FCC 47 CFR PART 15 SUBPART C
INDUSTRY CANADA RSS-210 ISSUE 8

CERTIFICATION TEST REPORT

FOR

CELLULAR PHONE WITH BLUETOOTH AND WLAN RADIOS

MODEL NUMBERS: A1633, A1688, A1691 AND A1700

FCC ID: BCG-E2946A
IC: 579C-E2946A

REPORT NUMBER: 15U20164-E3, REVISION B

ISSUE DATE: JULY 24, 2015

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

Prepared by
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	07/15/2015	Initial Issue	M. Mekuria
A	07/22/2015	Addressed TCB questions	N. Garcia
B	07/24/2015	Revised page 15 and page 20 test procedure	T. Chu

TABLE OF CONTENTS

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

MODELS: A1633, A1688, A1691 AND A1700

SERIAL NUMBER: A1633:
C7JPG04FGL2P; C39PK00XGKW4 (DUMMY LOAD)
A1688:
C7JPR06GNPN; C7JPP045GNPV (DUMMY LOAD)

DATE TESTED: MAY 15 TO JULY 22, 2015

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 15 SUBPART C	Pass
INDUSTRY CANADA RSS-210 Issue 8, Annex 2	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.

Tested By:

NANCY GARCIA
EMC ENGINEER
UL VERIFICATION SERVICES INC

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2013, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 4, and RSS-210 Issue 8.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
☐ Chamber A	☐ Chamber D
☐ Chamber B	☐ Chamber E
☐ Chamber C	☐ Chamber F
	☐ Chamber G
	☒ Chamber H

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

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	± 3.52 dB
Radiated Disturbance, 30 to 1000 MHz	± 4.94 dB
Radiated Disturbance, 1 to 6 GHz	± 3.86 dB
Radiated Disturbance, 6 to 18 GHz	± 4.23 dB
Radiated Disturbance, 18 to 26 GHz	± 5.30 dB
Radiated Disturbance, 26 to 40 GHz	± 5.23 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a 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, Bluetooth and GPS radio. The rechargeable battery is not user accessible.

5.2. MAXIMUM OUTPUT POWER

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

(MODEL: A1633)

Frequency Range (MHz)	Mode	E Field at 30m distance (dBuV/m)
13.56	Type A	24.42
	Type B	22.60

(MODEL: A1688)

Frequency Range (MHz)	Mode	E Field at 30m distance (dBuV/m)
13.56	Type A	22.51
	Type B	22.50

5.3. SOFTWARE AND FIRMWARE

The test utility software used during testing was Star Links 1.9.

5.4. WORST-CASE CONFIGURATION AND MODE

The fundamental of the EUT was investigated under three orthogonal orientations X (Flatbed), Y (Landscape), and Z (Portrait). The Y (Landscape) orientation was determined to be the worst-case orientation; therefore, all final fundamental and radiated testing were performed with the EUT in Y (Landscape) orientation.

The fundamental of the EUT was investigated under three setup configurations EUT with power supply, EUT with earphones and EUT with power supply and earphones. The EUT with power supply and earphones configuration was determined to be worst-case configuration; therefore, all final fundamental, radiated testing and Line Conducted were performed with the EUT with power supply and earphones.

Based on the manufacturer's statement Model A1688, A1700 and A1691 are exactly same, except for marketing reasons.

Delta Items	A1633	A1688	A1691	A1700
Band 30	Yes	No	No	No

5.5. DESCRIPTION OF TEST SETUP

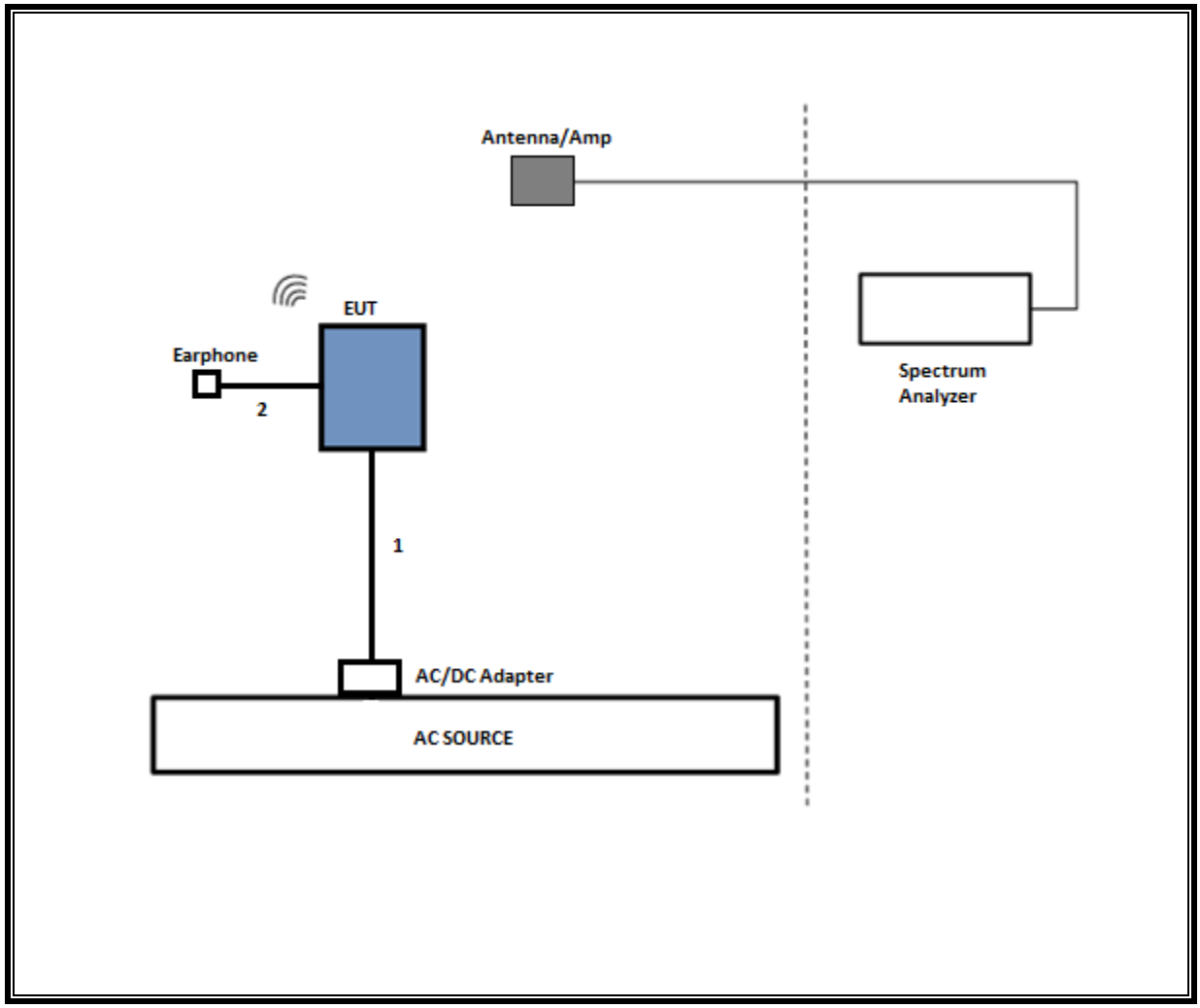
SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Laptop	Apple	Mac Book Pro	W801200UD94	n/a
Laptop AC/DC Adapter	Apple	85W MagSAfe Power adapter	A122	n/a
EUT AC/DC Adapter	Apple	A1385	D292365B2FQDHLHC7	n/a
Earphones	Apple	n/a	n/a	n/a

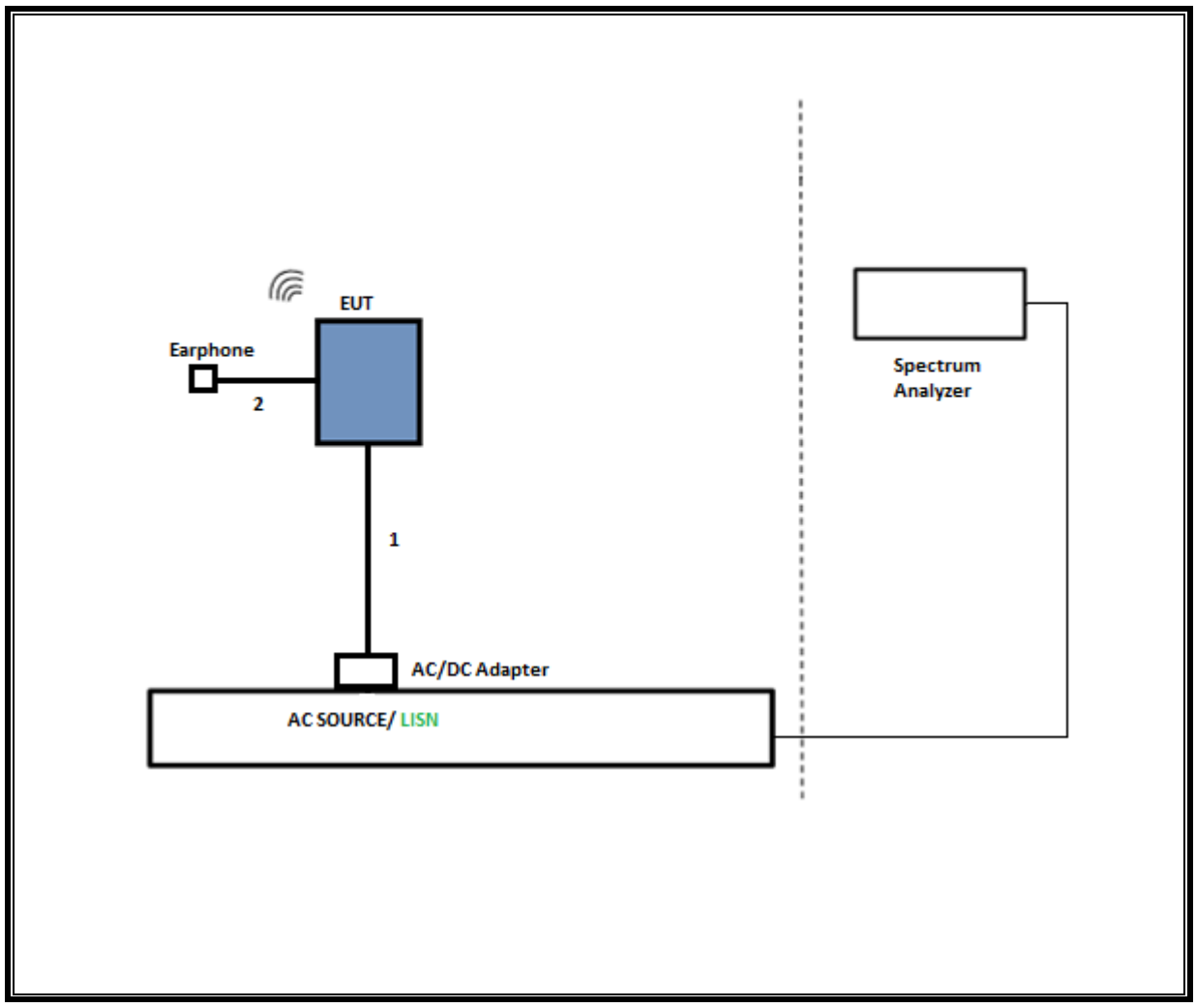
I/O CABLES

I/O Cable List						
Cable No	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	USB	1	lightning	Un-shielded	1	n/a
2	Audio	1	Jack	Un-shielded	0.5	n/a
3	DC	2	Alligator	18 AWG strand	1	Insulated cable

SETUP DIAGRAM RADIATED



SETUP DIAGRAM LINE CONDUCTED



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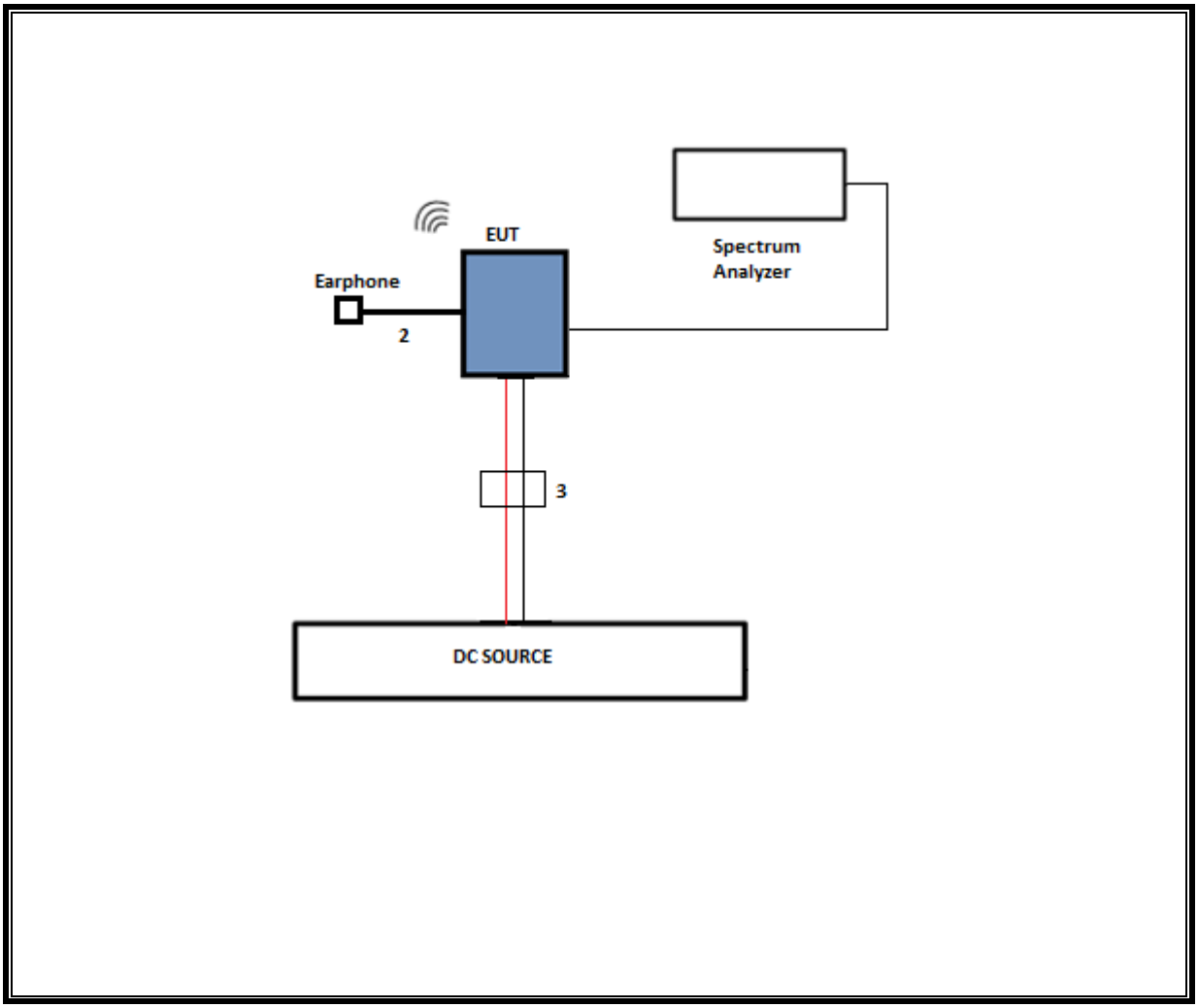


6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment List				
Description	**Manufacturer**	**Model**	**T No.**	**Cal Due**
Antenna, Broadband Hybrid	Sunol Sciences	JB3	900	04/10/16
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	834	02/16/16
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent	N9030A	1113	12/23/15
Antenna, Loop, 30 MHz	ETS Lindgren	6502	757	10/14/15
Chamber, Environmental	Cincinnati Sub Zero	ZPHS-8-3.5-SCT/WC	1154	09/18/15
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent	N9030A	1222	03/27/16
EMI Test Receiver, 9 kHz-7 GHz	R & S	ESCI 7	1124	09/16/15
LISN for Conducted Emissions CISPR-16	FCC	LISN-50/250-25-2	24	01/16/16
Line conducted Power cable ANSI 63.4	UL	PG1	861	07/28/15
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	407	03/05/16
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	300	11/01/15
UL SOFTWARE				
*Radiated Software	UL	UL EMC	Ver 9.5, July 22, 2014	
*AC Line Conducted Software	UL	UL EMC	Ver 9.5, April 3, 2015	

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

7. OCCUPIED BANDWIDTH (MODEL: A1633)

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to the spectrum analyzer. The RBW is set to 10kHz. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

RESULTS

Type A

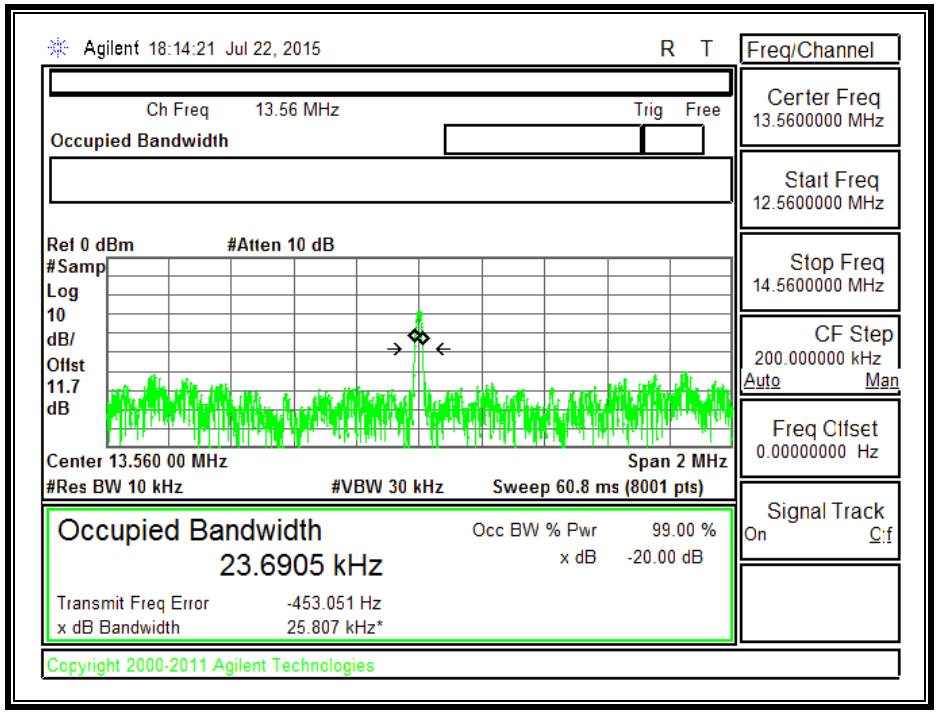
Mode Kbps	Frequency (MHz)	99% Bandwidth (KHz)	20dB Bandwidth (KHz)
424	13.56	23.691	25.807
212	13.56	23.469	25.355
106	13.56	23.038	25.530

Type B

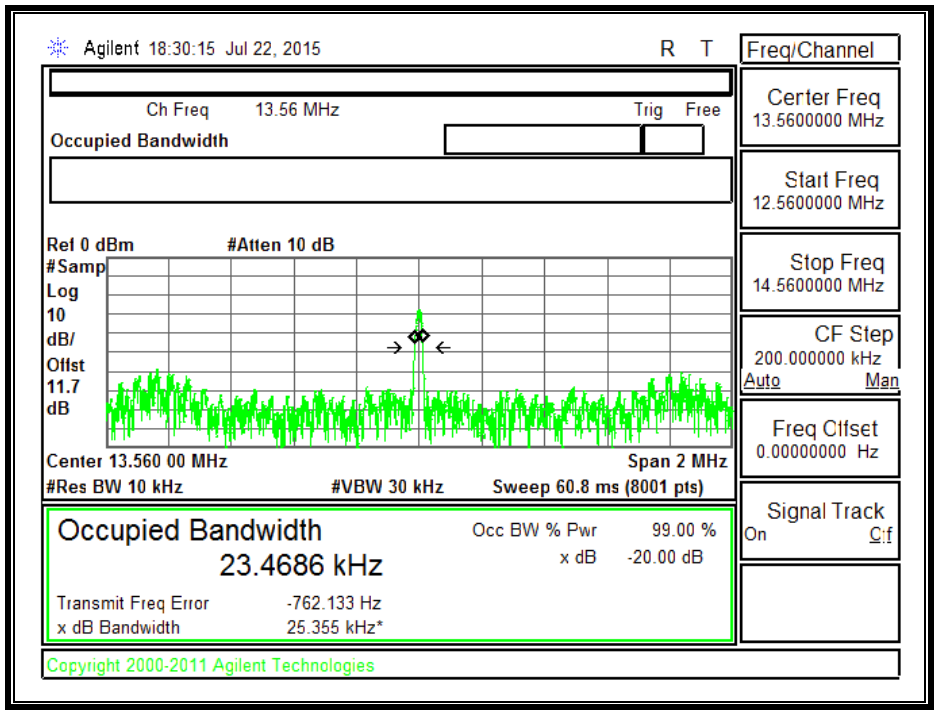
Mode Kbps	Frequency (MHz)	99% Bandwidth (KHz)	20dB Bandwidth (KHz)
424	13.56	25.564	25.303
212	13.56	24.050	25.364
106	13.56	24.876	25.465

7.1. TYPE A

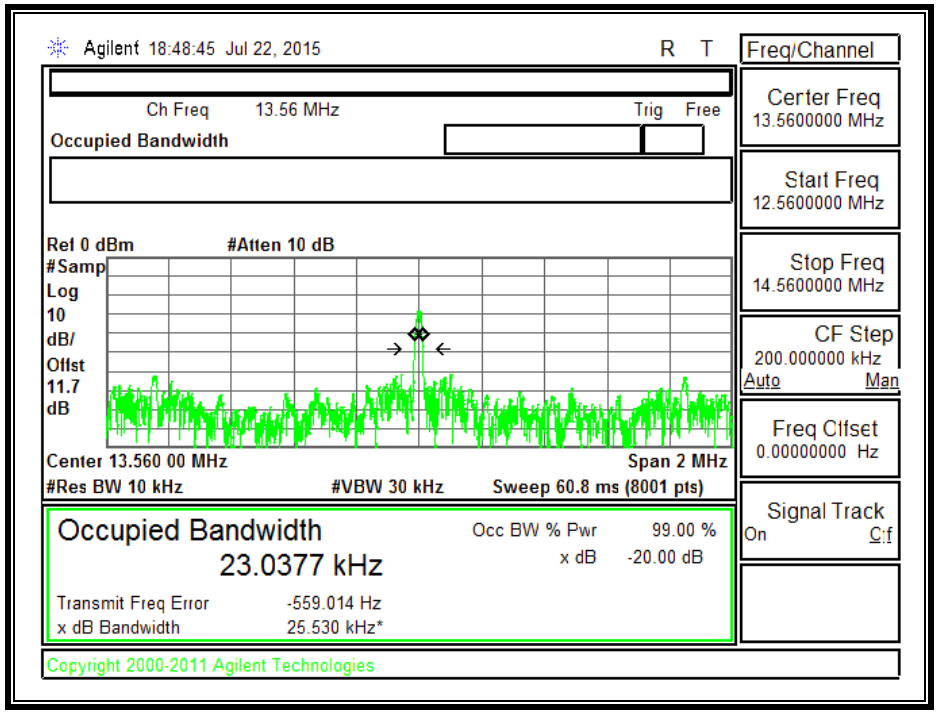
424Kbps



212Kbps

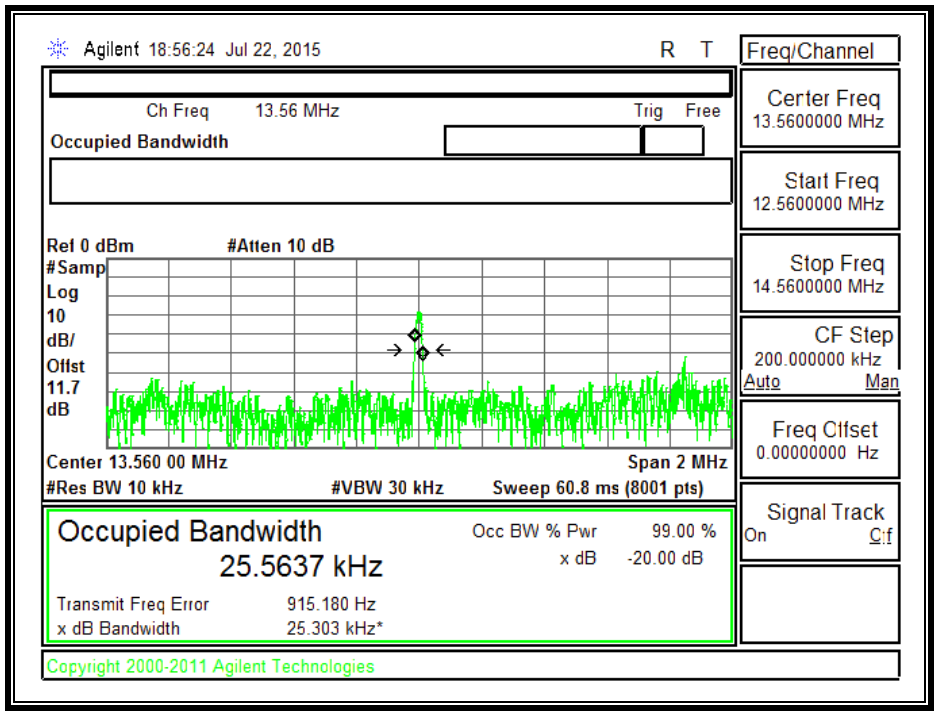


106Kbps

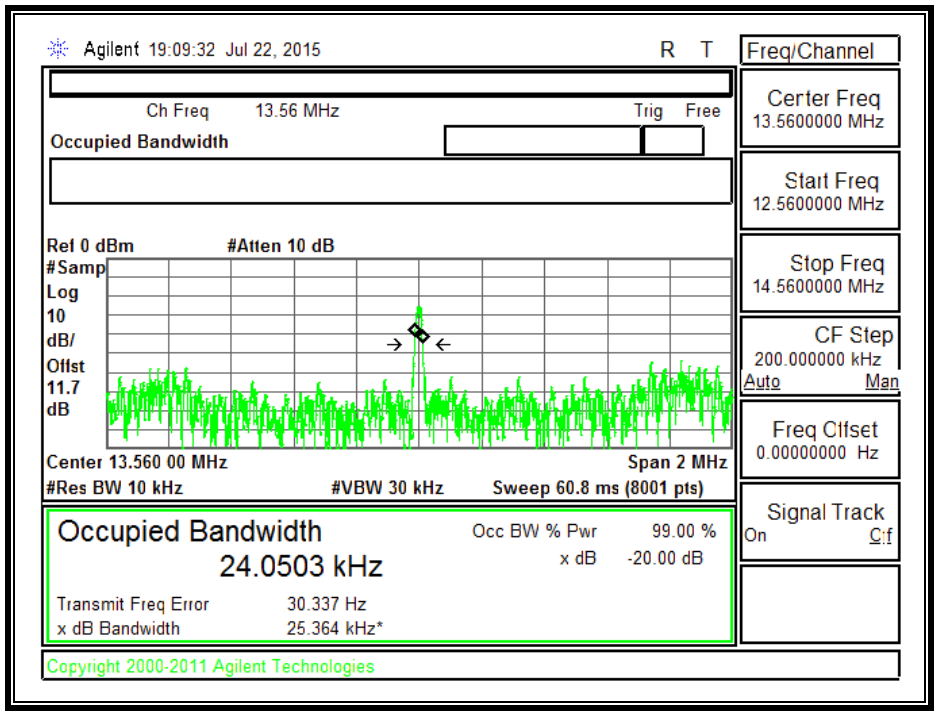


7.2. TYPE B

424Kbps



212Kbps



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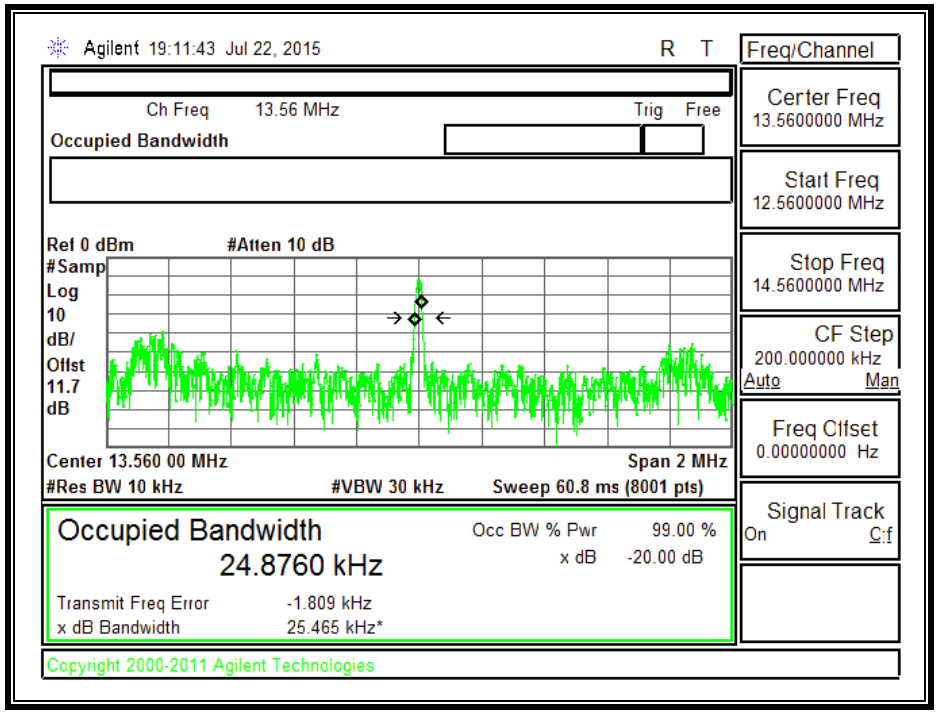


8. OCCUPIED BANDWIDTH (MODEL: A1688)

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to the spectrum analyzer. The RBW is set to 10kHz. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

RESULTS

Type A

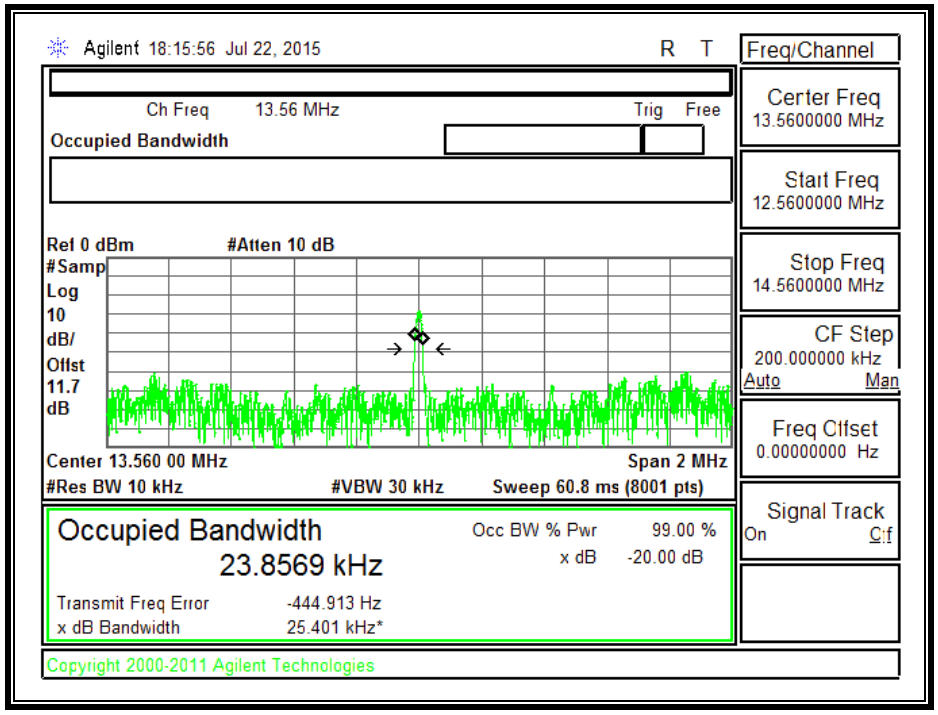
Mode Kbps	Frequency (MHz)	99% Bandwidth (KHz)	20dB Bandwidth (KHz)
424	13.56	23.857	25.401
212	13.56	23.166	25.506
106	13.56	23.123	25.443

Type B

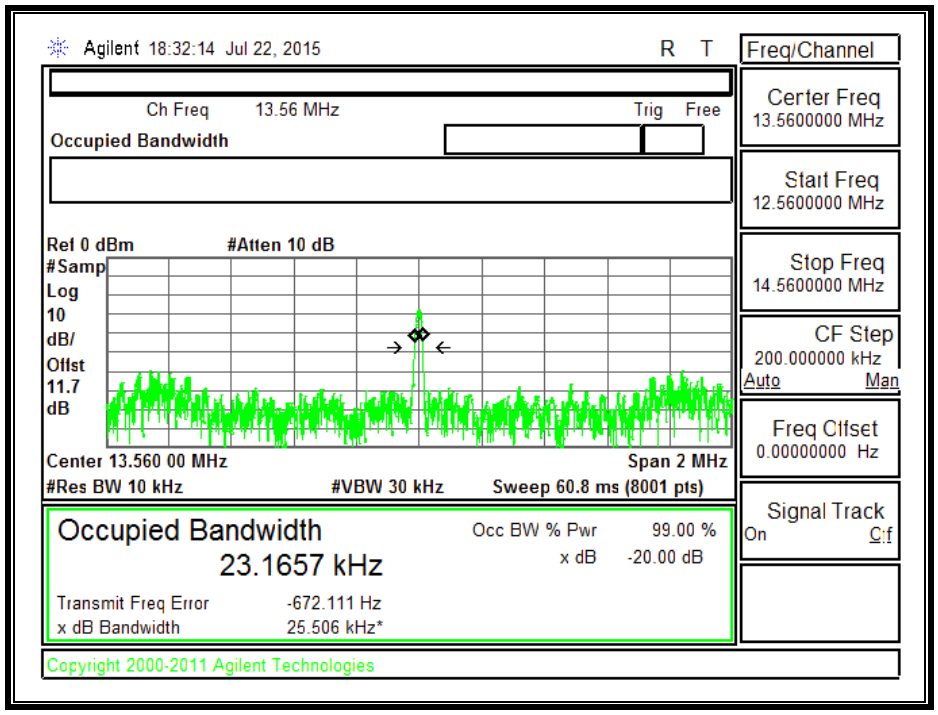
Mode Kbps	Frequency (MHz)	99% Bandwidth (KHz)	20dB Bandwidth (KHz)
424	13.56	24.946	25.080
212	13.56	23.746	25.344
106	13.56	23.578	25.405

