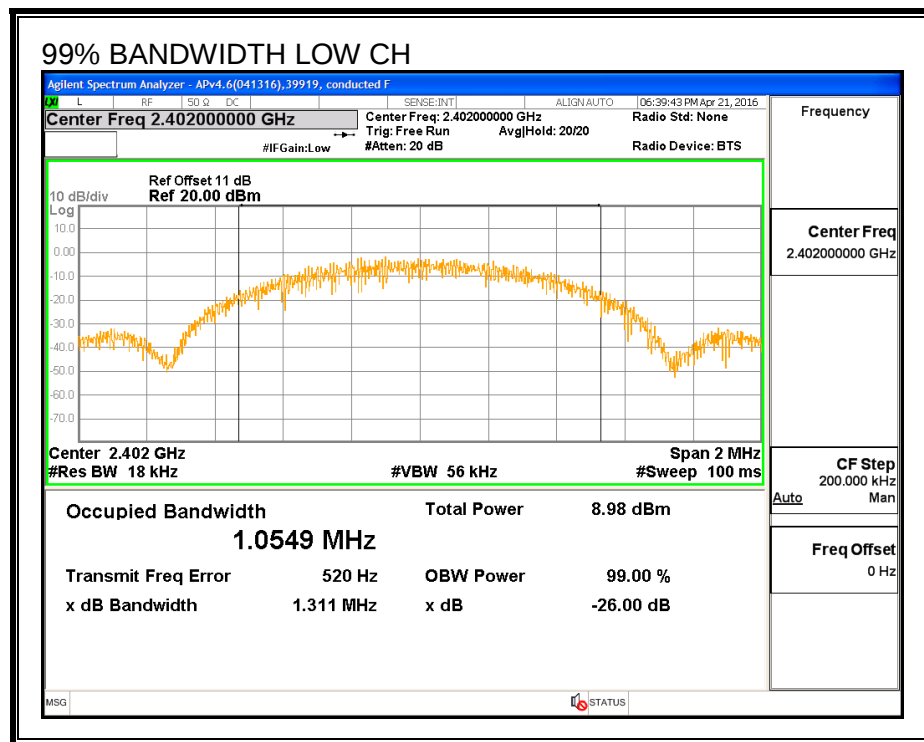
LOW POWER

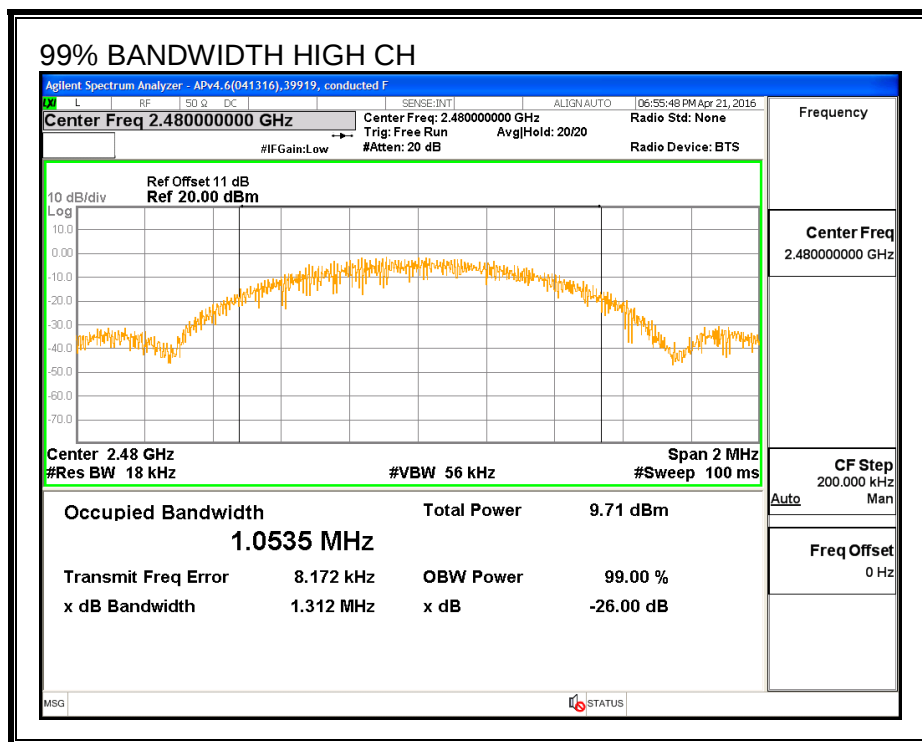
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	1.0549
Middle	2440	1.0569
High	2480	1.0535

HIGH POWER

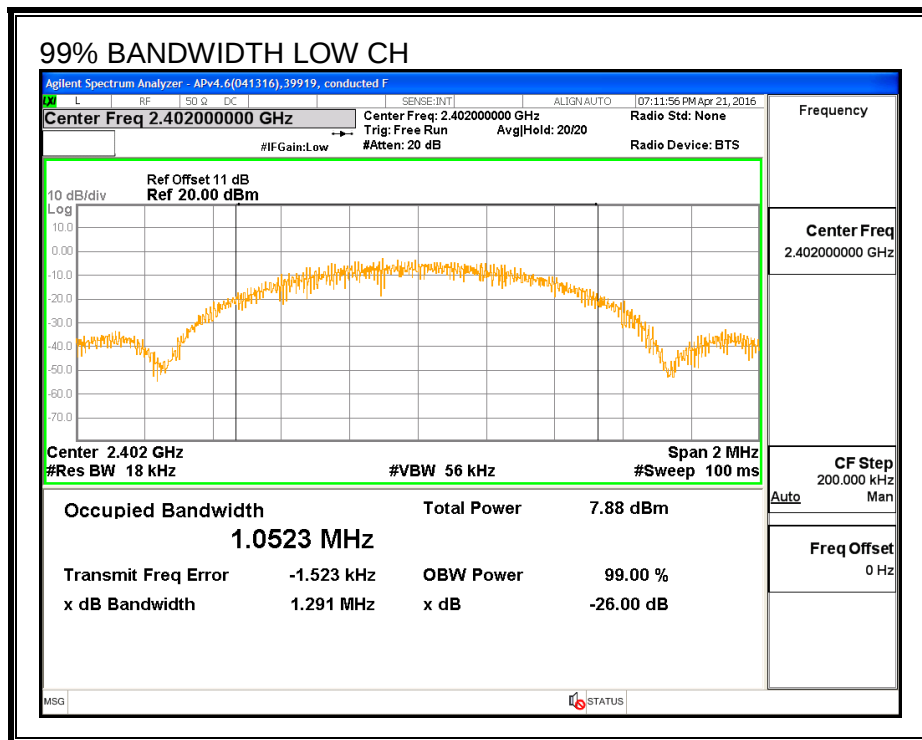
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	1.0523
Middle	2440	1.0551
High	2480	1.0515

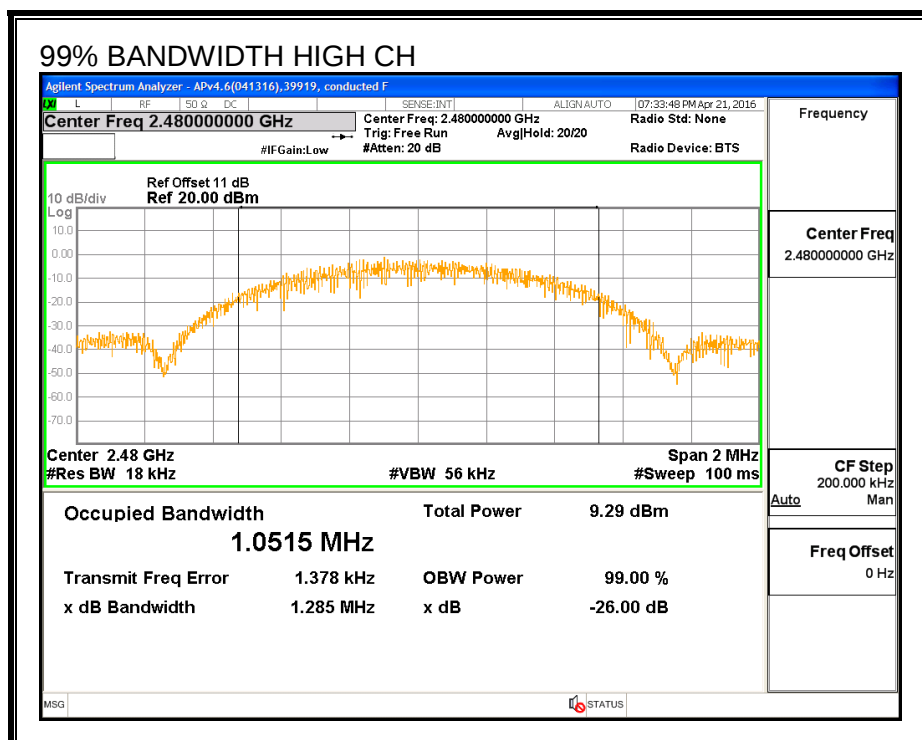
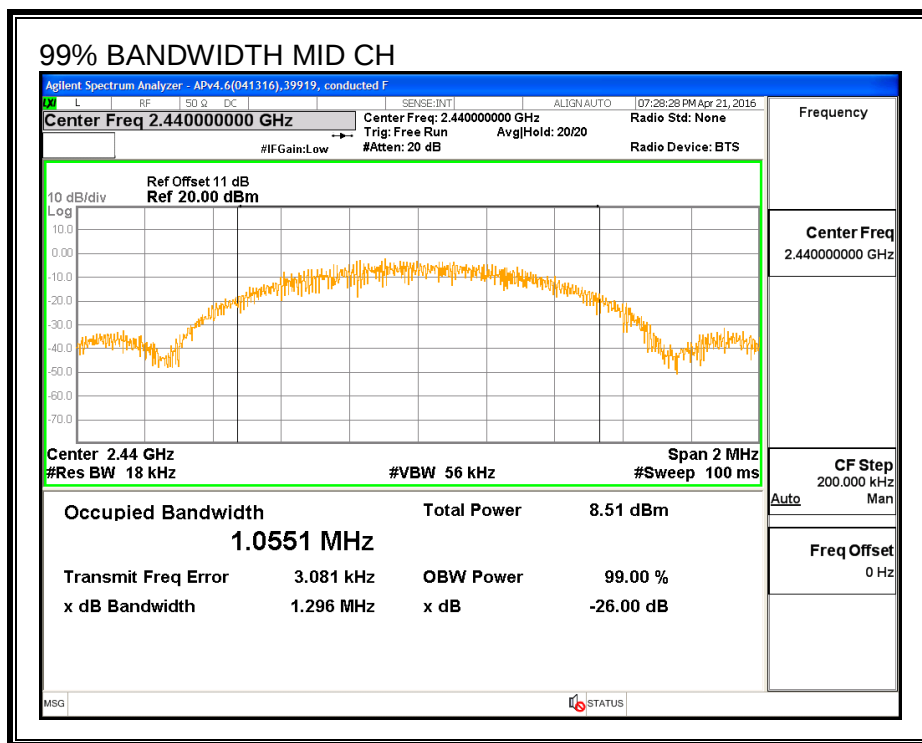
99% BANDWIDTH LOW POWER





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:	39919	Date:	8/24/16
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LOW POWER

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	9.79
Middle	2440	9.83
High	2480	9.72

HIGH POWER

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	16.39
Middle	2440	16.49
High	2480	16.33

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:	39919	Date:	8/24/16
------------	-------	--------------	---------

LOW POWER

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	9.98	30	-20.020
Middle	2440	10.04	30	-19.960
High	2480	9.95	30	-20.050

HIGH POWER

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	16.48	30	-13.520
Middle	2440	16.61	30	-13.390
High	2480	16.43	30	-13.570

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

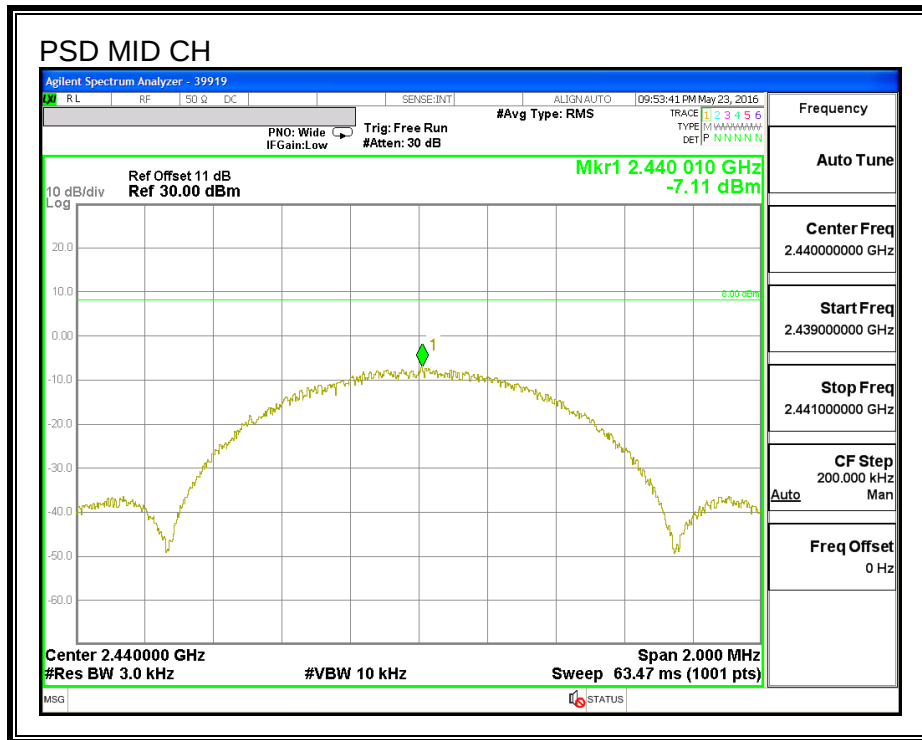
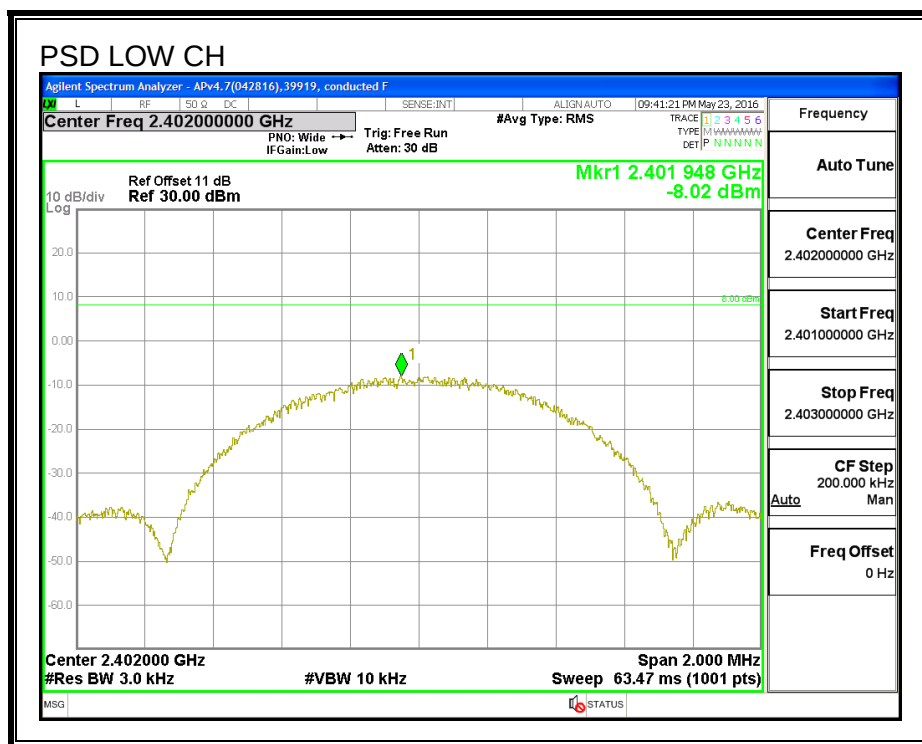
LOW POWER

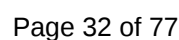
Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2402	-8.02	8	-16.02
Middle	2440	-7.11	8	-15.11
High	2480	-6.83	8	-14.83