8.1. TYPE A

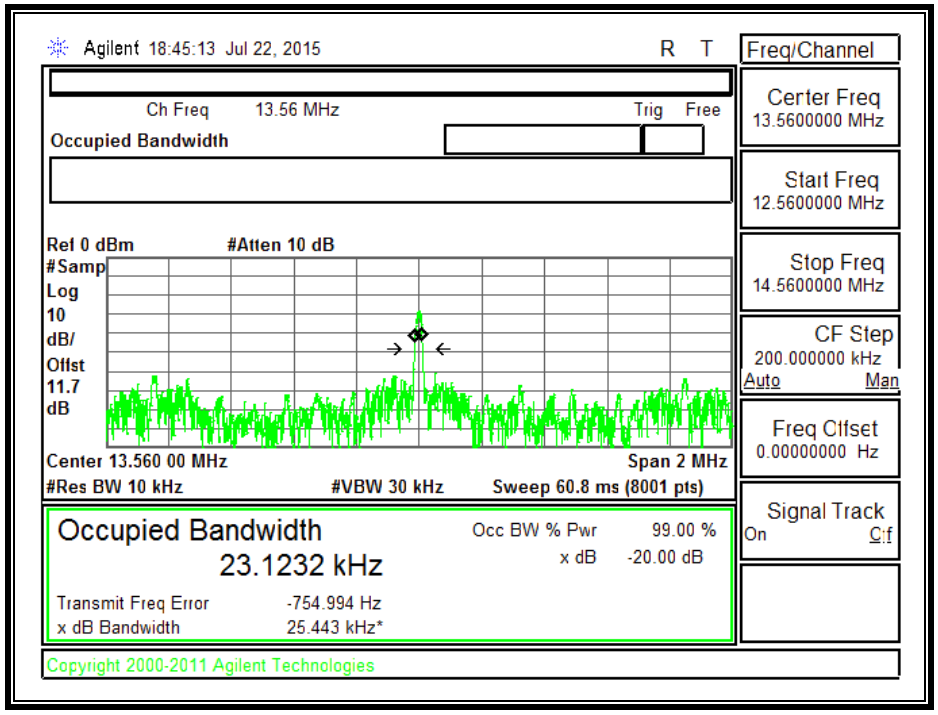
424Kbps



212Kbps

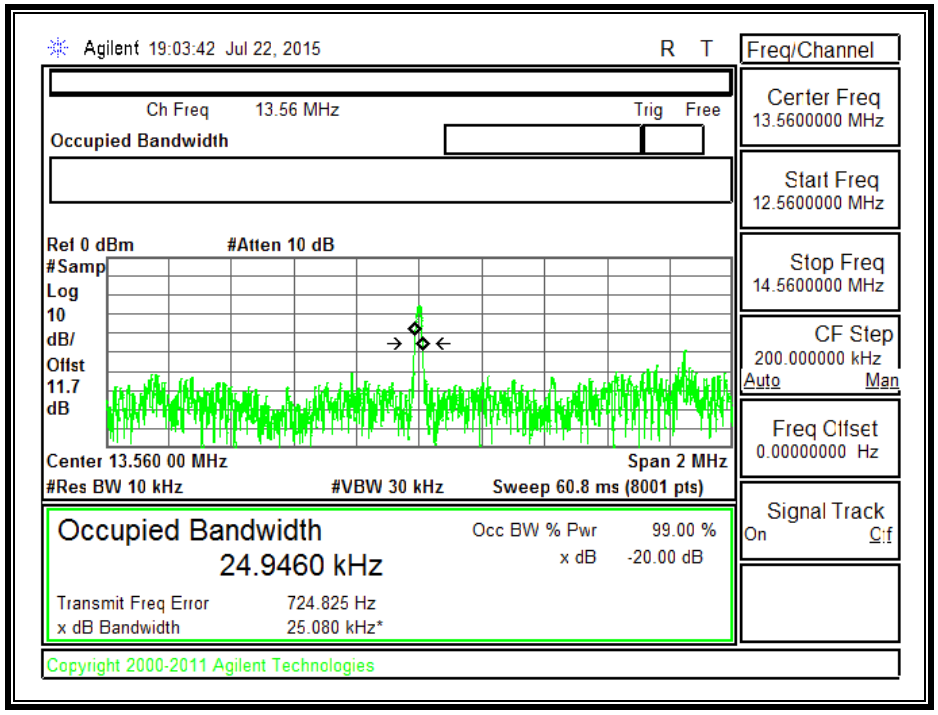


106Kbps

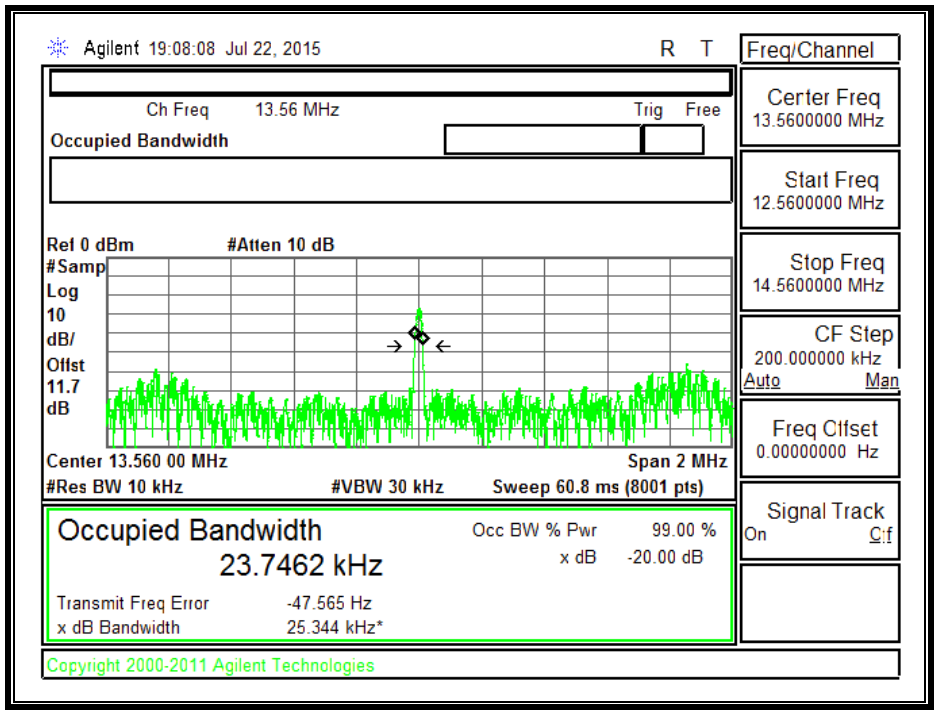


8.2. TYPE B

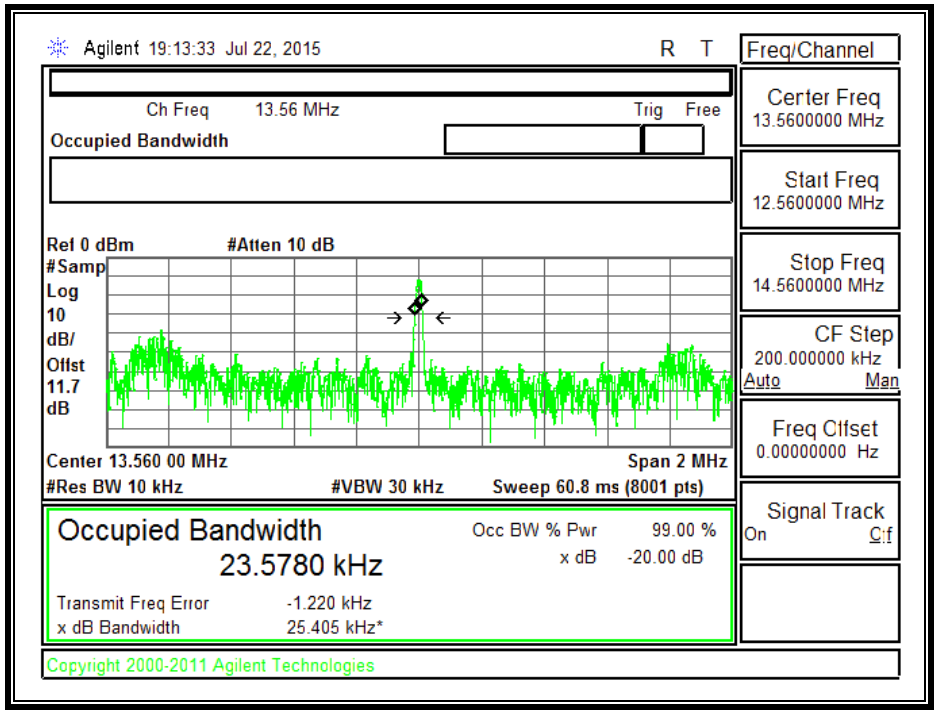
424Kbps



212Kbps



106Kbps



9. RADIATED EMISSION TEST RESULTS (MODEL: A1633)

9.1. LIMITS AND PROCEDURE

LIMIT

§15.225
IC RSS-210, A2.6
IC RSS-GEN, Section 8.9 (Transmitter)
IC RSS-GEN, Section 7.1.2 (Receiver)

(a) The field strength of any emissions within the band 13.553–13.567 MHz shall not exceed 15,848 microvolts/ meter at 30 meters.

(b) Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

(c) Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

(d) The field strength of any emissions appearing outside of the 13.110– 14.010 MHz and shall not exceed the general radiated emission limits in § 15.209 as follows:
§15.209 (a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Limits for radiated disturbance of an intentional radiator		
Frequency range (MHz)	Limits (µV/m)	Measurement Distance (m)
0.009 – 0.490	2400 / F (kHz)	300
0.490 – 1.705	24000 / F (kHz)	30
1.705 – 30.0	30	30
30 – 88	100**	3
88 - 216	150**	3
216 – 960	200**	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g. §§ 15.231 and 15.241.
§15.209 (b) In the emission table above, the tighter limit applies at the band edges.

Formula for converting the filed strength from uV/m to dBuV/m is:
Limit (dBuV/m) = 20 log limit (uV/m)

In addition:

§15.209 (d) The emission limits shown the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emissions limits in these three bands are based on measurements employing an average detector.

§15.209 (d) The provisions in §§ 15.225, measuring emissions at distances other than the distances specified in the above table, determining the frequency range over which radiated emissions are to be measured, and limiting peak emissions apply to all devices operated under this part.

TEST PROCEDURE

ANSI C63.10, 2013

The EUT is an intentional radiator that incorporates a digital device, the highest fundamental frequency generated or used in the device is 13.56 MHz; therefore, the frequency range was investigated from 0.15 MHz to the 10th harmonic of the highest fundamental frequency, or 1000 MHz, whichever is greater.

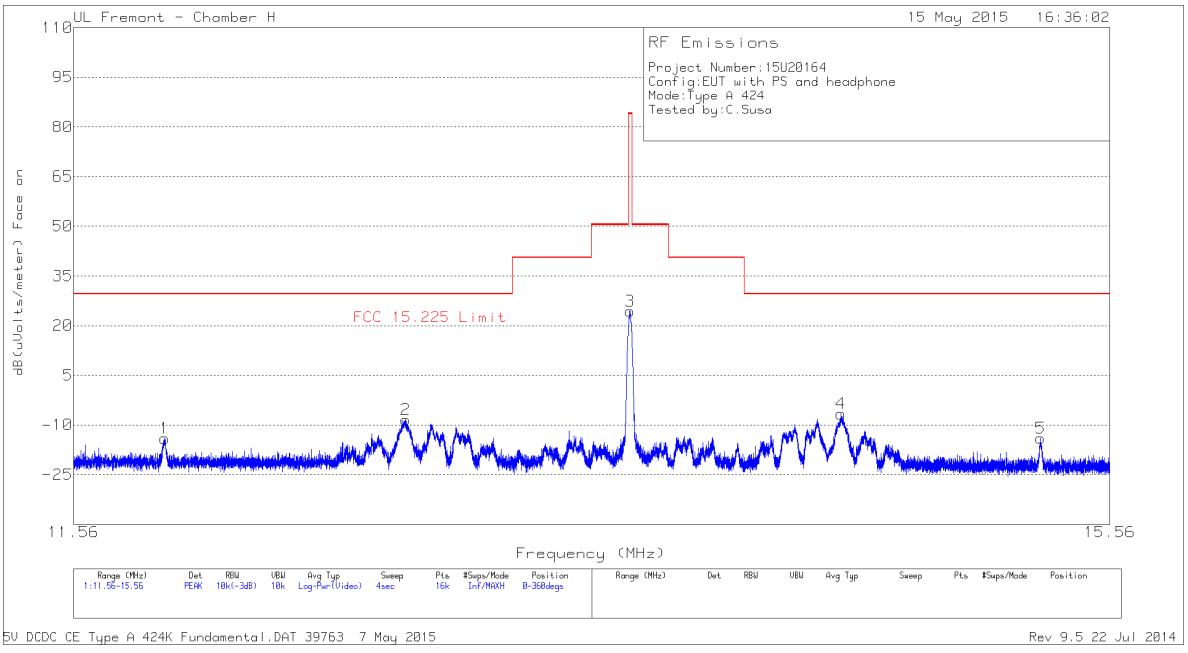
RESULTS

9.2. FUNDAMENTAL AND SPURIOUS EMISSIONS (0.15 – 30 MHz)

9.2.1. TYPE A

FUNDAMENTAL 424Kbps

ANTENNA LOOP FACE ON



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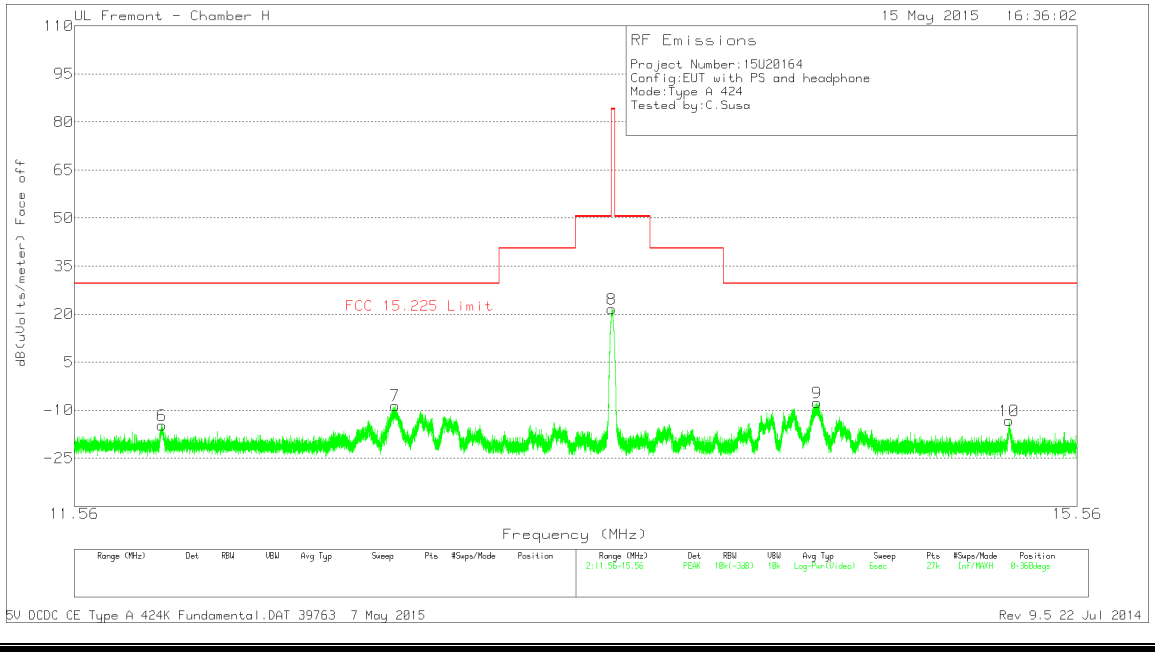

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading dBuV/m	FCC 15.225 Limit	PK Margin (dB)	Azimuth (Degs)
1	11.86525	14.53	PK	10.9	.5	-40	-14.07	29.54	-43.61	0-360
2	12.71425	20.13	PK	10.9	.6	-40	-8.37	29.54	-37.91	0-360
3	13.55925	52.92	PK	10.9	.6	-40	24.42	84	-59.58	0-360
4	14.40475	22.08	PK	10.8	.5	-40	-6.62	29.54	-36.16	0-360
5	15.2545	14.64	PK	10.8	.6	-40	-13.96	29.54	-43.5	0-360
6	11.86414	13.94	PK	10.9	.5	-40	-14.66	29.54	-44.2	0-360
7	12.71203	20.01	PK	10.9	.6	-40	-8.49	29.54	-38.03	0-360
8	13.55504	50.03	PK	10.9	.6	-40	21.53	84	-62.47	0-360
9	14.4053	21.03	PK	10.8	.5	-40	-7.67	29.54	-37.21	0-360
10	15.2486	15.44	PK	10.8	.6	-40	-13.16	29.54	-42.7	0-360

PK - Peak detector

SPURIOUS EMISSIONS 424kbps

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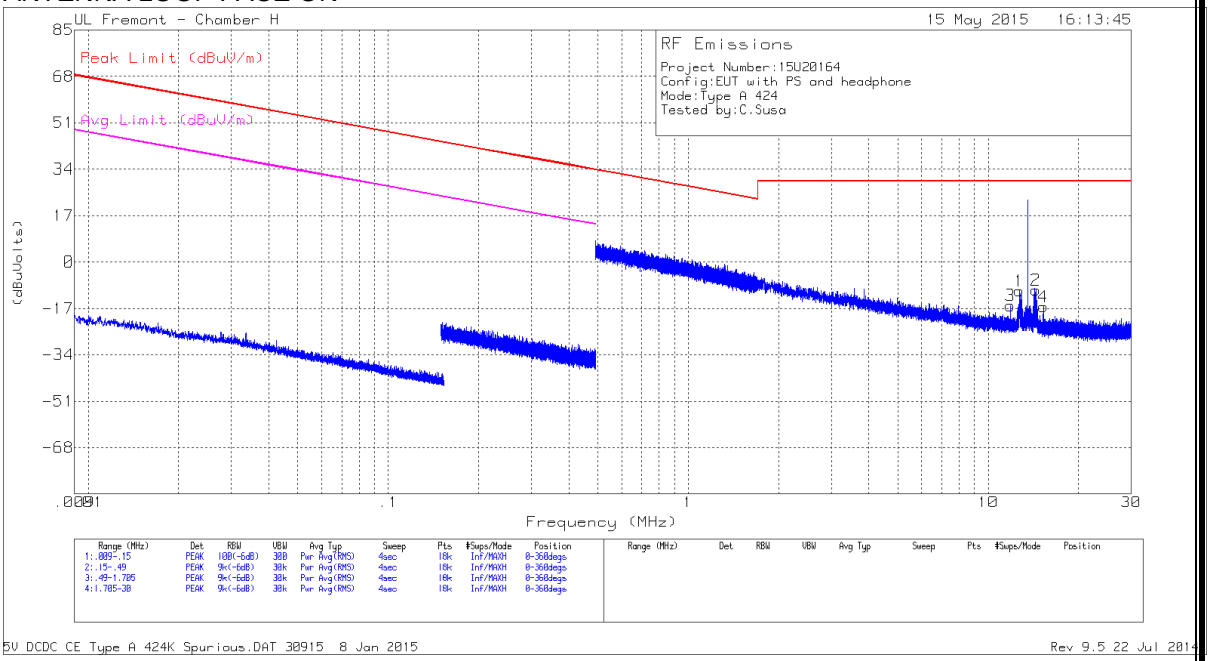

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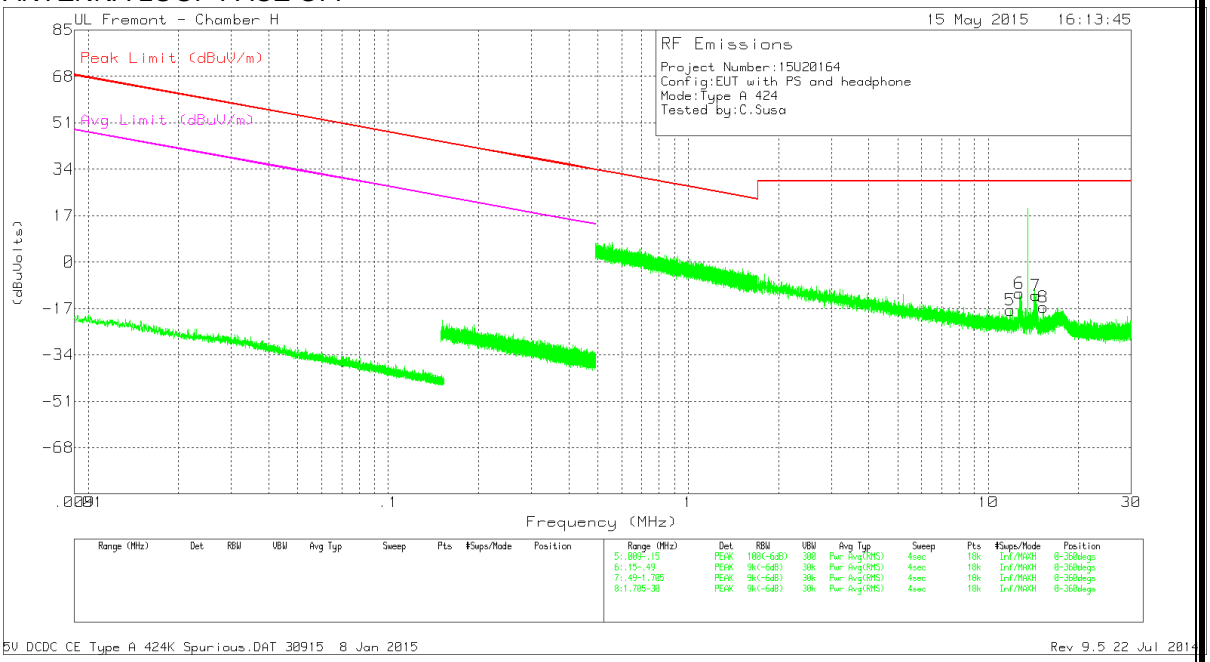

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	12.71214	17.93	PK	10.9	.6	-40	-10.57	29.54	-40.11	-	-	0-360
2	14.4099	18.48	PK	10.8	.5	-40	-10.22	29.54	-39.76	-	-	0-360
3	11.86484	12.63	PK	10.9	.5	-40	-15.97	29.54	-45.51	-	-	0-360
4	15.25407	12.25	PK	10.8	.6	-40	-16.35	29.54	-45.89	-	-	0-360
5	11.86484	10.96	PK	10.9	.5	-40	-17.64	29.54	-47.18	-	-	0-360
6	12.71214	17.01	PK	10.9	.6	-40	-11.49	29.54	-41.03	-	-	0-360
7	14.42562	16.52	PK	10.8	.5	-40	-12.18	29.54	-41.72	-	-	0-360
8	15.25407	12.1	PK	10.8	.6	-40	-16.5	29.54	-46.04	-	-	0-360

PK - Peak detector

FUNDAMENTAL 212Kbps

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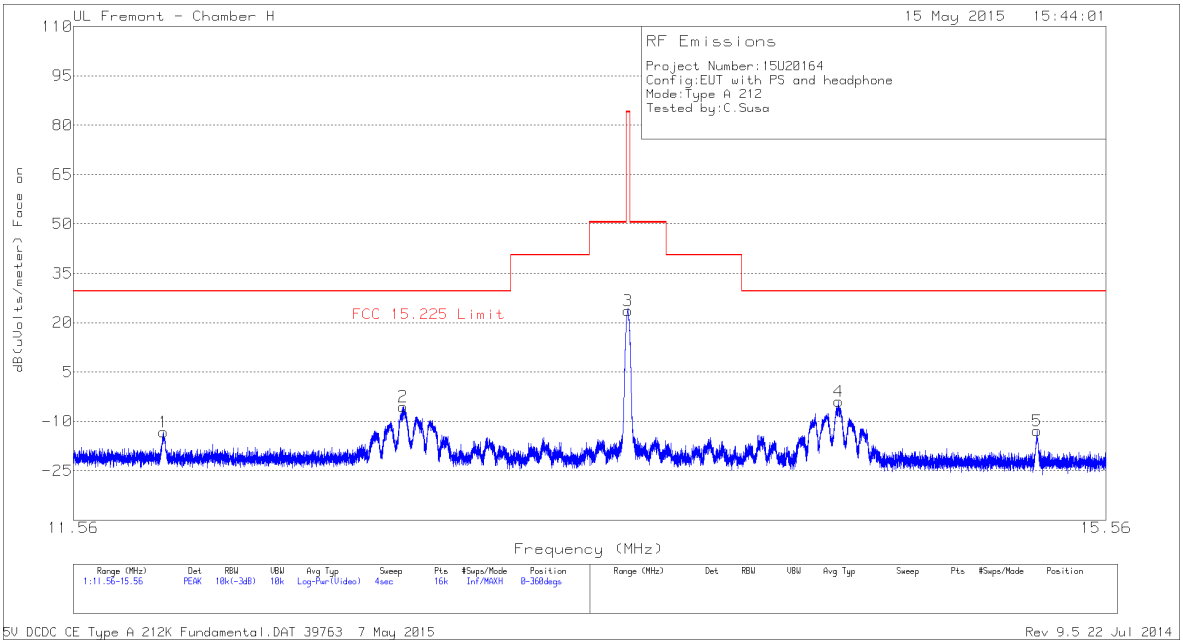

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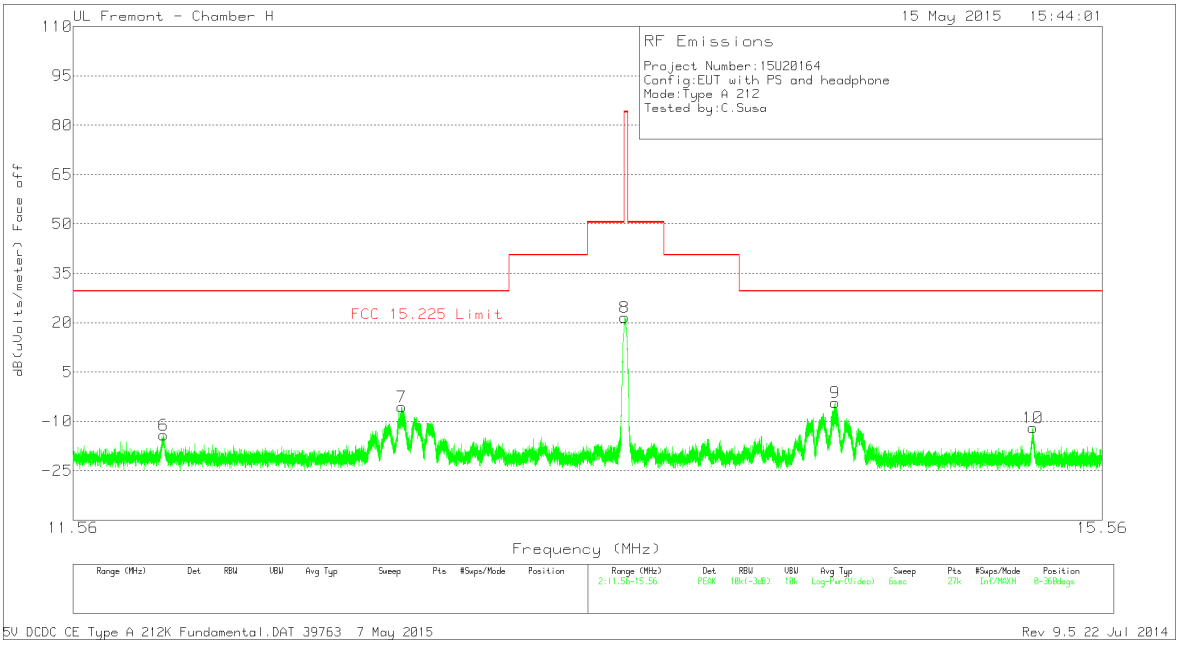


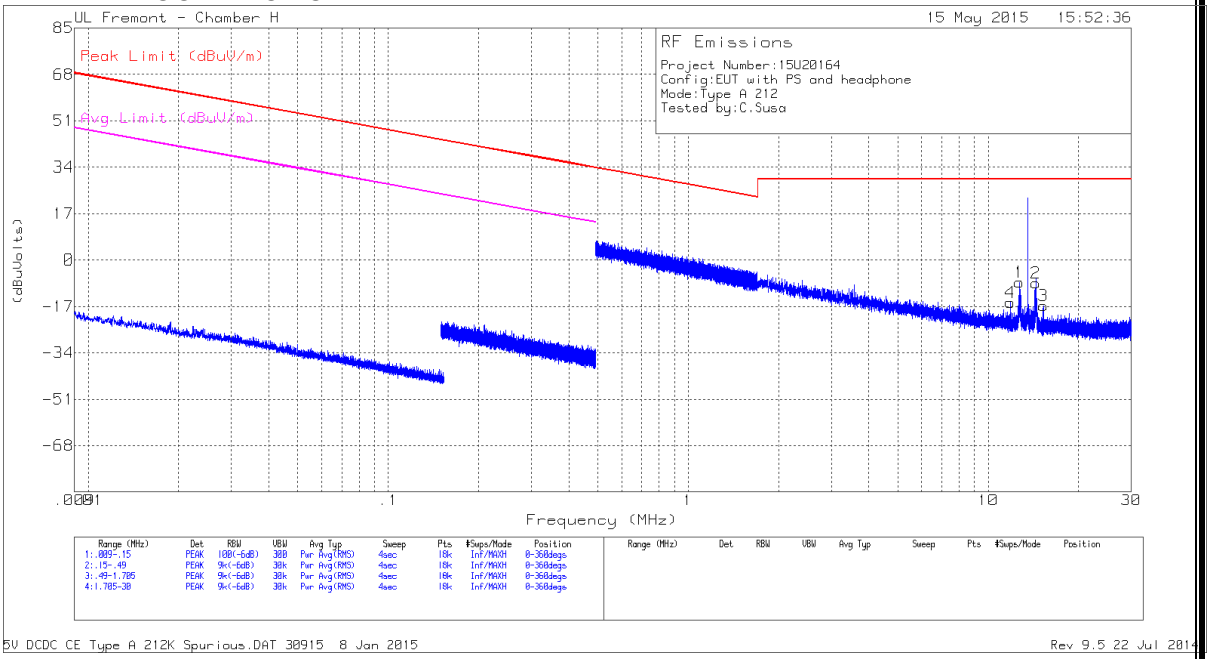
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading dBuV/m	FCC 15.225 Limit	PK Margin (dB)	Azimuth (Degs)
1	11.86375	15.32	PK	10.9	.5	-40	-13.28	29.54	-42.82	0-360
2	12.71175	22.99	PK	10.9	.6	-40	-5.51	29.54	-35.05	0-360
3	13.561	52.09	PK	10.9	.6	-40	23.59	84	-60.41	0-360
4	14.408	24.75	PK	10.8	.5	-40	-3.95	29.54	-33.49	0-360
5	15.25425	15.77	PK	10.8	.6	-40	-12.83	29.54	-42.37	0-360
6	11.86518	14.44	PK	10.9	.5	-40	-14.16	29.54	-43.7	0-360
7	12.71144	22.88	PK	10.9	.6	-40	-5.62	29.54	-35.16	0-360
8	13.55519	50.07	PK	10.9	.6	-40	21.57	84	-62.43	0-360
9	14.40545	24.35	PK	10.8	.5	-40	-4.35	29.54	-33.89	0-360
10	15.25127	16.59	PK	10.8	.6	-40	-12.01	29.54	-41.55	0-360

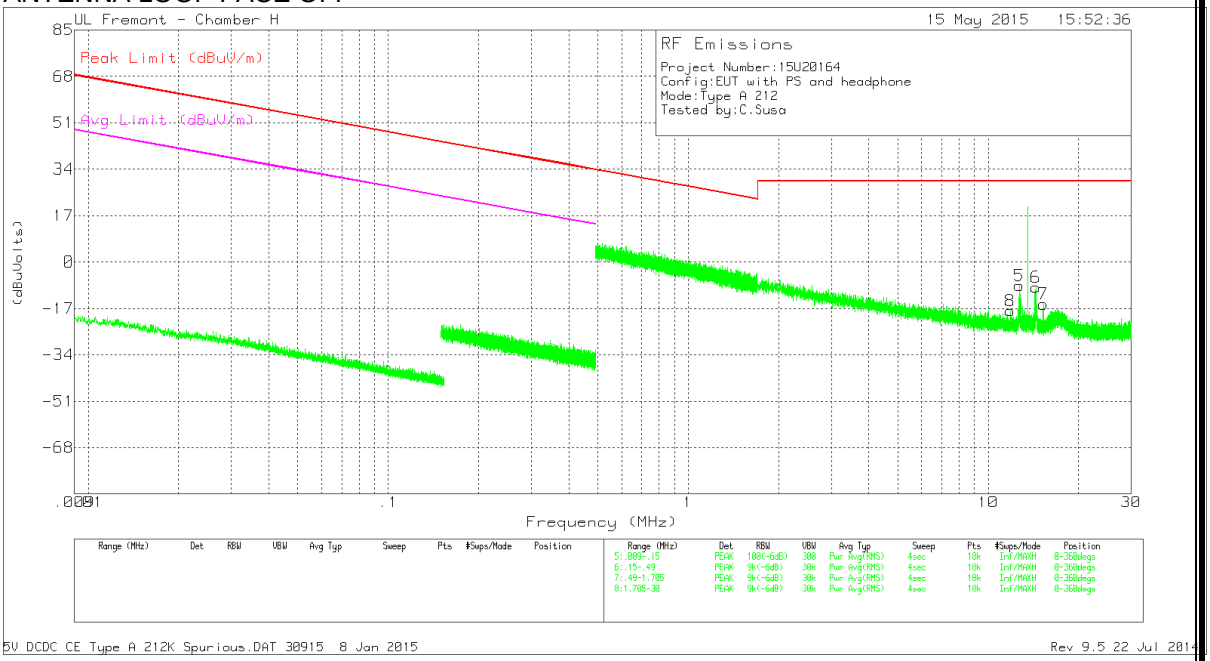
PK - Peak detector

SPURIOUS EMISSIONS 212kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



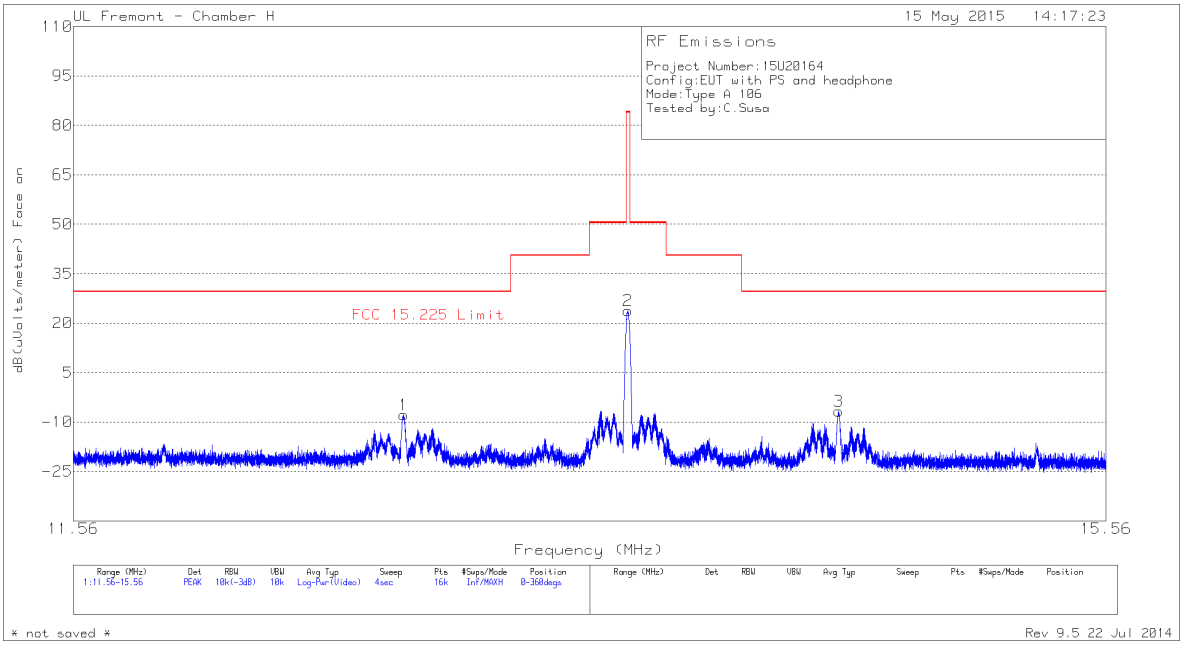
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	12.71372	20.31	PK	10.9	.6	-40	-8.19	29.54	-37.73	-	-	0-360
2	14.41619	20.23	PK	10.8	.5	-40	-8.47	29.54	-38.01	-	-	0-360
3	15.25407	11.9	PK	10.8	.6	-40	-16.7	29.54	-46.24	-	-	0-360
4	11.86326	13.05	PK	10.9	.5	-40	-15.55	29.54	-45.09	-	-	0-360
5	12.71057	19.94	PK	10.9	.6	-40	-8.56	29.54	-38.1	-	-	0-360
6	14.4099	19.42	PK	10.8	.5	-40	-9.28	29.54	-38.82	-	-	0-360
7	15.25407	13.2	PK	10.8	.6	-40	-15.4	29.54	-44.94	-	-	0-360
8	11.86169	10.73	PK	10.9	.5	-40	-17.87	29.54	-47.41	-	-	0-360