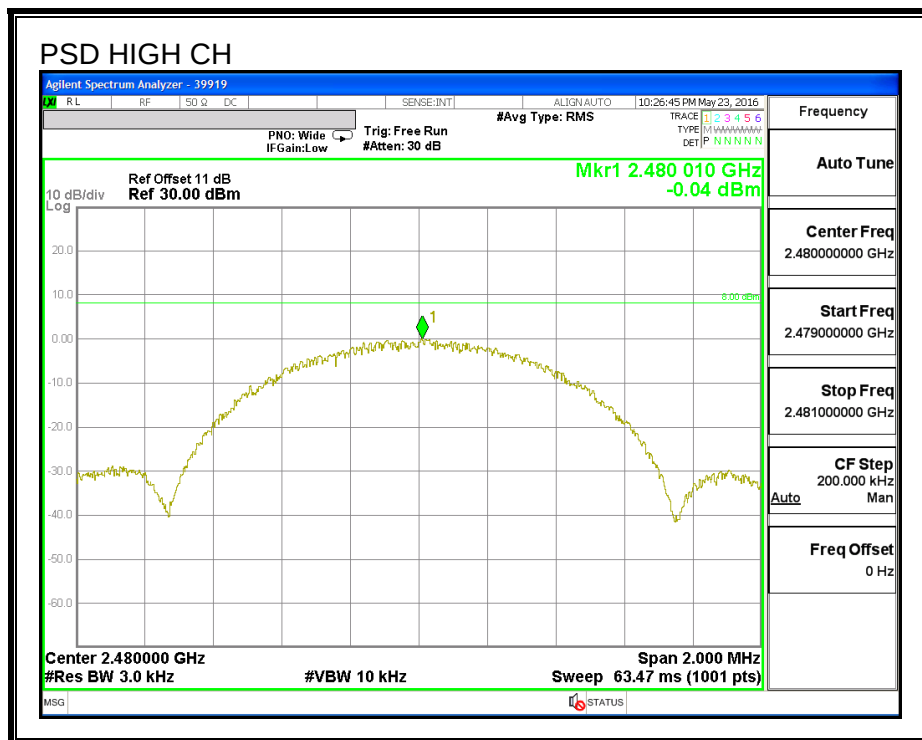
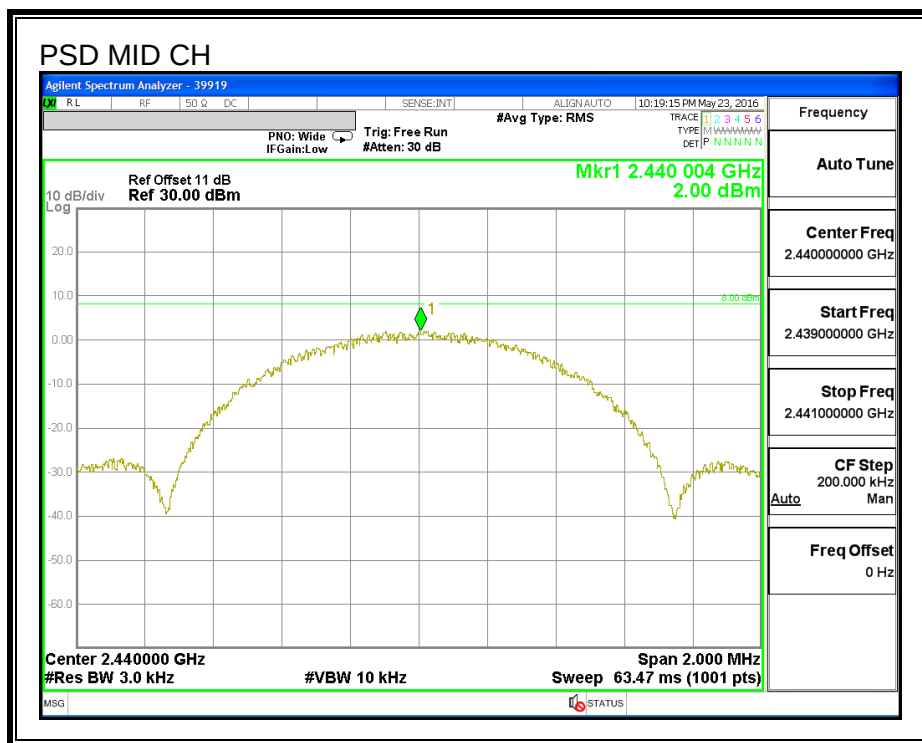
HIGH POWER

Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2402	0.71	8	-7.29
Middle	2440	2.00	8	-6.00
High	2480	-0.04	8	-8.04

POWER SPECTRAL DENSITY LOW POWER







7.8. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

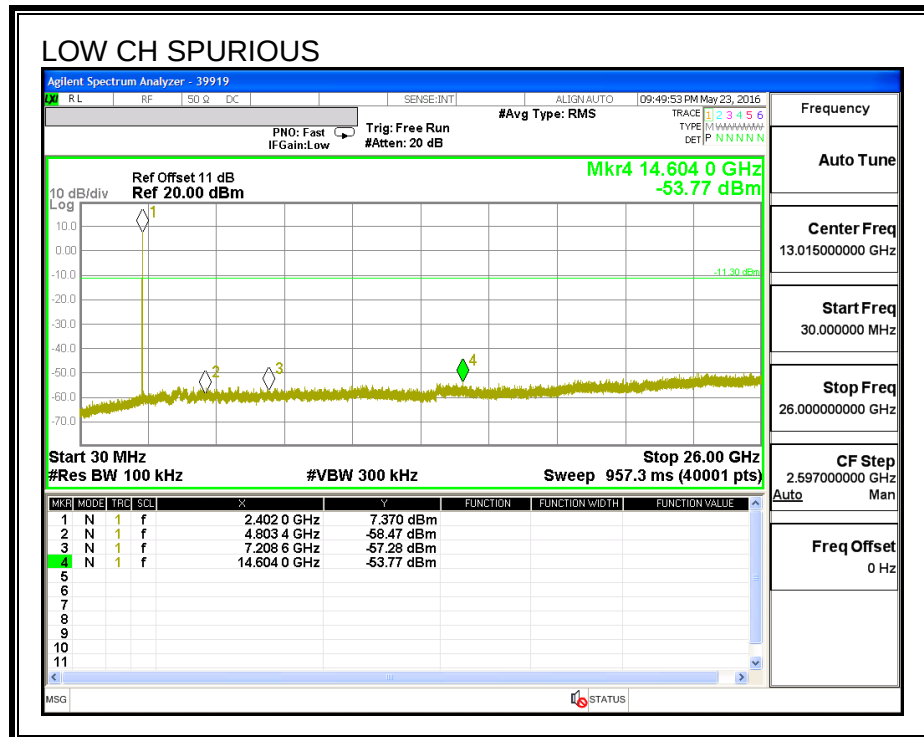
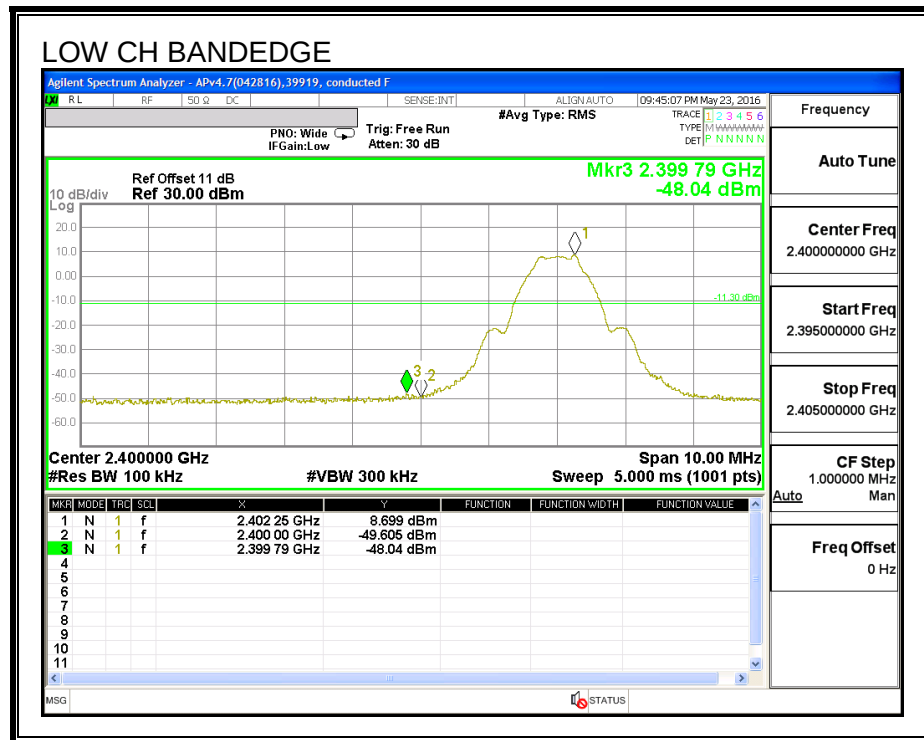
IC RSS-247 (5.5)

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

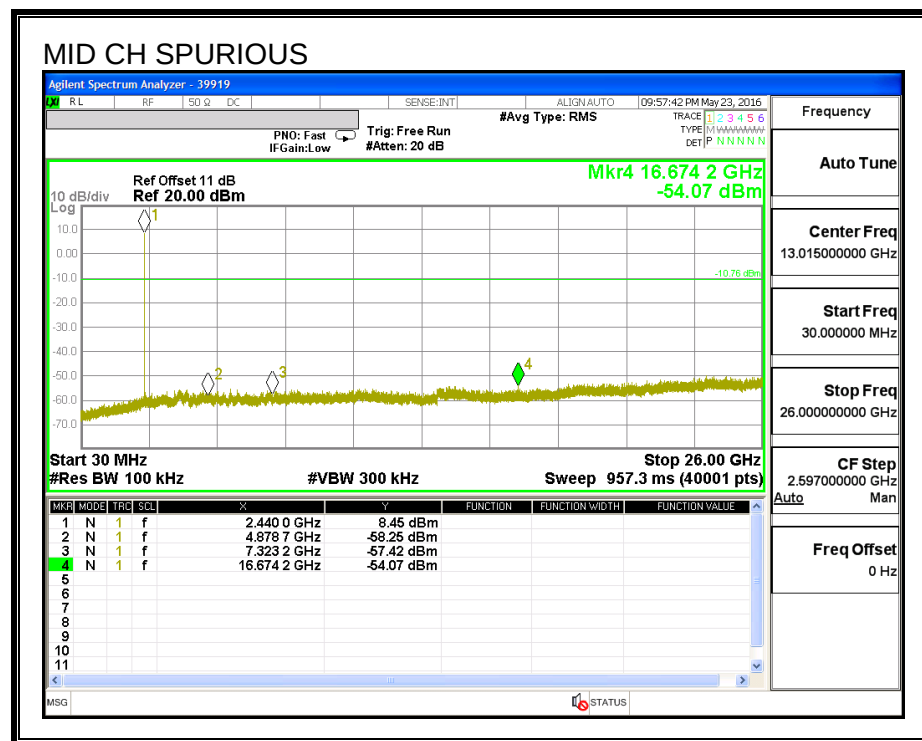
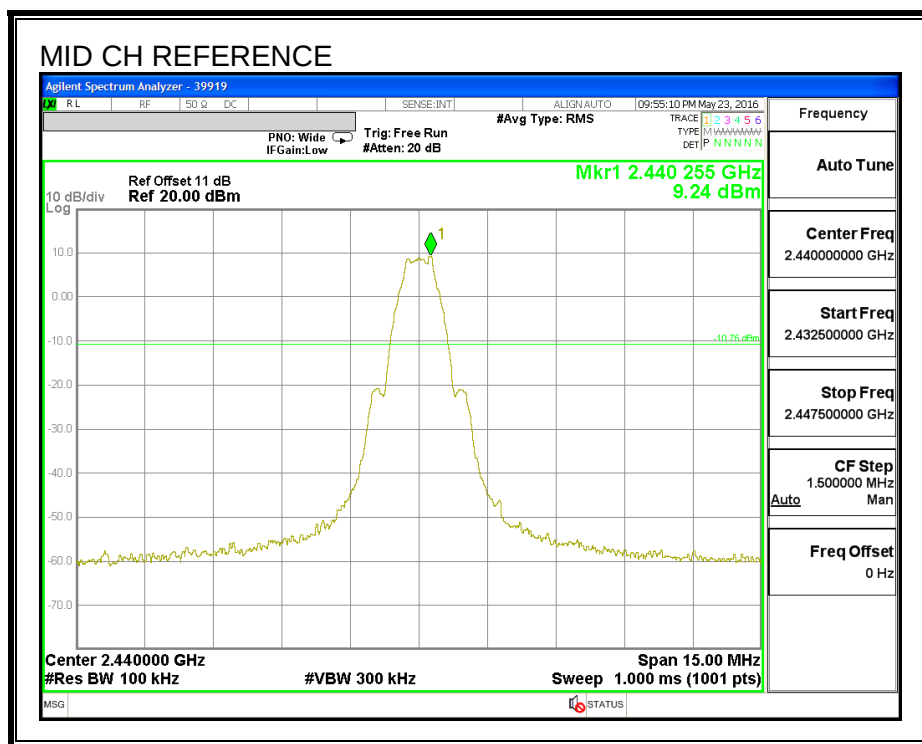
RESULTS

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

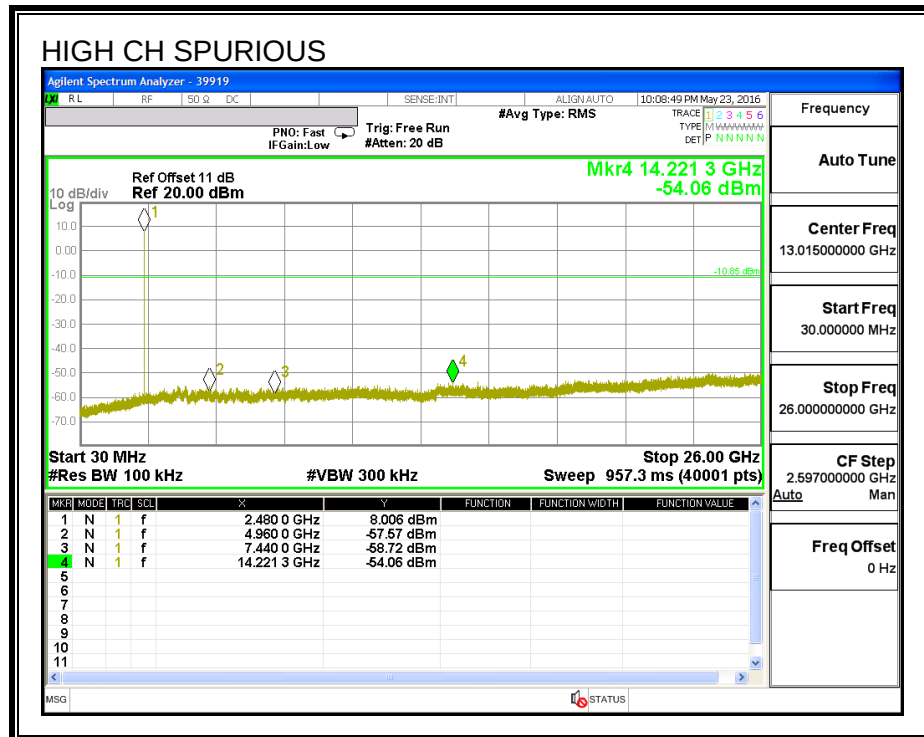
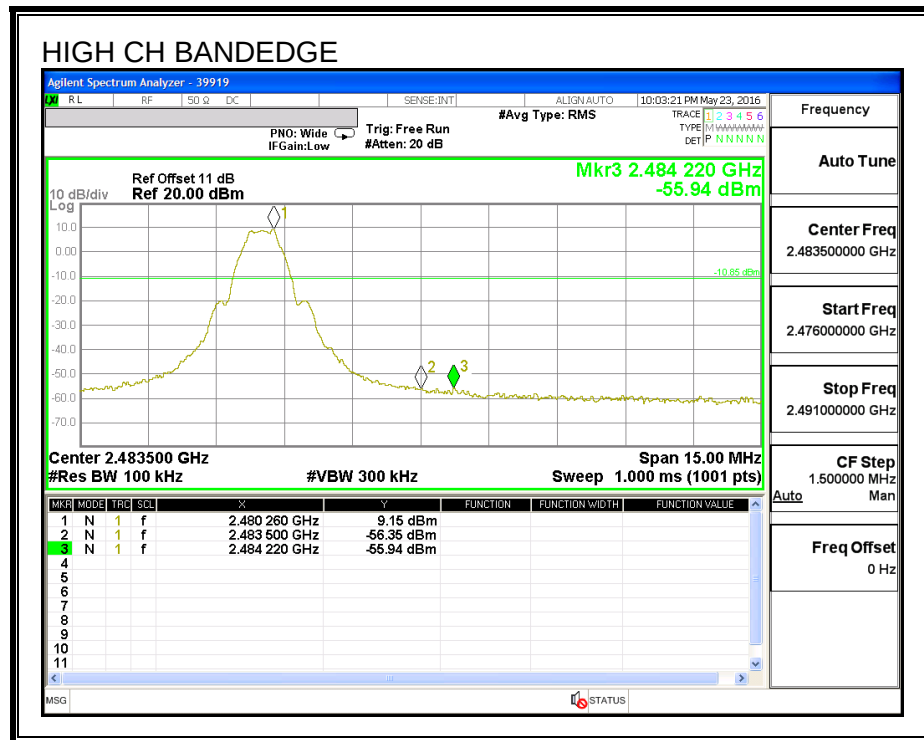
SPURIOUS EMISSIONS, LOW CHANNEL LOW POWER



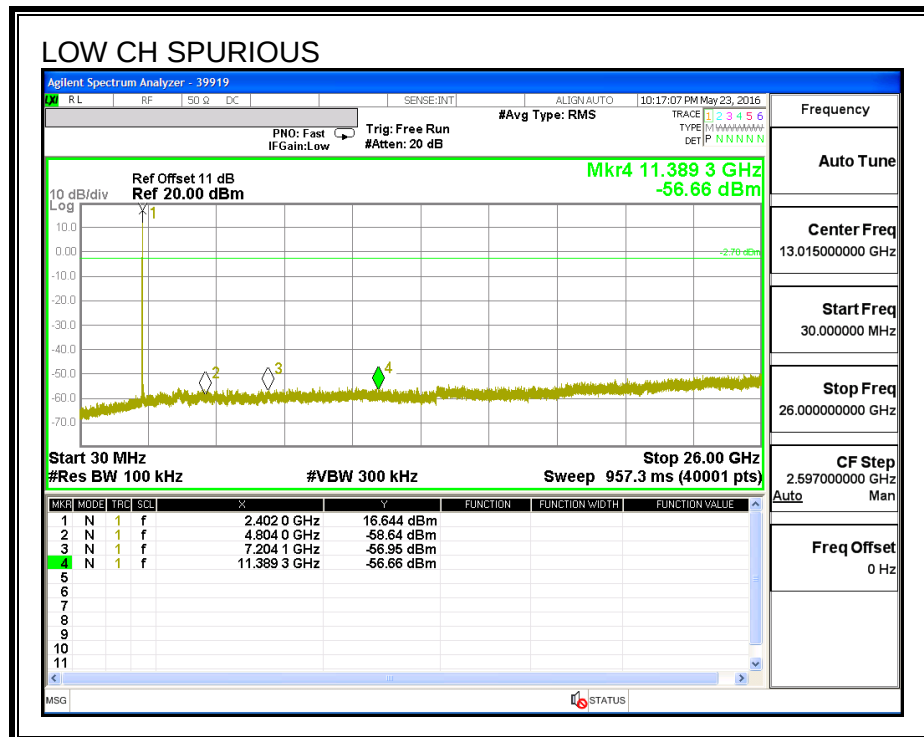
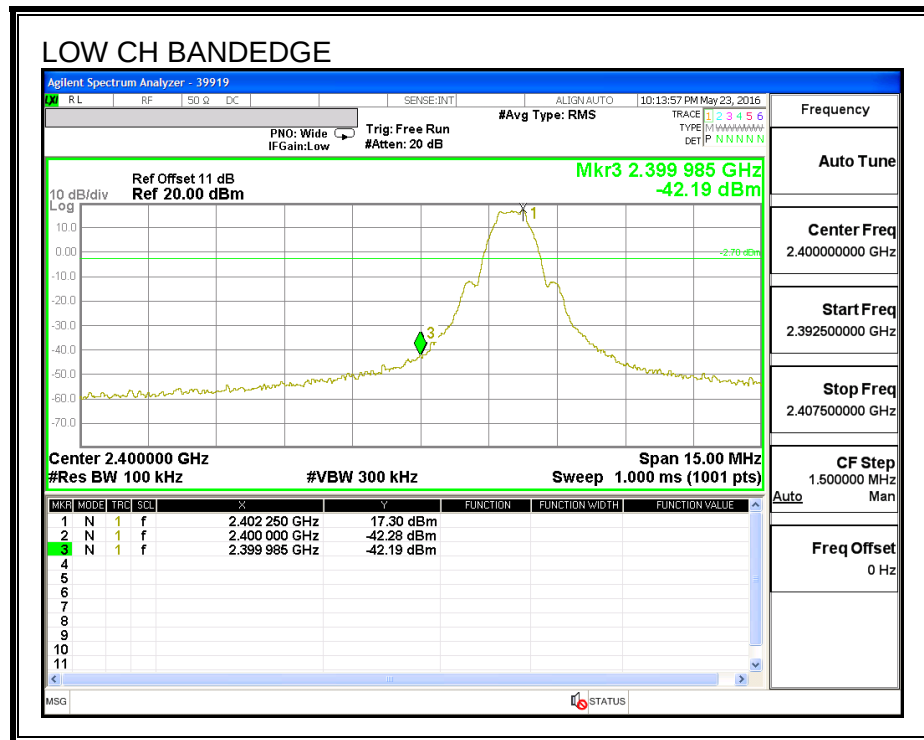
SPURIOUS EMISSIONS, MID CHANNEL LOW POWER



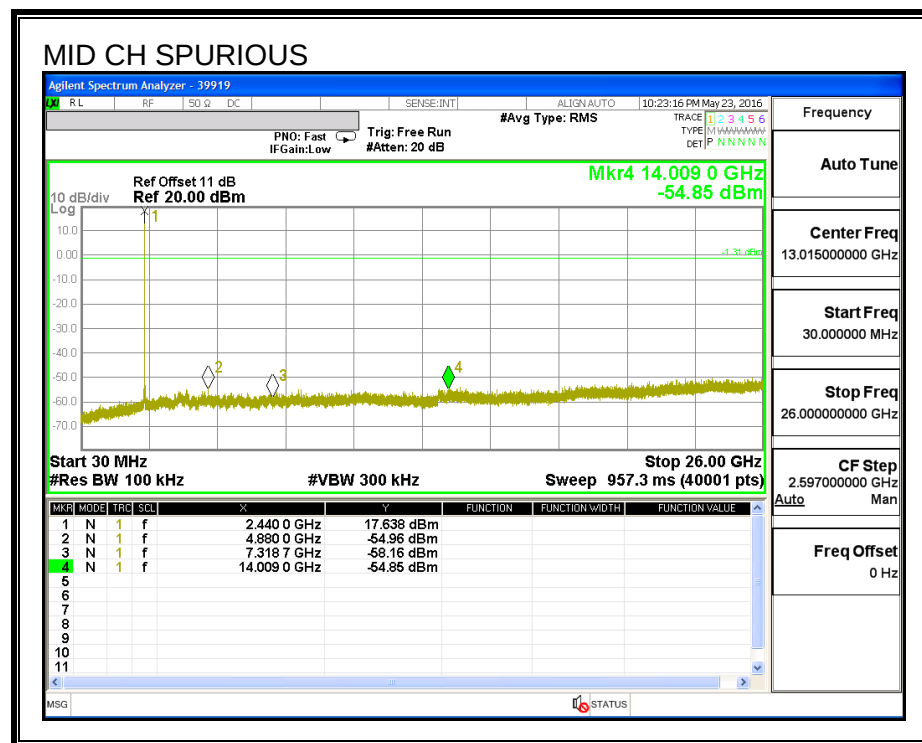
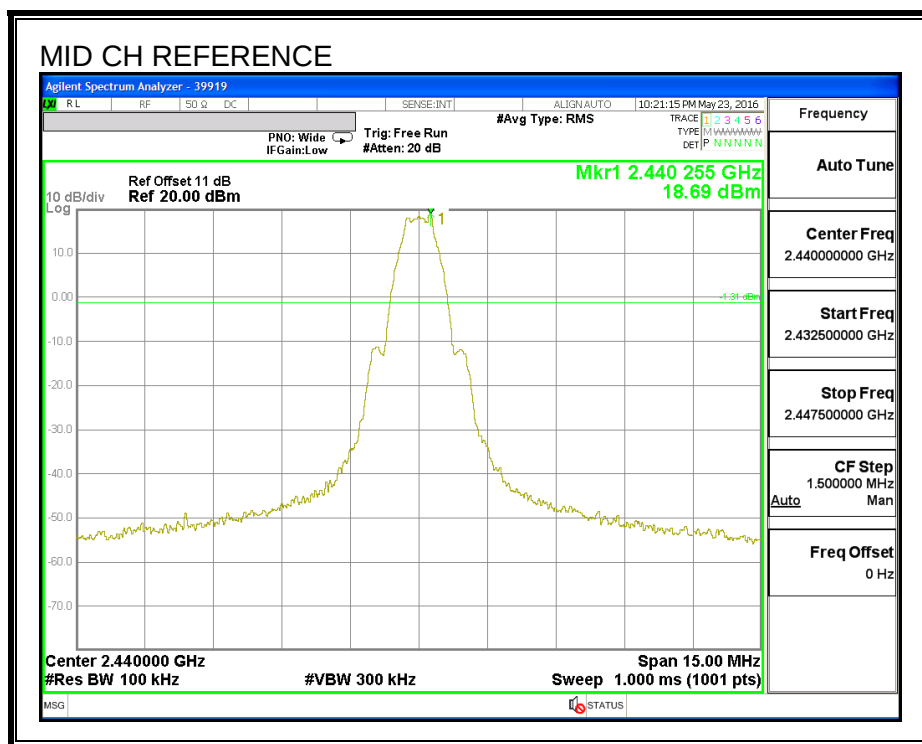
SPURIOUS EMISSIONS, HIGH CHANNEL LOW POWER



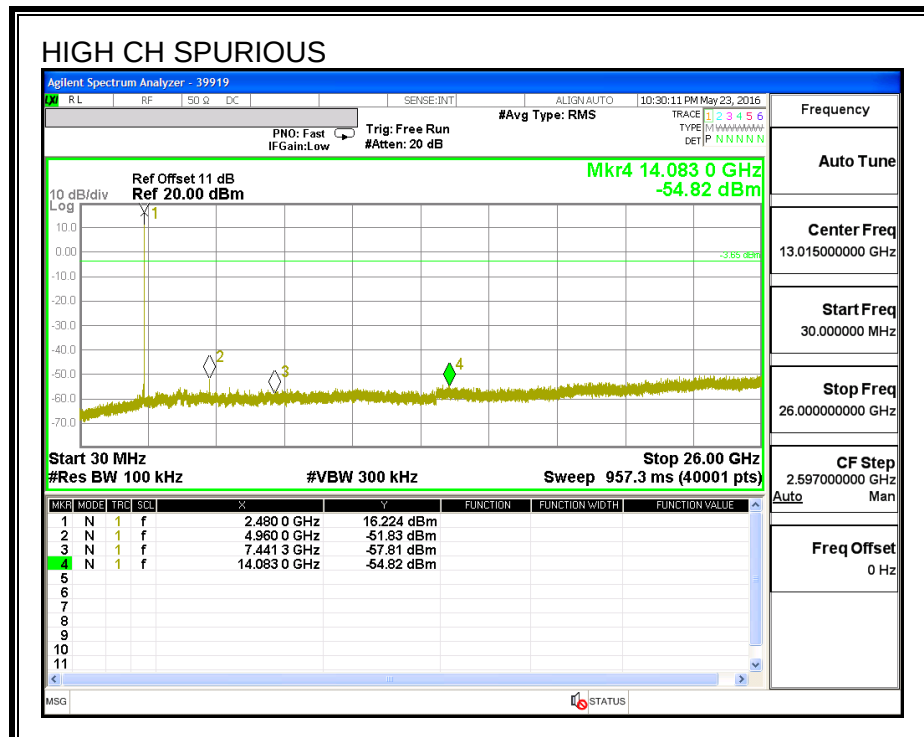
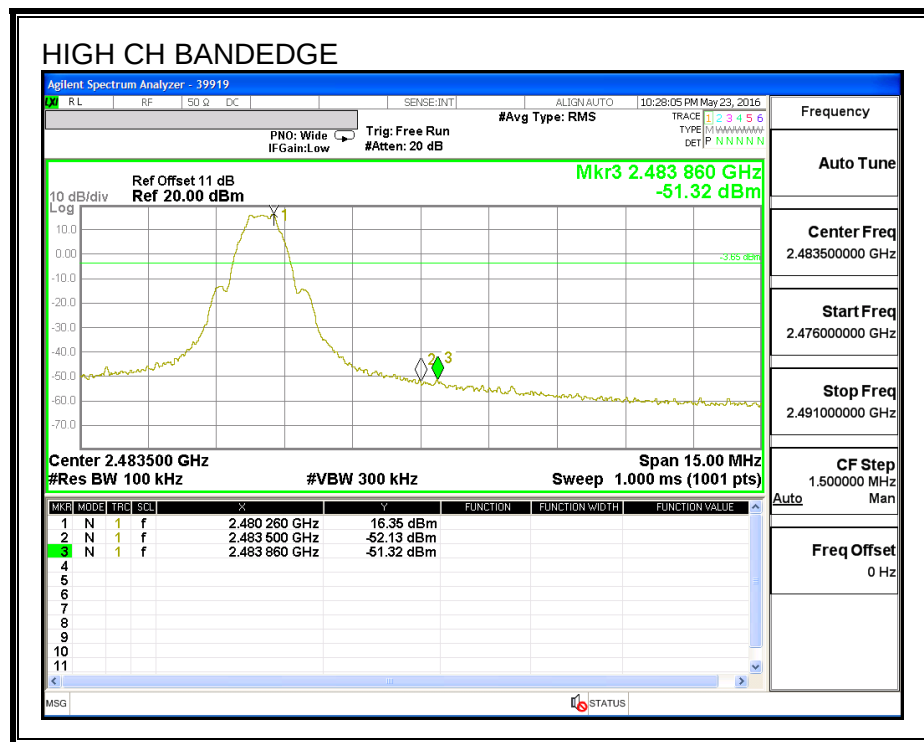
SPURIOUS EMISSIONS, LOW CHANNEL HIGH POWER



SPURIOUS EMISSIONS, MID CHANNEL HIGH POWER



SPURIOUS EMISSIONS, HIGH CHANNEL HIGH POWER



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.