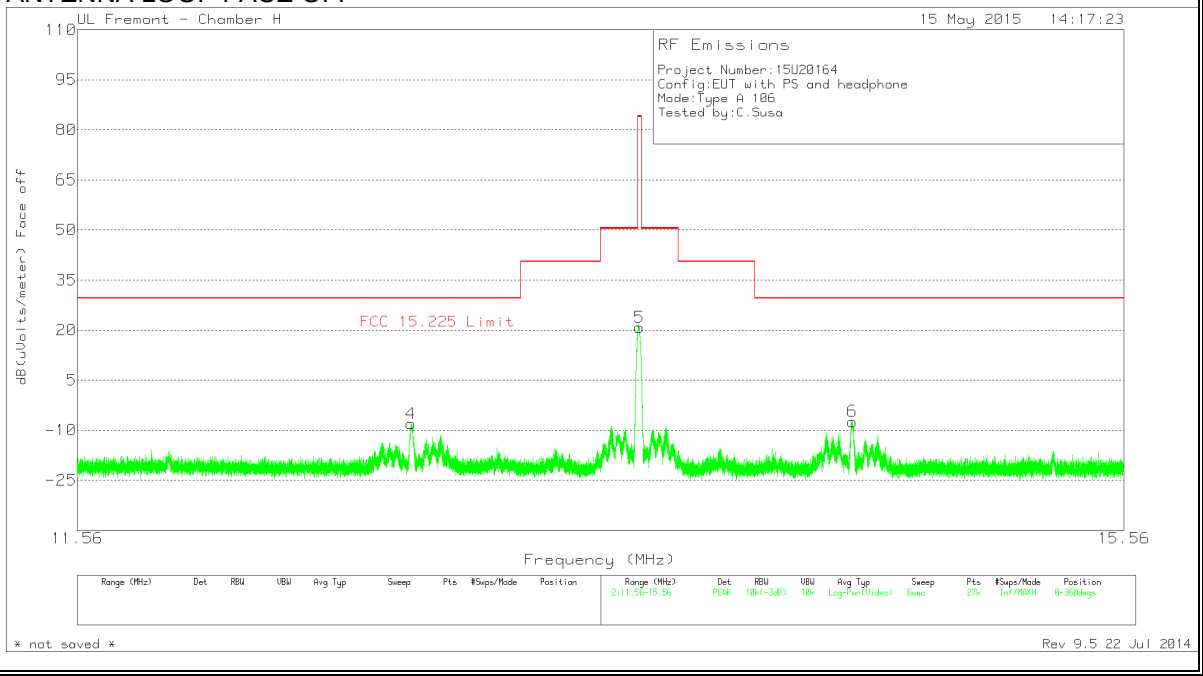
PK - Peak detector

FUNDAMENTAL 106Kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



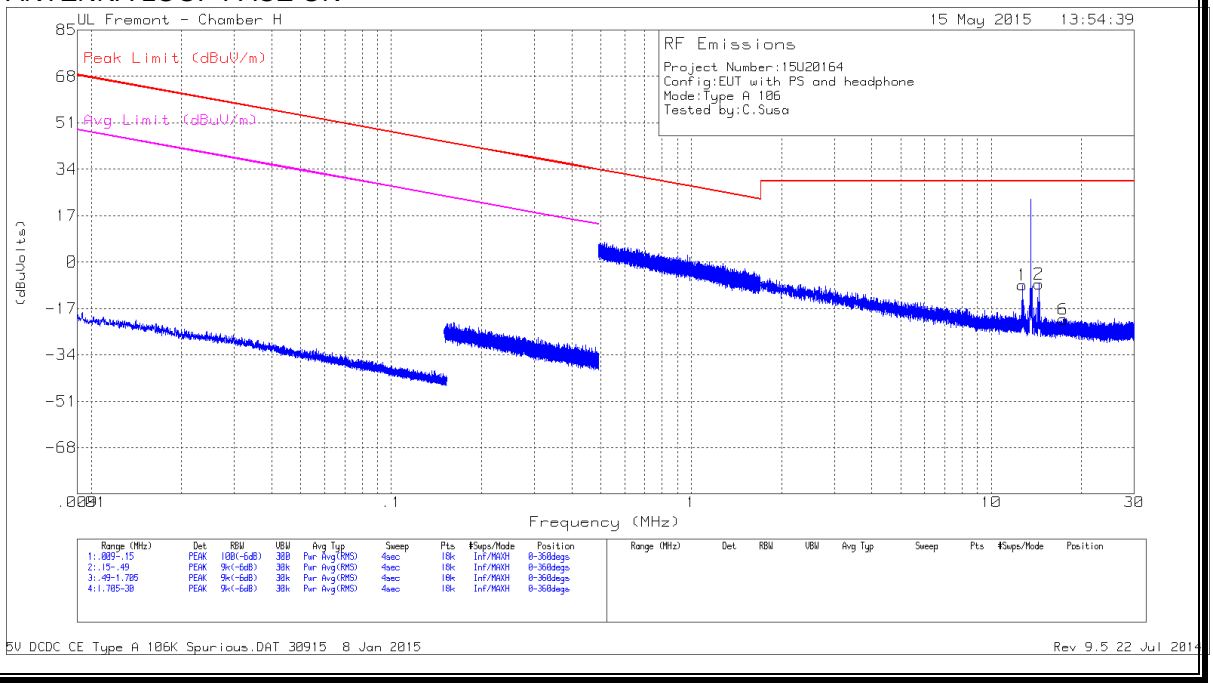
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading dBuV/m	FCC 15.225 Limit	PK Margin (dB)	Azimuth (Degs)
1	12.71225	20.66	PK	10.9	.6	-40	-7.84	29.54	-37.38	0-360
2	13.56025	52.3	PK	10.9	.6	-40	23.8	84	-60.2	0-360
3	14.4075	22.05	PK	10.8	.5	-40	-6.65	29.54	-36.19	0-360
4	12.70878	20.49	PK	10.9	.6	-40	-8.01	29.54	-37.55	0-360
5	13.56029	49.41	PK	10.9	.6	-40	20.91	84	-63.09	0-360
6	14.40634	21.33	PK	10.8	.5	-40	-7.37	29.54	-36.91	0-360

PK - Peak detector

SPURIOUS EMISSIONS 106Kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF

Trace Markers

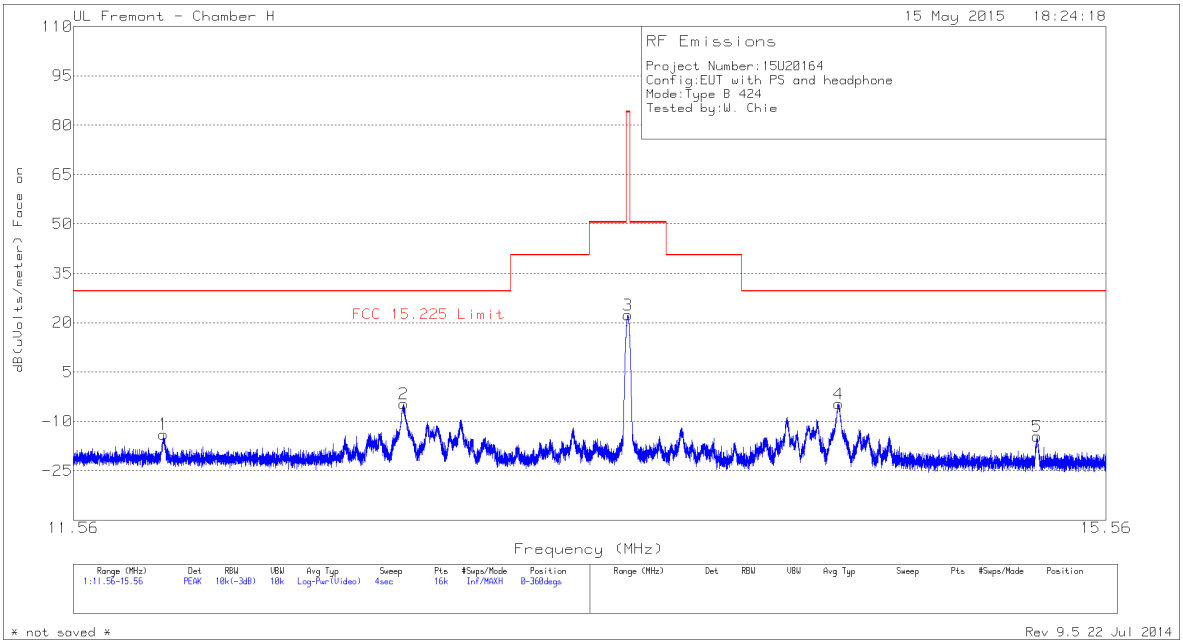
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	12.71372	20.1	PK	10.9	.6	-40	-8.4	29.54	-37.94	-	-	0-360
2	14.40676	20.67	PK	10.8	.5	-40	-8.03	29.54	-37.57	-	-	0-360
3	12.71372	18.38	PK	10.9	.6	-40	-10.12	29.54	-39.66	-	-	0-360
4	14.40519	20.48	PK	10.8	.5	-40	-8.22	29.54	-37.76	-	-	0-360
5	17.36212	11.32	PK	10.6	.6	-40	-17.48	29.54	-47.02	-	-	0-360
6	17.38413	7.82	PK	10.6	.6	-40	-20.98	29.54	-50.52	-	-	0-360

PK - Peak detector

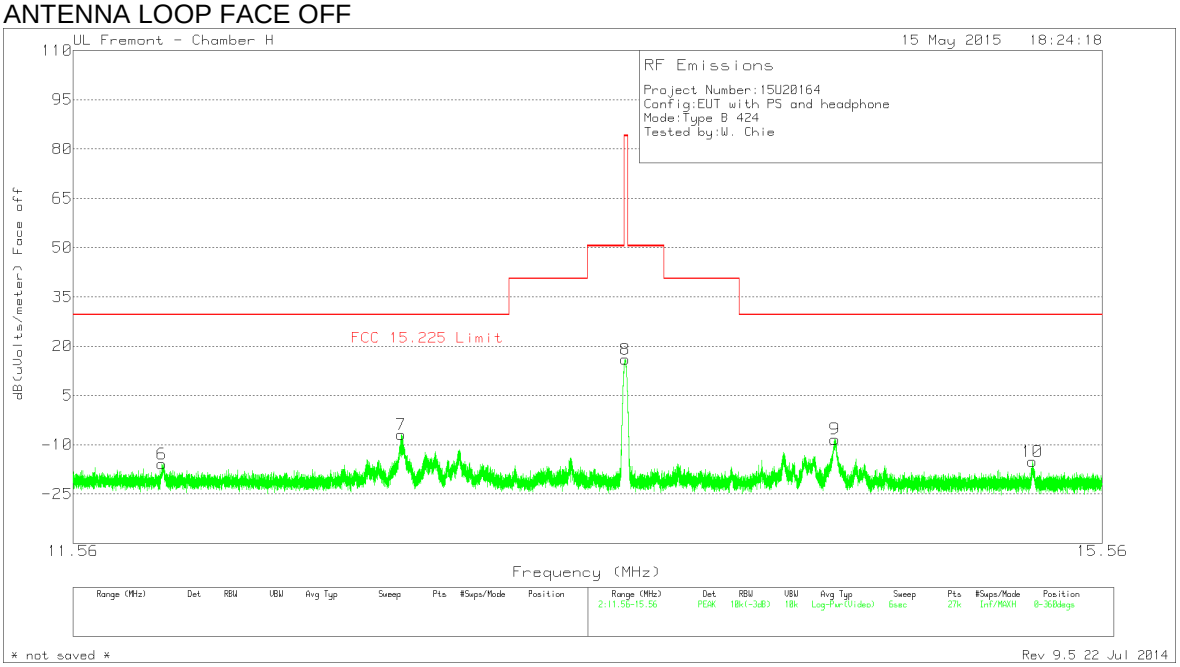
9.2.2. TYPE B

FUNDAMENTAL 424Kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



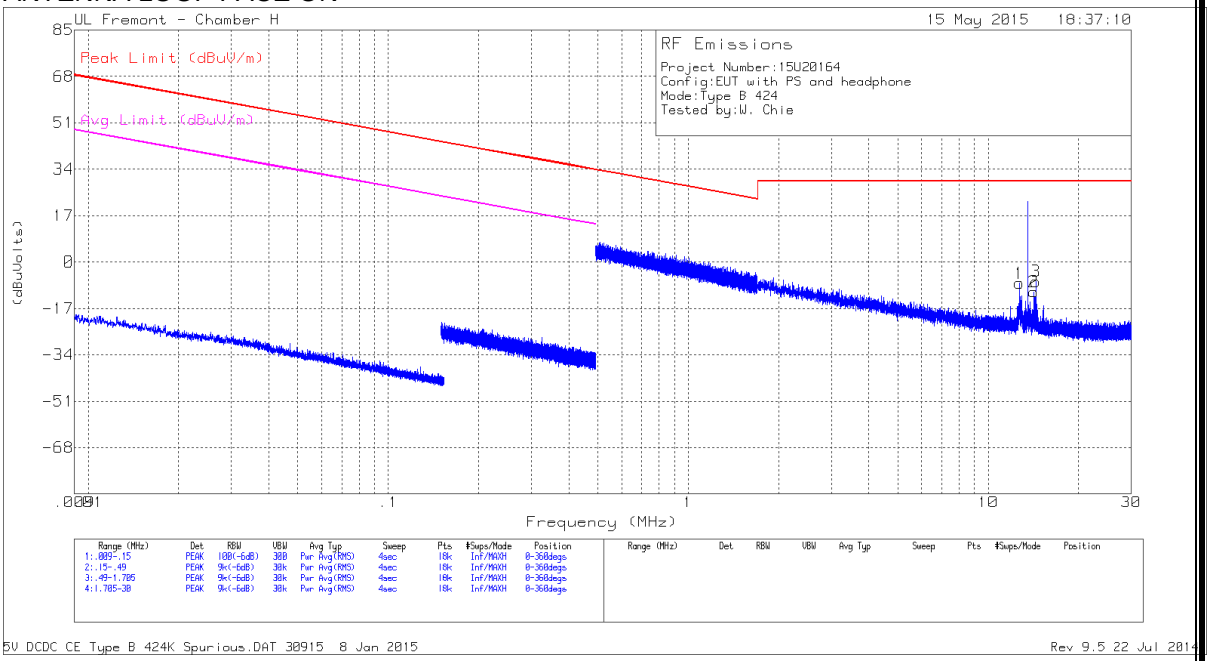
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading dBuV/m)	FCC 15.225 Limit	PK Margin (dB)	Azimuth (Degs)
1	11.86425	14.71	PK	10.9	.5	-40	-13.89	29.54	-43.43	0-360
2	12.71375	24.48	PK	10.7	.6	-40	-4.22	29.54	-33.76	0-360
3	13.55975	50.78	PK	10.9	.6	-40	22.28	84	-61.72	0-360
4	14.407	24.07	PK	10.8	.5	-40	-4.63	29.54	-34.17	0-360
5	15.255	14.03	PK	10.8	.6	-40	-14.57	29.54	-44.11	0-360
6	11.86088	12.84	PK	10.9	.5	-40	-15.76	29.54	-45.3	0-360
7	12.70878	21.6	PK	10.9	.6	-40	-6.9	29.54	-36.44	0-360
8	13.5577	44.42	PK	10.9	.6	-40	15.92	84	-68.08	0-360
9	14.40412	20.4	PK	10.8	.5	-40	-8.3	29.54	-37.84	0-360
10	15.24905	13.56	PK	10.8	.6	-40	-15.04	29.54	-44.58	0-360

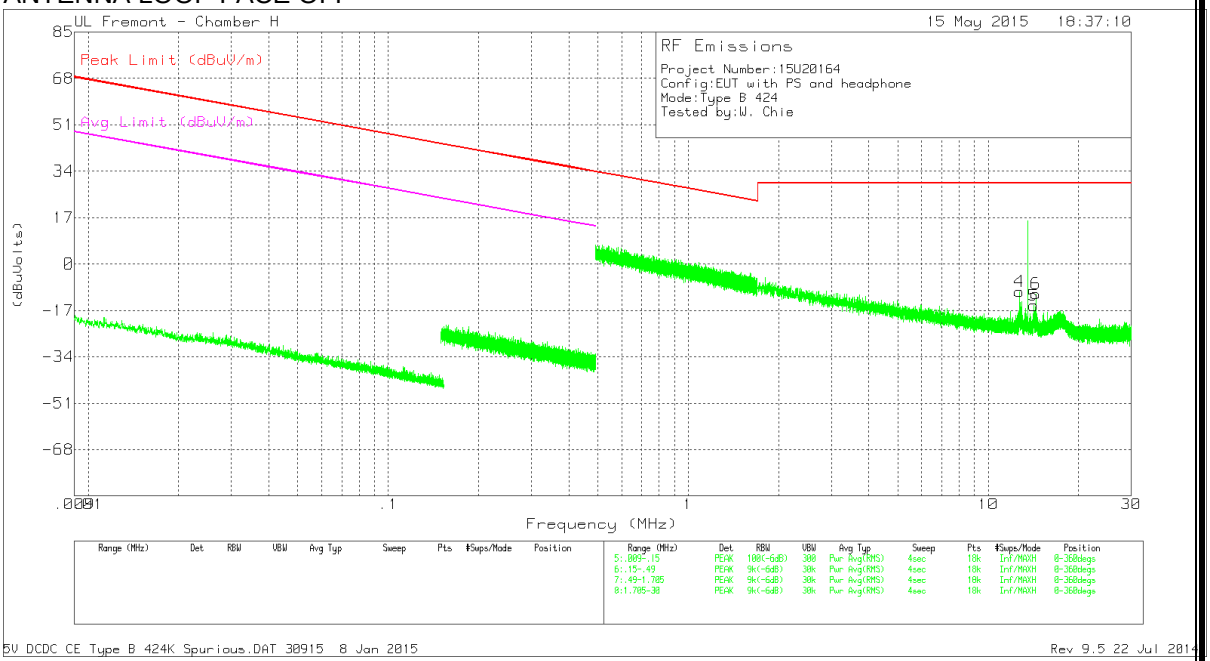
PK - Peak detector

SPURIOUS EMISSIONS 424Kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



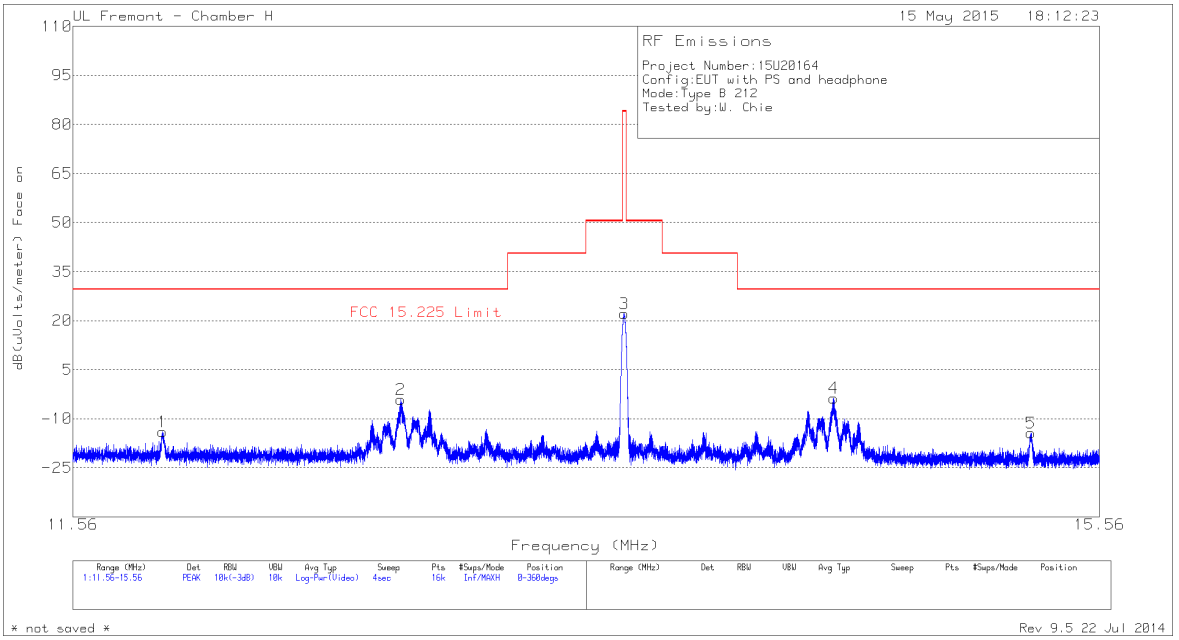
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	12.71372	22.67	PK	10.7	.6	-40	-6.03	29.54	-35.57	-	-	0-360
2	14.19768	17.74	PK	10.8	.5	-40	-10.96	29.54	-40.5	-	-	0-360
3	14.40833	21.58	PK	10.8	.5	-40	-7.12	29.54	-36.66	-	-	0-360
4	12.71057	18.42	PK	10.9	.6	-40	-10.08	29.54	-39.62	-	-	0-360
5	14.19533	13.53	PK	10.8	.5	-40	-15.17	29.54	-44.71	-	-	0-360
6	14.40833	17.77	PK	10.8	.5	-40	-10.93	29.54	-40.47	-	-	0-360

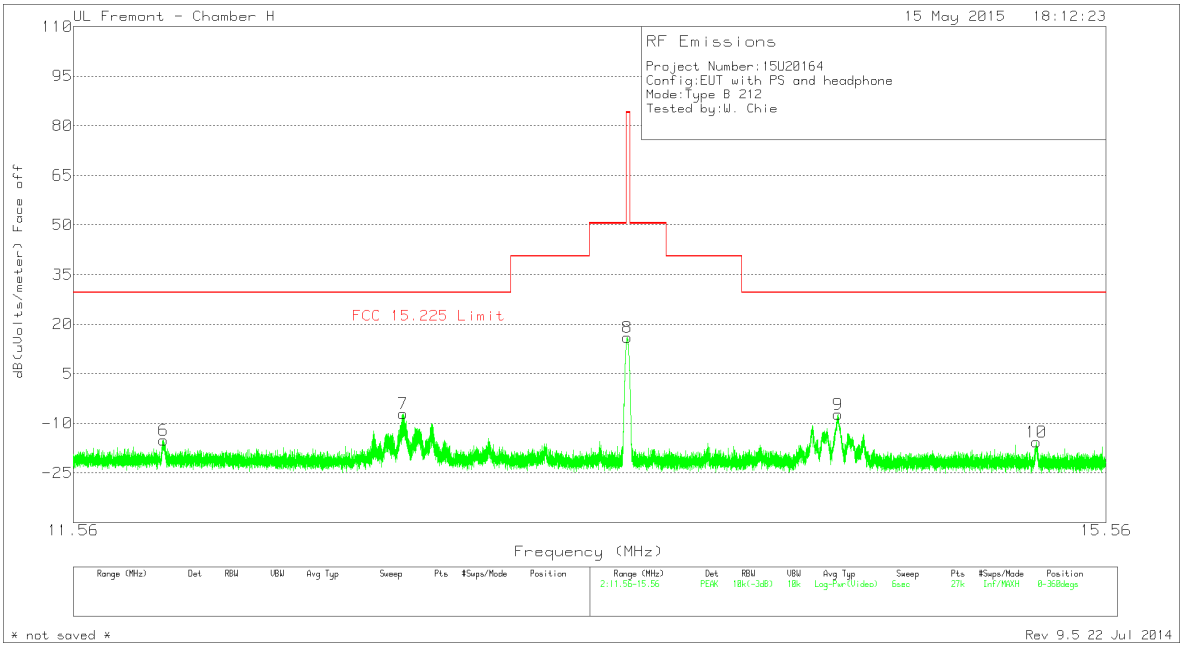
PK - Peak detector

FUNDAMENTAL 212Kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



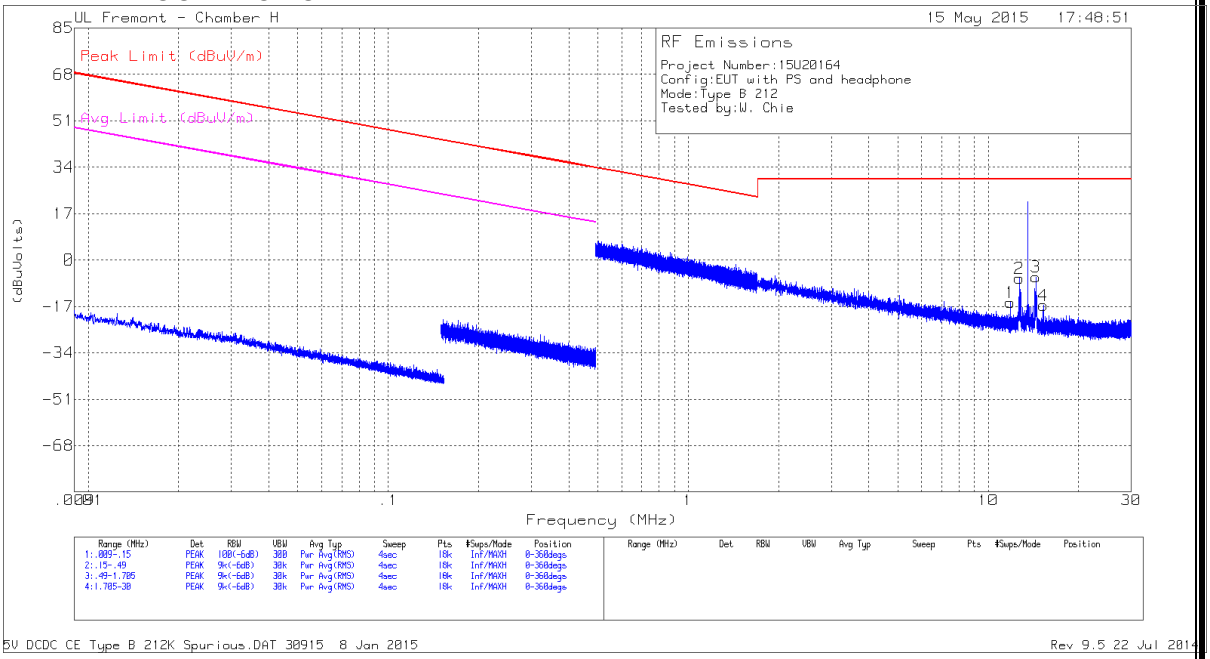
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading dBuV/m	FCC 15.225 Limit	PK Margin (dB)	Azimuth (Degs)
1	11.86475	14.64	PK	10.9	.5	-40	-13.96	29.54	-43.5	0-360
2	12.7115	24.47	PK	10.9	.6	-40	-4.03	29.54	-33.57	0-360
3	13.5595	50.66	PK	10.9	.6	-40	22.16	84	-61.84	0-360
4	14.40713	25.05	PK	10.8	.5	-40	-3.65	29.54	-33.19	0-360
5	15.25425	14.17	PK	10.8	.6	-40	-14.43	29.54	-43.97	0-360
6	11.86414	13.43	PK	10.9	.5	-40	-15.17	29.54	-44.71	0-360
7	12.711	21.47	PK	10.9	.6	-40	-7.03	29.54	-36.57	0-360
8	13.55741	44.43	PK	10.9	.6	-40	15.93	84	-68.07	0-360
9	14.40619	21.46	PK	10.8	.5	-40	-7.24	29.54	-36.78	0-360
10	15.25156	12.87	PK	10.8	.6	-40	-15.73	29.54	-45.27	0-360

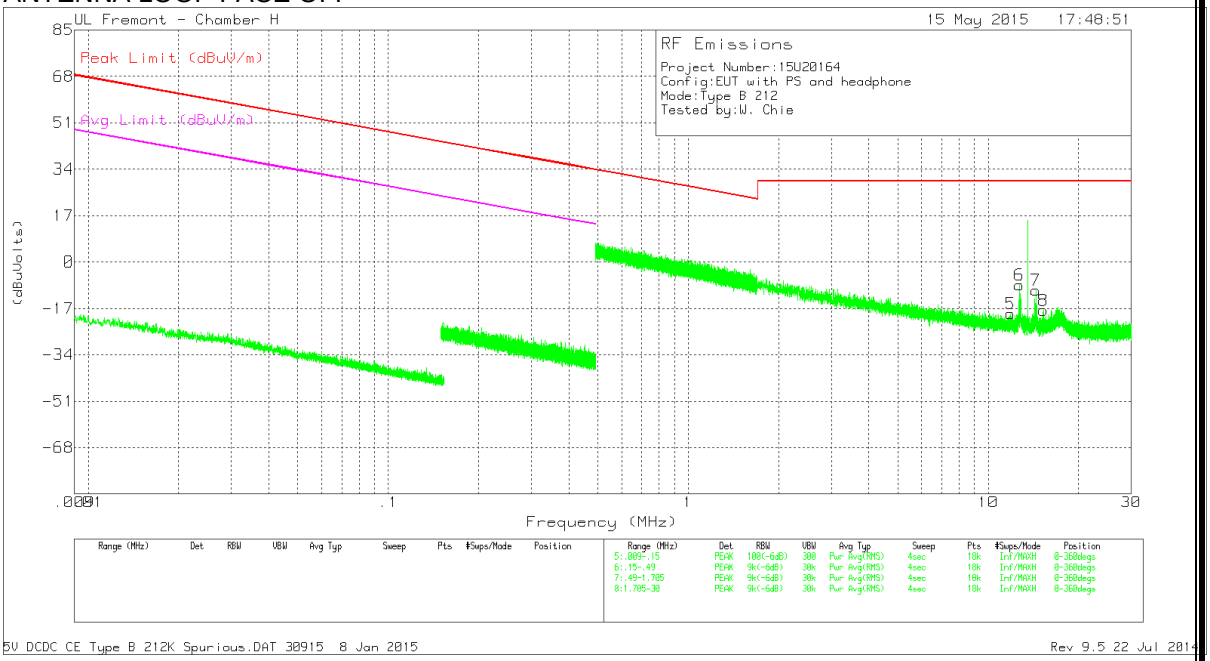
PK - Peak detector

SPURIOUS EMISSIONS 212Kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



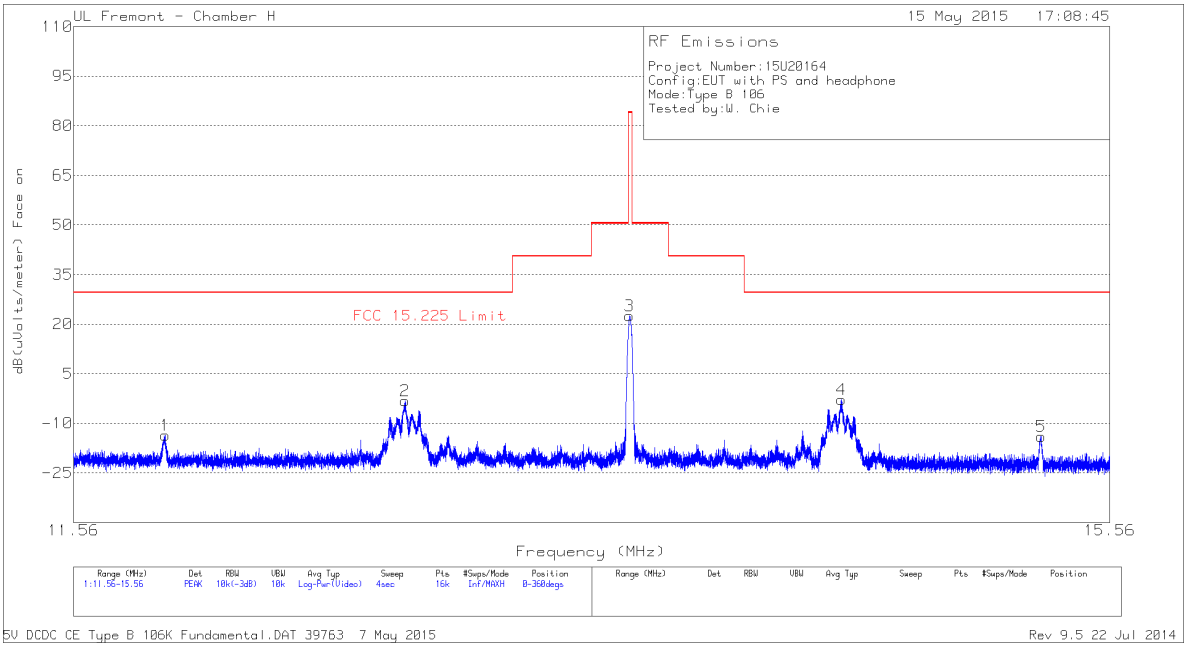
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	11.86484	13.12	PK	10.9	.5	-40	-15.48	29.54	-45.02	-	-	0-360
2	12.71057	21.81	PK	10.9	.6	-40	-6.69	29.54	-36.23	-	-	0-360
3	14.40676	22.66	PK	10.7	.6	-40	-6.04	29.54	-35.58	-	-	0-360
4	15.25407	12.03	PK	10.8	.6	-40	-16.57	29.54	-46.11	-	-	0-360
5	11.86798	9.64	PK	10.9	.5	-40	-18.96	29.54	-48.5	-	-	0-360
6	12.71214	20.12	PK	10.9	.6	-40	-8.38	29.54	-37.92	-	-	0-360
7	14.40833	18.38	PK	10.8	.5	-40	-10.32	29.54	-39.86	-	-	0-360
8	15.25407	10.92	PK	10.8	.6	-40	-17.68	29.54	-47.22	-	-	0-360

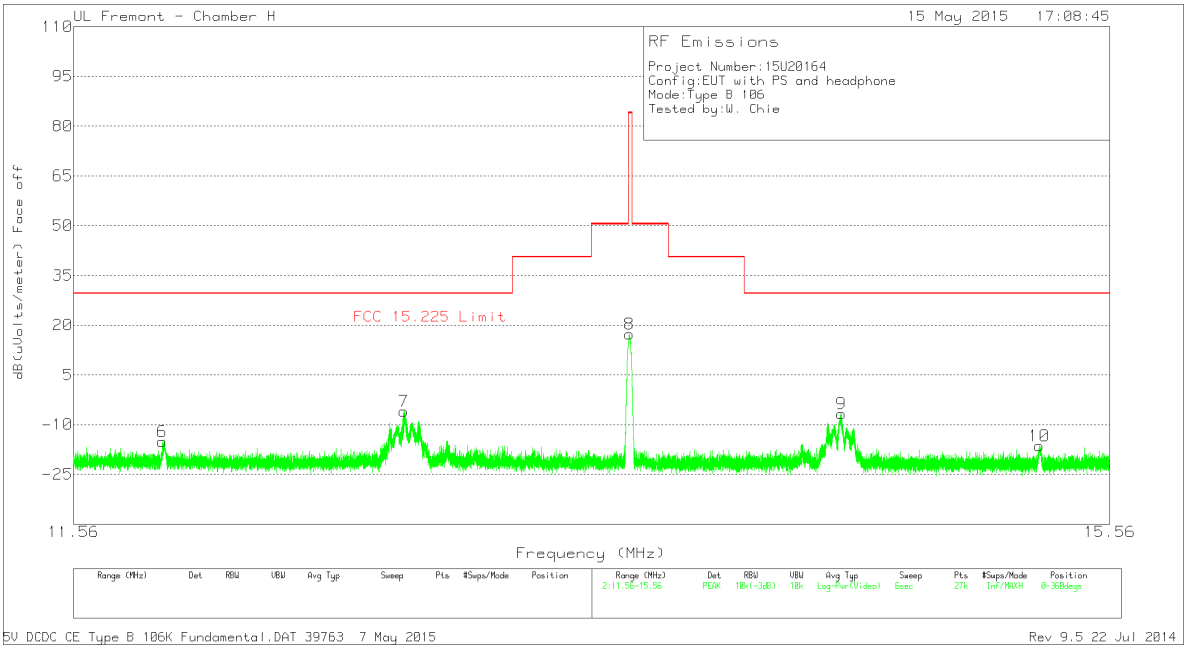
PK - Peak detector

FUNDAMENTAL 106Kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



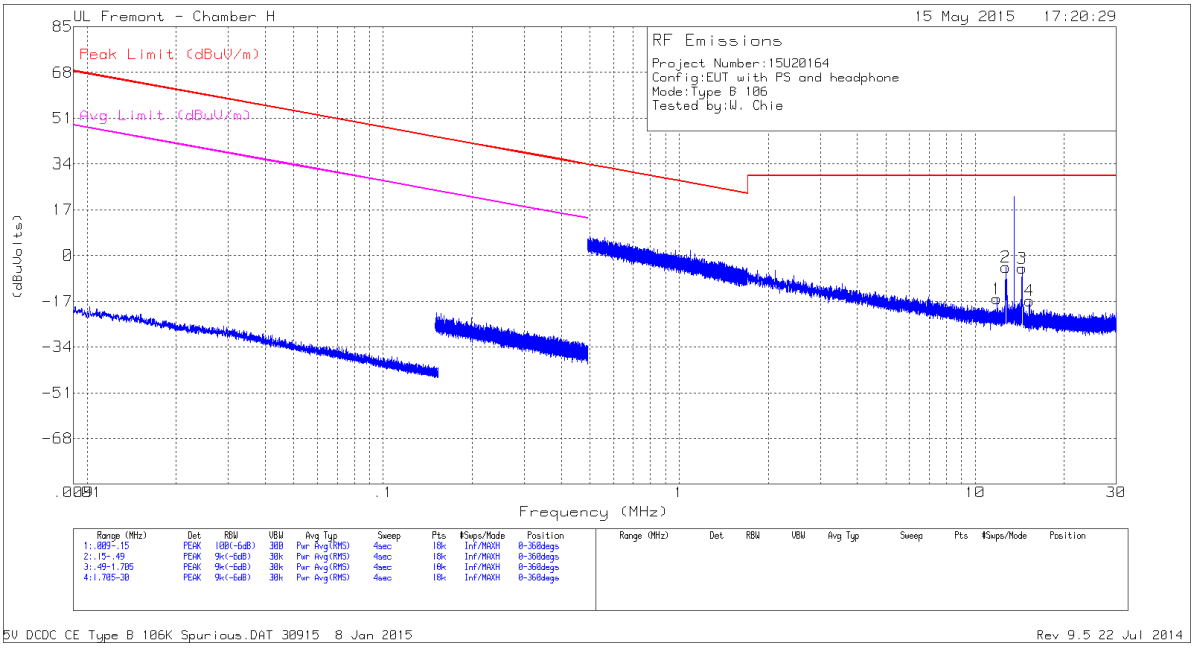
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading dBuV/m	FCC 15.225 Limit	PK Margin (dB)	Azimuth (Degs)
1	11.8675	14.91	PK	10.9	.5	-40	-13.69	29.54	-43.23	0-360
2	12.71225	25.27	PK	10.9	.6	-40	-3.23	29.54	-32.77	0-360
3	13.55875	51.1	PK	10.9	.6	-40	22.6	84	-61.4	0-360
4	14.4075	25.94	PK	10.8	.5	-40	-2.76	29.54	-32.3	0-360
5	15.25675	14.67	PK	10.8	.6	-40	-13.93	29.54	-43.47	0-360
6	11.85837	13.54	PK	10.9	.5	-40	-15.06	29.54	-44.6	0-360
7	12.70863	22.57	PK	10.9	.6	-40	-5.93	29.54	-35.47	0-360
8	13.55756	45.79	PK	10.9	.6	-40	17.29	84	-66.71	0-360
9	14.40752	21.96	PK	10.8	.5	-40	-6.74	29.54	-36.28	0-360
10	15.24994	12.25	PK	10.8	.6	-40	-16.35	29.54	-45.89	0-360