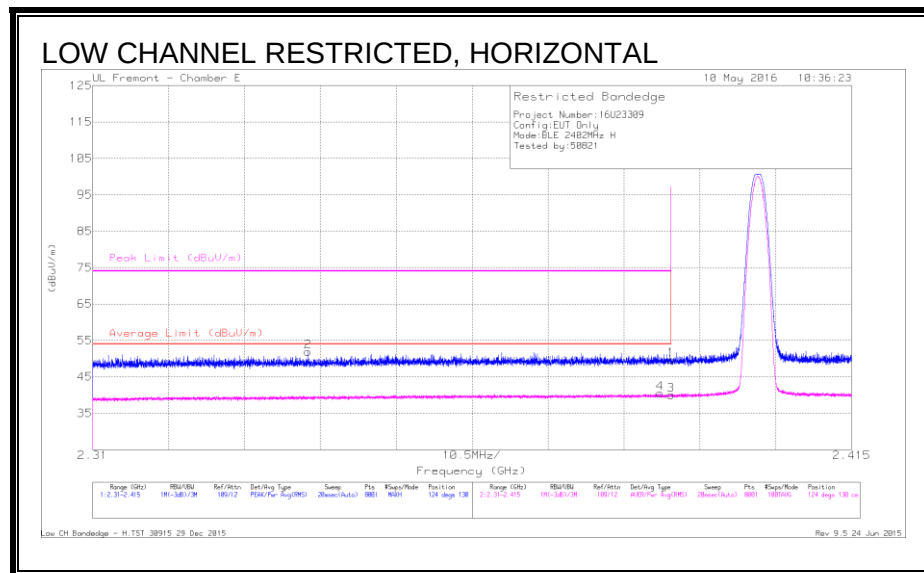
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

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



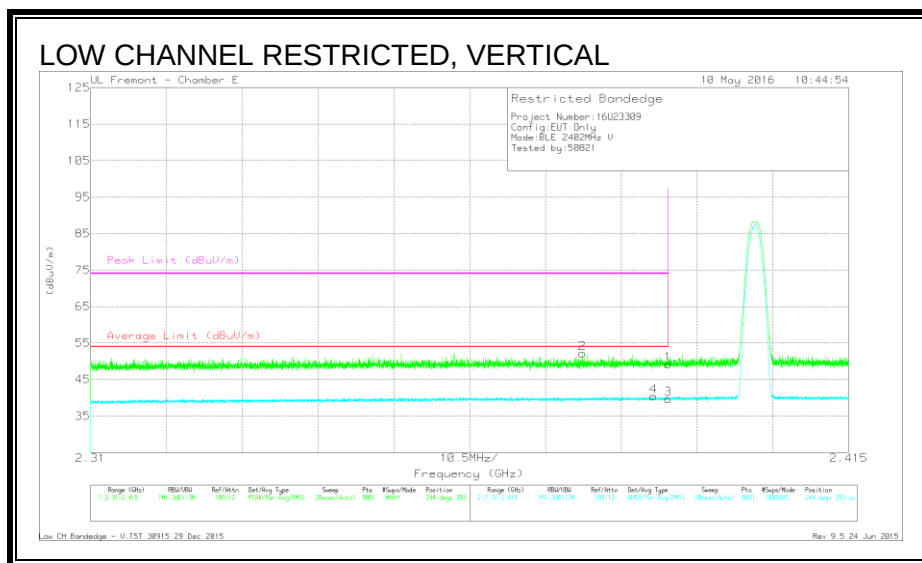
DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/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	37.46	Pk	32.1	-19.9	49.66	-	-	74	-24.34	124	130	H
2	* 2.34	40.4	Pk	31.7	-20.2	51.9	-	-	74	-22.1	124	130	H
3	* 2.39	27.84	RMS	32.1	-19.9	40.04	54	-13.96	-	-	124	130	H
4	* 2.389	28.23	RMS	32.1	-19.9	40.43	54	-13.57	-	-	124	130	H

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

Pk - Peak detector

RMS - RMS detection



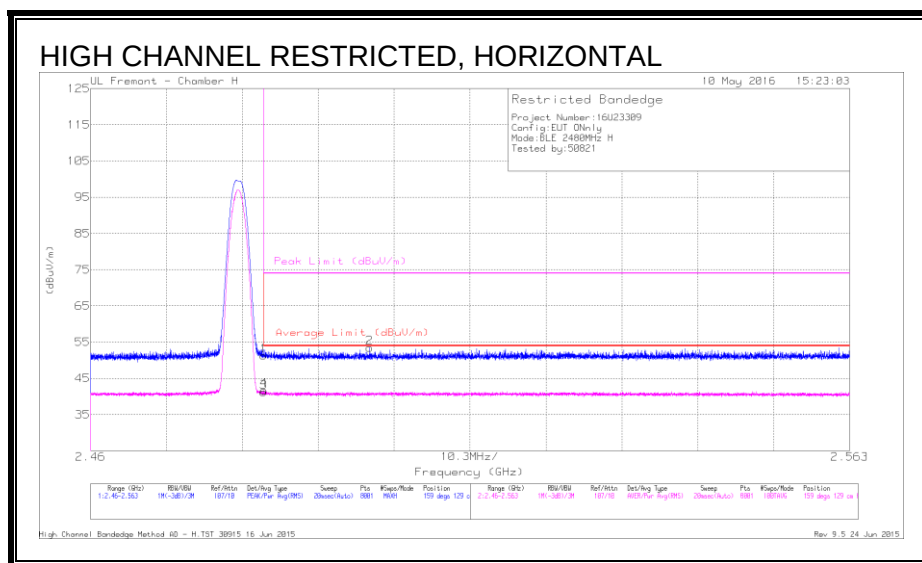
DATA

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	* 2.378	40.18	Pk	32	-20	52.18	-	-	74	-21.82	244	393	V
4	* 2.388	28.16	RMS	32.1	-19.9	40.36	54	-13.64	-	-	244	393	V
1	* 2.39	36.94	Pk	32.1	-19.9	49.14	-	-	74	-24.86	244	393	V
3	* 2.39	27.44	RMS	32.1	-19.9	39.64	54	-14.36	-	-	244	393	V

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

Pk - Peak detector

RMS - RMS detection



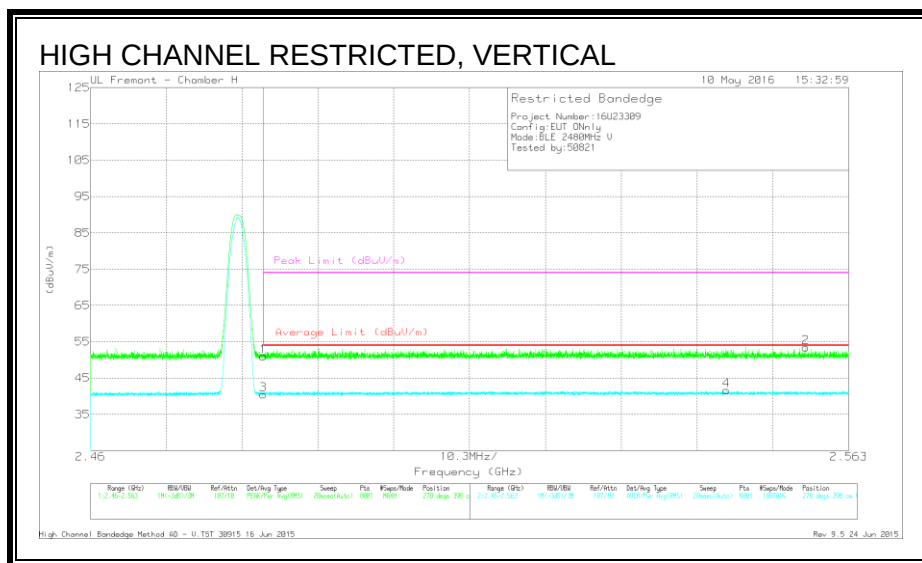
DATA

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	40.78	Pk	32.2	-21.7	51.28	-	-	74	-22.72	159	129	H
2	* 2.498	43.01	Pk	32.2	-21.7	53.51	-	-	74	-20.49	159	129	H
3	* 2.484	30.72	RMS	32.2	-21.7	41.22	54	-12.78	-	-	159	129	H
4	* 2.484	31.27	RMS	32.2	-21.7	41.77	54	-12.23	-	-	159	129	H

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

Pk - Peak detector

RMS - RMS detection



DATA

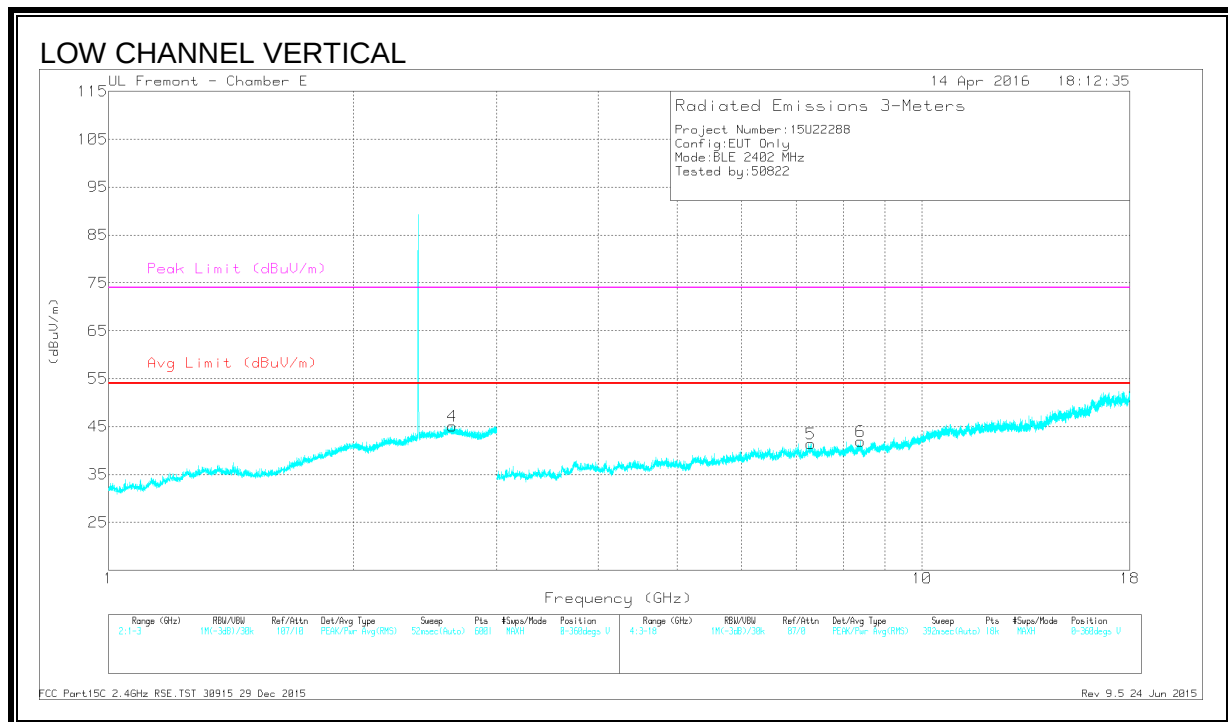
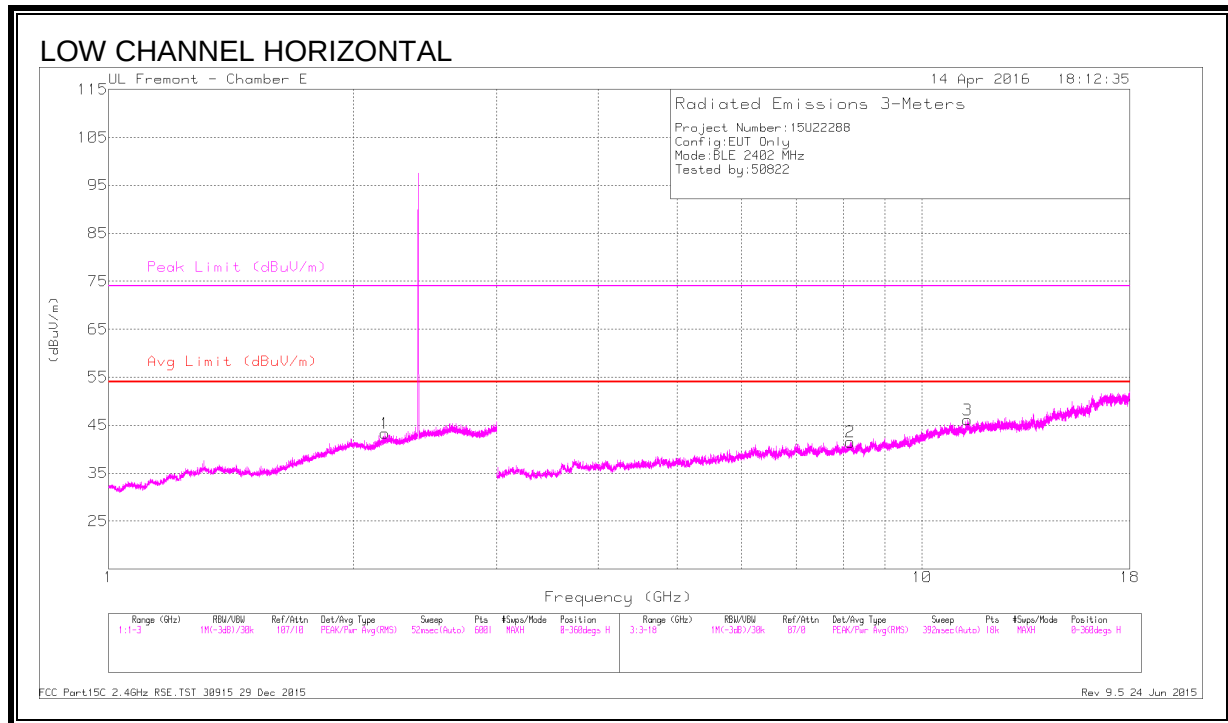
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	40.48	Pk	32.2	-21.7	50.98	-	-	74	-23.02	270	398	V
3	* 2.484	30.03	RMS	32.2	-21.7	40.53	54	-13.47	-	-	270	398	V
4	2.546	30.92	RMS	32.2	-21.5	41.62	54	-12.38	-	-	270	398	V
2	2.557	42.63	Pk	32.2	-21.4	53.43	-	-	74	-20.57	270	398	V

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

Pk - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS



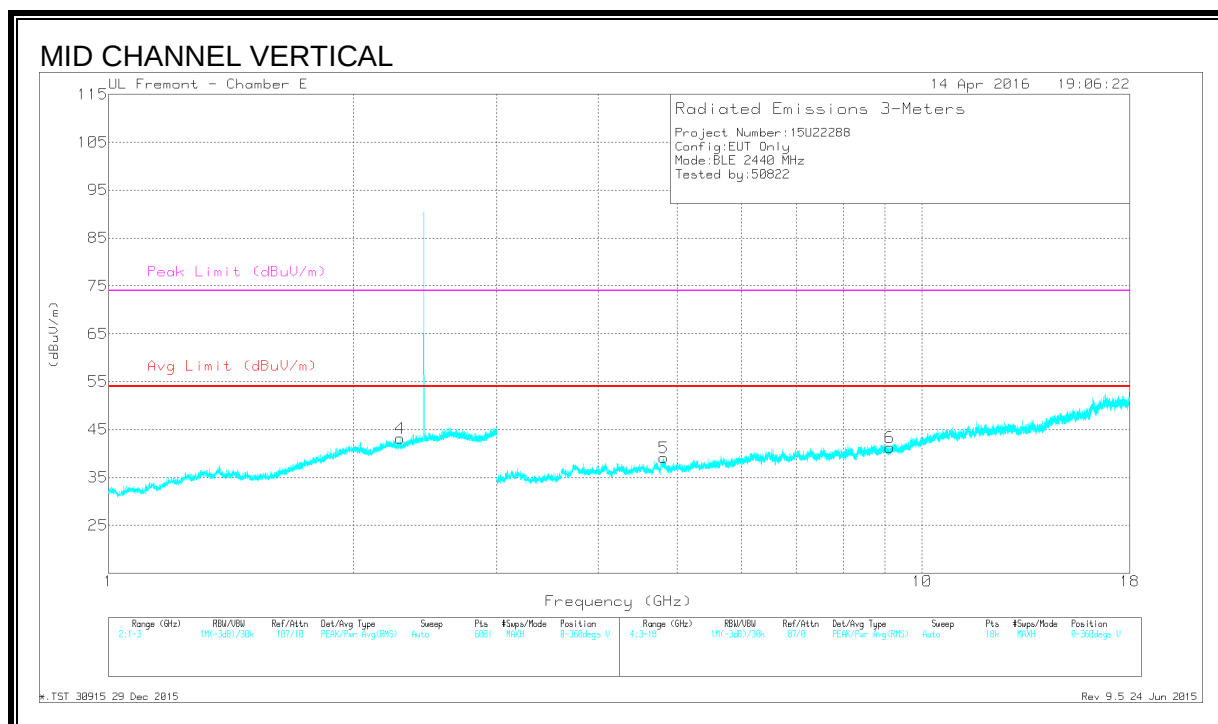
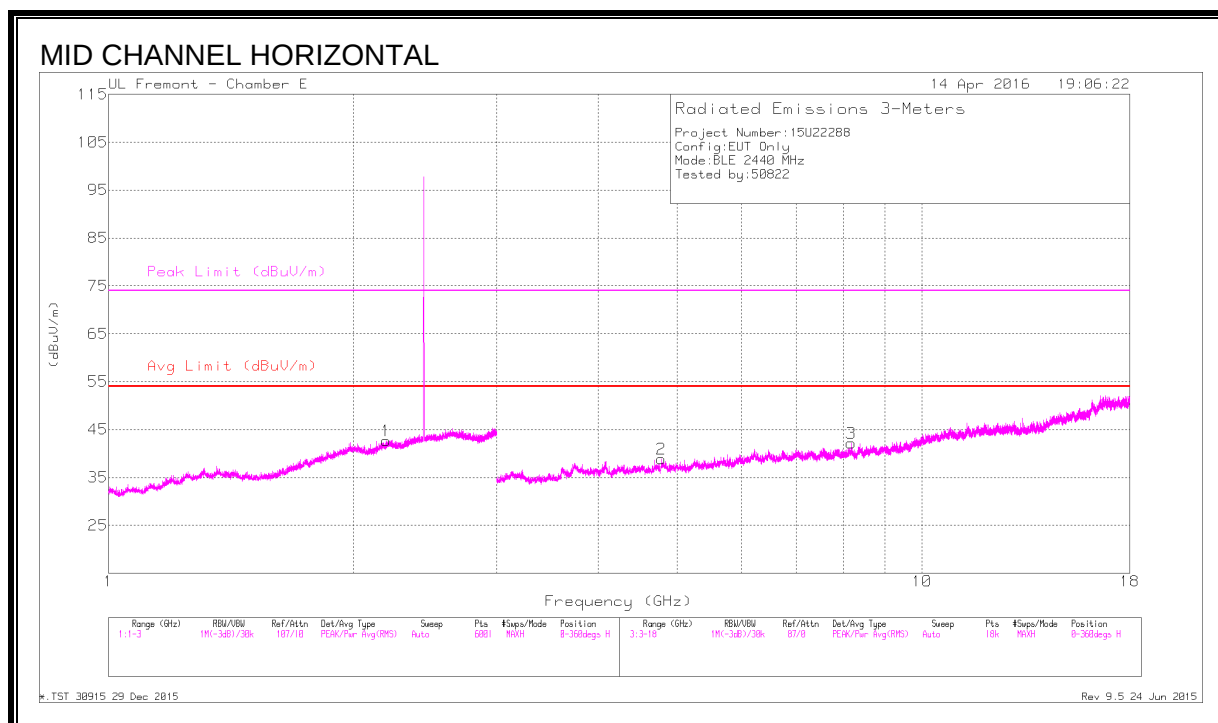
DATA

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
2	* 8.16	38.8	PK2	35.7	-25.8	48.7	-	-	74	-25.3	98	280	H
	* 8.159	25.39	MAv1	35.7	-25.8	35.29	54	-18.71	-	-	98	280	H
3	* 11.361	37.72	PK2	38.2	-23	52.92	-	-	74	-21.08	168	225	H
	* 11.361	24.27	MAv1	38.2	-23	39.47	54	-14.53	-	-	168	225	H
5	* 7.293	38.57	PK2	35.6	-26.4	47.77	-	-	74	-26.23	334	300	V
	* 7.289	25.99	MAv1	35.6	-26.4	35.19	54	-18.81	-	-	334	300	V
6	* 8.398	38.33	PK2	35.7	-25.3	48.73	-	-	74	-25.27	118	233	V
	* 8.396	25.42	MAv1	35.7	-25.4	35.72	54	-18.28	-	-	118	233	V
1	2.185	37.89	PK2	31.7	-20.2	49.39	-	-	-	-	12	258	H
	2.186	24.16	MAv1	31.7	-20.2	35.66	-	-	-	-	12	258	H
4	2.642	38.37	PK2	32.6	-19.7	51.27	-	-	-	-	229	272	V
	2.644	25.13	MAv1	32.6	-19.7	38.03	-	-	-	-	229	272	V

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

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average



DATA

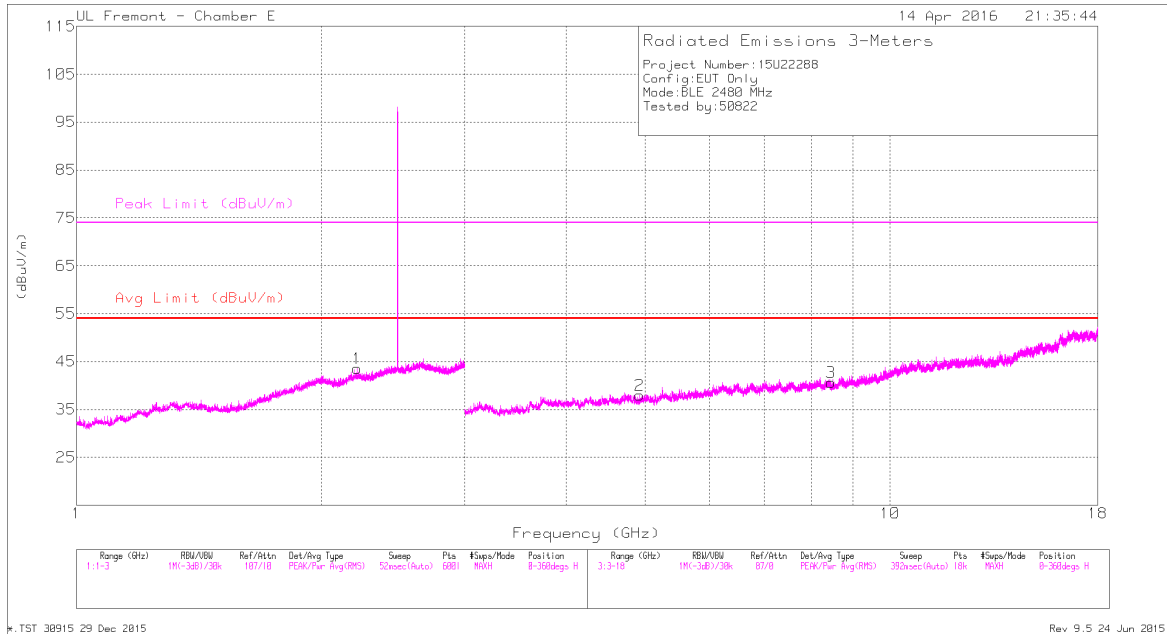
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 2.285	37.95	PK2	31.5	-20.1	49.35	-	-	74	-24.65	69	104	V
	* 2.283	24.34	MAv1	31.5	-20.1	35.74	54	-18.26	-	-	69	104	V
2	* 4.782	41.47	PK2	34	-29.4	46.07	-	-	74	-27.93	288	245	H
	* 4.784	28.59	MAv1	34	-29.4	33.19	54	-20.81	-	-	288	245	H
3	* 8.179	38.36	PK2	35.8	-26.2	47.96	-	-	74	-26.04	360	333	H
	* 8.182	25.66	MAv1	35.8	-26.2	35.26	54	-18.74	-	-	360	333	H
5	* 4.813	41.27	PK2	34	-30	45.27	-	-	74	-28.73	88	290	V
	* 4.812	28.51	MAv1	34	-30	32.51	54	-21.49	-	-	88	290	V
6	* 9.123	38.29	PK2	36.2	-26.3	48.19	-	-	74	-25.81	8	298	V
	* 9.122	25.44	MAv1	36.2	-26.3	35.34	54	-18.66	-	-	8	298	V
1	2.194	37.09	PK2	31.8	-20.1	48.79	-	-	-	-	164	286	H
	2.195	24.17	MAv1	31.8	-20.1	35.87	-	-	-	-	164	286	H

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

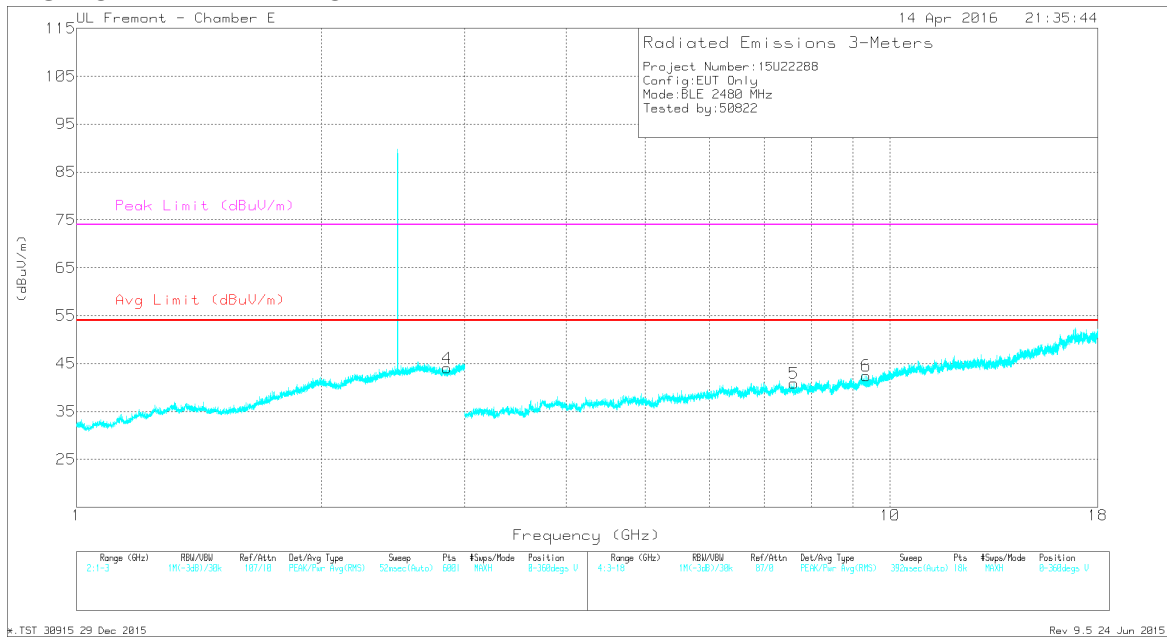
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL HORIZONTAL



HIGH CHANNEL VERTICAL



DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF 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	* 2.209	37.75	PK2	31.8	-20	49.55	-	-	74	-24.45	278	296	H
	* 2.211	24.24	MAv1	31.8	-20	36.04	54	-17.96	-	-	278	296	H
4	* 2.851	38.37	PK2	32.2	-19.8	50.77	-	-	74	-23.23	67	315	V
	* 2.851	24.7	MAv1	32.1	-19.8	37	54	-17	-	-	67	315	V
2	* 4.925	40.65	PK2	34	-30.6	44.05	-	-	74	-29.95	198	142	H
	* 4.923	28.28	MAv1	34	-30.6	31.68	54	-22.32	-	-	198	142	H
3	* 8.461	38.06	PK2	35.7	-26.2	47.56	-	-	74	-26.44	8	137	H
	* 8.459	25.45	MAv1	35.7	-26.2	34.95	54	-19.05	-	-	8	137	H
5	* 7.613	37.64	PK2	35.7	-26.4	46.94	-	-	74	-27.06	244	109	V
	* 7.615	25.15	MAv1	35.7	-26.5	34.35	54	-19.65	-	-	244	109	V
6	* 9.34	38.06	PK2	36.2	-25.7	48.56	-	-	74	-25.44	165	214	V
	* 9.342	25.1	MAv1	36.2	-25.7	35.6	54	-18.4	-	-	165	214	V

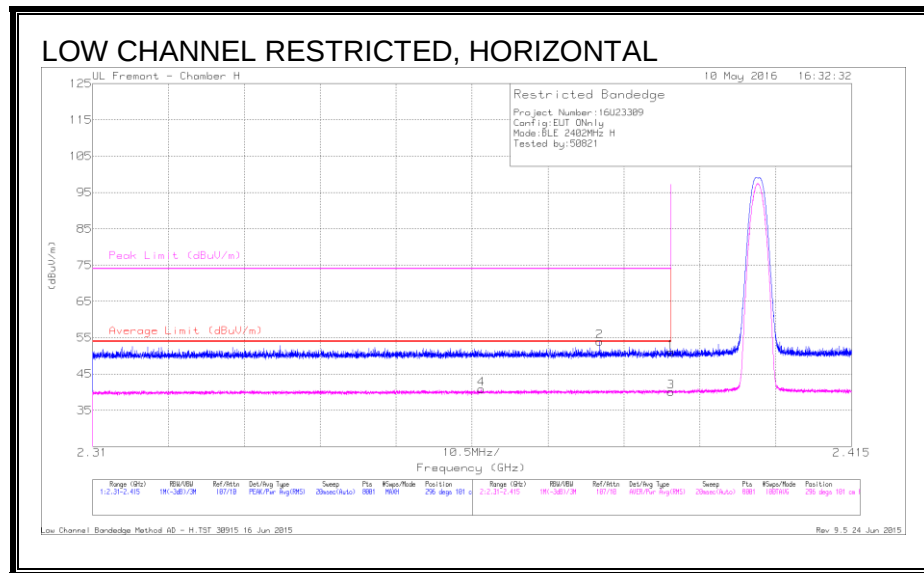
indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

8.2.2. HIGH POWER,

RESTRICTED BANDEDGE



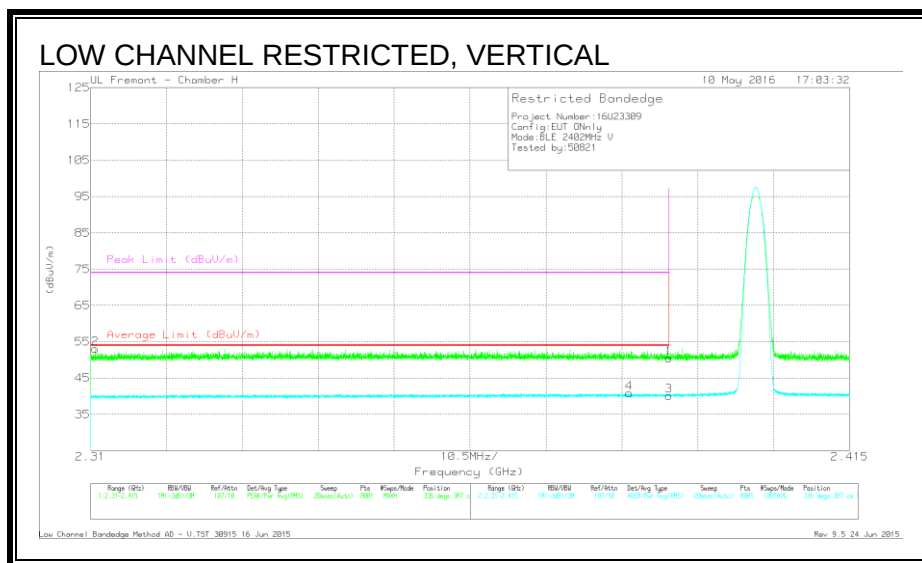
DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/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	* 2.39	41.07	Pk	31.9	-21.9	51.07	-	-	74	-22.93	296	101	H
2	* 2.38	43.96	Pk	31.9	-21.9	53.96	-	-	74	-20.04	296	101	H
3	* 2.39	30.18	RMS	31.9	-21.9	40.18	54	-13.82	-	-	296	101	H
4	* 2.364	30.96	RMS	31.8	-21.9	40.86	54	-13.14	-	-	296	101	H

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

Pk - Peak detector

RMS - RMS detection



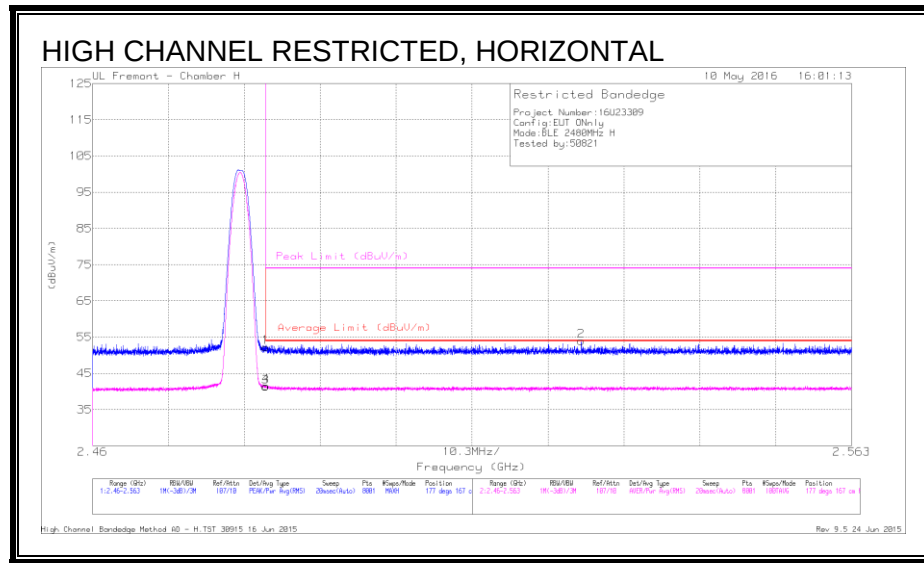
DATA

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	* 2.311	43.34	Pk	31.6	-21.9	53.04	-	-	74	-20.96	336	387	V
4	* 2.385	30.86	RMS	31.9	-21.9	40.86	54	-13.14	-	-	336	387	V
1	* 2.39	40.52	Pk	31.9	-21.9	50.52	-	-	74	-23.48	336	387	V
3	* 2.39	30.13	RMS	31.9	-21.9	40.13	54	-13.87	-	-	336	387	V