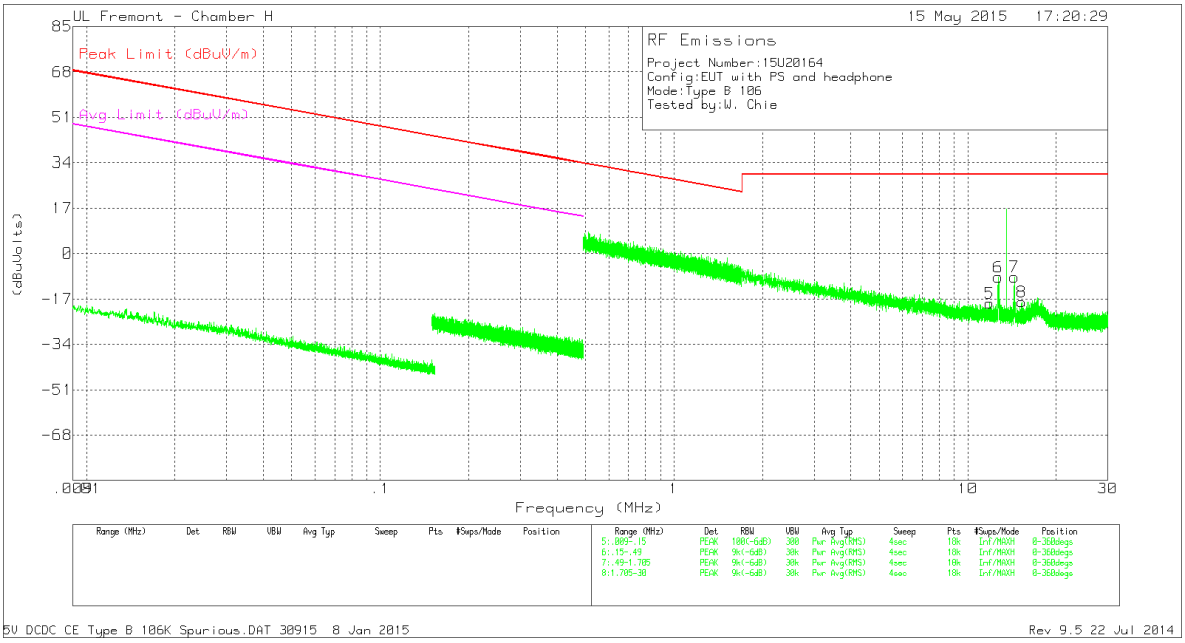
PK - Peak detector

SPURIOUS EMISSIONS 106Kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	11.86484	12.53	PK	10.9	.5	-40	-16.07	29.54	-45.61	-	-	0-360
2	12.71057	24.13	PK	10.9	.6	-40	-4.37	29.54	-33.91	-	-	0-360
3	14.40519	24.01	PK	10.8	.5	-40	-4.69	29.54	-34.23	-	-	0-360
4	15.25564	11.8	PK	10.8	.6	-40	-16.8	29.54	-46.34	-	-	0-360
5	11.86798	10.05	PK	10.9	.5	-40	-18.55	29.54	-48.09	-	-	0-360
6	12.709	19.68	PK	10.9	.6	-40	-8.82	29.54	-38.36	-	-	0-360
7	14.40676	19.94	PK	10.8	.5	-40	-8.76	29.54	-38.3	-	-	0-360
8	15.2525	10.52	PK	10.8	.6	-40	-18.08	29.54	-47.62	-	-	0-360

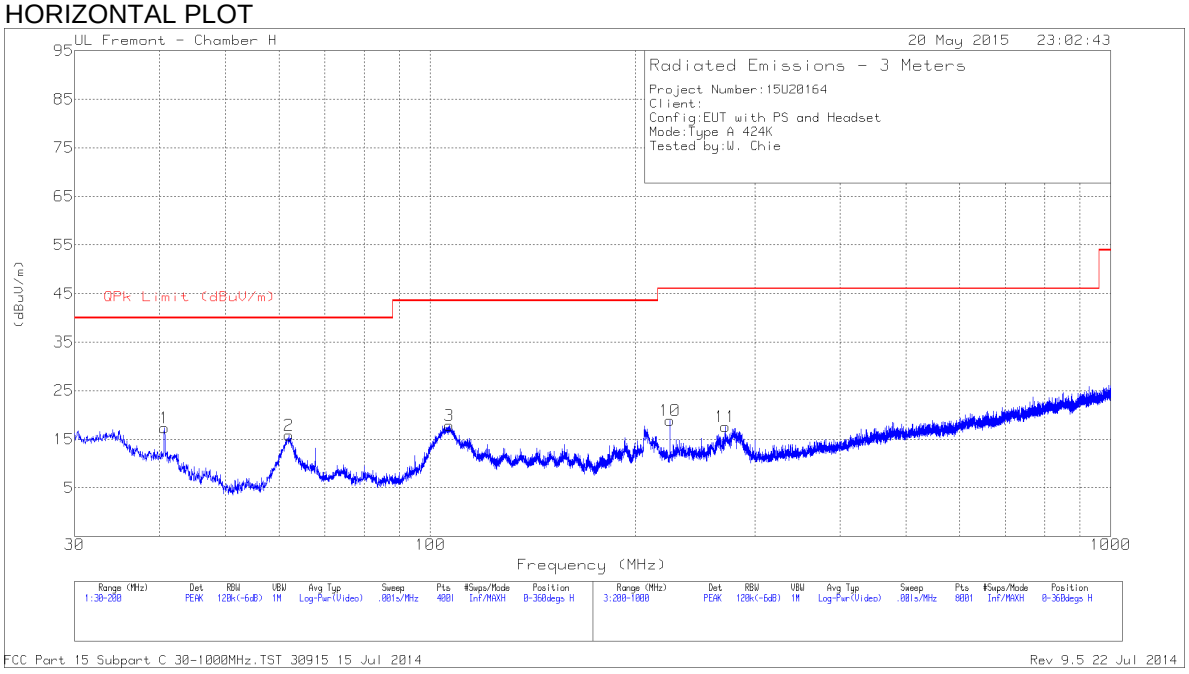
PK - Peak detector

9.3. TX SPURIOUS EMISSION 30 TO 1000 MHz

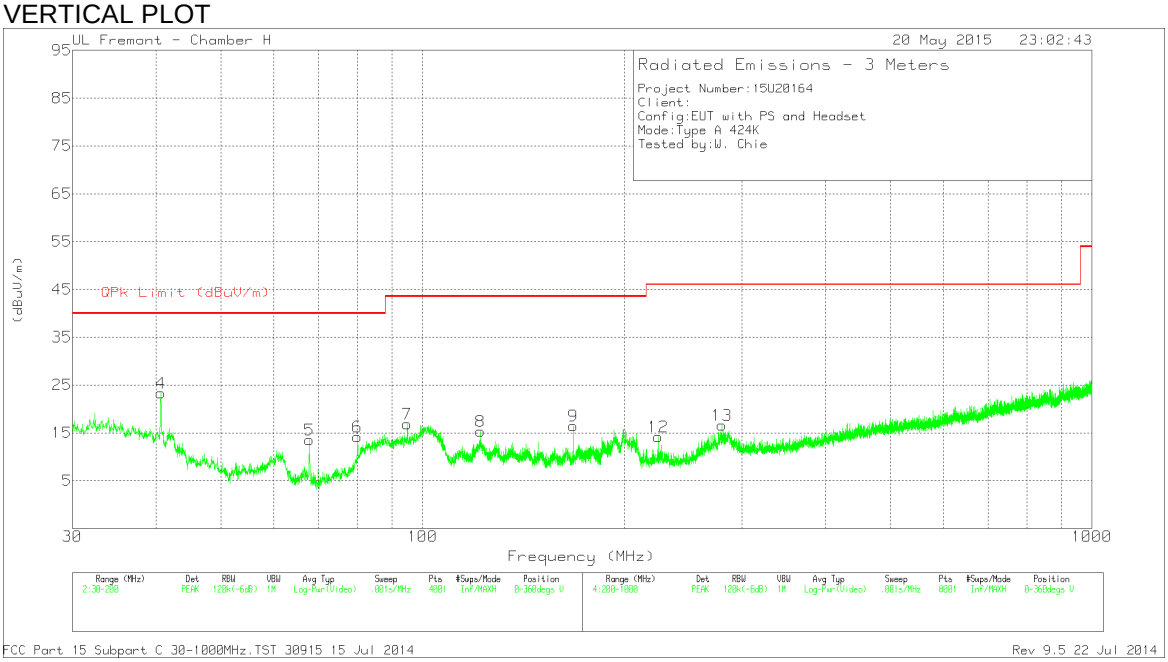
9.3.1. TYPE A

424Kbps

HORIZONTAL PLOT



VERTICAL PLOT



Trace Markers

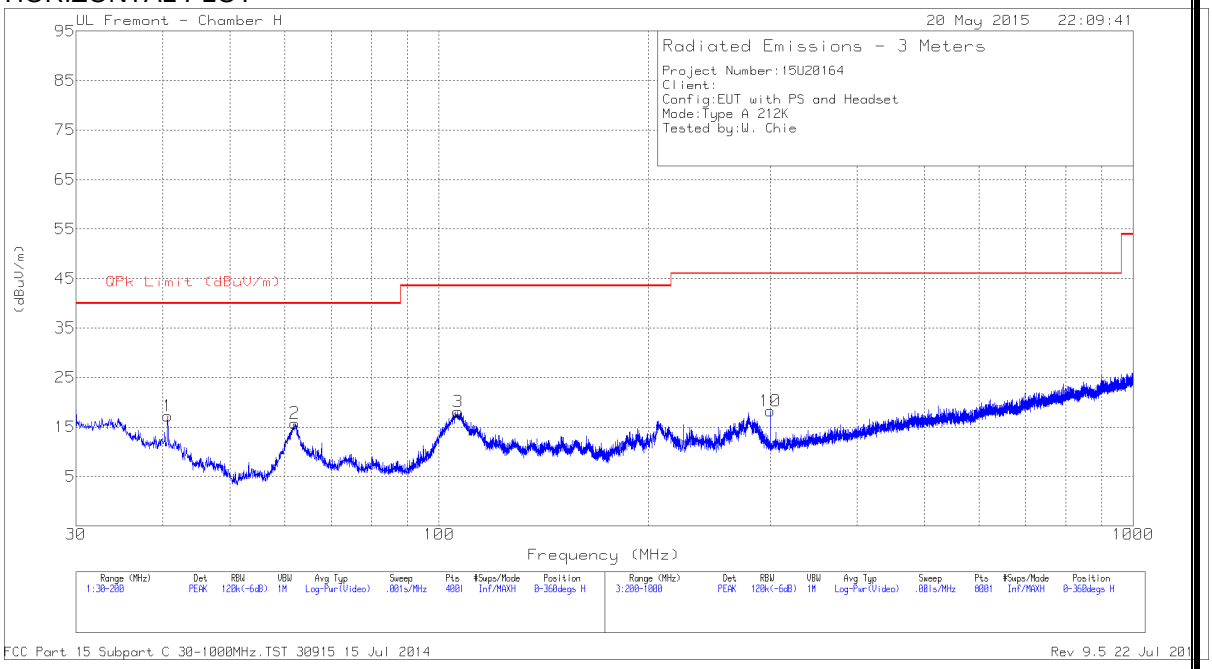
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T900 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.6675	34.46	PK	14.1	-31.2	17.36	40	-22.64	0-360	400	H
2	62.0025	38.62	PK	8.1	-30.9	15.82	40	-24.18	0-360	400	H
3	106.67	36.67	PK	11.7	-30.5	17.87	43.52	-25.65	0-360	301	H
4	40.6675	40.43	PK	14.1	-31.2	23.33	40	-16.67	0-360	100	V
5	67.7825	35.82	PK	8.5	-30.8	13.52	40	-26.48	0-360	100	V
6	79.98	37.08	PK	7.8	-30.7	14.18	40	-25.82	0-360	100	V
7	94.94	38.41	PK	9	-30.6	16.81	43.52	-26.71	0-360	100	V
8	* 122.055	31.91	PK	13.7	-30.3	15.31	43.52	-28.21	0-360	100	V
9	* 167.9975	34.59	PK	11.8	-29.9	16.49	43.52	-27.03	0-360	100	V
10	225	37.82	PK	10.7	-29.6	18.92	46.02	-27.1	0-360	100	H
11	* 271.2	33.86	PK	13.1	-29.3	17.66	46.02	-28.36	0-360	100	H
12	225	33.09	PK	10.7	-29.6	14.19	46.02	-31.83	0-360	99	V
13	* 279.9	32.25	PK	13.5	-29.2	16.55	46.02	-29.47	0-360	99	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

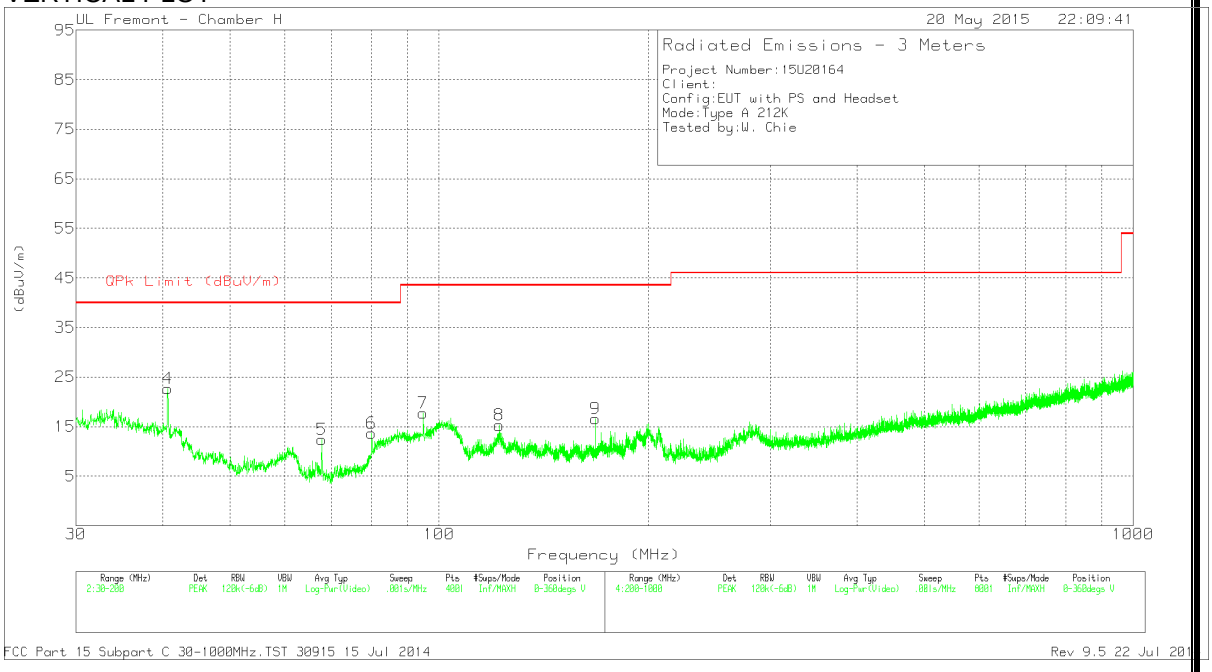
PK - Peak detector

212Kbps

HORIZONTAL PLOT



VERTICAL PLOT



Trace Markers

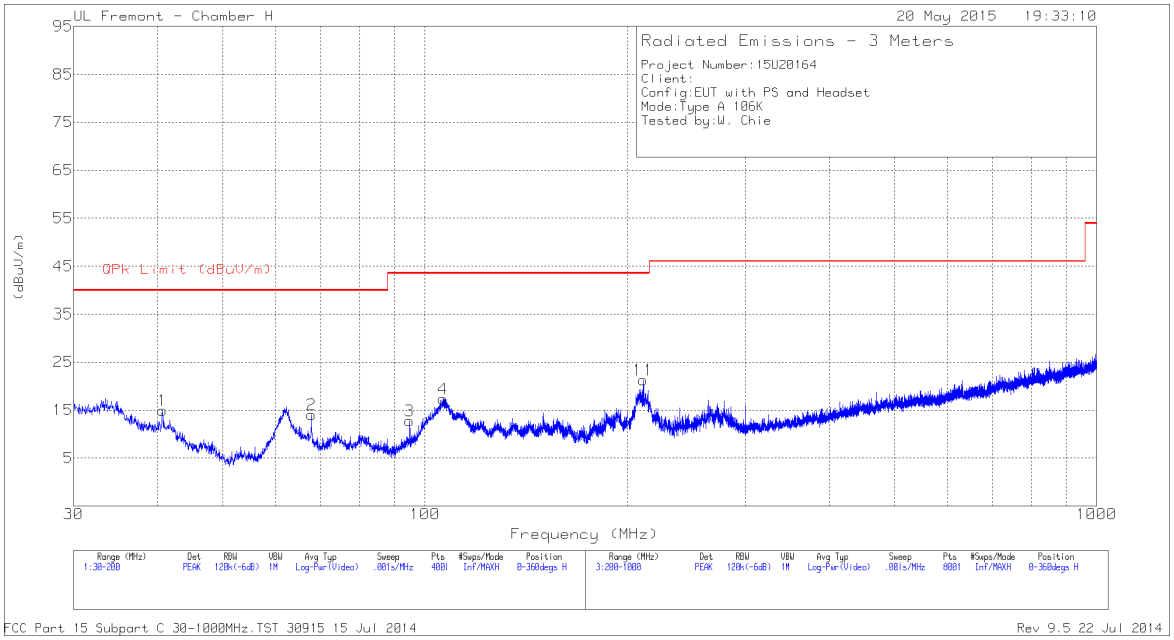
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T900 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.6675	34.28	PK	14.1	-31.2	17.18	40	-22.82	0-360	400	H
2	61.96	38.56	PK	8.1	-30.9	15.76	40	-24.24	0-360	400	H
3	106.5	36.88	PK	11.7	-30.5	18.08	43.52	-25.44	0-360	201	H
4	40.6675	39.76	PK	14.1	-31.2	22.66	40	-17.34	0-360	100	V
5	67.7825	34.75	PK	8.5	-30.8	12.45	40	-27.55	0-360	100	V
6	79.98	36.53	PK	7.8	-30.7	13.63	40	-26.37	0-360	100	V
7	94.8975	39.29	PK	9	-30.6	17.69	43.52	-25.83	0-360	100	V
8	* 122.0125	31.86	PK	13.7	-30.3	15.26	43.52	-28.26	0-360	100	V
9	* 167.9975	34.74	PK	11.8	-29.9	16.64	43.52	-26.88	0-360	100	V
10	300	34.11	PK	13.2	-29.1	18.21	46.02	-27.81	0-360	99	H

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

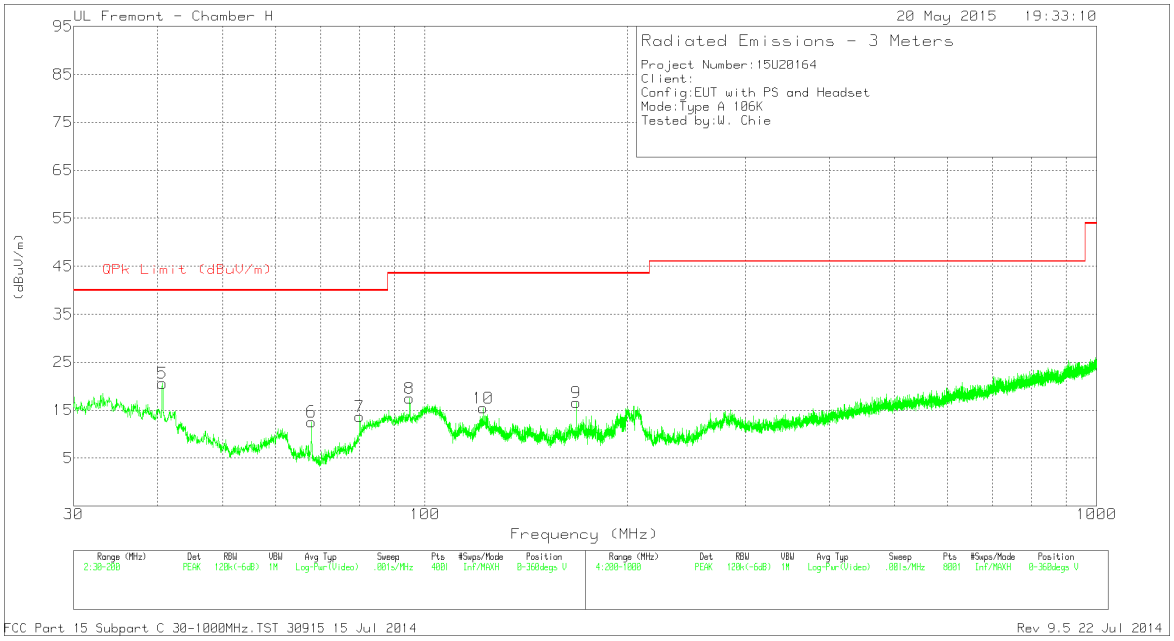
PK - Peak detector

106Kbps

HORIZONTAL PLOT



VERTICAL PLOT



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T900 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.6675	32.09	PK	14.1	-31.2	14.99	40	-25.01	0-360	301	H
2	67.825	36.35	PK	8.5	-30.8	14.05	40	-25.95	0-360	301	H
3	94.94	34.37	PK	9	-30.6	12.77	43.52	-30.75	0-360	301	H
4	106.2875	36.19	PK	11.7	-30.5	17.39	43.52	-26.13	0-360	301	H
5	40.6675	37.69	PK	14.1	-31.2	20.59	40	-19.41	0-360	100	V
6	67.825	34.89	PK	8.5	-30.8	12.59	40	-27.41	0-360	100	V
7	80.0225	36.52	PK	7.8	-30.7	13.62	40	-26.38	0-360	100	V
8	94.8975	39.09	PK	9	-30.6	17.49	43.52	-26.03	0-360	100	V
9	* 167.9975	34.67	PK	11.8	-29.9	16.57	43.52	-26.95	0-360	100	V
10	* 122.055	32.02	PK	13.7	-30.3	15.42	43.52	-28.1	0-360	100	V
11	211.5	40.58	PK	10.3	-29.6	21.28	43.52	-22.24	0-360	99	H

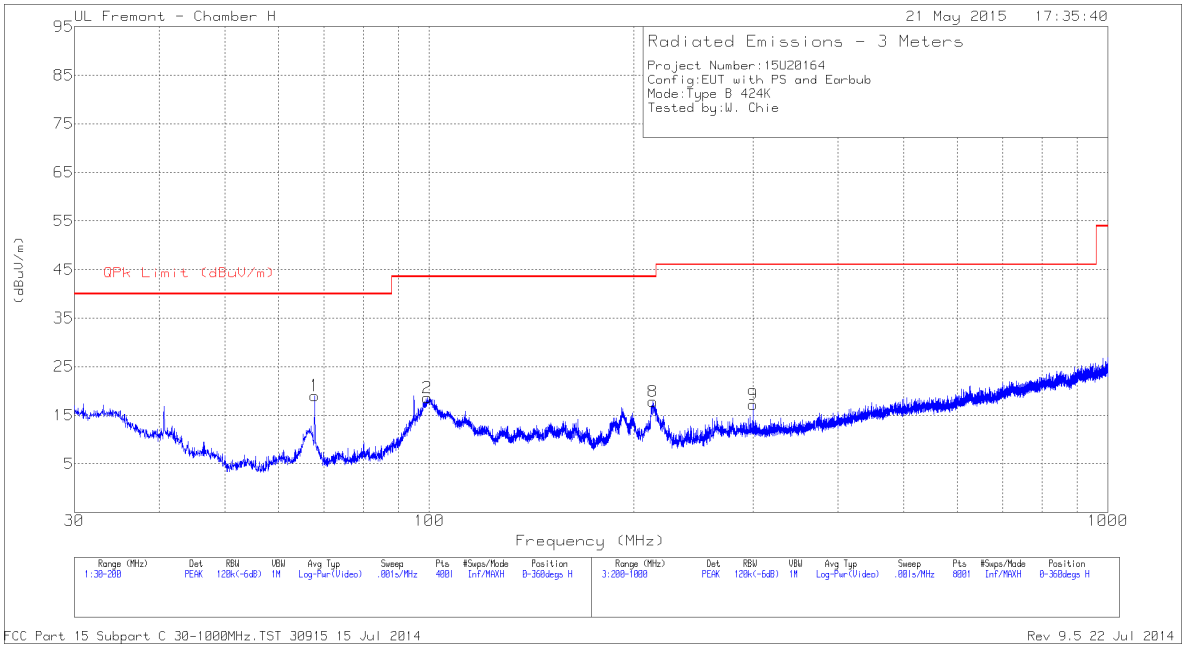
* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

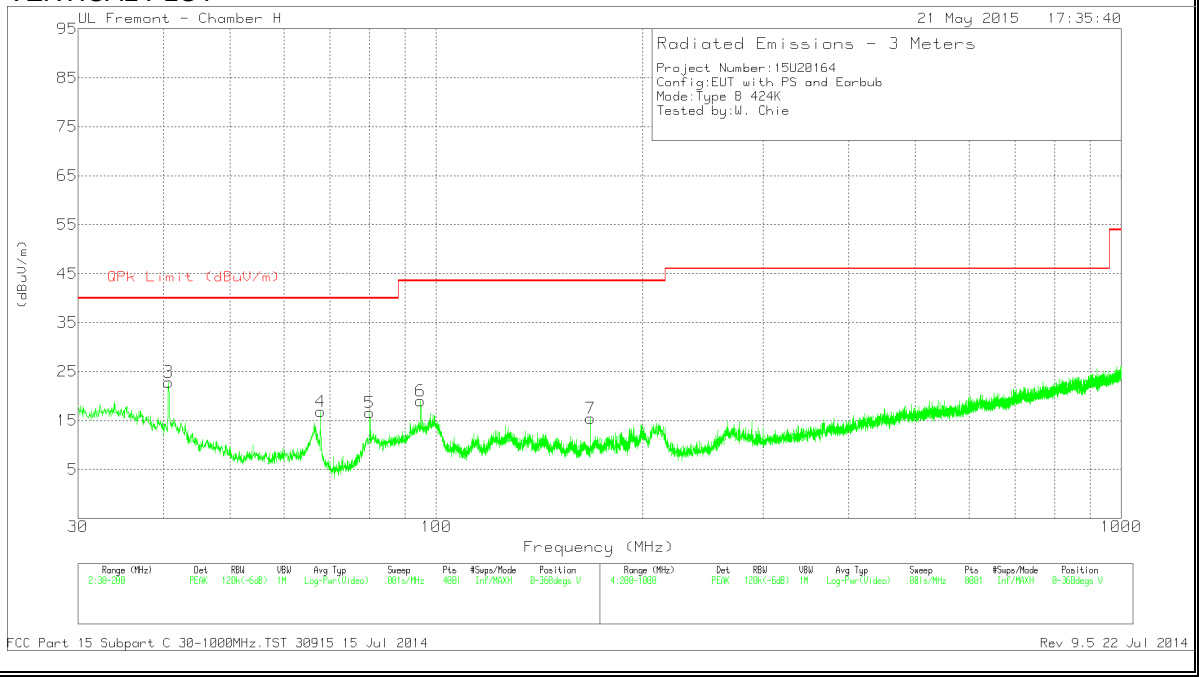
9.3.2. TYPE B

424Kbps

HORIZONTAL PLOT



VERTICAL PLOT



Trace Markers

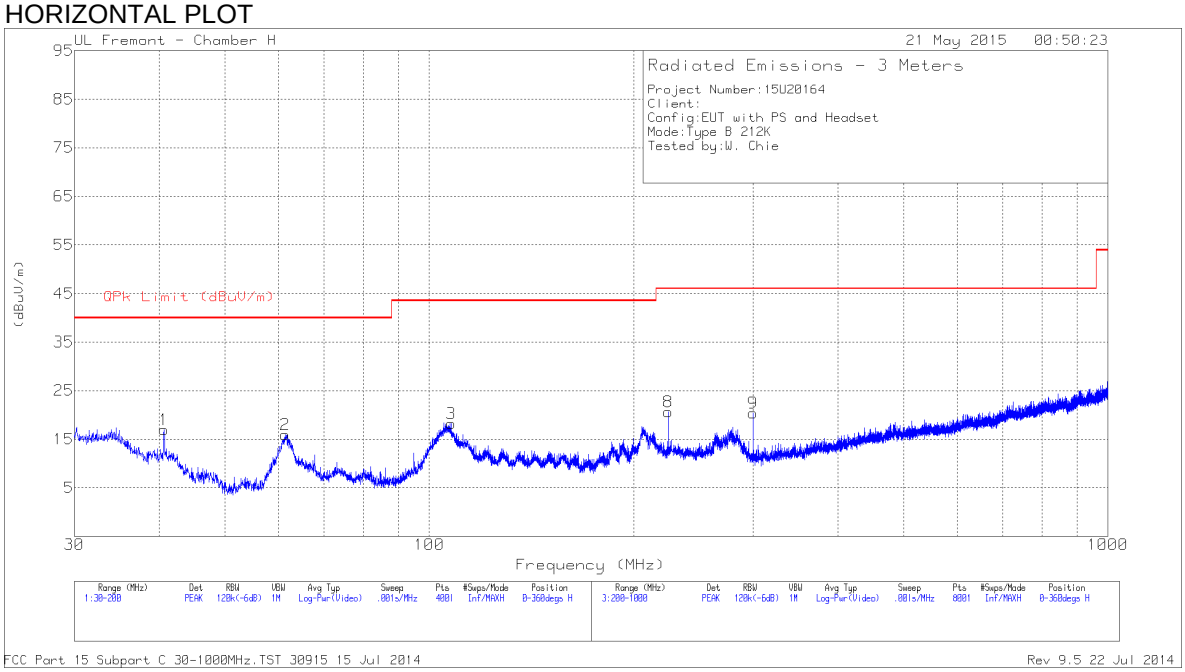
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T900 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	67.7825	41.36	PK	8.5	-30.8	19.06	40	-20.94	0-360	201	H
2	99.275	39.1	PK	10	-30.5	18.6	43.52	-24.92	0-360	301	H
3	40.6675	39.97	PK	14.1	-31.2	22.87	40	-17.13	0-360	100	V
4	67.7825	39.11	PK	8.5	-30.8	16.81	40	-23.19	0-360	100	V
5	80.0225	39.44	PK	7.8	-30.7	16.54	40	-23.46	0-360	100	V
6	94.8975	40.56	PK	9	-30.6	18.96	43.52	-24.56	0-360	100	V
7	* 167.9975	33.49	PK	11.8	-29.9	15.39	43.52	-28.13	0-360	100	V
8	213.5	37.1	PK	10.4	-29.6	17.9	43.52	-25.62	0-360	100	H
9	300	33.07	PK	13.2	-29.1	17.17	46.02	-28.85	0-360	100	H

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

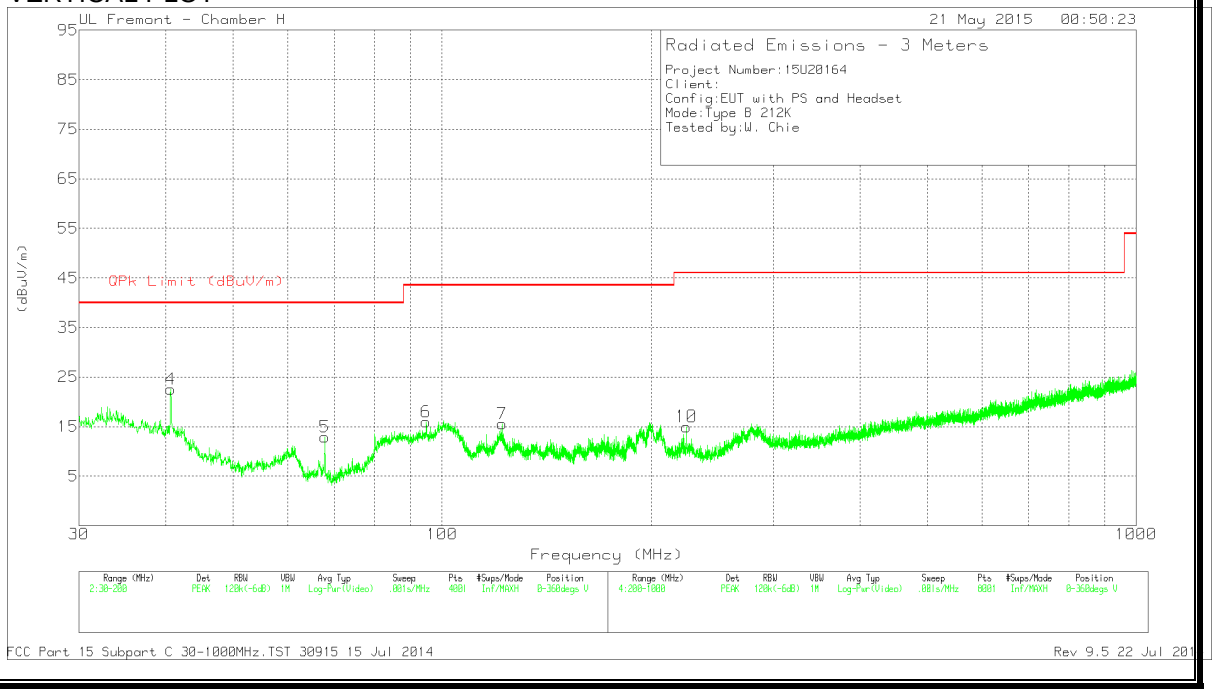
PK - Peak detector

212Kbps

HORIZONTAL PLOT



VERTICAL PLOT



Trace Markers

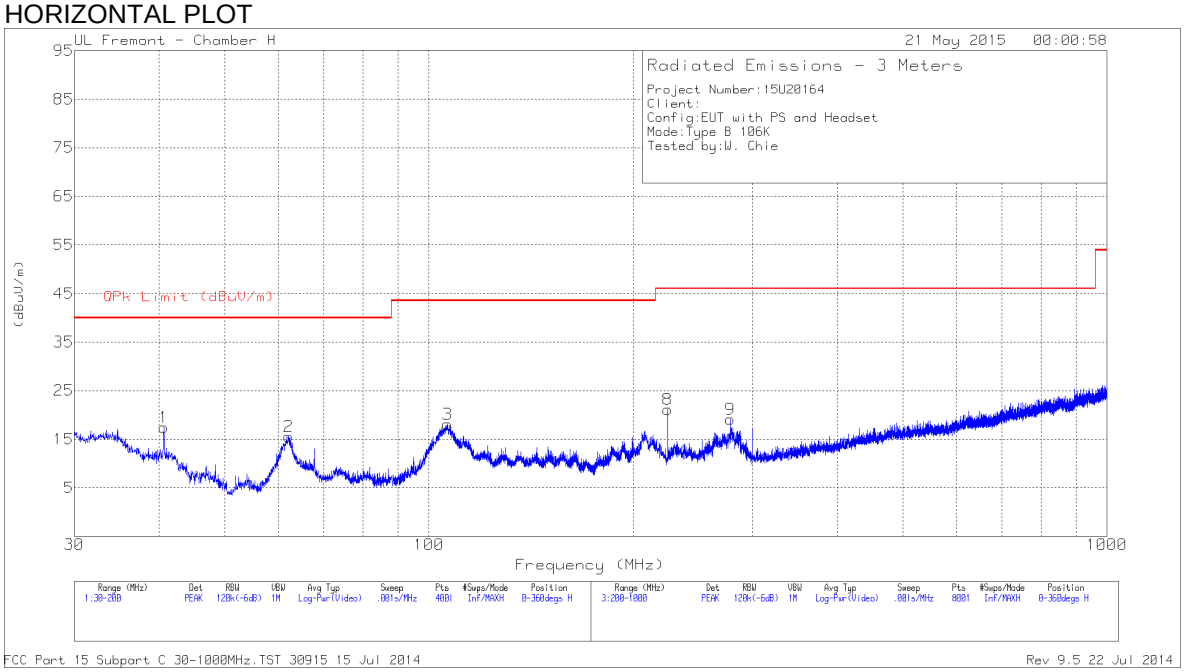
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T900 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.6675	34.11	PK	14.1	-31.2	17.01	40	-22.99	0-360	400	H
2	61.365	38.81	PK	8	-30.9	15.91	40	-24.09	0-360	400	H
3	107.6475	36.79	PK	12	-30.5	18.29	43.52	-25.23	0-360	301	H
4	40.71	39.65	PK	14.1	-31.2	22.55	40	-17.45	0-360	100	V
5	67.825	35.23	PK	8.5	-30.8	12.93	40	-27.07	0-360	100	V
6	94.94	37.58	PK	9	-30.6	15.98	43.52	-27.54	0-360	100	V
7	* 122.055	32.15	PK	13.7	-30.3	15.55	43.52	-27.97	0-360	100	V
8	225	39.51	PK	10.7	-29.6	20.61	46.02	-25.41	0-360	100	H
9	300	36.34	PK	13.2	-29.1	20.44	46.02	-25.58	0-360	100	H
10	225	33.9	PK	10.7	-29.6	15	46.02	-31.02	0-360	100	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