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

Pk - Peak detector

RMS - RMS detection



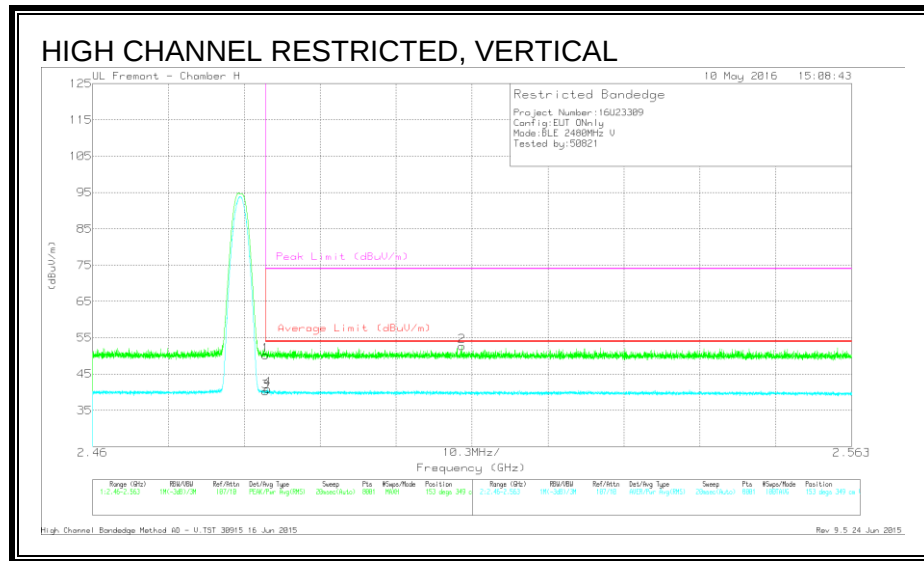
DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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	41.69	Pk	32.2	-21.7	52.19	-	-	74	-21.81	177	167	H
3	* 2.484	30.81	RMS	32.2	-21.7	41.31	54	-12.69	-	-	177	167	H
4	* 2.484	31.04	RMS	32.2	-21.7	41.54	54	-12.46	-	-	177	167	H
2	2.526	43.23	Pk	32.2	-21.5	53.93	-	-	74	-20.07	177	167	H

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

Pk - Peak detector

RMS - RMS detection



DATA

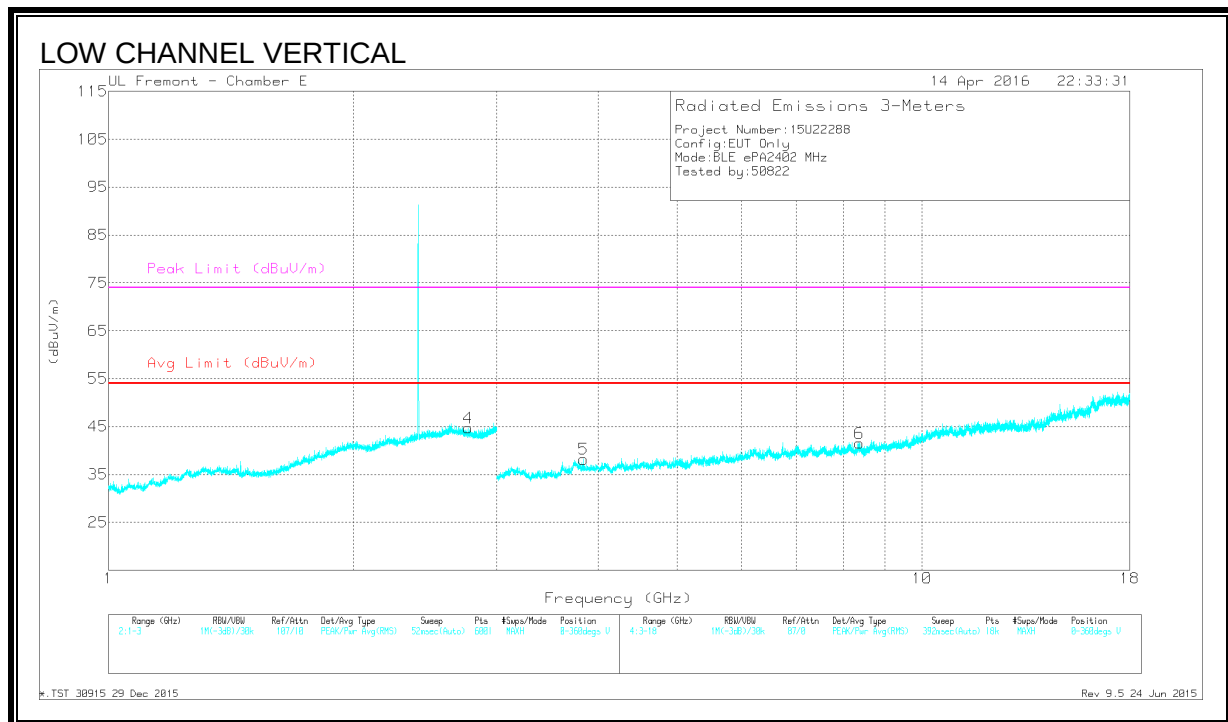
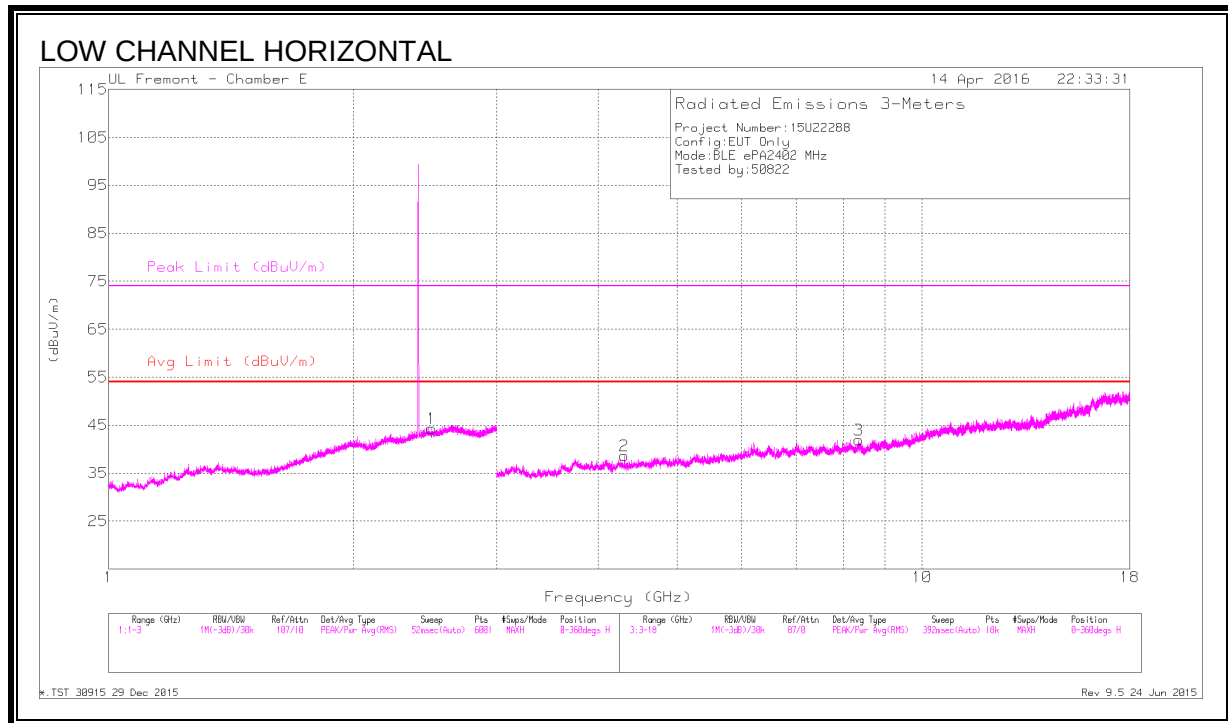
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (dB/m)	Amp/Cbl/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	39.75	Pk	32.2	-21.7	50.25	-	-	74	-23.75	153	349	V
3	* 2.484	29.69	RMS	32.2	-21.7	40.19	54	-13.81	-	-	153	349	V
4	* 2.484	30.33	RMS	32.2	-21.7	40.83	54	-13.17	-	-	153	349	V
2	2.51	42.14	Pk	32.2	-21.6	52.74	-	-	74	-21.26	153	349	V

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

Pk - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS



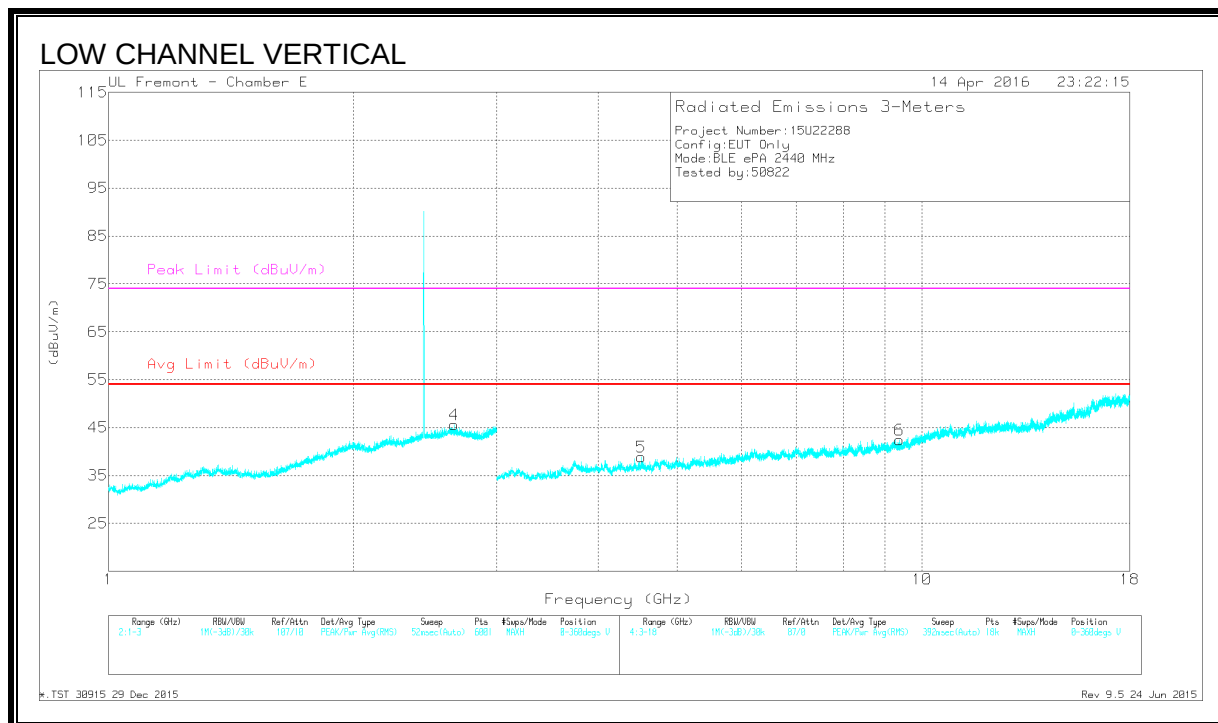
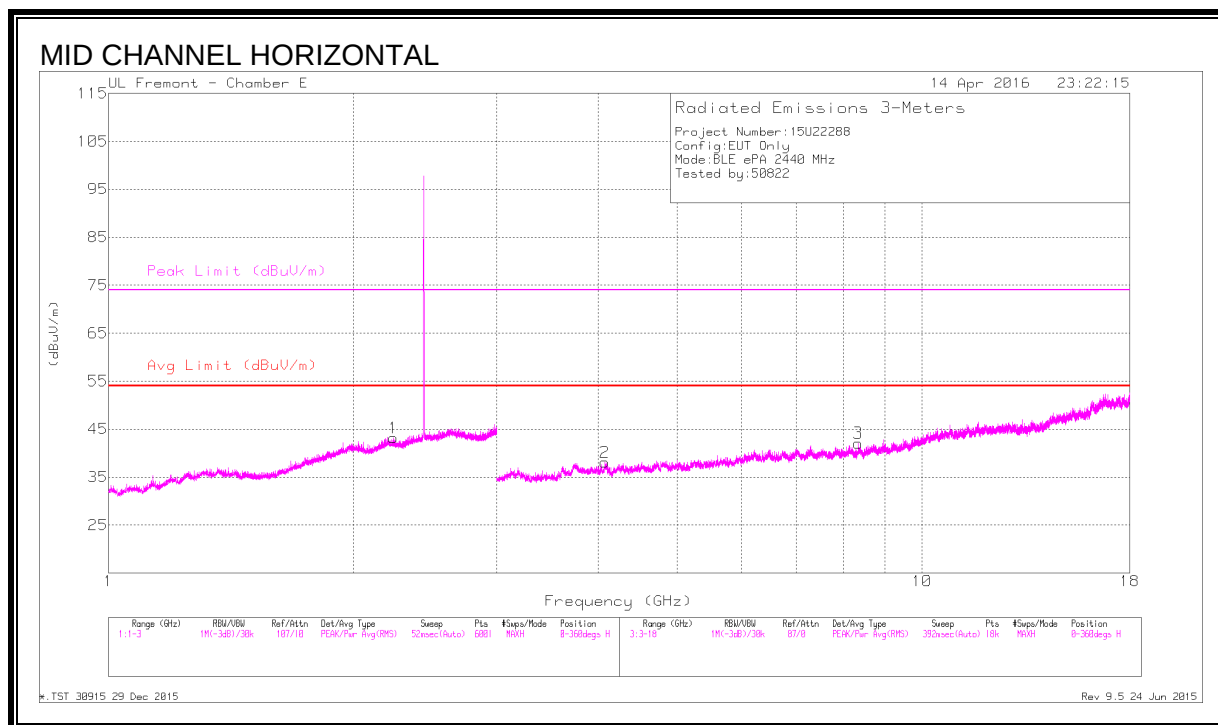
DATA

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	* 2.496	38.17	PK2	32.3	-20.1	50.37	-	-	74	-23.63	31	372	H
	* 2.495	24.97	MAv1	32.3	-20.1	37.17	54	-16.83	-	-	31	372	H
4	* 2.767	38.45	PK2	32.5	-20	50.95	-	-	74	-23.05	355	325	V
	* 2.769	24.96	MAv1	32.5	-20	37.46	54	-16.54	-	-	355	325	V
2	* 4.306	42.07	PK2	33.3	-30.1	45.27	-	-	74	-28.73	275	225	H
	* 4.309	28.55	MAv1	33.4	-30.2	31.75	54	-22.25	-	-	275	225	H
3	* 8.361	38.72	PK2	35.7	-26.1	48.32	-	-	74	-25.68	15	274	H
	* 8.361	25.86	MAv1	35.7	-26.1	35.46	54	-18.54	-	-	15	274	H
5	* 3.836	42.94	PK2	33.2	-31.2	44.94	-	-	74	-29.06	224	135	V
	* 3.838	29.88	MAv1	33.2	-31.2	31.88	54	-22.12	-	-	224	135	V
6	* 8.373	38.45	PK2	35.7	-26	48.15	-	-	74	-25.85	103	338	V
	* 8.373	25.75	MAv1	35.7	-26	35.45	54	-18.55	-	-	103	338	V

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

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average



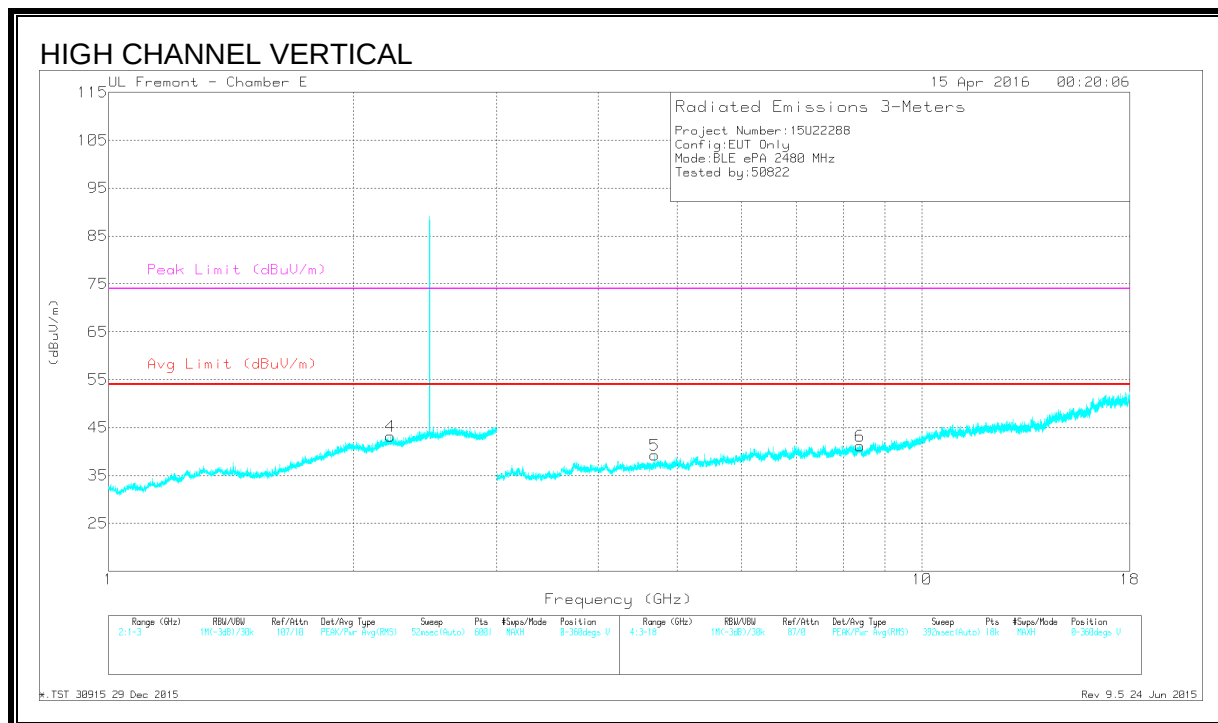
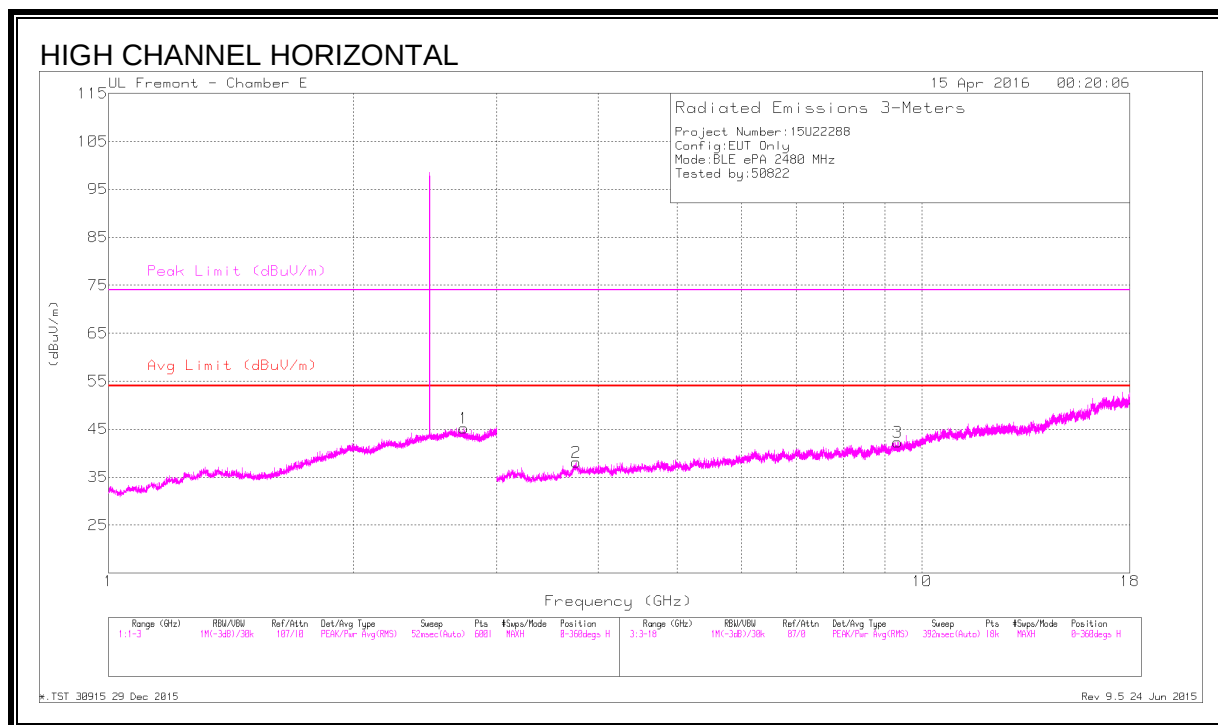
DATA

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	* 2.237	37.66	PK2	31.7	-20	49.36	-	-	74	-24.64	0	204	H
	* 2.238	24.27	MAv1	31.7	-20	35.97	54	-18.03	-	-	0	204	H
4	* 2.659	38.46	PK2	32.6	-19.6	51.46	-	-	74	-22.54	35	362	V
	* 2.657	25.12	MAv1	32.6	-19.7	38.02	54	-15.98	-	-	35	362	V
2	* 4.074	41.87	PK2	33.3	-30.8	44.37	-	-	74	-29.63	311	158	H
	* 4.077	29.02	MAv1	33.3	-30.8	31.52	54	-22.48	-	-	311	158	H
3	* 8.343	38.66	PK2	35.7	-26.3	48.06	-	-	74	-25.94	4	360	H
	* 8.342	25.96	MAv1	35.7	-26.3	35.36	54	-18.64	-	-	4	360	H
5	* 4.518	41.29	PK2	33.7	-29.8	45.19	-	-	74	-28.81	326	134	V
	* 4.518	28.15	MAv1	33.7	-29.8	32.05	54	-21.95	-	-	326	134	V
6	* 9.382	38.56	PK2	36.3	-26.1	48.76	-	-	74	-25.24	186	364	V
	* 9.38	25.59	MAv1	36.3	-26	35.89	54	-18.11	-	-	186	364	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	* 2.736	37.92	PK2	32.5	-19.8	50.62	-	-	74	-23.38	348	356	H
	* 2.734	24.89	MAv1	32.5	-19.8	37.59	54	-16.41	-	-	348	356	H
4	* 2.218	37.89	PK2	31.8	-20	49.69	-	-	74	-24.31	194	163	V
	* 2.22	24.31	MAv1	31.8	-20	36.11	54	-17.89	-	-	194	163	V
2	* 3.756	41.08	PK2	33.1	-30.1	44.08	-	-	74	-29.92	51	271	H
	* 3.759	28.27	MAv1	33.1	-30.1	31.27	54	-22.73	-	-	51	271	H
3	* 9.327	37.22	PK2	36.2	-25.5	47.92	-	-	74	-26.08	0	342	H
	* 9.325	24.83	MAv1	36.2	-25.5	35.53	54	-18.47	-	-	0	342	H
5	* 4.694	41.04	PK2	34	-29.7	45.34	-	-	74	-28.66	31	157	V
	* 4.691	28.65	MAv1	34	-29.7	32.95	54	-21.05	-	-	31	157	V
6	* 8.389	38.37	PK2	35.7	-25.5	48.57	-	-	74	-25.43	246	376	V
	* 8.388	25.56	MAv1	35.7	-25.5	35.76	54	-18.24	-	-	246	376	V

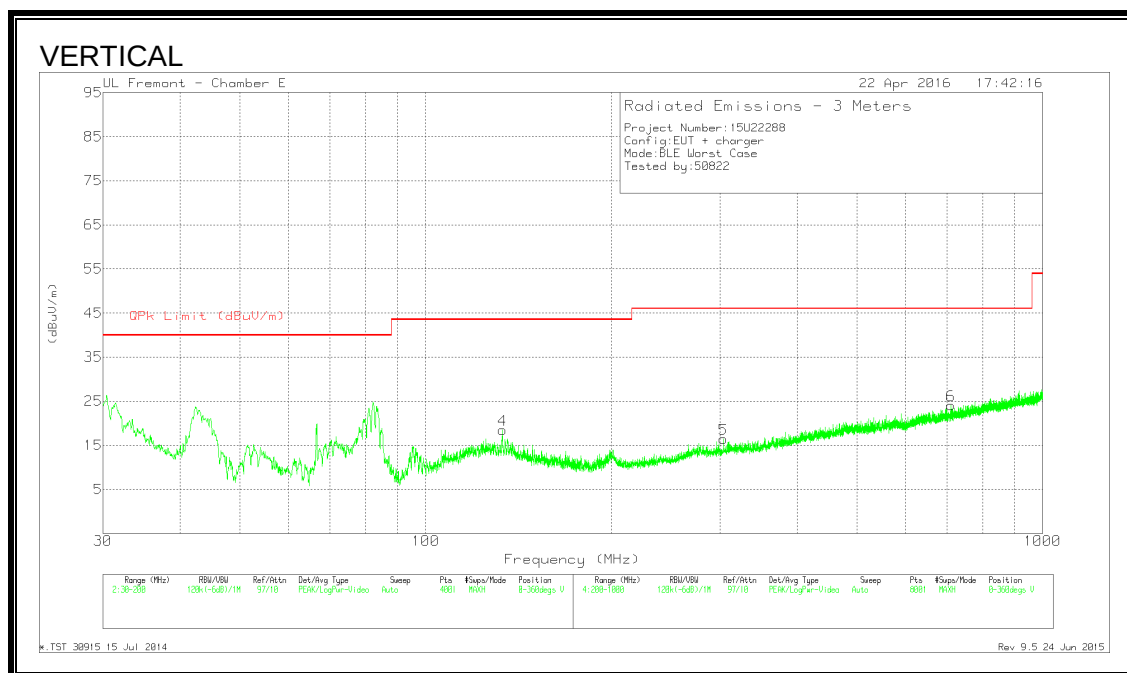
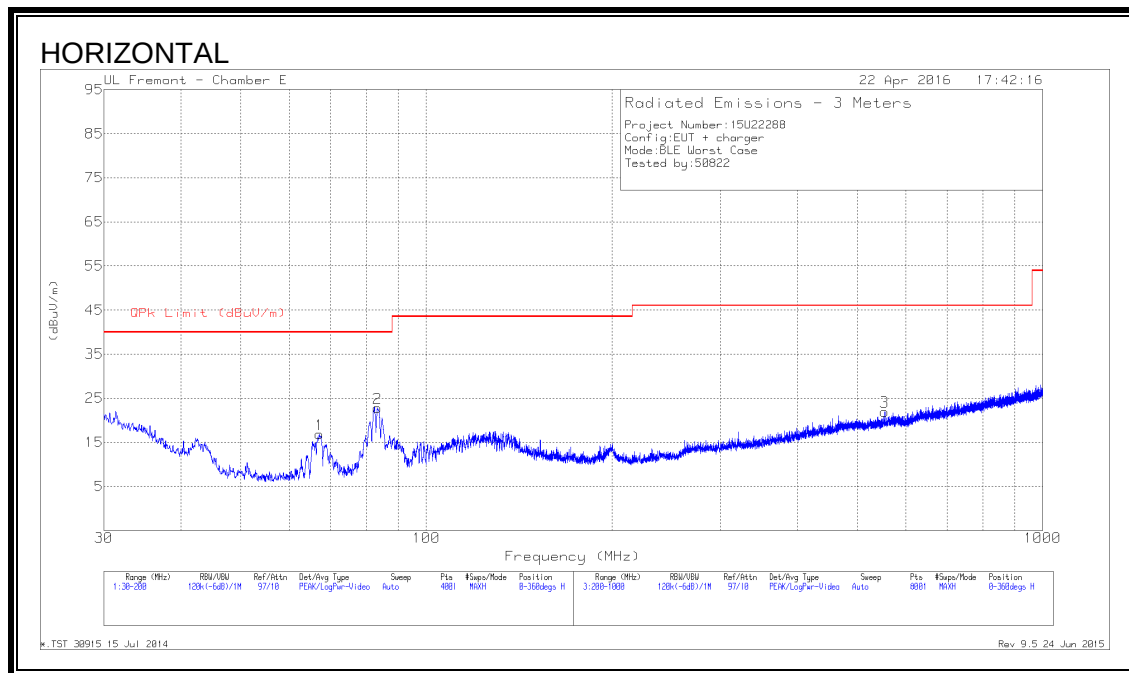
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

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

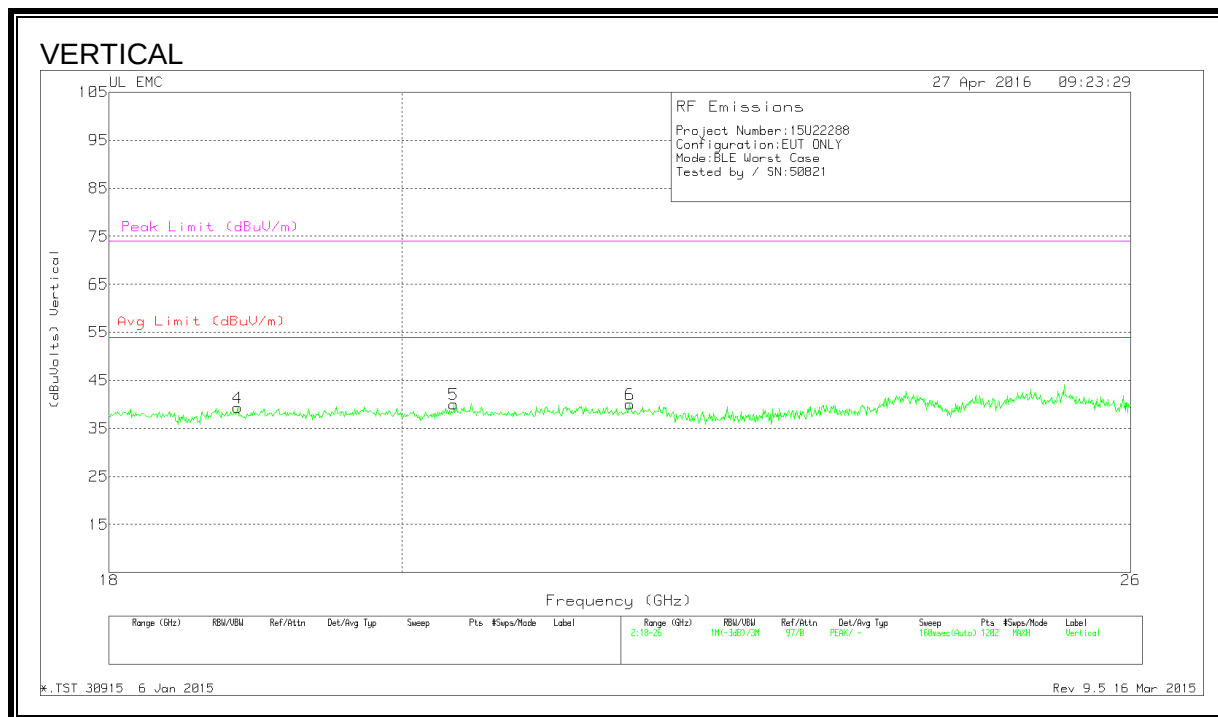
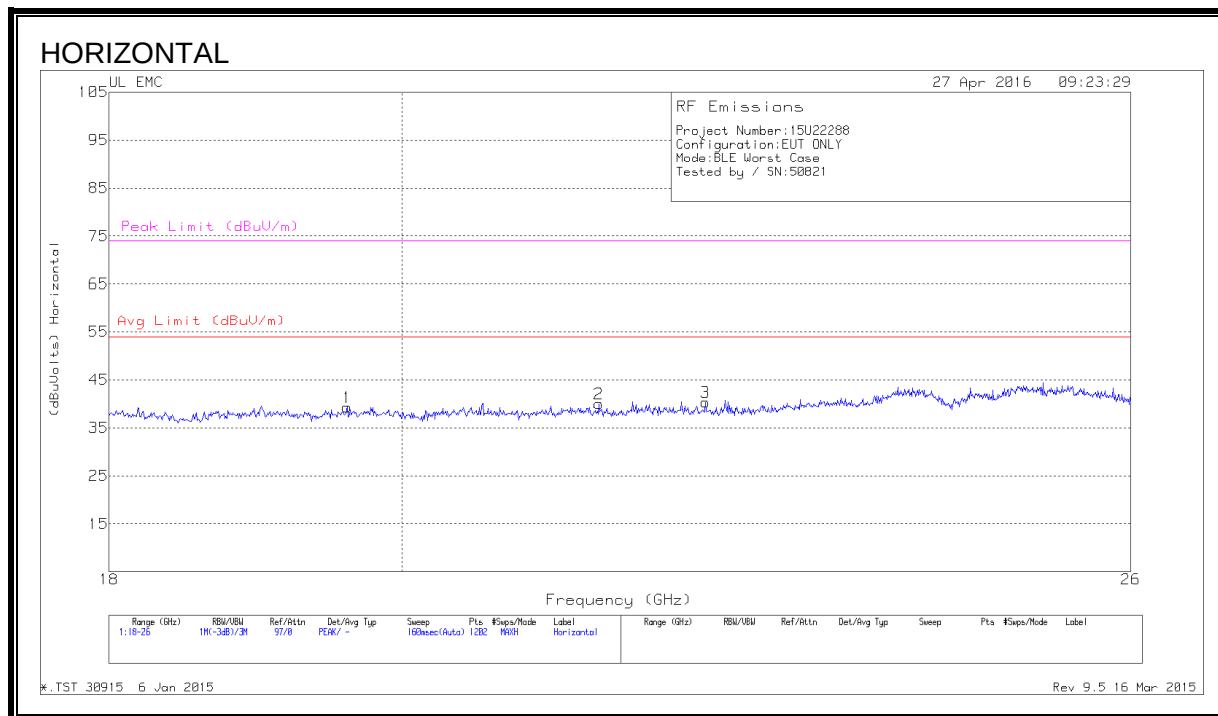
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T243 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 133.275	31.88	Pk	17.7	-31.1	18.48	43.52	-25.04	0-360	100	V
1	67.1025	36.55	Pk	11.9	-31.6	16.85	40	-23.15	0-360	301	H
2	83.3375	43.05	Pk	11.3	-31.5	22.85	40	-17.15	0-360	202	H
5	303.9	29.35	Pk	17.4	-30.3	16.45	46.02	-29.57	0-360	99	V
3	554.5	28.98	Pk	22.4	-29.4	21.98	46.02	-24.04	0-360	100	H
6	710.4	28.96	Pk	24.3	-29.2	24.06	46.02	-21.96	0-360	99	V