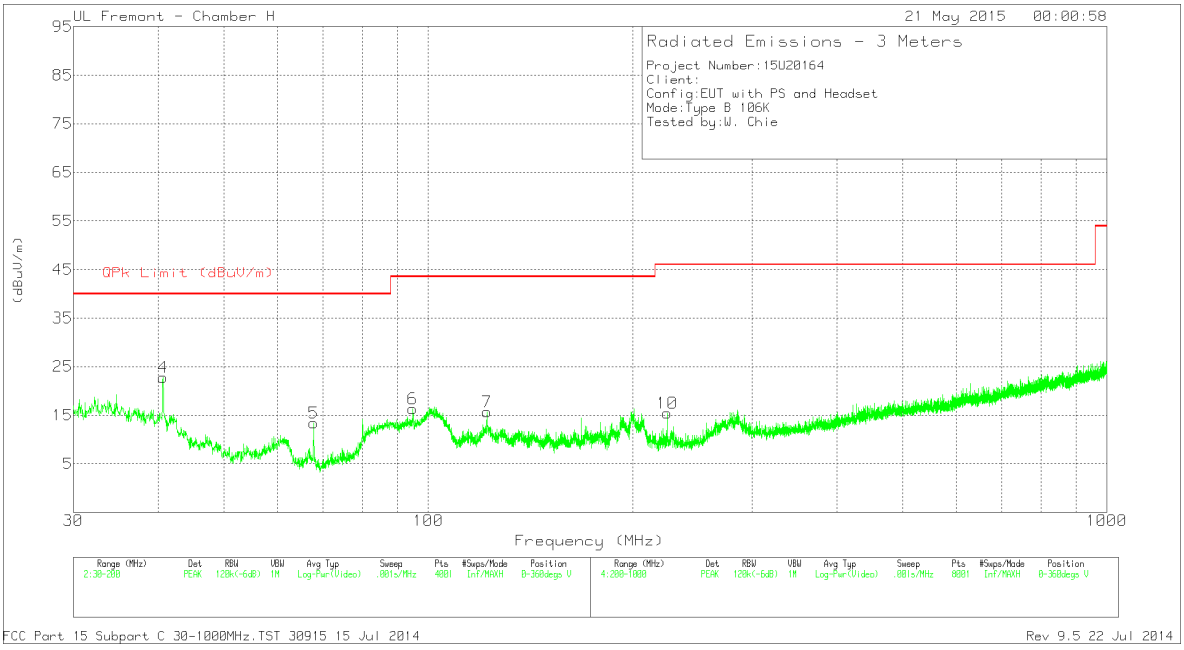
PK - Peak detector

106Kbps

HORIZONTAL PLOT



VERTICAL PLOT



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T900 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.6675	34.54	PK	14.1	-31.2	17.44	40	-22.56	0-360	301	H
2	62.13	38.39	PK	8.1	-30.9	15.59	40	-24.41	0-360	401	H
3	106.5	36.89	PK	11.7	-30.5	18.09	43.52	-25.43	0-360	301	H
4	40.6675	40.13	PK	14.1	-31.2	23.03	40	-16.97	0-360	100	V
5	67.7825	35.77	PK	8.5	-30.8	13.47	40	-26.53	0-360	100	V
6	94.8975	37.92	PK	9	-30.6	16.32	43.52	-27.2	0-360	100	V
7	* 122.055	32.25	PK	13.7	-30.3	15.65	43.52	-27.87	0-360	100	V
8	225	40.06	PK	10.7	-29.6	21.16	46.02	-24.86	0-360	100	H
9	* 278.3	34.97	PK	13.4	-29.2	19.17	46.02	-26.85	0-360	100	H
10	225	34.3	PK	10.7	-29.6	15.4	46.02	-30.62	0-360	99	V

* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

10. RADIATED EMISSION TEST RESULTS (MODEL: A1688)

10.1. LIMITS AND PROCEDURE

LIMIT

§15.225
IC RSS-210, Section 8.9 (Transmitter)
IC RSS-GEN, Section 7.1.2 (Receiver)

(a) The field strength of any emissions within the band 13.553–13.567 MHz shall not exceed 15,848 microvolts/ meter at 30 meters.

(b) Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

(c) Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

(d) The field strength of any emissions appearing outside of the 13.110– 14.010 MHz and shall not exceed the general radiated emission limits in § 15.209 as follows:
§15.209 (a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Limits for radiated disturbance of an intentional radiator		
Frequency range (MHz)	Limits (µV/m)	Measurement Distance (m)
0.009 – 0.490	2400 / F (kHz)	300
0.490 – 1.705	24000 / F (kHz)	30
1.705 – 30.0	30	30
30 – 88	100**	3
88 - 216	150**	3
216 – 960	200**	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g. §§ 15.231 and 15.241.
§15.209 (b) In the emission table above, the tighter limit applies at the band edges.

Formula for converting the filed strength from uV/m to dBuV/m is:
Limit (dBuV/m) = 20 log limit (uV/m)

In addition:

§15.209 (d) The emission limits shown the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emissions limits in these three bands are based on measurements employing an average detector.

§15.209 (d) The provisions in §§ 15.225, measuring emissions at distances other than the distances specified in the above table, determining the frequency range over which radiated emissions are to be measured, and limiting peak emissions apply to all devices operated under this part.

TEST PROCEDURE

ANSI C63.10, 2013

The EUT is an intentional radiator that incorporates a digital device, the highest fundamental frequency generated or used in the device is 13.56 MHz; therefore, the frequency range was investigated from 0.15 MHz to the 10th harmonic of the highest fundamental frequency, or 1000 MHz, whichever is greater.

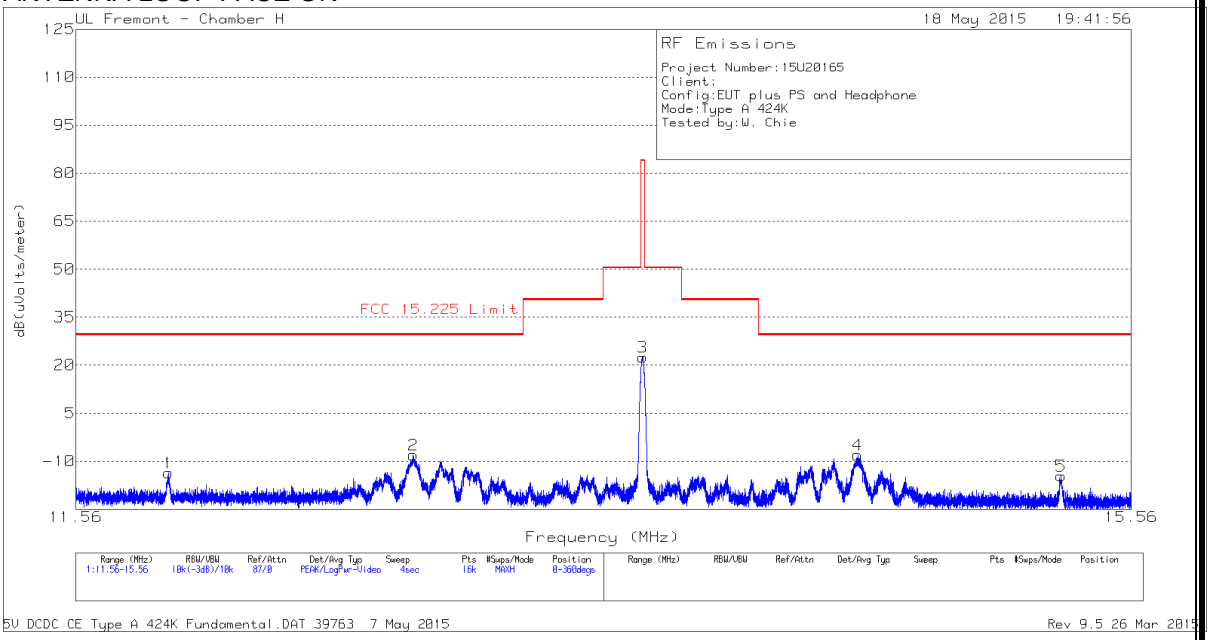
RESULTS

10.2. FUNDAMENTAL AND SPURIOUS EMISSIONS (0.15 – 30 MHz)

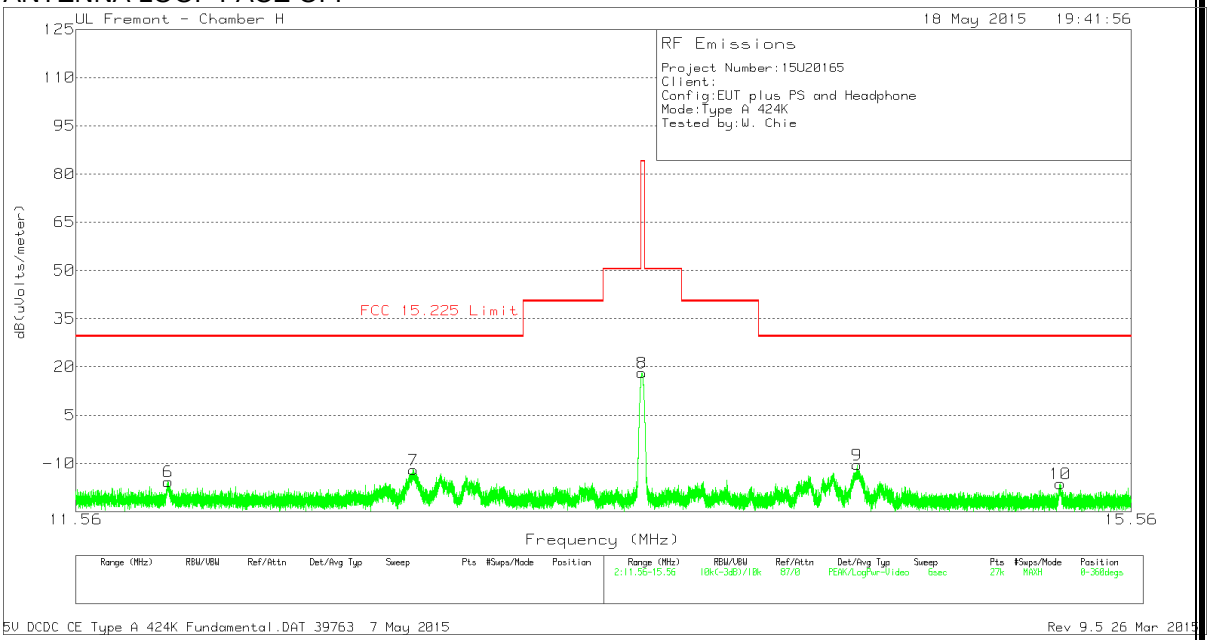
10.2.1. TYPE A

FUNDAMENTAL 424Kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



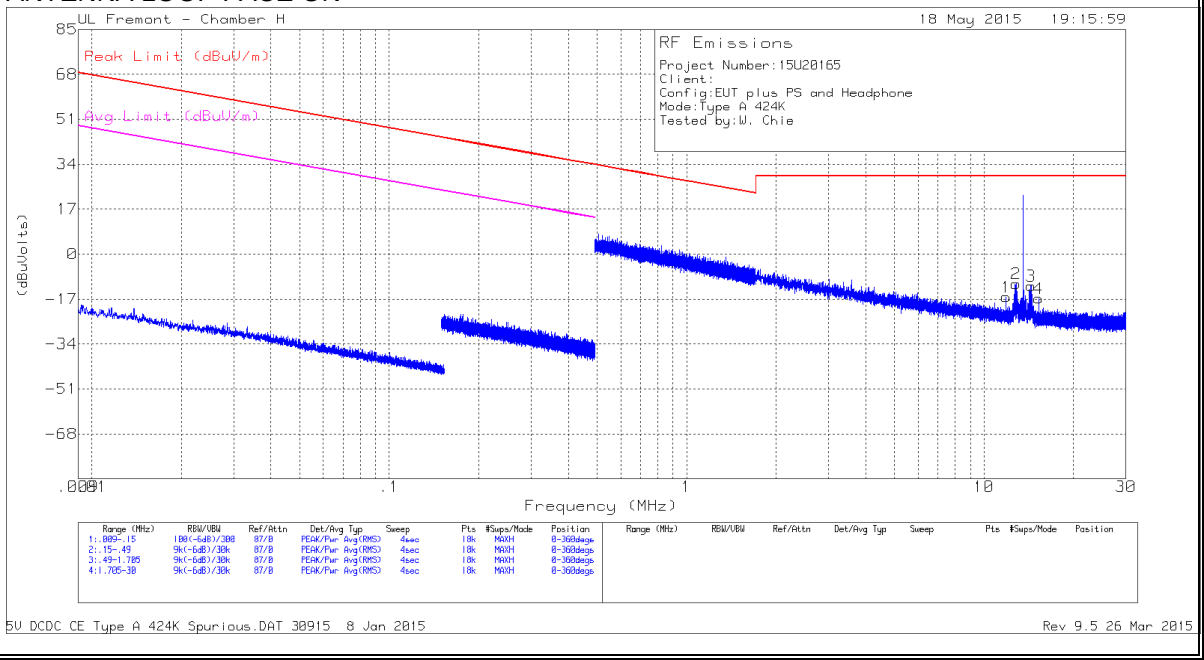
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading dB(uVolts /meter)	FCC 15.225 Limit	PK Margin (dB)	Azimuth (Degs)
6	11.86414	13.1	PK	10.7	.5	-40	-15.7	29.54	-45.24	0-360
1	11.86575	15.17	PK	10.7	.5	-40	-13.63	29.54	-43.17	0-360
2	12.71225	20.67	PK	10.7	.6	-40	-8.03	29.54	-37.57	0-360
7	12.71292	16.72	PK	10.7	.6	-40	-11.98	29.54	-41.52	0-360
8	13.55696	46.89	PK	10.7	.6	-40	18.19	84	-65.81	0-360
3	13.56025	51.21	PK	10.7	.6	-40	22.51	84	-61.49	0-360
9	14.40471	18.45	PK	10.6	.5	-40	-10.45	29.54	-39.99	0-360
4	14.40625	20.85	PK	10.6	.5	-40	-8.05	29.54	-37.59	0-360
10	15.25201	12.48	PK	10.6	.6	-40	-16.32	29.54	-45.86	0-360
5	15.2555	14.2	PK	10.6	.6	-40	-14.6	29.54	-44.14	0-360

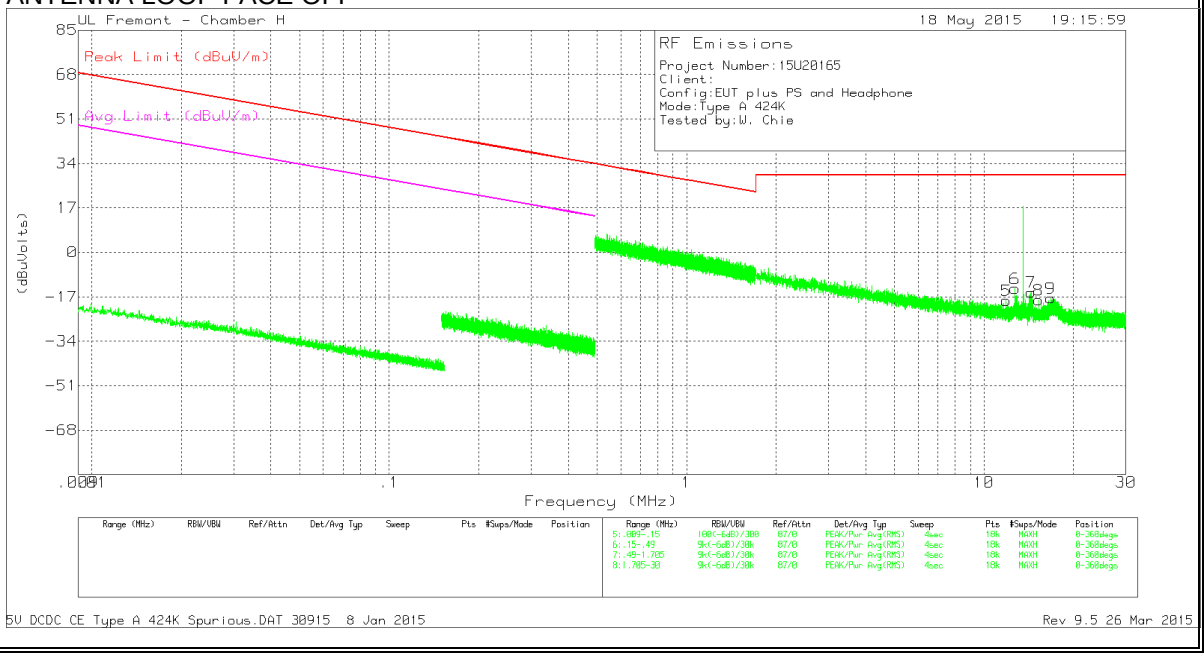
PK - Peak detector

SPURIOUS EMISSIONS 424kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



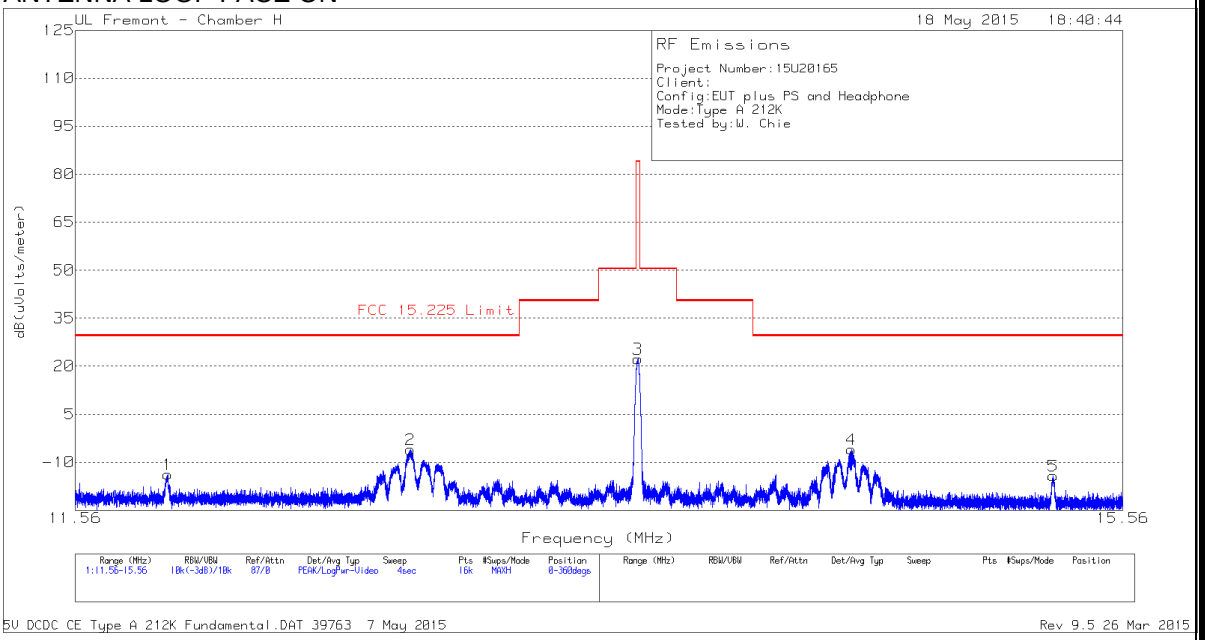
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	11.86326	12.58	PK	10.7	.5	-40	-16.22	29.54	-45.76	-	-	0-360
5	11.86484	10.36	PK	10.7	.5	-40	-18.44	29.54	-47.98	-	-	0-360
6	12.71214	14.8	PK	10.7	.6	-40	-13.9	29.54	-43.44	-	-	0-360
2	12.80961	17.5	PK	10.7	.6	-40	-11.2	29.54	-40.74	-	-	0-360
3	14.40519	16.86	PK	10.6	.5	-40	-12.04	29.54	-41.58	-	-	0-360
7	14.41619	13.63	PK	10.6	.5	-40	-15.27	29.54	-44.81	-	-	0-360
4	15.25092	12.06	PK	10.6	.6	-40	-16.74	29.54	-46.28	-	-	0-360
8	15.2525	10.59	PK	10.6	.6	-40	-18.21	29.54	-47.75	-	-	0-360
9	16.78205	11.43	PK	10.4	.6	-40	-17.57	29.54	-47.11	-	-	0-360

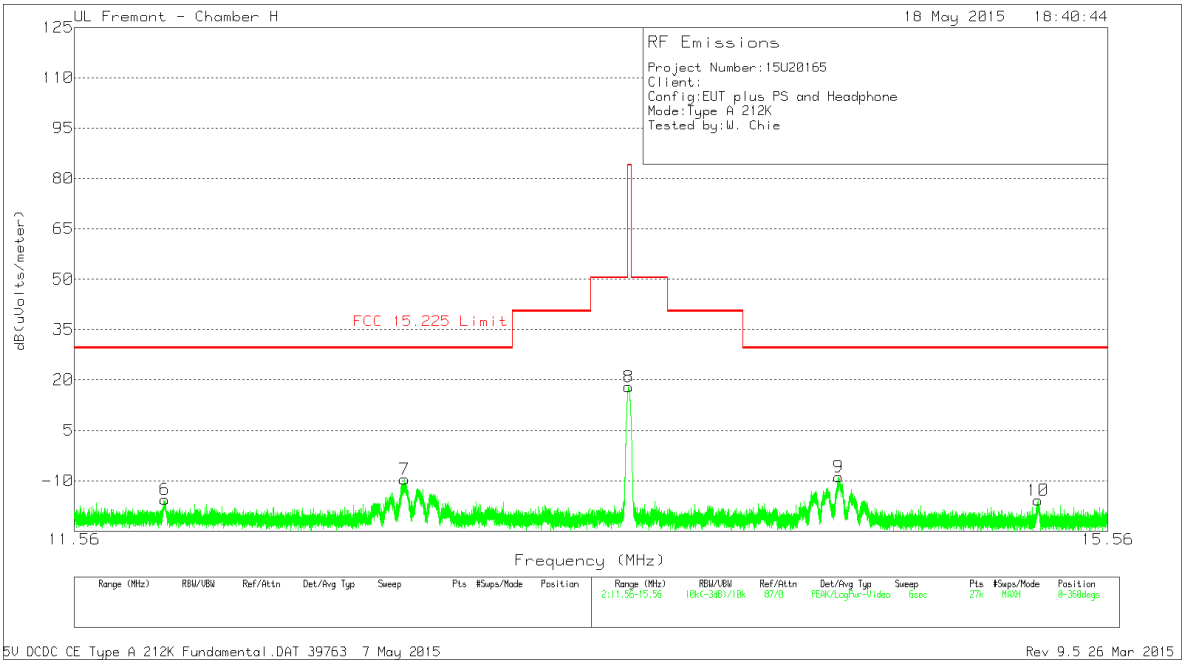
PK - Peak detector

FUNDAMENTAL 212Kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



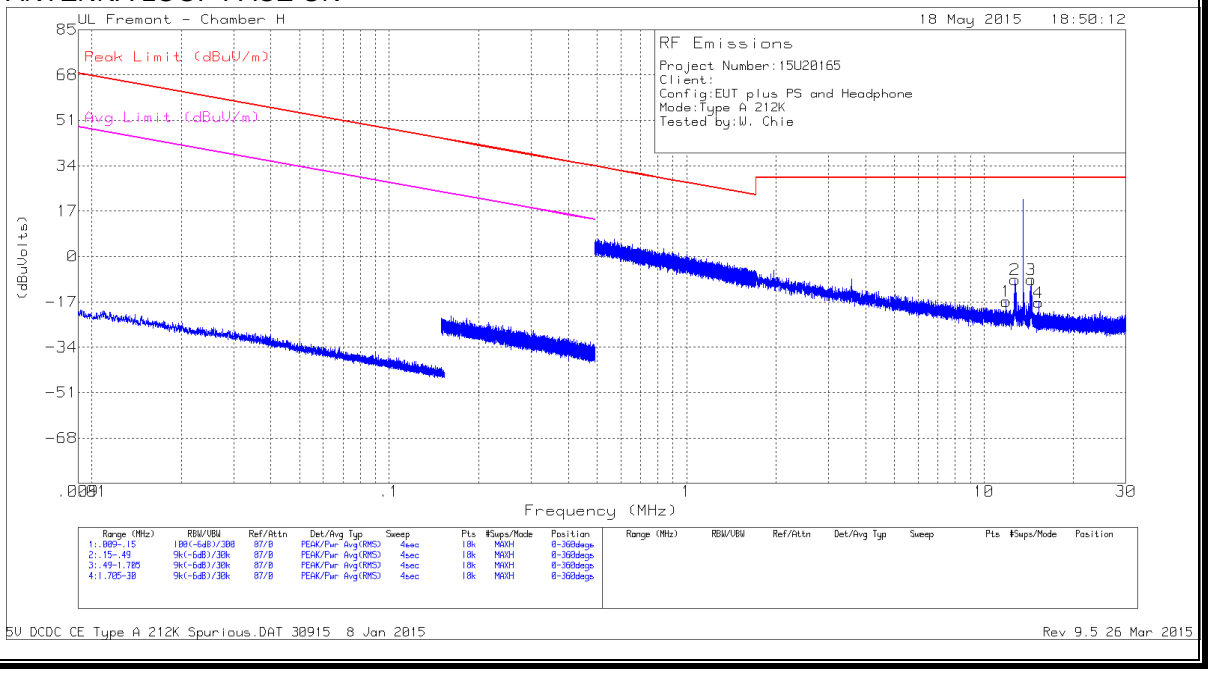
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading dB(uVolts /meter)	FCC 15.225 Limit	PK Margin (dB)	Azimuth (Degs)
6	11.86503	13.22	PK	10.7	.5	-40	-15.58	29.54	-45.12	0-360
1	11.8675	15.02	PK	10.7	.5	-40	-13.78	29.54	-43.32	0-360
7	12.71129	19.15	PK	10.7	.6	-40	-9.55	29.54	-39.09	0-360
2	12.713	22.71	PK	10.7	.6	-40	-5.99	29.54	-35.53	0-360
8	13.55711	46.66	PK	10.7	.6	-40	17.96	84	-66.04	0-360
3	13.56025	50.97	PK	10.7	.6	-40	22.27	84	-61.73	0-360
9	14.4016	20.04	PK	10.6	.5	-40	-8.86	29.54	-38.4	0-360
4	14.407	22.93	PK	10.6	.5	-40	-5.97	29.54	-35.51	0-360
10	15.25068	13	PK	10.6	.6	-40	-15.8	29.54	-45.34	0-360
5	15.25525	14.56	PK	10.6	.6	-40	-14.24	29.54	-43.78	0-360

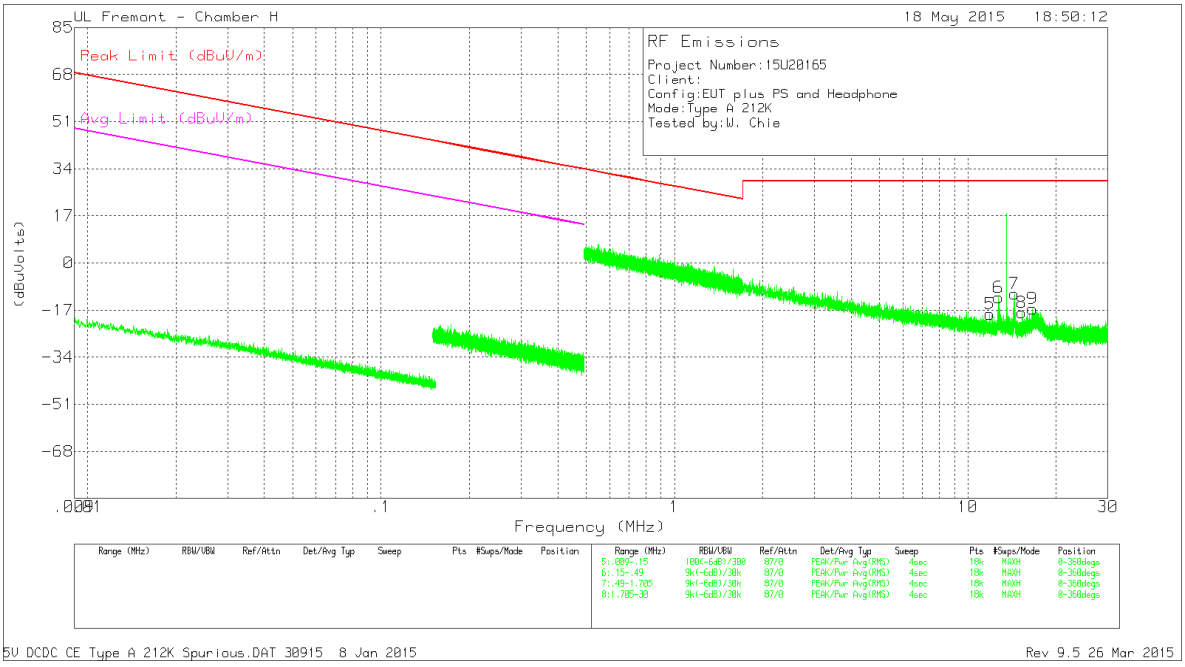
PK - Peak detector

SPURIOUS EMISSIONS 212kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



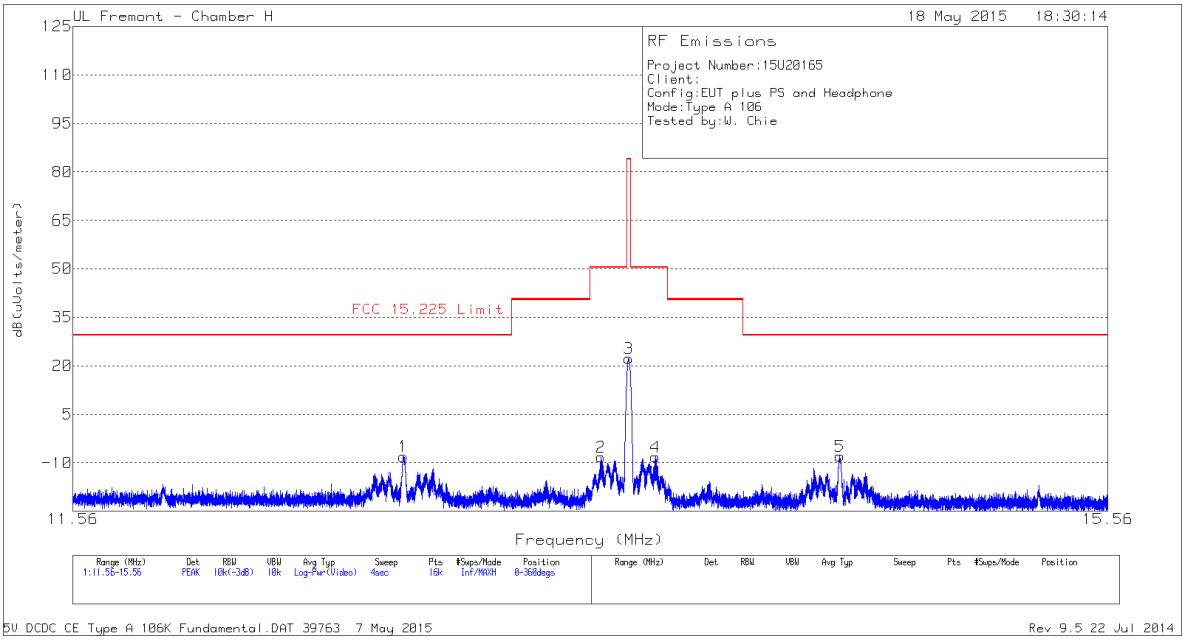
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	11.86326	11.97	PK	10.7	.5	-40	-16.83	29.54	-46.37	-	-	0-360
5	11.86484	10.38	PK	10.7	.5	-40	-18.42	29.54	-47.96	-	-	0-360
2	12.71057	20.03	PK	10.7	.6	-40	-8.67	29.54	-38.21	-	-	0-360
6	12.71057	16.19	PK	10.7	.6	-40	-12.51	29.54	-42.05	-	-	0-360
7	14.40519	17.74	PK	10.6	.5	-40	-11.16	29.54	-40.7	-	-	0-360
3	14.4099	20.27	PK	10.6	.5	-40	-8.63	29.54	-38.17	-	-	0-360
4	15.25564	11.57	PK	10.6	.6	-40	-17.23	29.54	-46.77	-	-	0-360
8	15.25721	10.87	PK	10.6	.6	-40	-17.93	29.54	-47.47	-	-	0-360
9	16.59498	12.46	PK	10.4	.6	-40	-16.54	29.54	-46.08	-	-	0-360