* - 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 (WORST-CASE CONFIGURATION)



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	19.612	41.13	Pk	32.7	-25	-9.5	39.33	54	-14.67	74	-34.67
2	21.47	42	Pk	33.1	-25.6	-9.5	40	54	-14	74	-34
3	22.31	41.73	Pk	33.3	-25.2	-9.5	40.33	54	-13.67	74	-33.67
4	18.853	41.53	Pk	32.4	-25.1	-9.5	39.33	54	-14.67	74	-34.67
5	20.378	41.6	Pk	32.9	-25	-9.5	40	54	-14	74	-34
6	21.71	41.2	Pk	33	-24.7	-9.5	40	54	-14	74	-34

Pk - Peak detector

9. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

Frequency of Emission (MHz)	Conducted Limit (dB μ V)	
	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

WORST EMISSIONS

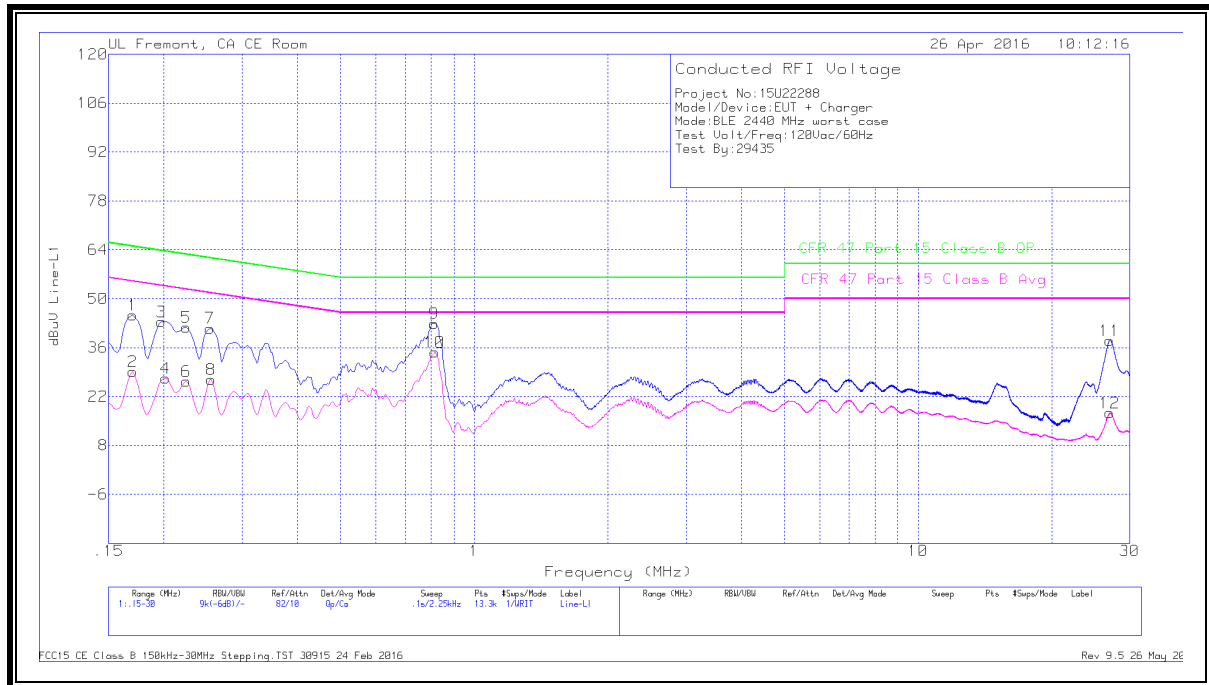
Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
1	.17025	33.97	Qp	1.2	0	10.1	45.27	64.95	-19.68	-	-
2	.17025	17.78	Ca	1.2	0	10.1	29.08	-	-	54.95	-25.87
3	.19725	32.34	Qp	1	0	10.1	43.44	63.73	-20.29	-	-
4	.20175	16.24	Ca	.9	0	10.1	27.24	-	-	53.54	-26.3
5	.22425	30.86	Qp	.8	0	10.1	41.76	62.66	-20.9	-	-
6	.22425	15.46	Ca	.8	0	10.1	26.36	-	-	52.66	-26.3
7	.2535	30.77	Qp	.7	0	10.1	41.57	61.64	-20.07	-	-
8	.25575	16.12	Ca	.7	0	10.1	26.92	-	-	51.57	-24.65
9	.8115	32.48	Qp	.3	0	10.1	42.88	56	-13.12	-	-
10	.81375	24.23	Ca	.3	0	10.1	34.63	-	-	46	-11.37
11	27.03188	26.94	Qp	.3	.3	10.5	38.04	60	-21.96	-	-
12	27.0195	6.17	Ca	.3	.3	10.5	17.27	-	-	50	-32.73

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	.17025	34.6	Qp	1.2	0	10.1	45.9	64.95	-19.05	-	-
14	.17025	17.16	Ca	1.2	0	10.1	28.46	-	-	54.95	-26.49
15	.1995	31.05	Qp	1	0	10.1	42.15	63.63	-21.48	-	-
16	.20175	13.37	Ca	1	0	10.1	24.47	-	-	53.54	-29.07
17	.22425	30.23	Qp	.9	0	10.1	41.23	62.66	-21.43	-	-
18	.22425	13.07	Ca	.9	0	10.1	24.07	-	-	52.66	-28.59
19	.2535	31.3	Qp	.7	0	10.1	42.1	61.64	-19.54	-	-
20	.2535	14.42	Ca	.7	0	10.1	25.22	-	-	51.64	-26.42
21	.82275	32.8	Qp	.3	0	10.1	43.2	56	-12.8	-	-
22	.82275	20.08	Ca	.3	0	10.1	30.48	-	-	46	-15.52
23	27.033	27.04	Qp	.3	.3	10.5	38.14	60	-21.86	-	-
24	27.0285	7.03	Ca	.3	.3	10.5	18.13	-	-	50	-31.87

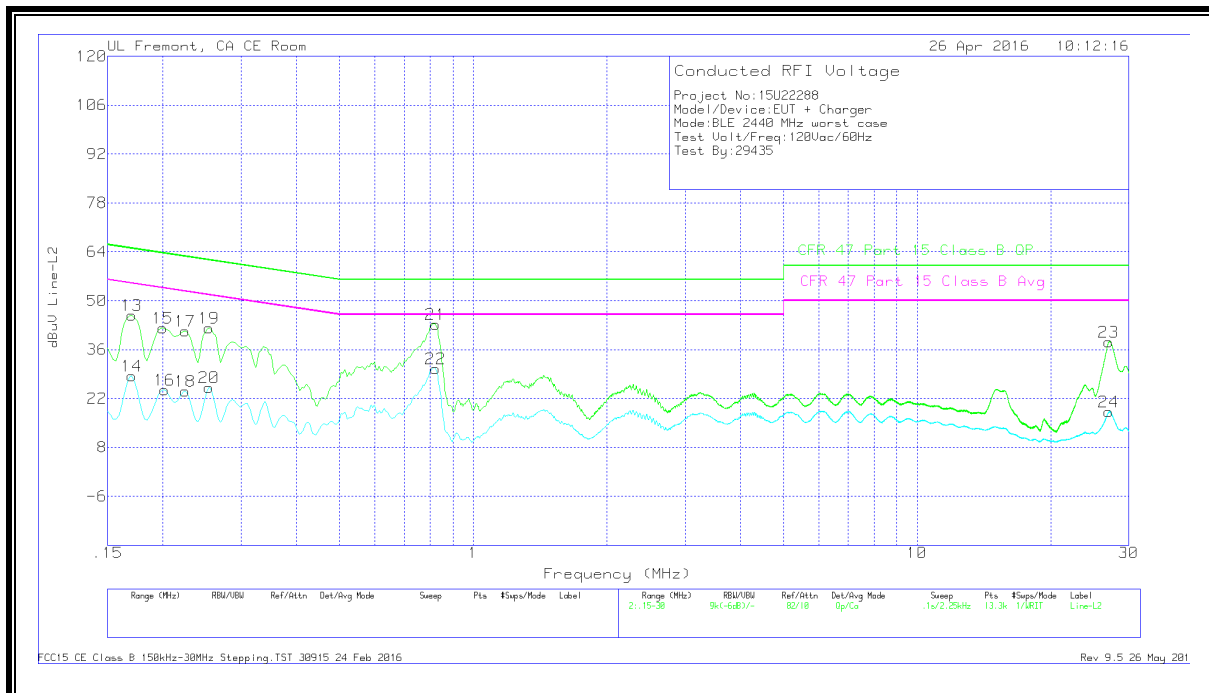
Qp - Quasi-Peak detector

Ca - CISPR average detection

LINE 1 RESULTS



LINE 2 RESULTS



9.2. EUT POWERED BY HOST PC VIA USB CABLE

WORST EMISSIONS

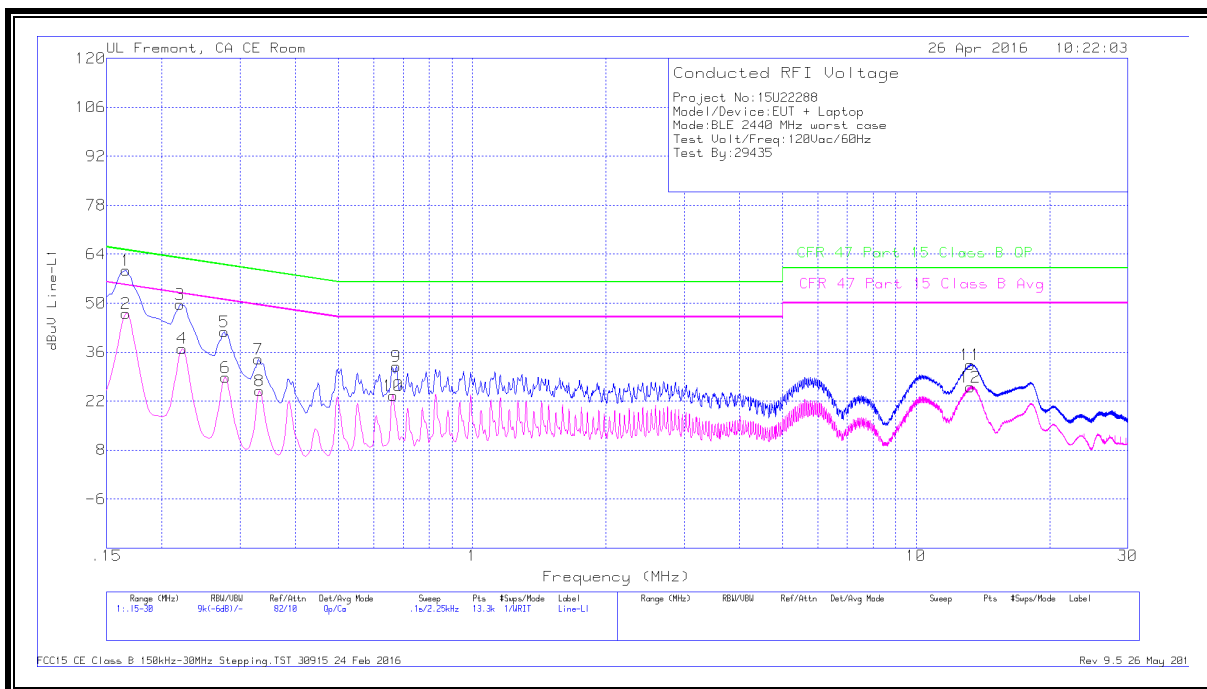
Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
1	.16575	48.13	Qp	1.2	0	10.1	59.43	65.17	-5.74	-	-
2	.16575	35.79	Ca	1.2	0	10.1	47.09	-	-	55.17	-8.08
3	.21975	38.77	Qp	.8	0	10.1	49.67	62.83	-13.16	-	-
4	.222	26.15	Ca	.8	0	10.1	37.05	-	-	52.74	-15.69
5	.276	31.19	Qp	.6	0	10.1	41.89	60.94	-19.05	-	-
6	.27825	18.14	Ca	.6	0	10.1	28.84	-	-	50.87	-22.03
7	.33	23.35	Qp	.5	0	10.1	33.95	59.45	-25.5	-	-
8	.33225	14.3	Ca	.5	0	10.1	24.9	-	-	49.39	-24.49
9	.67425	21.55	Qp	.3	0	10.1	31.95	56	-24.05	-	-
10	.663	13.16	Ca	.3	0	10.1	23.56	-	-	46	-22.44
11	13.263	21.85	Qp	.2	.2	10.2	32.45	60	-27.55	-	-
12	13.26525	15.43	Ca	.2	.2	10.2	26.03	-	-	50	-23.97

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	.16575	48.17	Qp	1.3	0	10.1	59.57	65.17	-5.6	-	-
14	.168	35.82	Ca	1.3	0	10.1	47.22	-	-	55.06	-7.84
15	.222	37.69	Qp	.9	0	10.1	48.69	62.74	-14.05	-	-
16	.222	26.72	Ca	.9	0	10.1	37.72	-	-	52.74	-15.02
17	.27825	31.59	Qp	.6	0	10.1	42.29	60.87	-18.58	-	-
18	.27825	21.77	Ca	.6	0	10.1	32.47	-	-	50.87	-18.4
19	.33225	23.02	Qp	.5	0	10.1	33.62	59.39	-25.77	-	-
20	.3345	14	Ca	.5	0	10.1	24.6	-	-	49.34	-24.74
21	.61125	25.07	Qp	.3	0	10.1	35.47	56	-20.53	-	-
22	.61125	18.31	Ca	.3	0	10.1	28.71	-	-	46	-17.29
23	13.5915	24.06	Qp	.2	.2	10.2	34.66	60	-25.34	-	-
24	13.59825	18.21	Ca	.2	.2	10.2	28.81	-	-	50	-21.19

Qp - Quasi-Peak detector

Ca - CISPR average detection

LINE 1 RESULTS



LINE 2 RESULTS