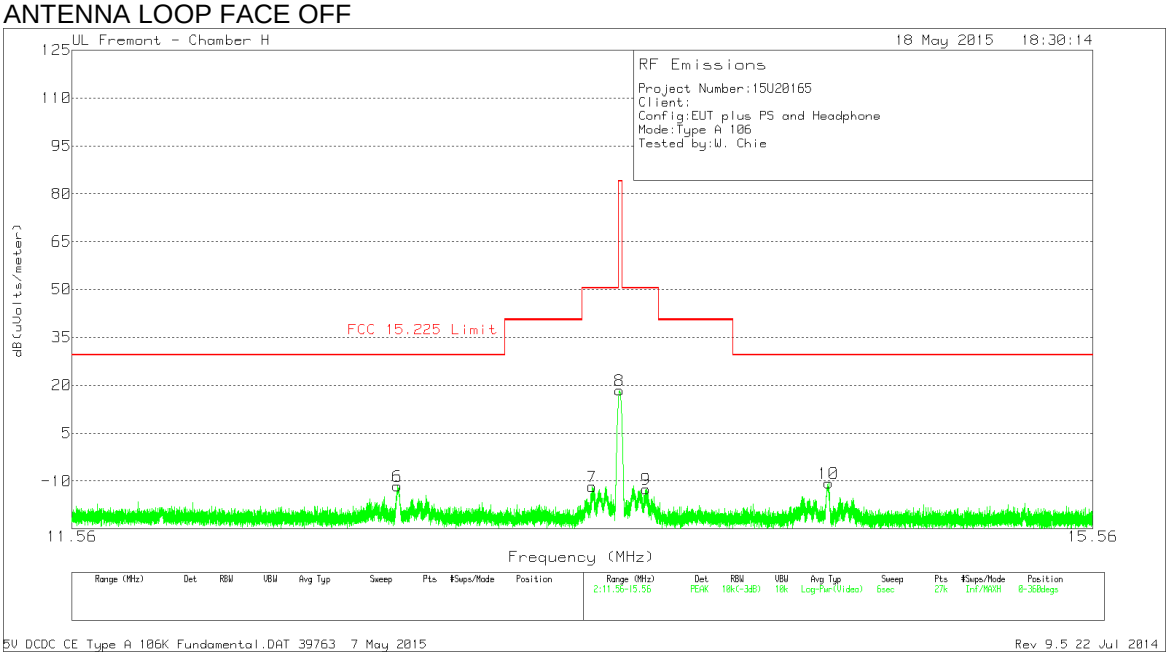
PK - Peak detector

FUNDAMENTAL 106Kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



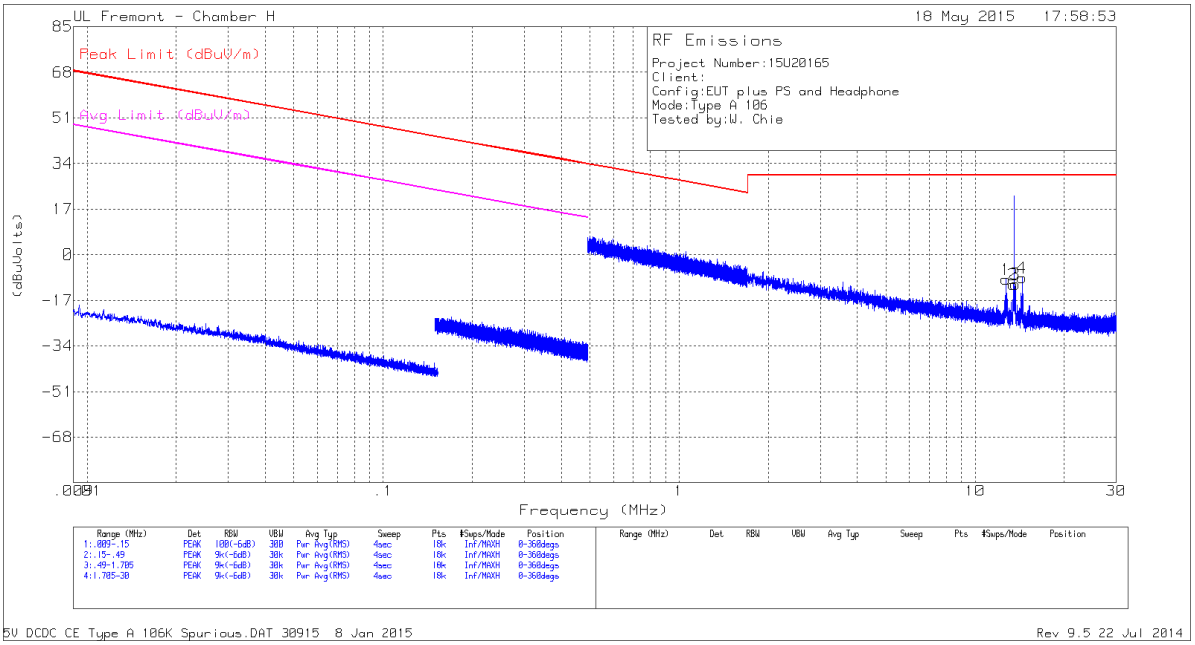
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading dB(uVolts /meter)	FCC 15.225 Limit	PK Margin (dB)	Azimuth (Degs)
1	12.71075	20.61	PK	10.7	.6	-40	-8.09	29.54	-37.63	0-360
2	13.4525	20.43	PK	10.7	.6	-40	-8.27	50.5	-58.77	0-360
3	13.55975	51.02	PK	10.7	.6	-40	22.32	84	-61.68	0-360
4	13.6645	20.5	PK	10.7	.6	-40	-8.2	50.5	-58.7	0-360
5	14.407	20.97	PK	10.6	.5	-40	-7.93	29.54	-37.47	0-360
6	12.70863	17.12	PK	10.7	.6	-40	-11.58	29.54	-41.12	0-360
7	13.44966	16.94	PK	10.7	.6	-40	-11.76	50.5	-62.26	0-360
8	13.55726	47.09	PK	10.7	.6	-40	18.39	84	-65.61	0-360
9	13.66249	16.1	PK	10.7	.6	-40	-12.6	50.5	-63.1	0-360
10	14.40752	18.2	PK	10.6	.5	-40	-10.7	29.54	-40.24	0-360

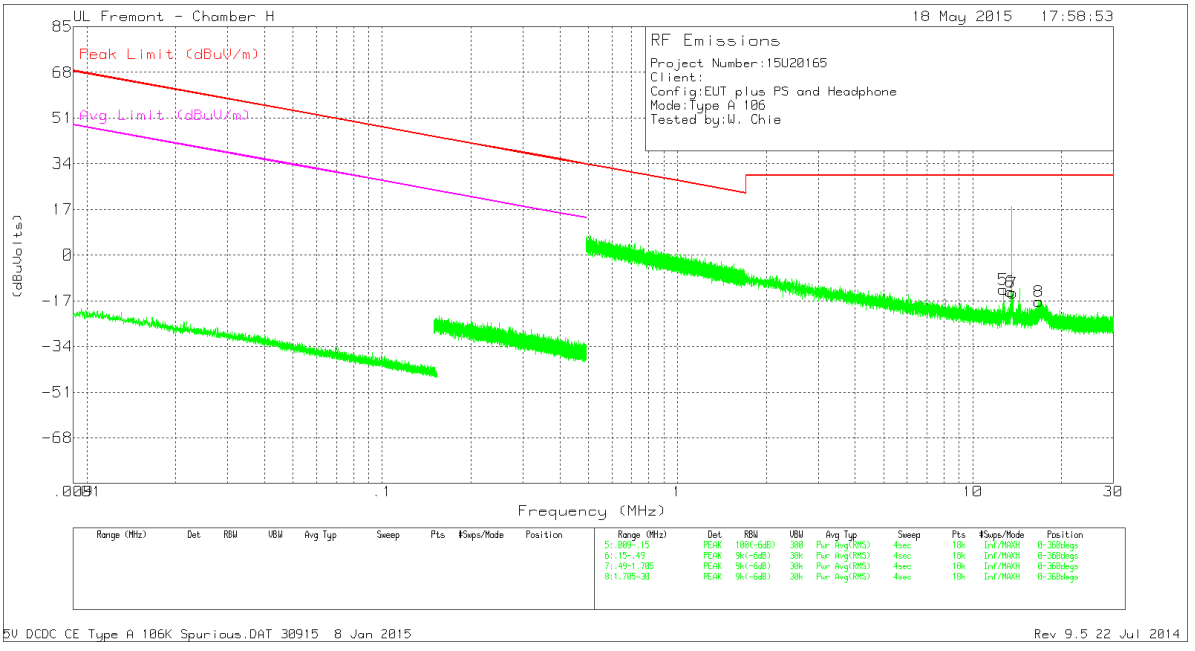
PK - Peak detector

SPURIOUS EMISSIONS 106kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



Trace Markers

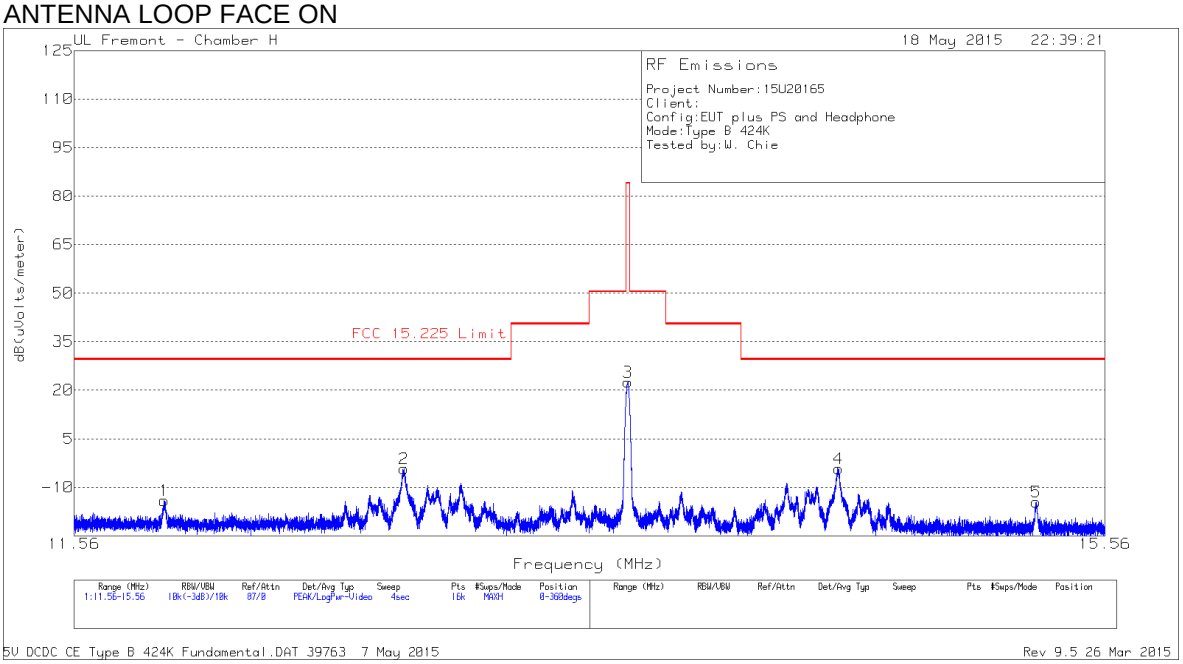
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	12.71057	19.55	PK	10.7	.6	-40	-9.15	29.54	-38.69	-	-	0-360
2	13.44941	17.62	PK	10.7	.6	-40	-11.08	29.54	-40.62	-	-	0-360
3	13.66478	17.73	PK	10.7	.6	-40	-10.97	29.54	-40.51	-	-	0-360
4	14.40676	20.27	PK	10.6	.5	-40	-8.63	29.54	-38.17	-	-	0-360
5	12.71214	15.92	PK	10.7	.6	-40	-12.78	29.54	-42.32	-	-	0-360
6	13.45256	15.01	PK	10.7	.6	-40	-13.69	29.54	-43.23	-	-	0-360
7	13.66635	14.64	PK	10.7	.6	-40	-14.06	29.54	-43.6	-	-	0-360
8	16.71917	11.79	PK	10.4	.6	-40	-17.21	29.54	-46.75	-	-	0-360

PK - Peak detector

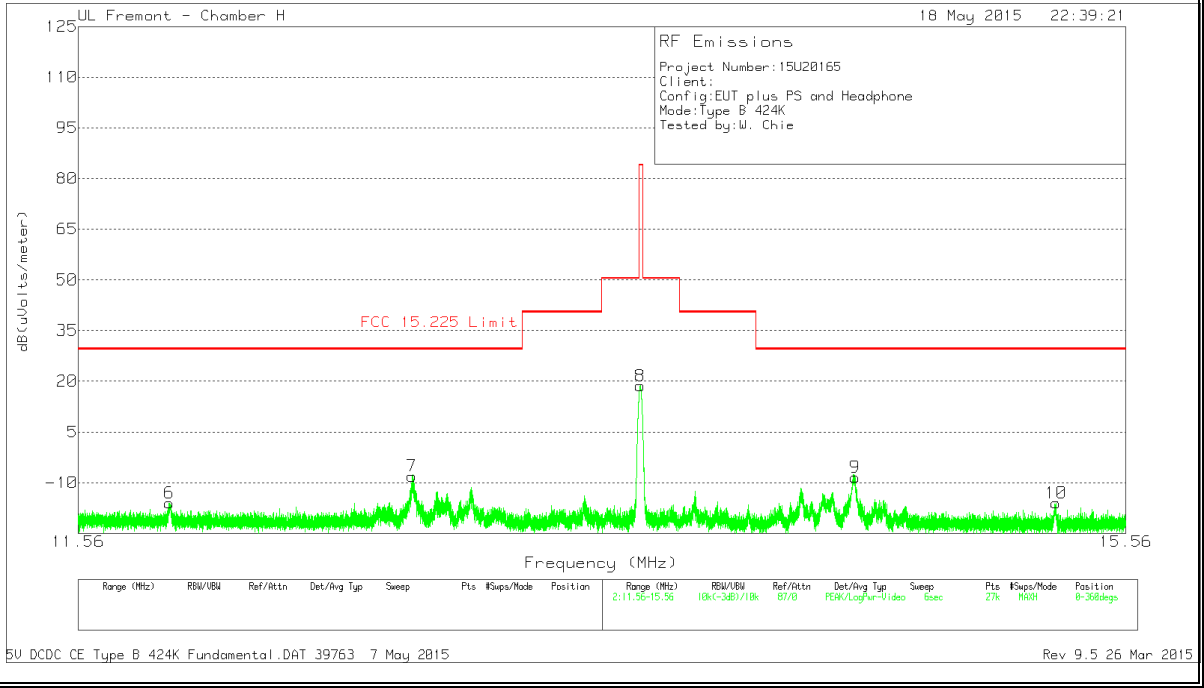
10.2.2. TYPE B

FUNDAMENTAL 424Kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



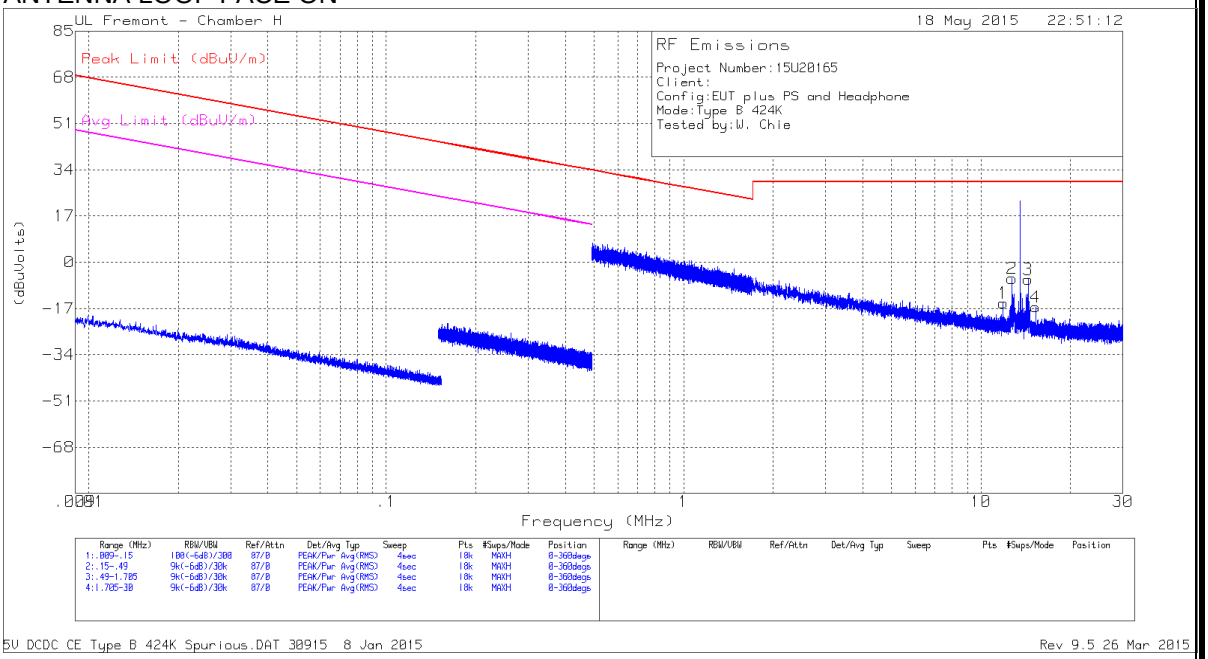
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading dB(uVolts /meter)	FCC 15.225 Limit	PK Margin (dB)	Azimuth (Degs)
6	11.86236	12.78	PK	10.7	.5	-40	-16.02	29.54	-45.56	0-360
1	11.86425	14.72	PK	10.7	.5	-40	-14.08	29.54	-43.62	0-360
7	12.70848	20.6	PK	10.7	.6	-40	-8.1	29.54	-37.64	0-360
2	12.71325	23.88	PK	10.9	.6	-40	-4.62	29.54	-34.16	0-360
8	13.5583	47.35	PK	10.7	.6	-40	18.65	84	-65.35	0-360
3	13.56075	51.2	PK	10.7	.6	-40	22.5	84	-61.5	0-360
4	14.4095	24.68	PK	10.6	.5	-40	-4.22	29.54	-33.76	0-360
9	14.40959	20.49	PK	10.6	.5	-40	-8.41	29.54	-37.95	0-360
5	15.25375	14.29	PK	10.6	.6	-40	-14.51	29.54	-44.05	0-360
10	15.25467	12.8	PK	10.6	.6	-40	-16	29.54	-45.54	0-360

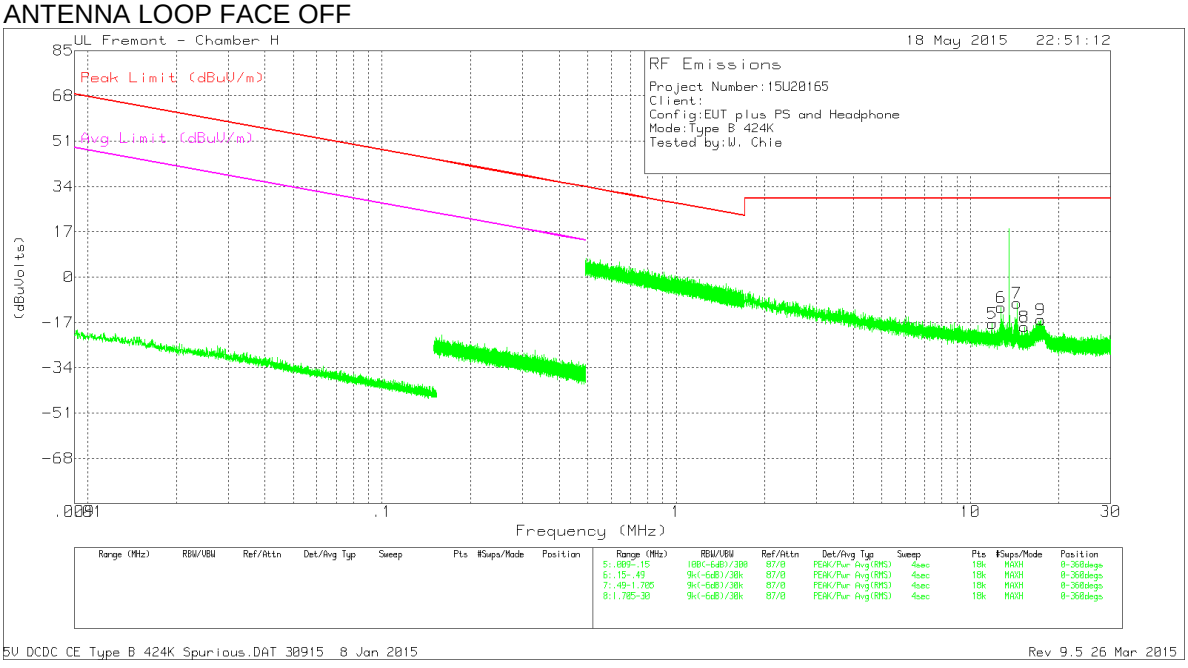
PK - Peak detector

SPURIOUS EMISSIONS 424kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



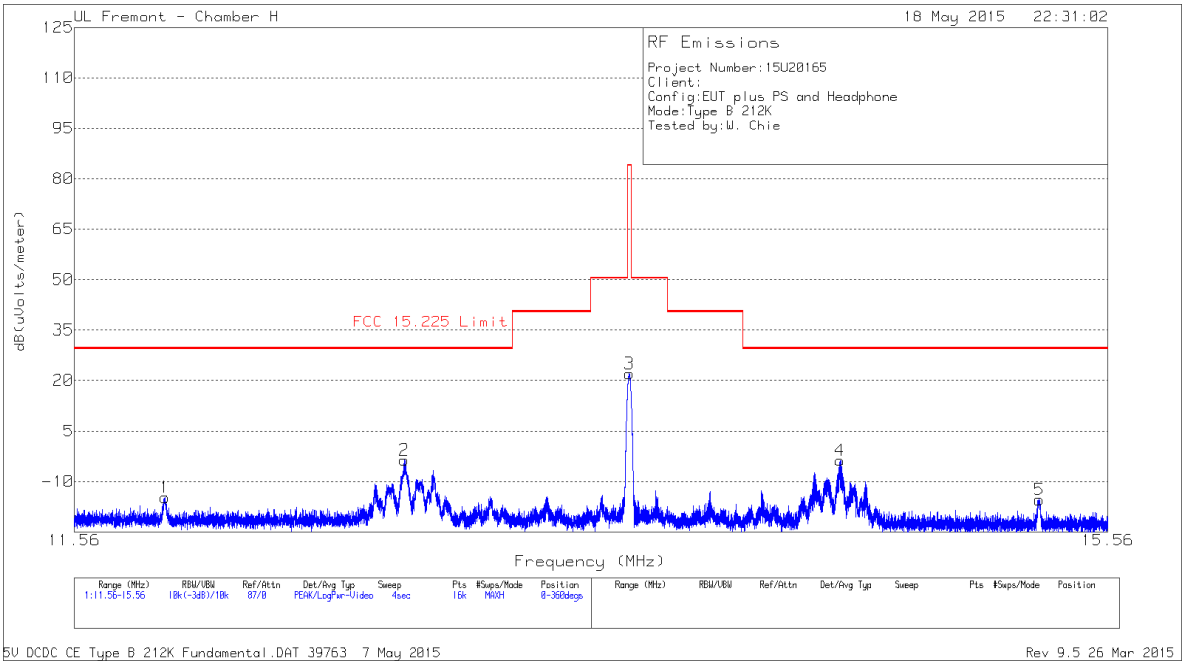
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	11.86326	13.75	PK	10.7	.5	-40	-15.05	29.54	-44.59	-	-	0-360
5	11.86484	11.36	PK	10.7	.5	-40	-17.44	29.54	-46.98	-	-	0-360
2	12.71214	20.78	PK	10.9	.6	-40	-7.72	29.54	-37.26	-	-	0-360
6	12.71686	17.29	PK	10.7	.6	-40	-11.41	29.54	-40.95	-	-	0-360
7	14.40676	19.1	PK	10.6	.5	-40	-9.8	29.54	-39.34	-	-	0-360
3	14.40833	22.57	PK	10.6	.5	-40	-6.33	29.54	-35.87	-	-	0-360
8	15.2525	10.19	PK	10.6	.6	-40	-18.61	29.54	-48.15	-	-	0-360
4	15.25485	12.36	PK	10.6	.6	-40	-16.44	29.54	-45.98	-	-	0-360
9	17.34954	13	PK	10.4	.6	-40	-16	29.54	-45.54	-	-	0-360

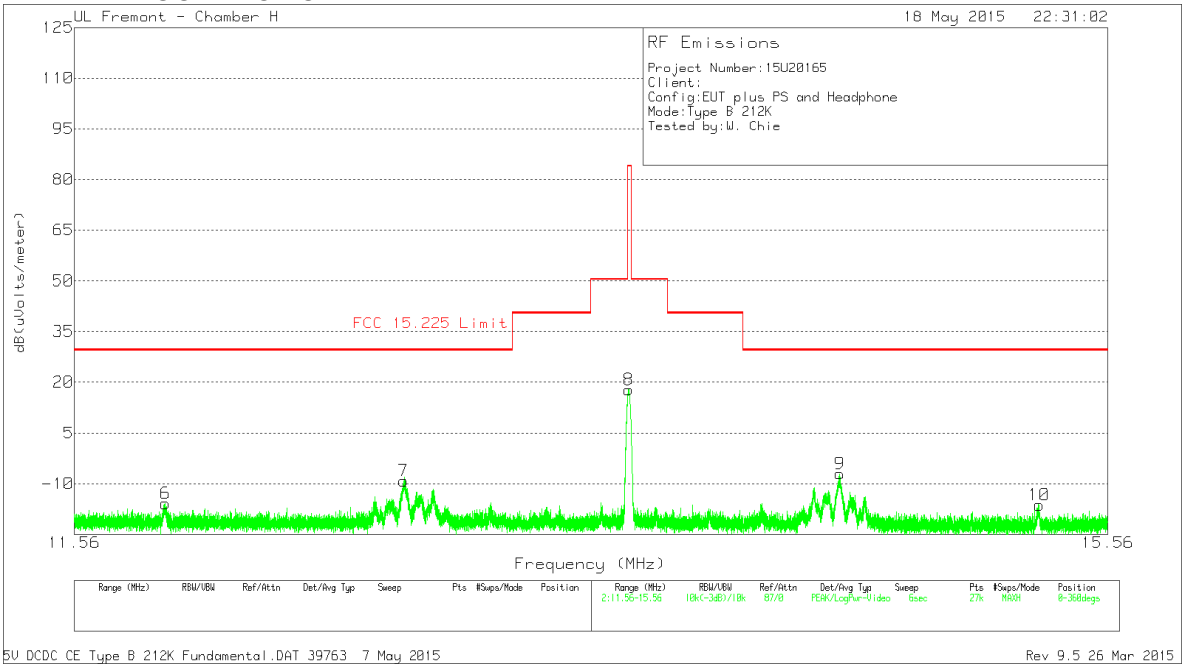
PK - Peak detector

FUNDAMENTAL 212Kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading dB(uVolts /meter)	FCC 15.225 Limit	PK Margin (dB)	Azimuth (Degs)
1	11.8655	14.09	Pk	10.7	.5	-40	-14.71	29.54	-44.25	0-360
6	11.86666	12.93	Pk	10.7	.5	-40	-15.87	29.54	-45.41	0-360
7	12.70818	19.55	Pk	10.7	.6	-40	-9.15	29.54	-38.69	0-360
2	12.7105	25.02	Pk	10.7	.6	-40	-3.68	29.54	-33.22	0-360
8	13.55696	46.47	Pk	10.7	.6	-40	17.77	84	-66.23	0-360
3	13.5595	50.72	Pk	10.7	.6	-40	22.02	84	-61.98	0-360
9	14.4056	21.84	Pk	10.6	.5	-40	-7.06	29.54	-36.6	0-360
4	14.407	25.18	Pk	10.6	.5	-40	-3.72	29.54	-33.26	0-360
10	15.25571	12.49	Pk	10.6	.6	-40	-16.31	29.54	-45.85	0-360
5	15.25575	13.34	Pk	10.6	.6	-40	-15.46	29.54	-45	0-360

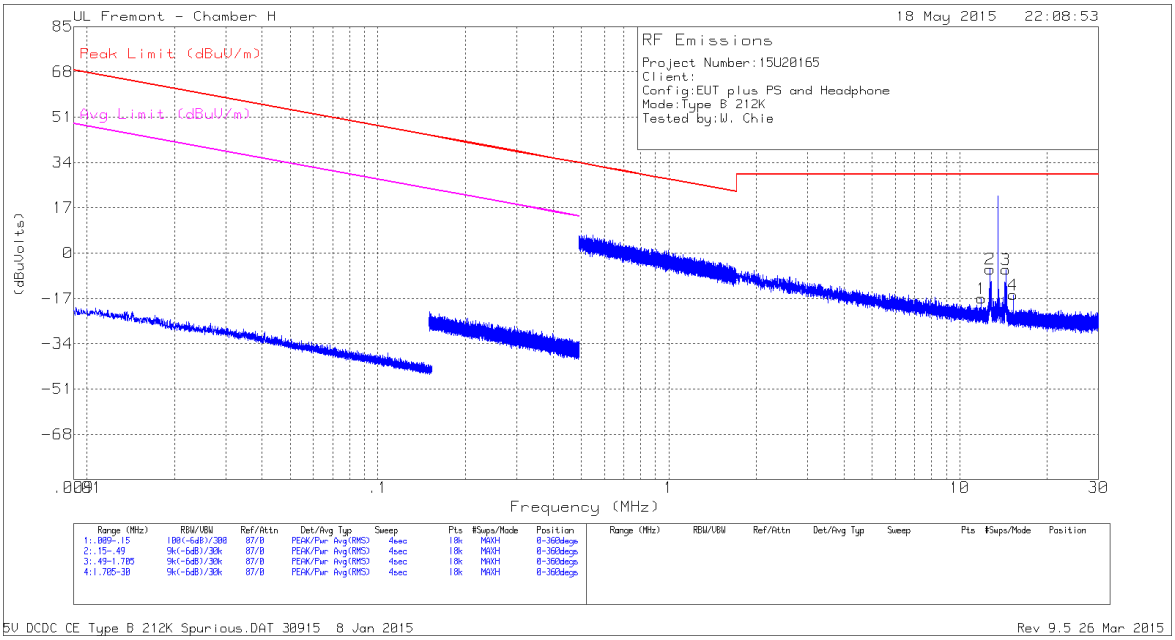
Pk - Peak detector

5V DCDC CE Type B 212K Fundamental.DAT 39763 7 May 2015

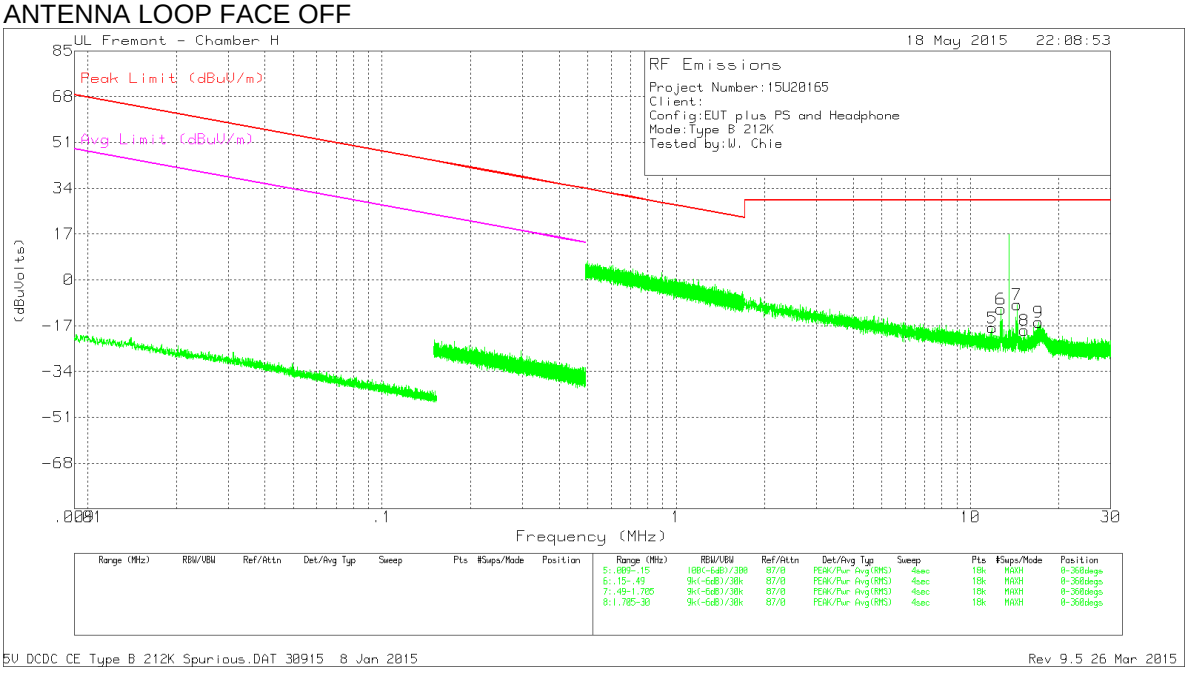
Rev 9.5 26 Mar 2015

SPURIOUS EMISSIONS 212kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



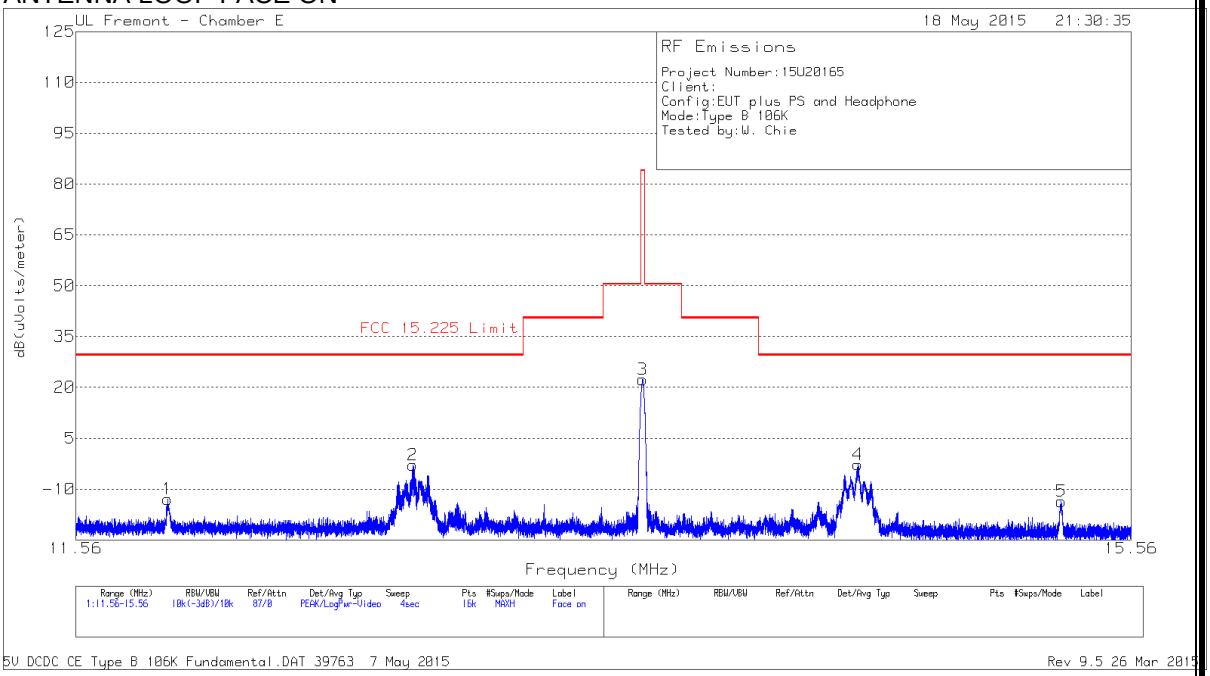
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	11.86326	11.83	PK	10.7	.5	-40	-16.97	29.54	-46.51	-	-	0-360
5	11.86326	10.99	PK	10.7	.5	-40	-17.81	29.54	-47.35	-	-	0-360
2	12.71372	22.48	PK	10.8	.5	-40	-6.22	29.54	-35.76	-	-	0-360
6	12.7145	17.79	PK	10.7	.6	-40	-10.91	29.54	-40.45	-	-	0-360
3	14.4099	22.78	PK	10.6	.5	-40	-6.12	29.54	-35.66	-	-	0-360
7	14.4099	19.63	PK	10.6	.5	-40	-9.27	29.54	-38.81	-	-	0-360
4	15.25564	13.12	PK	10.6	.6	-40	-15.68	29.54	-45.22	-	-	0-360
8	15.25564	10.13	PK	10.6	.6	-40	-18.67	29.54	-48.21	-	-	0-360
9	17.07287	13.25	PK	10.4	.6	-40	-15.75	29.54	-45.29	-	-	0-360

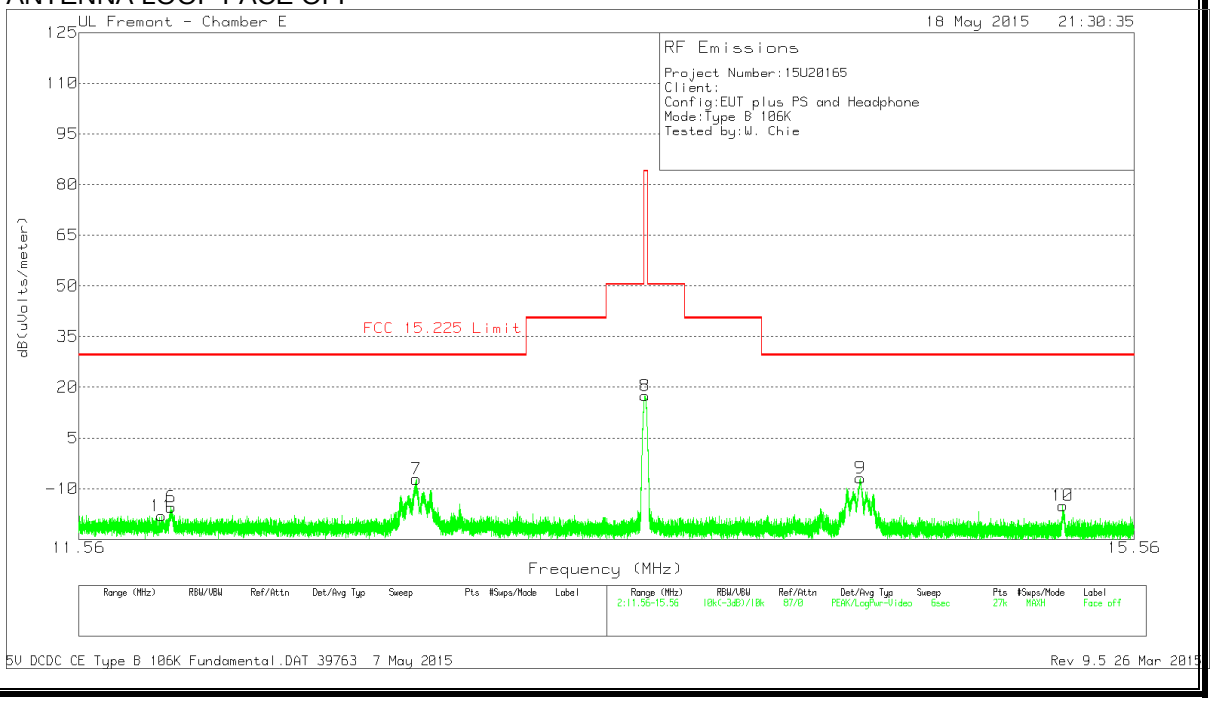
PK - Peak detector

FUNDAMENTAL 106Kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



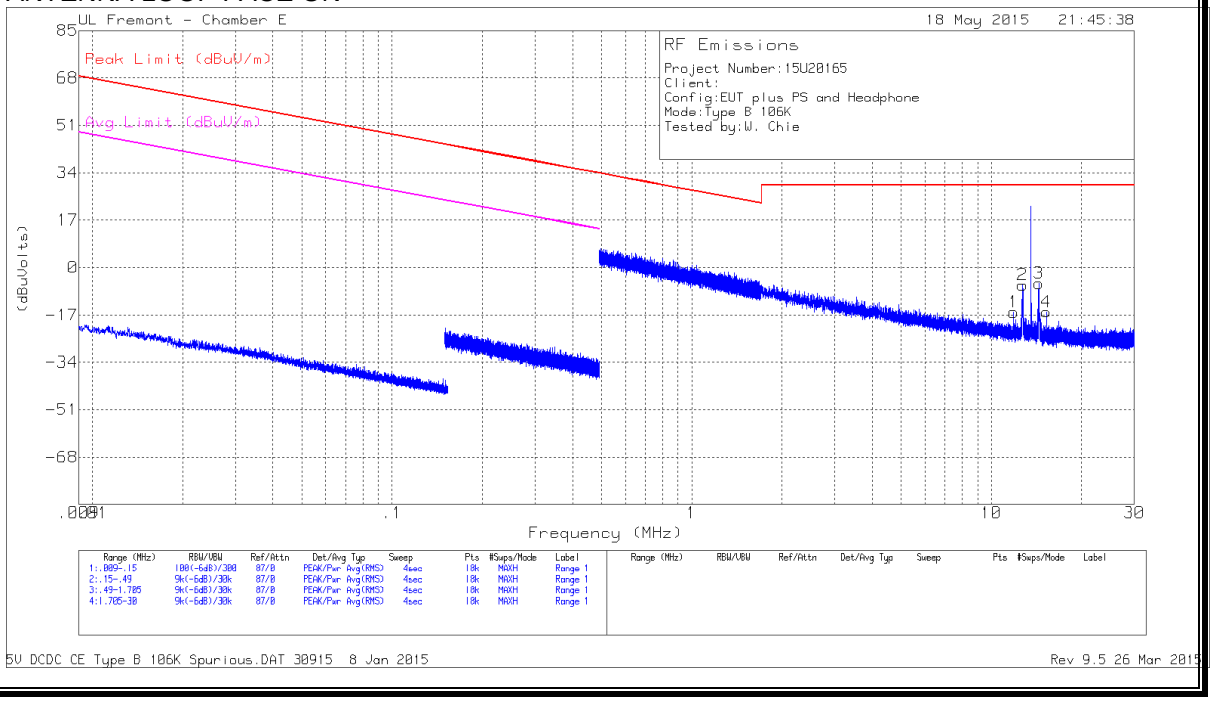
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading dB(uVolts /meter)	FCC 15.225 Limit	PK Margin (dB)	Azimuth (Degs)
1	11.86275	15.88	PK	10.7	.5	-40	-12.92	29.54	-42.46	0-360
2	12.71125	25.76	PK	10.7	.6	-40	-2.94	29.54	-32.48	0-360
3	13.5595	51.03	PK	10.7	.6	-40	22.33	84	-61.67	0-360
4	14.40725	26.13	PK	10.6	.5	-40	-2.77	29.54	-32.31	0-360
5	15.25625	15.17	PK	10.6	.6	-40	-13.63	29.54	-43.17	0-360
6	11.86399	13.32	PK	10.7	.5	-40	-15.48	29.54	-45.02	0-360
7	12.71233	21.54	PK	10.7	.6	-40	-7.16	29.54	-36.7	0-360
8	13.5577	46.2	PK	10.7	.6	-40	17.5	84	-66.5	0-360
9	14.40515	22.05	PK	10.6	.5	-40	-6.85	29.54	-36.39	0-360
10	15.24979	13.77	PK	10.6	.6	-40	-15.03	29.54	-44.57	0-360
11	11.83202	10.78	PK	10.7	.5	-40	-18.02	29.54	-47.56	0-360

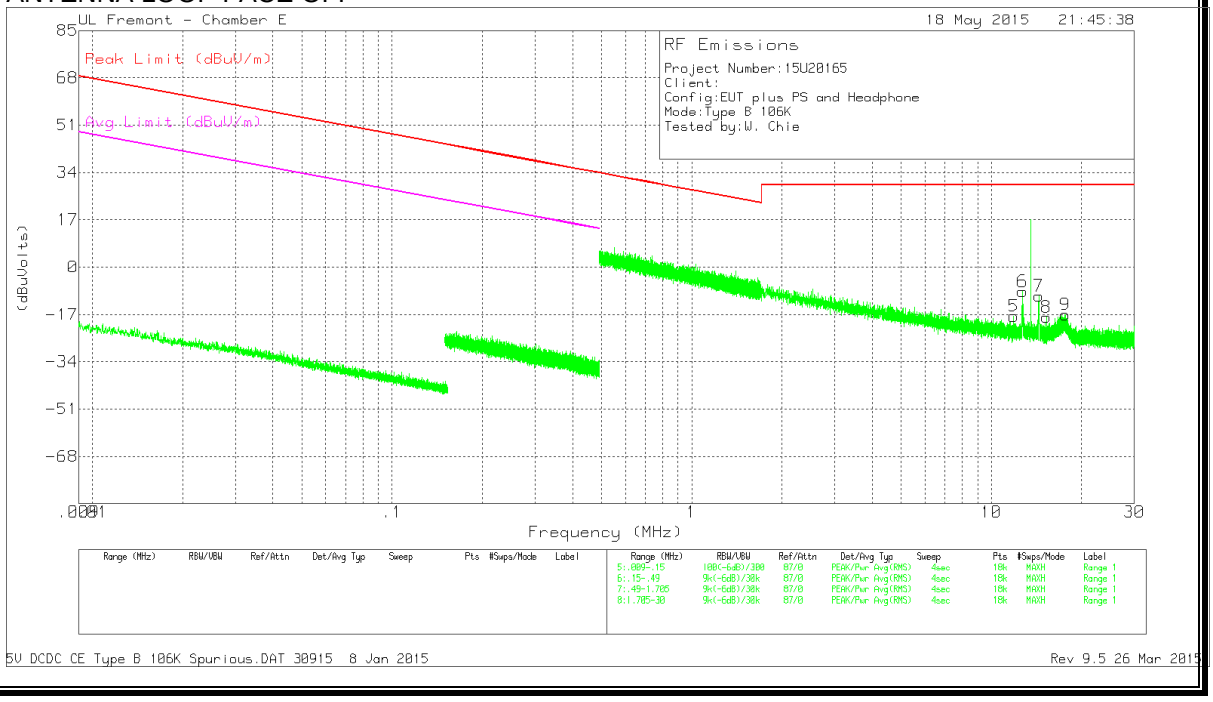
PK - Peak detector

SPURIOUS EMISSIONS 106Kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	11.86326	12.76	PK	10.7	.5	-40	-16.04	29.54	-45.58	-	-	0-360
2	12.71372	22.39	PK	10.7	.6	-40	-6.31	29.54	-35.85	-	-	0-360
3	14.40676	23.24	PK	10.6	.5	-40	-5.66	29.54	-35.2	-	-	0-360
4	15.25407	12.9	PK	10.6	.6	-40	-15.9	29.54	-45.44	-	-	0-360
5	11.86484	11.12	PK	10.7	.5	-40	-17.68	29.54	-47.22	-	-	0-360
6	12.71057	19.91	PK	10.7	.6	-40	-8.79	29.54	-38.33	-	-	0-360
7	14.40362	18.48	PK	10.6	.5	-40	-10.42	29.54	-39.96	-	-	0-360
8	15.25407	10.81	PK	10.6	.6	-40	-17.99	29.54	-47.53	-	-	0-360
9	17.64194	12	PK	10.3	.6	-40	-17.1	29.54	-46.64	-	-	0-360

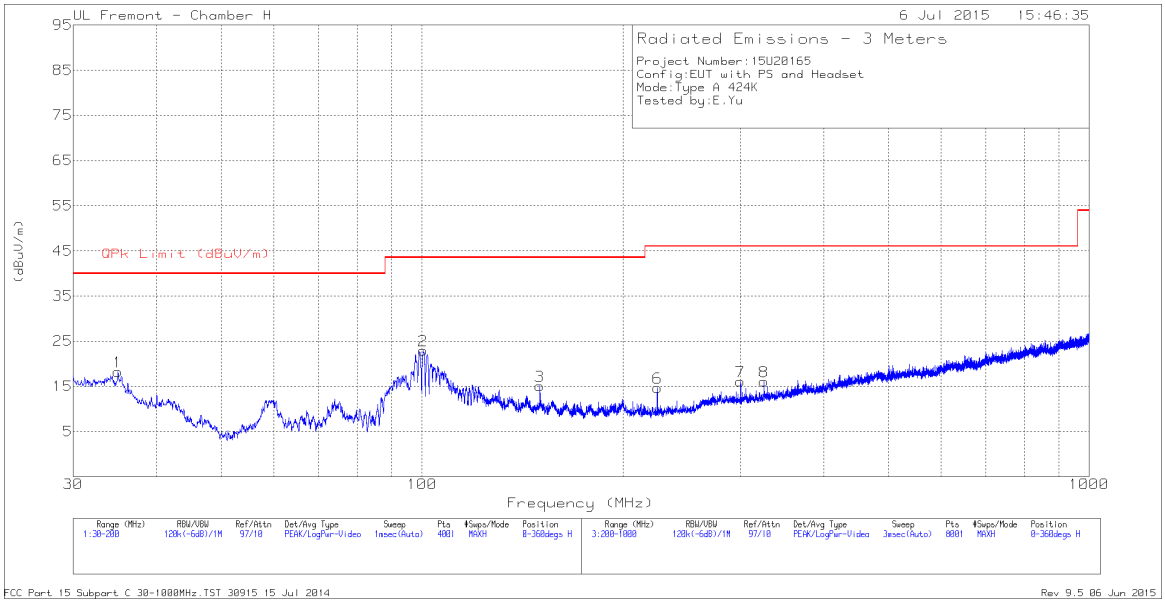
PK - Peak detector

10.3. TX SPURIOUS EMISSION 30 TO 1000 MHz

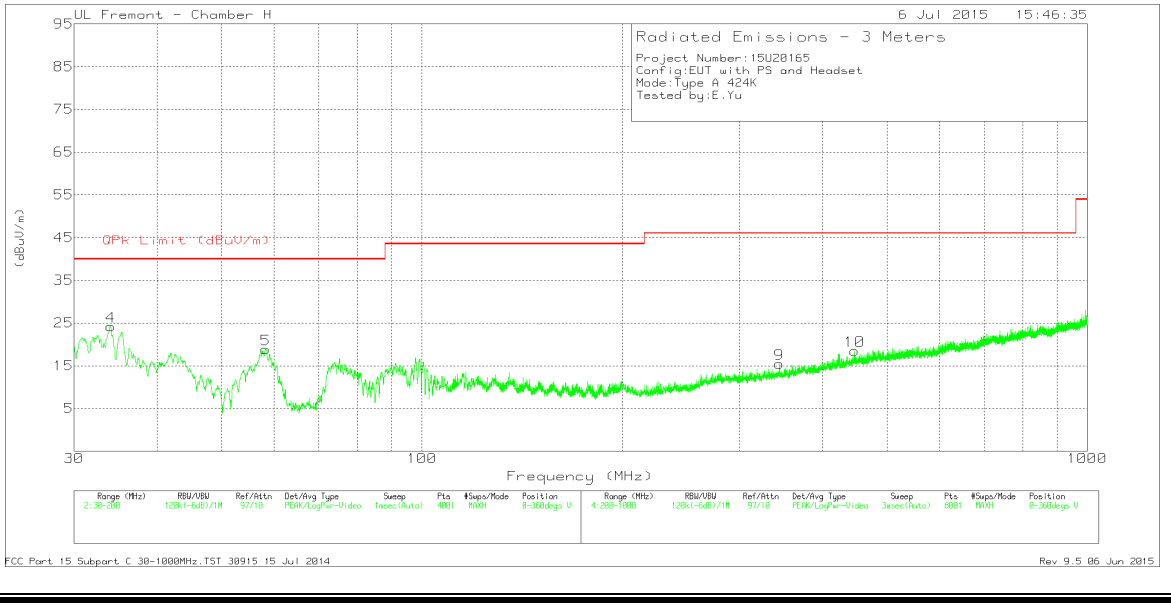
10.3.1. TYPE A

424Kbps

HORIZONTAL PLOT



VERTICAL PLOT



Trace Markers

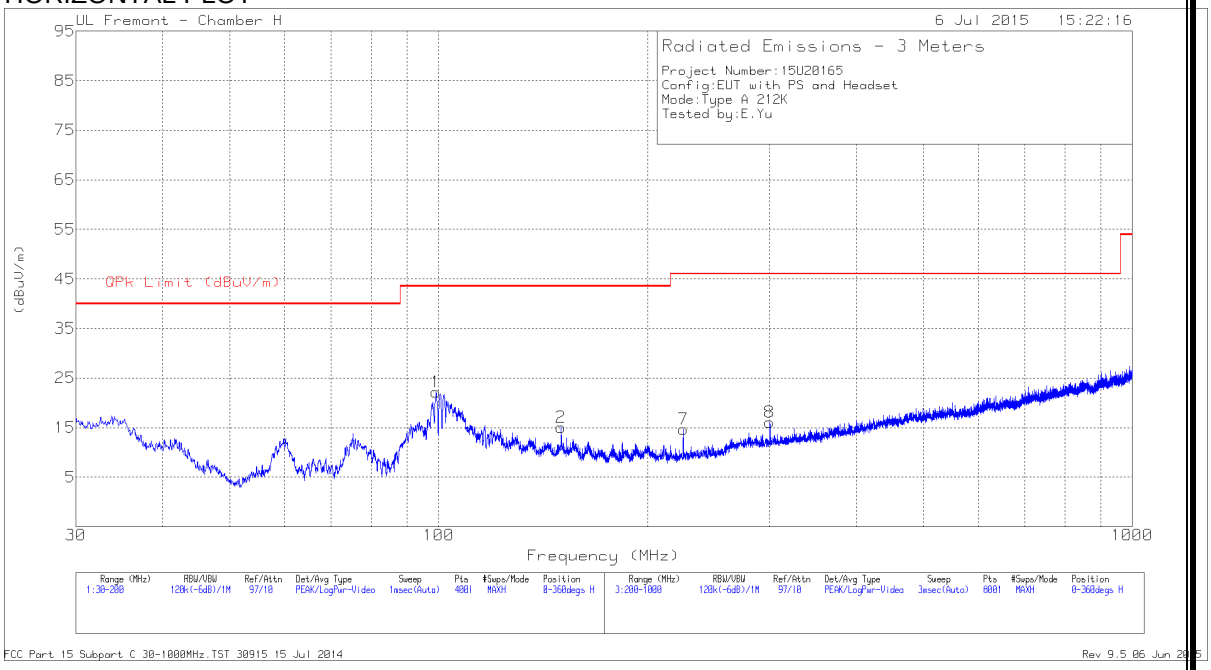
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T900 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
8	* 325.5	31.22	Pk	13.9	-29	16.12	46.02	-29.9	0-360	100	H
4	34.0375	36.62	Pk	18.9	-31.3	24.22	40	-15.78	0-360	100	V
1	35.015	31.05	Pk	18.4	-31.2	18.25	40	-21.75	0-360	301	H
5	58.1775	42.3	Pk	7.5	-30.9	18.9	40	-21.1	0-360	100	V
2	100.3375	43.21	Pk	10.2	-30.5	22.91	43.52	-20.61	0-360	301	H
3	150.19	32.75	Pk	12.4	-30.1	15.05	43.52	-28.47	0-360	201	H
6	225.3	33.64	Pk	10.7	-29.6	14.74	46.02	-31.28	0-360	100	H
7	300.3	32.02	Pk	13.2	-29.1	16.12	46.02	-29.9	0-360	100	H
9	344.3	30.14	Pk	14.2	-28.9	15.44	46.02	-30.58	0-360	201	V
10	446.5	30.09	Pk	16.8	-28.4	18.49	46.02	-27.53	0-360	100	V

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

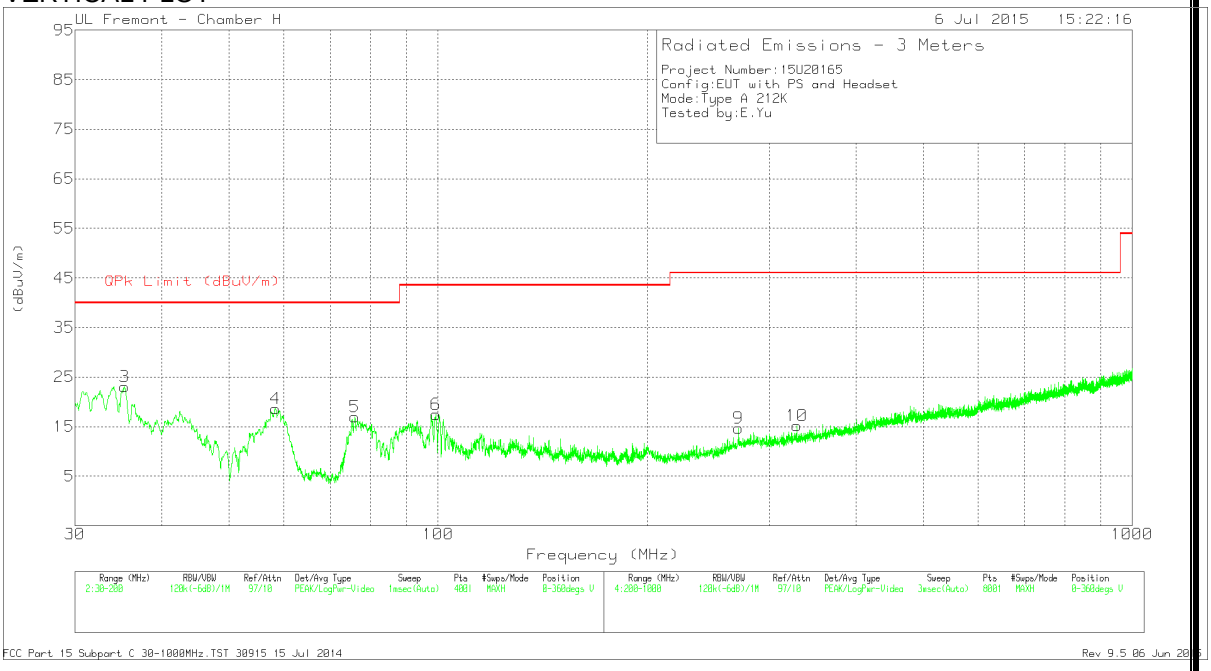
Pk - Peak detector

212Kbps

HORIZONTAL PLOT



VERTICAL PLOT



Trace Markers

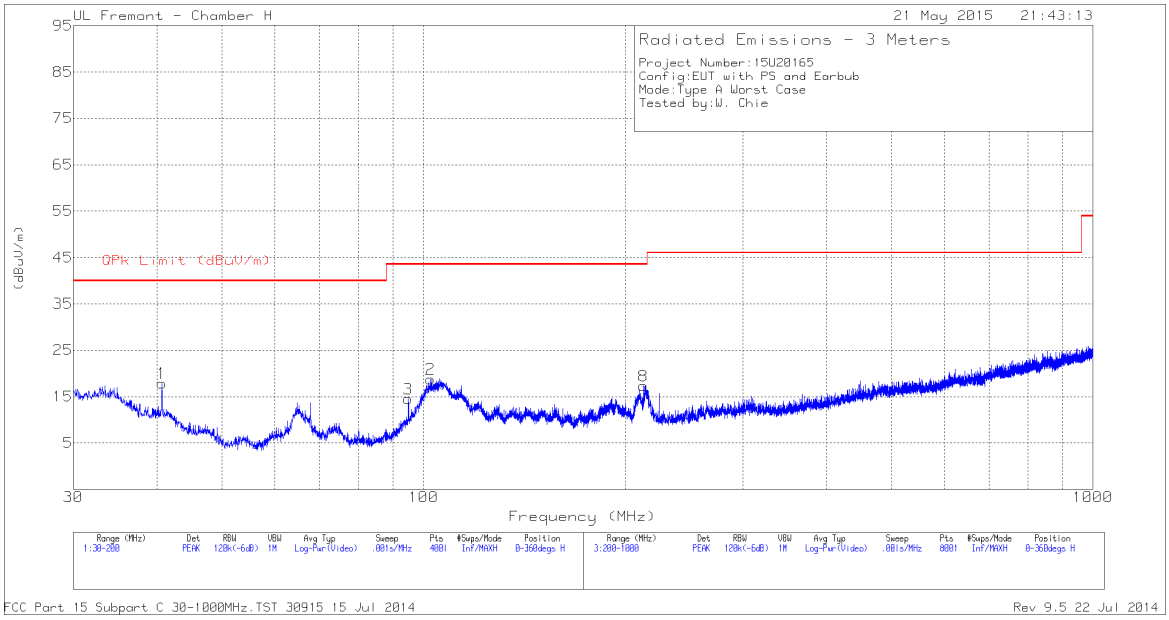
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T900 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
9	* 271.1	30.9	Pk	13.1	-29.3	14.7	46.02	-31.32	0-360	201	V
10	* 328.7	30.17	Pk	14	-29	15.17	46.02	-30.85	0-360	100	V
3	35.3975	35.42	Pk	18	-31.3	22.12	40	-17.88	0-360	103	V
4	58.39	41.94	Pk	7.6	-30.9	18.64	40	-21.36	0-360	103	V
5	75.9213	39.42	Pk	8.2	-30.7	16.92	40	-23.08	0-360	103	V
1	99.19	42.82	Pk	9.9	-30.5	22.22	43.52	-21.3	0-360	301	H
6	99.3175	38	Pk	10	-30.5	17.5	43.52	-26.02	0-360	103	V
2	150.19	32.77	Pk	12.4	-30.1	15.07	43.52	-28.45	0-360	201	H
7	225.3	33.64	Pk	10.7	-29.6	14.74	46.02	-31.28	0-360	103	H
8	300.3	31.98	Pk	13.2	-29.1	16.08	46.02	-29.94	0-360	103	H

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

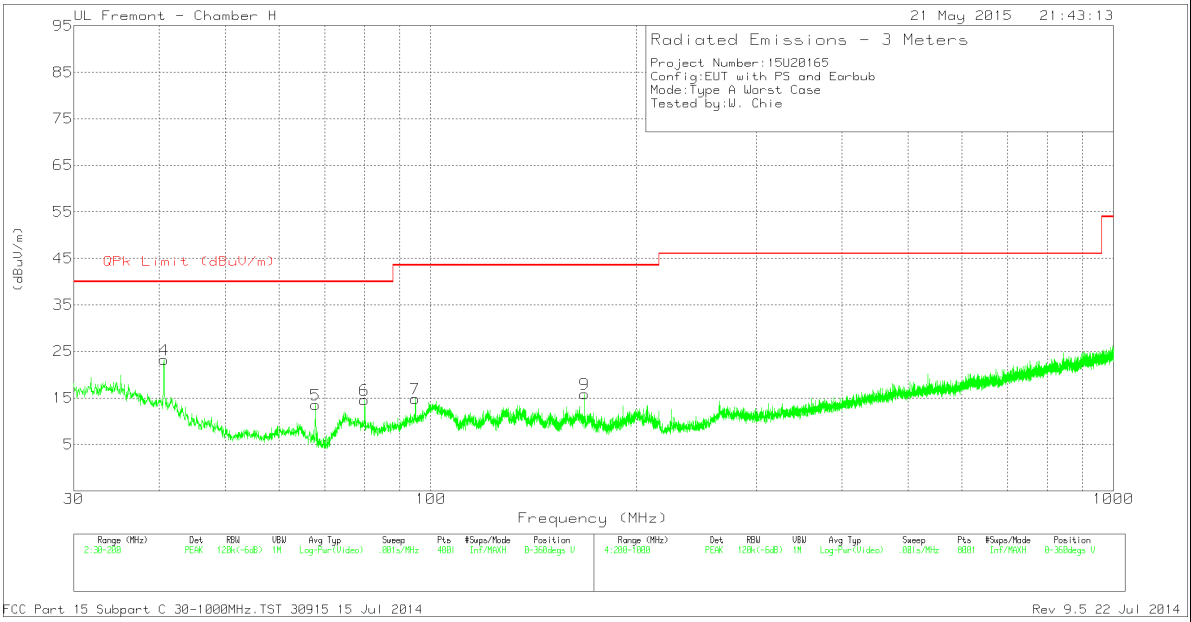
Pk - Peak detector

106Kbps

HORIZONTAL PLOT



VERTICAL PLOT



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T900 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.71	35.02	PK	14.1	-31.2	17.92	40	-22.08	0-360	400	H
2	102.5475	38.61	PK	10.7	-30.5	18.81	43.52	-24.71	0-360	301	H
3	94.8975	36.21	PK	9	-30.6	14.61	43.52	-28.91	0-360	301	H
4	40.6675	40.34	PK	14.1	-31.2	23.24	40	-16.76	0-360	100	V
5	67.825	35.87	PK	8.5	-30.8	13.57	40	-26.43	0-360	100	V
6	79.98	37.4	PK	7.8	-30.7	14.5	40	-25.5	0-360	100	V
7	94.94	36.4	PK	9	-30.6	14.8	43.52	-28.72	0-360	100	V
8	213.2	36.56	PK	10.4	-29.6	17.36	43.52	-26.16	0-360	201	H
9	* 167.9975	33.94	PK	11.8	-29.9	15.84	43.52	-27.68	0-360	100	V

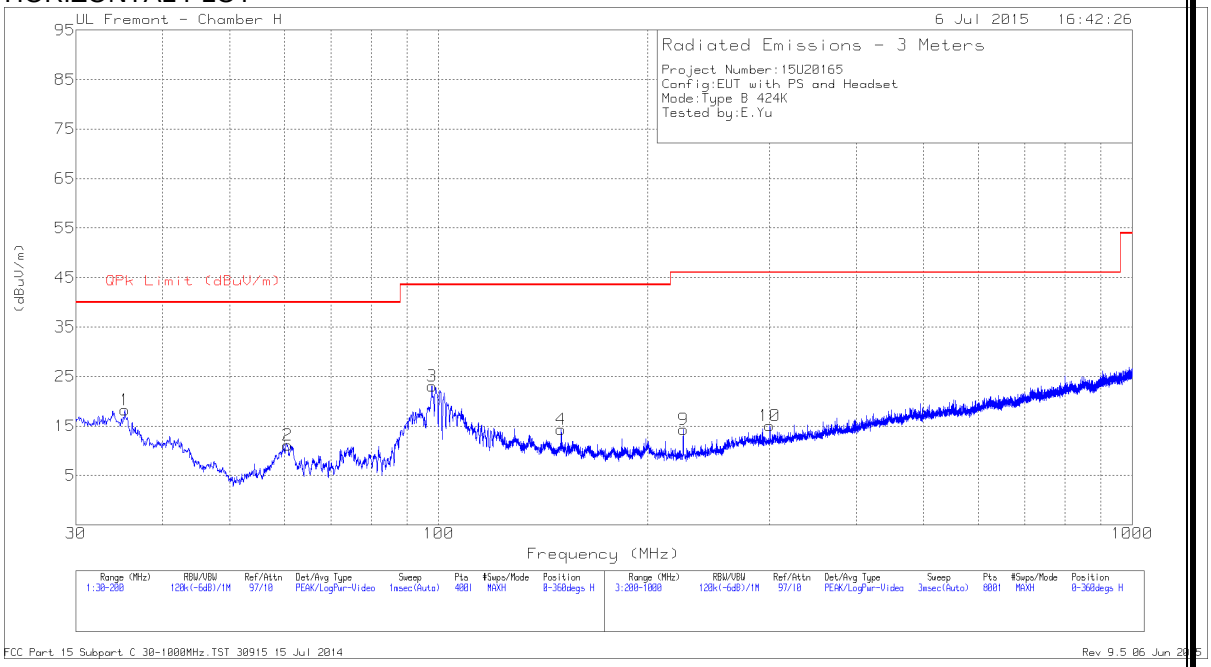
* - indicates frequency in CFR 47, Part 15 and Industry Canada RSS-Restricted Band.

PK - Peak detector

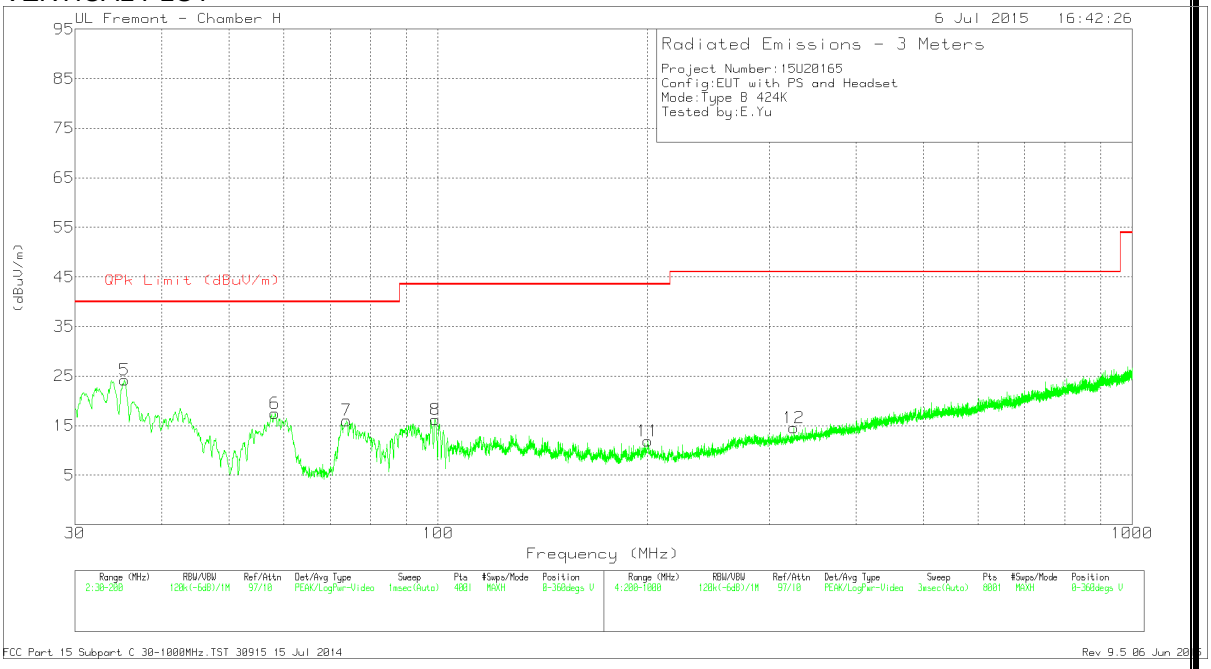
10.3.2. TYPE B

424Kbps

HORIZONTAL PLOT



VERTICAL PLOT



Trace Markers

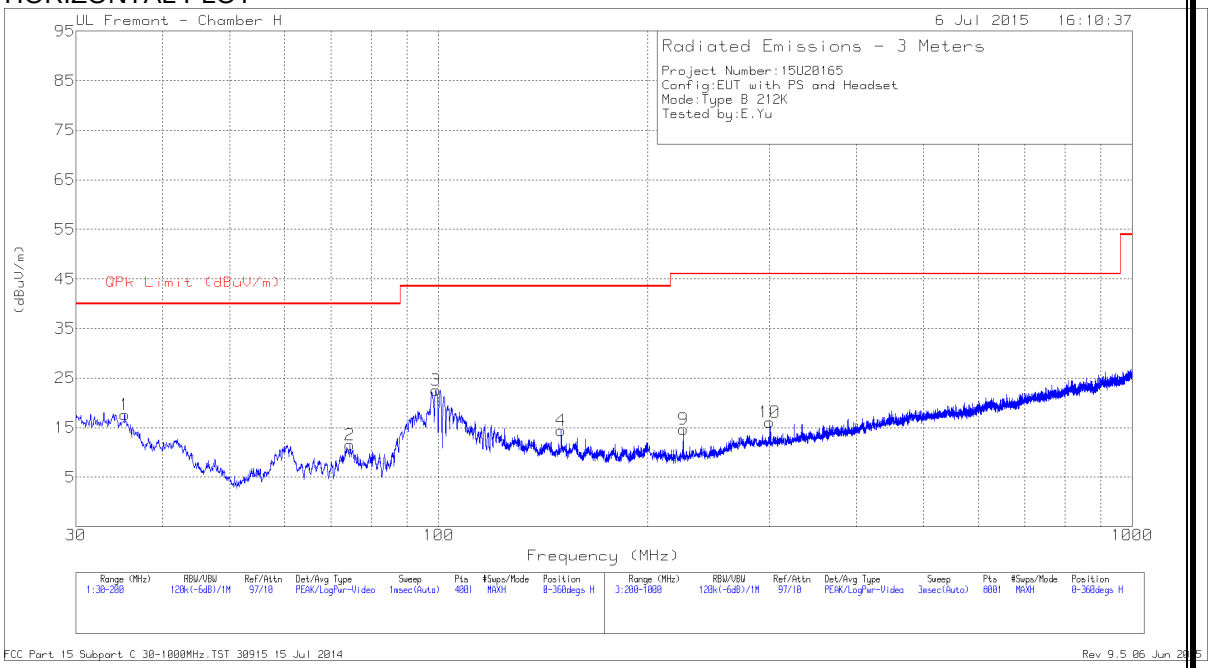
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T900 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
7	* 73.86	38.32	Pk	8.4	-30.7	16.02	40	-23.98	0-360	100	V
12	* 325.5	29.68	Pk	13.9	-29	14.58	46.02	-31.44	0-360	98	V
1	35.27	31.37	Pk	18.1	-31.2	18.27	40	-21.73	0-360	201	H
5	35.355	37.38	Pk	18	-31.2	24.18	40	-15.82	0-360	100	V
6	58.2625	40.72	Pk	7.6	-30.9	17.42	40	-22.58	0-360	100	V
2	60.5575	34.18	Pk	7.9	-30.9	11.18	40	-28.82	0-360	400	H
3	97.7875	44	Pk	9.6	-30.5	23.1	43.52	-20.42	0-360	301	H
8	99.1475	36.75	Pk	9.9	-30.5	16.15	43.52	-27.37	0-360	100	V
4	150.2325	31.99	Pk	12.4	-30.1	14.29	43.52	-29.23	0-360	201	H
11	200.7	29.43	Pk	12.2	-29.7	11.93	43.52	-31.59	0-360	301	V
9	225.3	33.18	Pk	10.7	-29.6	14.28	46.02	-31.74	0-360	100	H
10	300.3	31.01	Pk	13.2	-29.1	15.11	46.02	-30.91	0-360	100	H

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

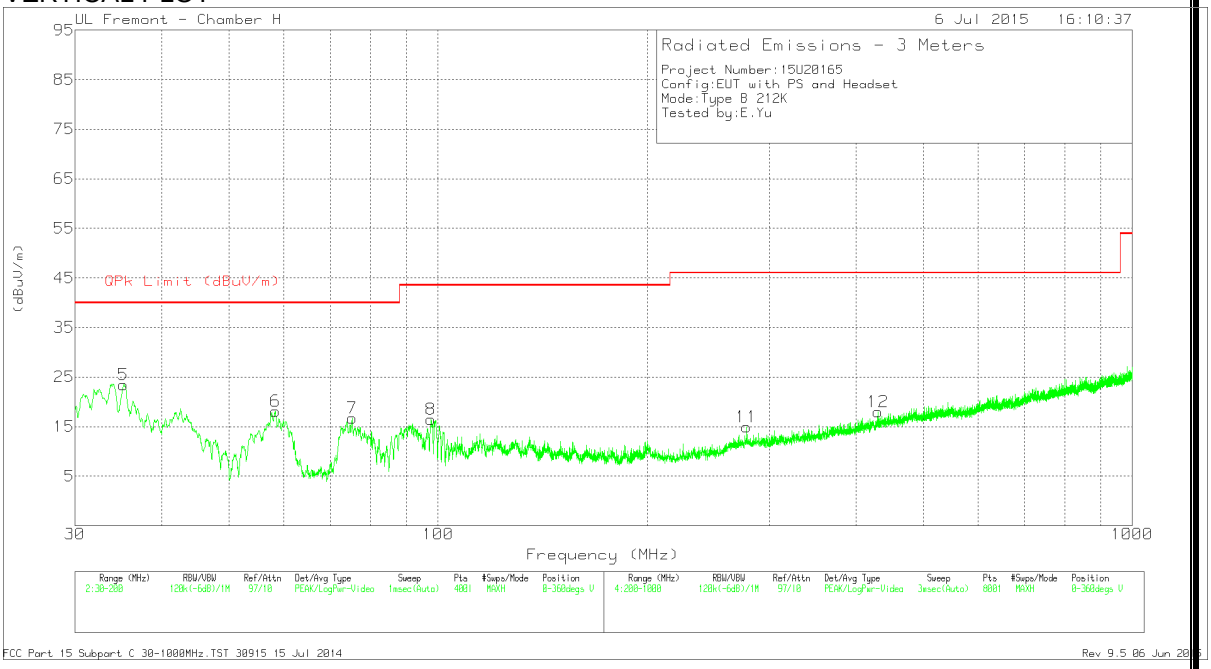
Pk - Peak detector

212Kbps

HORIZONTAL PLOT



VERTICAL PLOT



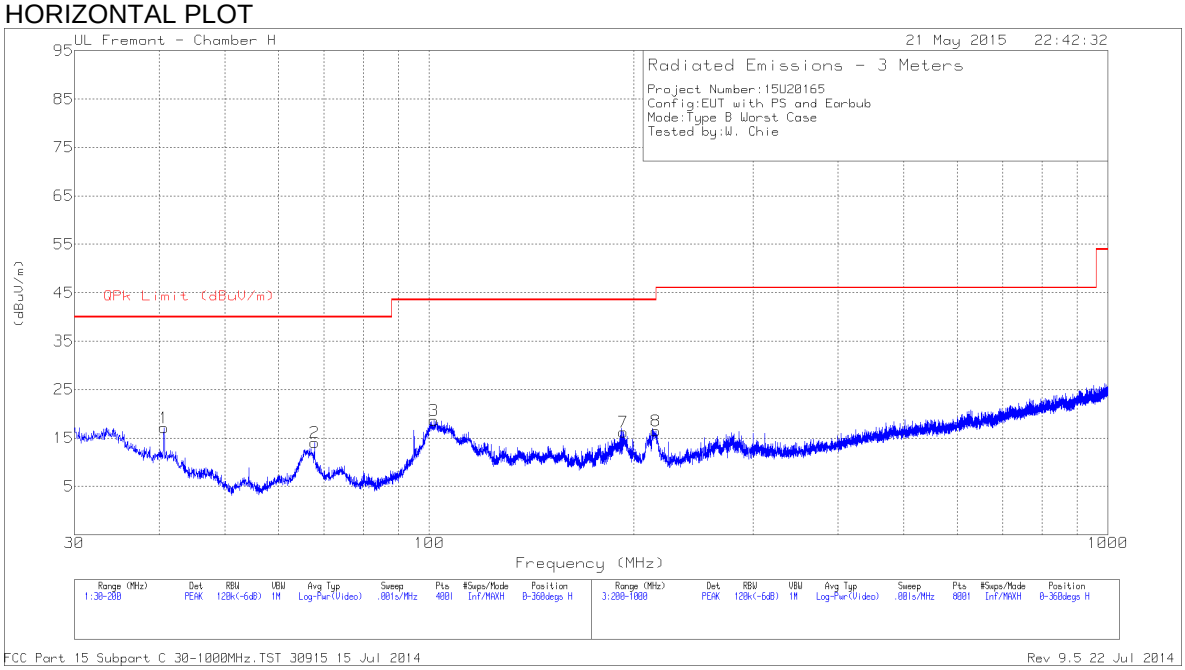
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T900 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 74.4975	33.78	Pk	8.4	-30.7	11.48	40	-28.52	0-360	201	H
11	* 278.5	30.79	Pk	13.4	-29.2	14.99	46.02	-31.03	0-360	301	V
5	35.2275	36.42	Pk	18.2	-31.2	23.42	40	-16.58	0-360	100	V
1	35.27	30.74	Pk	18.1	-31.2	17.64	40	-22.36	0-360	201	H
6	58.305	41.37	Pk	7.6	-30.9	18.07	40	-21.93	0-360	100	V
7	75.22	39.13	Pk	8.3	-30.7	16.73	40	-23.27	0-360	100	V
8	97.745	37.41	Pk	9.6	-30.5	16.51	43.52	-27.01	0-360	100	V
3	99.105	43.21	Pk	9.9	-30.5	22.61	43.52	-20.91	0-360	301	H
4	150.19	32.16	Pk	12.4	-30.1	14.46	43.52	-29.06	0-360	201	H
9	225.3	33.63	Pk	10.7	-29.6	14.73	46.02	-31.29	0-360	100	H
10	300.3	31.99	Pk	13.2	-29.1	16.09	46.02	-29.93	0-360	100	H
12	430	30.16	Pk	16.4	-28.6	17.96	46.02	-28.06	0-360	201	V

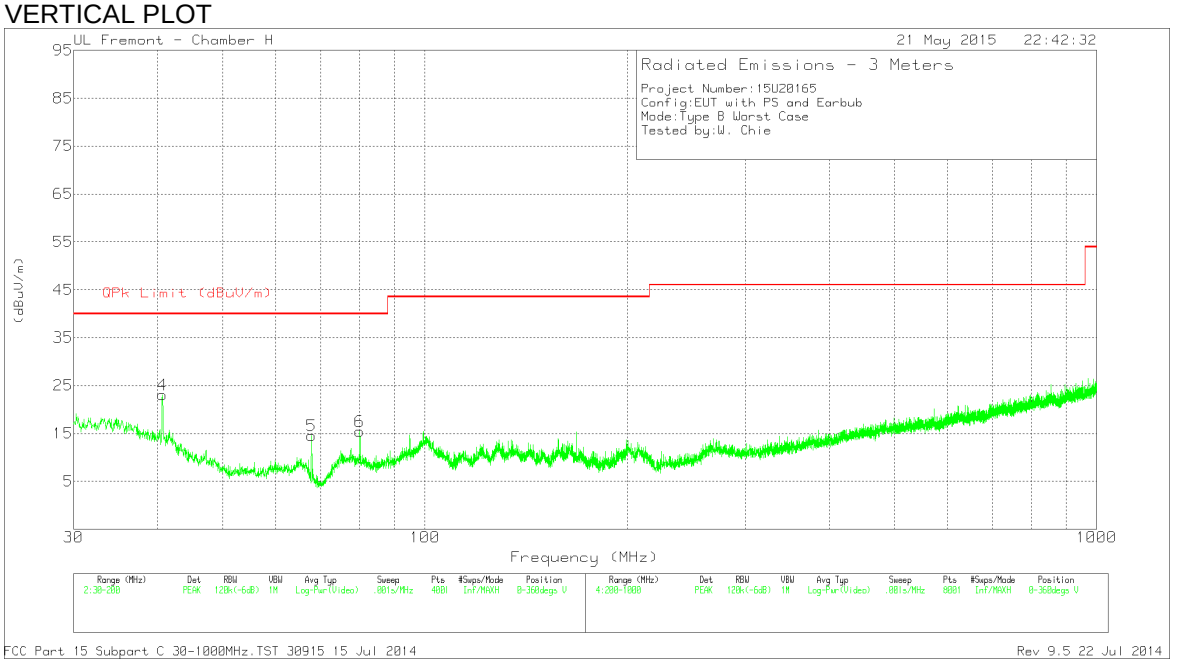
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
Pk - Peak detector

106Kbps

HORIZONTAL PLOT



VERTICAL PLOT



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T900 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.71	34.16	PK	14.1	-31.2	17.06	40	-22.94	0-360	400	H
2	67.7825	36.3	PK	8.5	-30.8	14	40	-26	0-360	201	H
3	101.6975	38.67	PK	10.4	-30.5	18.57	43.52	-24.95	0-360	301	H
4	40.6675	39.95	PK	14.1	-31.2	22.85	40	-17.15	0-360	100	V
5	67.7825	36.89	PK	8.5	-30.8	14.59	40	-25.41	0-360	100	V
6	80.0225	38.33	PK	7.8	-30.7	15.43	40	-24.57	0-360	100	V
7	193.1575	34.36	PK	11.7	-29.8	16.26	43.52	-27.26	0-360	100	H
8	215.8	35.7	PK	10.4	-29.6	16.5	43.52	-27.02	0-360	100	H

PK - Peak detector

11. FREQUENCY STABILITY (MODEL: A1633)

LIMIT

§15.225 (e) The frequency tolerance of the carrier signal shall be maintained within ±0.01% of the operating frequency, over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

TEST PROCEDURE

ANSI C63.10 Clause 6.8

RESULTS

11.1. TYPE A

424Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20ºC Limit: ± 100 ppm = 1.356 kHz										
Power Supply	Envir. Temp	Frequency Deviation Measureed with Time Elapse								
(Vdc)	(ºC)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
3.80	50	13.5592784	5.006	13.5592734	5.372	13.5592696	5.655	13.5592680	5.773	± 100
3.80	40	13.5592944	3.829	13.5592923	3.978	13.5592883	4.273	13.5592864	4.417	± 100
3.80	30	13.5593218	1.810	13.5593198	1.954	13.5593175	2.124	13.5593144	2.348	± 100
3.80	***20***	***13.5593463***	***0.000***	***13.5593452***	***0.081***	***13.5593424***	***0.288***	***13.5593412***	***0.378***	***± 100***
3.80	10	13.5593600	-1.012	13.5593601	-1.015	13.5593601	-1.019	13.5593601	-1.021	± 100
3.80	0	13.5593734	-2.001	13.5593740	-2.046	13.5593744	-2.076	13.5593751	-2.126	± 100
3.80	-10	13.5593801	-2.495	13.5593800	-2.483	13.5593797	-2.466	13.5593796	-2.458	± 100
3.80	-20	13.5593710	-1.823	13.5593660	-1.454	13.5593612	-1.099	13.5593582	-0.875	± 100
3.23	20	13.5593361	0.754	13.5593357	0.784	13.5593349	0.838	13.5593346	0.860	± 100
4.37	20	13.5593341	0.899	13.5593337	0.926	13.5593334	0.949	13.5593196	1.970	± 100

212Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20ºC Limit: ± 100 ppm = 1.356 kHz										
Power Supply	Envir. Temp	Frequency Deviation Measureed with Time Elapse								
(Vdc)	(ºC)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
3.80	50	13.5592648	5.138	13.5592634	5.243	13.5592611	5.414	13.5592597	5.513	± 100
3.80	40	13.5592863	3.552	13.5592819	3.877	13.5592810	3.945	13.5592770	4.238	± 100
3.80	30	13.5593145	1.473	13.5593131	1.574	13.5593110	1.733	13.5593097	1.830	± 100
3.80	***20***	***13.5593345***	***0.000***	***13.5593336***	***0.064***	***13.5593323***	***0.162***	***13.5593315***	***0.220***	***± 100***
3.80	10	13.5593041	2.242	13.5593269	0.563	13.5593315	0.221	13.5593460	-0.850	± 100
3.80	0	13.5593667	-2.372	13.5593690	-2.542	13.5593698	-2.603	13.5593706	-2.662	± 100
3.80	-10	13.5593794	-3.309	13.5593802	-3.369	13.5593804	-3.386	13.5593804	-3.385	± 100
3.80	-20	13.5593665	-2.362	13.5593336	0.064	13.5593638	-2.158	13.5593630	-2.099	± 100
3.23	20	13.5593290	0.406	13.5593290	0.404	13.5593290	0.403	13.5593290	0.402	± 100
4.37	20	13.5593294	0.376	13.5593294	0.376	13.5593294	0.376	13.5593294	0.378	± 100

106Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20ºC Limit: ± 100 ppm = 1.356 kHz										
Power Supply	Envir. Temp	Frequency Deviation Measureed with Time Elapse								
(Vdc)	(ºC)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
3.80	50	13.5592561	4.330	13.5592556	4.368	13.5592550	4.412	13.5592549	4.424	± 100
3.80	40	13.5592829	2.353	13.5592805	2.533	13.5592753	2.916	13.5592724	3.133	± 100
3.80	30	13.5592983	1.221	13.5592979	1.250	13.5592977	1.265	13.5592973	1.292	± 100
3.80	***20***	***13.5593148***	***0.000***	***13.5593156***	***-0.057***	***13.5593185***	***-0.272***	***13.5593199***	***-0.374***	***± 100***
3.80	10	13.5593484	-2.478	13.5593503	-2.614	13.5593521	-2.751	13.5593536	-2.857	± 100
3.80	0	13.5593697	-4.044	13.5593718	-4.199	13.5593730	-4.288	13.5593742	-4.376	± 100
3.80	-10	13.5593794	-4.765	13.5593794	-4.763	13.5593793	-4.756	13.5593793	-4.754	± 100
3.80	-20	13.5593582	-3.195	13.5593577	-3.164	13.5593573	-3.135	13.5593572	-3.124	± 100
3.23	20	13.5593234	-0.631	13.5593240	-0.679	13.5593245	-0.716	13.5593249	-0.742	± 100
4.37	20	13.5593258	-0.807	13.5593260	-0.826	13.5593263	-0.845	13.5593265	-0.857	± 100

11.2. TYPE B

424Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20ºC Limit: ± 100 ppm = 1.356 kHz										
Power Supply	Envir. Temp	Frequency Deviation Measureed with Time Elapse								
(Vdc)	(ºC)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
3.80	50	13.5592549	5.515	13.5592547	5.527	13.5592547	5.532	13.5592546	5.536	± 100
3.80	40	13.5592766	3.917	13.5592724	4.221	13.5592706	4.358	13.5592716	4.287	± 100
3.80	30	13.5593153	1.059	13.5593021	2.033	13.5593004	2.156	13.5592991	2.257	± 100
3.80	***20***	***13.5593297***	***0.000***	***13.5593297***	***0.002***	***13.5593296***	***0.003***	***13.5593296***	***0.005***	***± 100***
3.80	10	13.5593542	-1.806	13.5593543	-1.819	13.5593546	-1.835	13.5593561	-1.945	± 100
3.80	0	13.5593745	-3.309	13.5593746	-3.315	13.5593747	-3.321	13.5593754	-3.369	± 100
3.80	-10	13.5593803	-3.730	13.5593805	-3.746	13.5593803	-3.730	13.5593803	-3.734	± 100
3.80	-20	13.5593565	-1.978	13.5593565	-1.980	13.5593565	-1.980	13.5593565	-1.974	± 100
3.23	20	13.5593286	0.082	13.5593284	0.092	13.5593284	0.096	13.5593284	0.096	± 100
4.37	20	13.5593285	0.091	13.5593255	0.308	13.5593285	0.086	13.5593285	0.088	± 100

212Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20ºC Limit: ± 100 ppm = 1.356 kHz										
Power Supply	Envir. Temp	Frequency Deviation Measureed with Time Elapse								
(Vdc)	(ºC)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
3.80	50	13.5592590	6.253	13.5592571	6.399	13.5592556	6.507	13.5592552	6.540	± 100
3.80	40	13.5592804	4.677	13.5592779	4.865	13.5592733	5.200	13.5592722	5.285	± 100
3.80	30	13.5592995	3.273	13.5592994	3.278	13.5592992	3.290	13.5592992	3.293	± 100
3.80	***20***	***13.5593438***	***0.000***	***13.5593435***	***0.027***	***13.5593432***	***0.046***	***13.5593429***	***0.067***	***± 100***
3.80	10	13.5593474	-0.263	13.5593554	-0.852	13.5593566	-0.941	13.5593566	-0.941	± 100
3.80	0	13.5593730	-2.148	13.5593746	-2.265	13.5593761	-2.381	13.5593766	-2.416	± 100
3.80	-10	13.5593802	-2.685	13.5593798	-2.653	13.5593793	-2.618	13.5593790	-2.593	± 100
3.80	-20	13.5593715	-2.040	13.5593617	-1.318	13.5593591	-1.126	13.5593573	-0.991	± 100
3.23	20	13.5593345	0.687	13.559	0.694	13.5593328	0.813	13.5593328	0.815	± 100
4.37	20	13.5593324	0.842	13.559	0.844	13.5593324	0.845	13.5593324	0.845	± 100

106Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20ºC Limit: ± 100 ppm = 1.356 kHz										
Power Supply	Envir. Temp	Frequency Deviation Measureed with Time Elapse								
(Vdc)	(ºC)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
3.80	50	13.5592559	4.881	13.5592554	4.917	13.5592549	4.953	13.5592549	4.955	± 100
3.80	40	13.5592721	3.681	13.5592703	3.814	13.5592703	3.816	13.5592703	3.815	± 100
3.80	30	13.5593017	1.499	13.5593016	1.505	13.5593016	1.510	13.5592982	1.759	± 100
3.80	***20***	***13.5593221***	***0.000***	***13.5593236***	***-0.114***	***13.5593246***	***-0.185***	***13.5593249***	***-0.207***	***± 100***
3.80	10	13.5593578	-2.633	13.5593548	-2.418	13.5593561	-2.514	13.5593568	-2.566	± 100
3.80	0	13.5593739	-3.822	13.5593761	-3.989	13.5593768	-4.035	13.5593758	-3.962	± 100
3.80	-10	13.5593794	-4.227	13.5593794	-4.227	13.5593796	-4.245	13.5593799	-4.264	± 100
3.80	-20	13.5593568	-2.566	13.5593569	-2.569	13.5593570	-2.579	13.5593573	-2.598	± 100
3.23	20	13.5593300	-0.589	13.5593295	-0.550	13.5593295	-0.549	13.5593295	-0.550	± 100
4.37	20	13.5593314	-0.687	13.5593314	-0.689	13.5593314	-0.691	13.5593319	-0.728	± 100

12. FREQUENCY STABILITY (MODEL: A1688)

LIMIT

§15.225 (e) The frequency tolerance of the carrier signal shall be maintained within ±0.01% of the operating frequency, over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

TEST PROCEDURE

ANSI C63.10 Clause 6.8

RESULTS

12.1. TYPE A

424Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20ºC Limit: ± 100 ppm = 1.356 kHz										
Power Supply	Envir. Temp	Frequency Deviation Measureed with Time Elapse								
(Vdc)	(ºC)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
3.80	50	13.5592553	8.383	13.5592553	8.386	13.5592548	8.422	13.5592548	8.423	± 100
3.80	40	13.5592864	6.094	13.5592820	6.413	13.5592787	6.660	13.5592763	6.838	± 100
3.80	30	13.5593121	4.193	13.5593081	4.492	13.5593050	4.718	13.5593023	4.922	± 100
3.80	***20***	***13.5593690***	***0.000***	***13.5593616***	***0.547***	***13.5593562***	***0.942***	***13.5593525***	***1.217***	***± 100***
3.80	10	13.5593186	3.714	13.5593325	2.693	13.5593469	1.630	13.5593500	1.401	± 100
3.80	0	13.5593688	0.018	13.5593717	-0.198	13.5593749	-0.433	13.5593749	-0.433	± 100
3.80	-10	13.5593802	-0.823	13.5593793	-0.761	13.5593792	-0.754	13.5593791	-0.743	± 100
3.80	-20	13.5593665	0.187	13.5593638	0.383	13.5593614	0.563	13.5593585	0.777	± 100
3.23	20	13.5593428	1.934	13.5593417	2.015	13.5593396	2.169	13.5593360	2.435	± 100
4.37	20	13.5593349	2.515	13.5593340	2.584	13.5593332	2.642	13.5593328	2.667	± 100

212Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20ºC Limit: ± 100 ppm = 1.356 kHz										
Power Supply	Envir. Temp	Frequency Deviation Measureed with Time Elapse								
(Vdc)	(ºC)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
3.80	50	13.5592569	7.602	13.5592562	7.650	13.5592556	7.695	13.5592555	7.706	± 100
3.80	40	13.5592820	5.753	13.5592775	6.082	13.5592744	6.311	13.5592727	6.434	± 100
3.80	30	13.5593072	3.890	13.5593038	4.140	13.5593013	4.329	13.5593006	4.375	± 100
3.80	***20***	***13.5593600***	***0.000***	***13.5593572***	***0.204***	***13.5593459***	***1.038***	***13.5593358***	***1.780***	***± 100***
3.80	10	13.5593369	1.701	13.5593458	1.043	13.5593542	0.426	13.5593578	0.160	± 100
3.80	0	13.5593764	-1.208	13.5593770	-1.254	13.5593773	-1.278	13.5593774	-1.282	± 100
3.80	-10	13.5593799	-1.471	13.5593794	-1.430	13.5593790	-1.406	13.5593790	-1.401	± 100
3.80	-20	13.5593729	-0.953	13.5593688	-0.648	13.5593637	-0.271	13.5593596	0.029	± 100
3.23	20	13.5593344	1.887	13.5593341	1.905	13.5593459	1.038	13.5593330	1.992	± 100
4.37	20	13.5593329	1.996	13.5593329	1.999	13.5593327	2.008	13.5593326	2.020	± 100

106Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20ºC Limit: ± 100 ppm = 1.356 kHz										
Power Supply	Envir. Temp	Frequency Deviation Measureed with Time Elapse								
(Vdc)	(ºC)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
3.80	50	13.5592638	6.313	13.5592609	6.526	13.5592563	6.864	13.5592555	6.924	± 100
3.80	40	13.5592811	5.040	13.5592781	5.259	13.5592724	5.682	13.5592713	5.758	± 100
3.80	30	13.5593158	2.477	13.5593101	2.898	13.5593068	3.143	13.5592976	3.819	± 100
3.80	***20***	***13.5593494***	***0.000***	***13.5593440***	***0.399***	***13.5593393***	***0.741***	***13.5593360***	***0.986***	***± 100***
3.80	10	13.5593815	-2.366	13.5593648	-1.132	13.5593616	-0.902	13.5593609	-0.845	± 100
3.80	0	13.5593815	-2.366	13.5593812	-2.342	13.5593802	-2.274	13.5593789	-2.177	± 100
3.80	-10	13.5593810	-2.327	13.5593810	-2.331	13.5593805	-2.294	13.5593803	-2.279	± 100
3.80	-20	13.5593592	-0.723	13.5593592	-0.722	13.5593590	-0.710	13.5593589	-0.700	± 100
3.23	20	13.5593337	1.159	13.5593323	1.258	13.5593315	1.322	13.5593308	1.374	± 100
4.37	20	13.5593307	1.382	13.5593306	1.389	13.5593304	1.404	13.5593304	1.402	± 100

12.2. TYPE B

424Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20ºC Limit: ± 100 ppm = 1.356 kHz										
Power Supply	Envir. Temp	Frequency Deviation Measureed with Time Elapse								
(Vdc)	(ºC)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
3.80	50	13.5592620	3.995	13.5592572	4.344	13.5592564	4.406	13.5592564	4.408	± 100
3.80	40	13.5592736	3.134	13.5592736	3.135	13.5592726	3.212	13.5592736	3.139	± 100
3.80	30	13.5593140	0.160	13.5593085	0.561	13.5593020	1.043	13.5592980	1.339	± 100
3.80	***20***	***13.5593161***	***0.000***	***13.5593214***	***-0.390***	***13.5593242***	***-0.594***	***13.5593263***	***-0.749***	***± 100***
3.80	10	13.5593658	-3.661	13.5593643	-3.551	13.5593631	-3.465	13.5593627	-3.435	± 100
3.80	0	13.5593809	-4.777	13.5593802	-4.726	13.5593802	-4.724	13.5593798	-4.695	± 100
3.80	-10	13.5593765	-4.453	13.5593788	-4.621	13.5593788	-4.622	13.5593788	-4.623	± 100
3.80	-20	13.5593536	-2.761	13.5593535	-2.756	13.5593535	-2.754	13.5593535	-2.752	± 100
3.23	20	13.5593269	-0.796	13.5593275	-0.834	13.5593278	-0.860	13.5593280	-0.875	± 100
4.37	20	13.5593283	-0.900	13.5593285	-0.913	13.5597050	-28.677	13.5593288	-0.930	± 100

212Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20ºC Limit: ± 100 ppm = 1.356 kHz										
Power Supply	Envir. Temp	Frequency Deviation Measureed with Time Elapse								
(Vdc)	(ºC)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
3.80	50	13.5592586	5.802	13.5592576	5.871	13.5592562	5.974	13.5592560	5.994	± 100
3.80	40	13.5592745	4.629	13.5592728	4.748	13.5592721	4.804	13.5592716	4.841	± 100
3.80	30	13.5593100	2.007	13.5593042	2.438	13.5593027	2.547	13.5593011	2.664	± 100
3.80	***20***	***13.5593372***	***0.000***	***13.5593341***	***0.228***	***13.5593323***	***0.367***	***13.5593320***	***0.388***	***± 100***
3.80	10	13.5593405	-0.241	13.5593466	-0.690	13.5593533	-1.182	13.5593567	-1.438	± 100
3.80	0	13.5593737	-2.691	13.5593750	-2.787	13.5593766	-2.905	13.5593773	-2.951	± 100
3.80	-10	13.5593809	-3.219	13.5593804	-3.184	13.5593799	-3.149	13.5593796	-3.121	± 100
3.80	-20	13.5593659	-2.113	13.5593612	-1.768	13.5593572	-1.476	13.5593563	-1.408	± 100
3.23	20	13.5593317	0.411	13.5593313	0.441	13.5593313	0.439	13.5593313	0.440	± 100
4.37	20	13.5593314	0.433	13.5593313	0.437	13.5593313	0.436	13.5593313	0.436	± 100

106Kbps

Reference Frequency: EUT Channel 13.56 MHz @ 20ºC Limit: ± 100 ppm = 1.356 kHz										
Power Supply	Envir. Temp	Frequency Deviation Measureed with Time Elapse								
(Vdc)	(ºC)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
3.80	50	13.5592557	5.990	13.5592557	5.991	13.5592557	5.991	13.5592556	6.000	± 100
3.80	40	13.5592857	3.779	13.5592731	4.708	13.5592729	4.721	13.5592727	4.741	± 100
3.80	30	13.5593166	1.501	13.5593090	2.060	13.5593043	2.406	13.5593018	2.594	± 100
3.80	***20***	***13.5593369***	***0.000***	***13.5593352***	***0.126***	***13.5593349***	***0.150***	***13.5593342***	***0.201***	***± 100***
3.80	10	13.5593387	-0.133	13.5593421	-0.380	13.5593424	-0.400	13.5593518	-1.097	± 100
3.80	0	13.5593742	-2.751	13.5593743	-2.754	13.5593743	-2.757	13.5593744	-2.762	± 100
3.80	-10	13.5593805	-3.212	13.5593797	-3.151	13.5593796	-3.144	13.5593795	-3.137	± 100
3.80	-20	13.5593610	-1.777	13.5593604	-1.729	13.5593608	-1.758	13.5593570	-1.481	± 100
3.23	20	13.5593337	0.241	13.5593335	0.252	13.5593333	0.266	13.5593331	0.283	± 100
4.37	20	13.5593333	0.271	13.5593332	0.278	13.5593330	0.287	13.5593331	0.286	± 100

13. AC MAINS LINE CONDUCTED EMISSIONS (MODEL: A1633)

LIMITS

§15.207
IC RSS-GEN, Section 7.2.2

(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50µH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

Frequency range (MHz)	Limits (dBµV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
Notes: 1. The lower limit shall apply at the transition frequencies 2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

TEST PROCEDURE

ANSI C63.10:2013

RESULTS

No non-compliance noted:

13.1. TYPE A

13.1.1. NORMAL OPERATION, 424 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.159	44.4	Pk	1.3	0	45.7	65.52	-19.82	-	-
2	.1635	22.59	Av	1.2	0	23.79	-	-	55.28	-31.49
3	.798	43.92	Pk	.3	0	44.22	56	-11.78	-	-
4	.807	26.35	Av	.3	0	26.65	-	-	46	-19.35
5	14.406	27.27	Pk	.2	.2	27.67	60	-32.33	-	-
6	14.406	17.8	Av	.2	.2	18.2	-	-	50	-31.8

Range 2: Line-L2 .15 - 30MHz

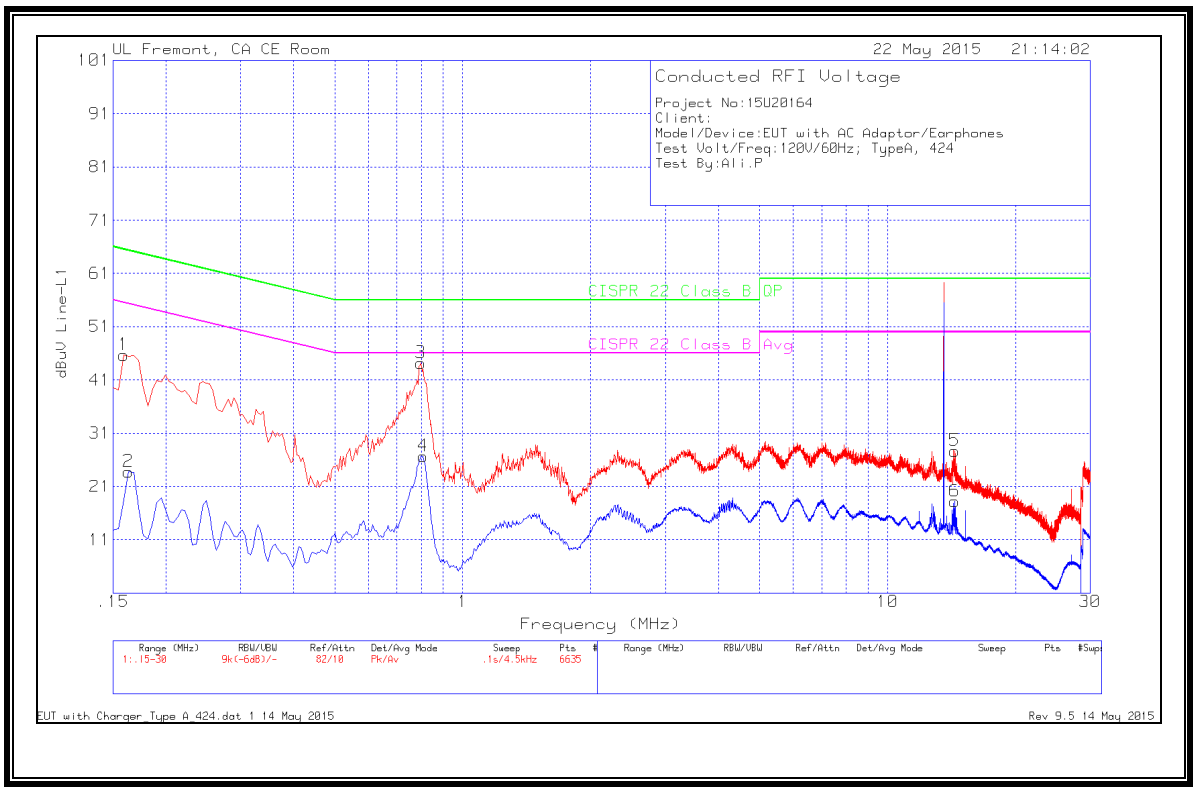
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.1635	38.73	Pk	1.3	0	40.03	65.28	-25.25	-	-
8	.1635	19.17	Av	1.3	0	20.47	-	-	55.28	-34.81
9	.7845	37.87	Pk	.3	0	38.17	56	-17.83	-	-
10	.798	26.26	Av	.3	0	26.56	-	-	46	-19.44
11	14.316	23.65	Pk	.2	.2	24.05	60	-35.95	-	-
12	14.316	13.58	Av	.2	.2	13.98	-	-	50	-36.02

Pk - Peak detector

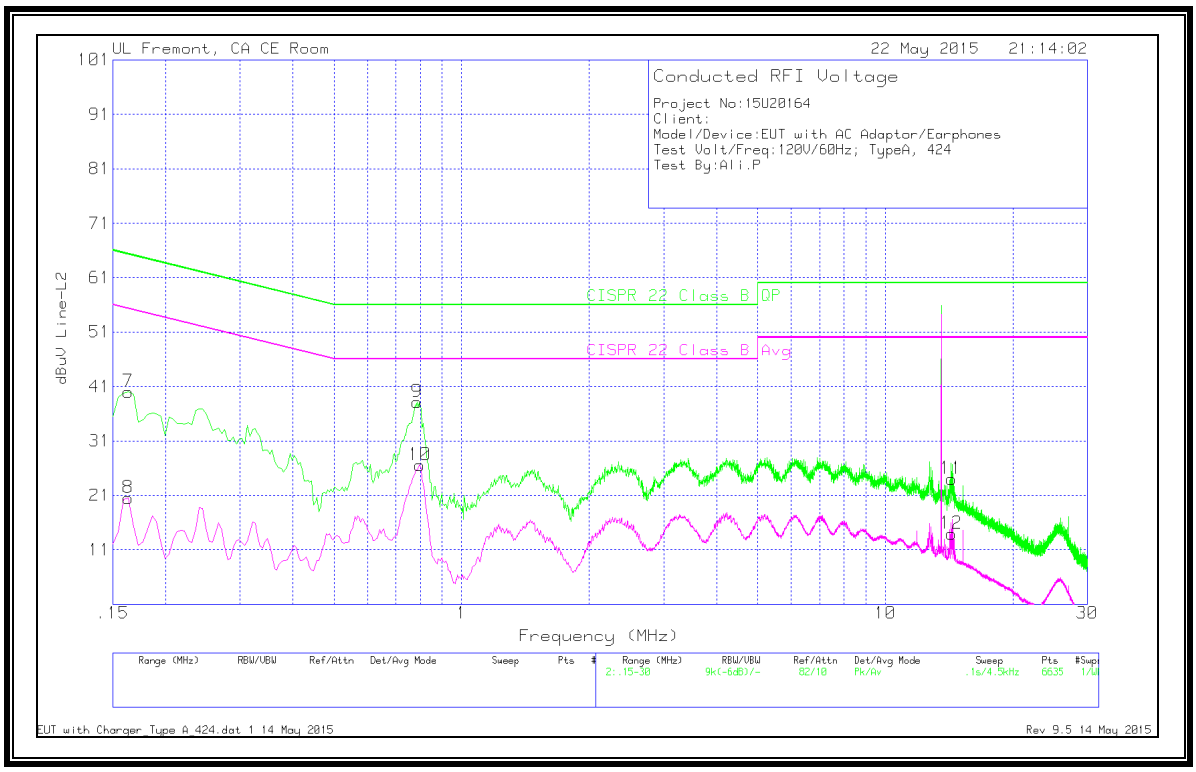
Av - Average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section indicate that when the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

LINE 1 RESULTS



LINE 2 RESULTS



13.1.2. NORMAL OPERATION WITH ANTENNA PORT TERMINATED, 424 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

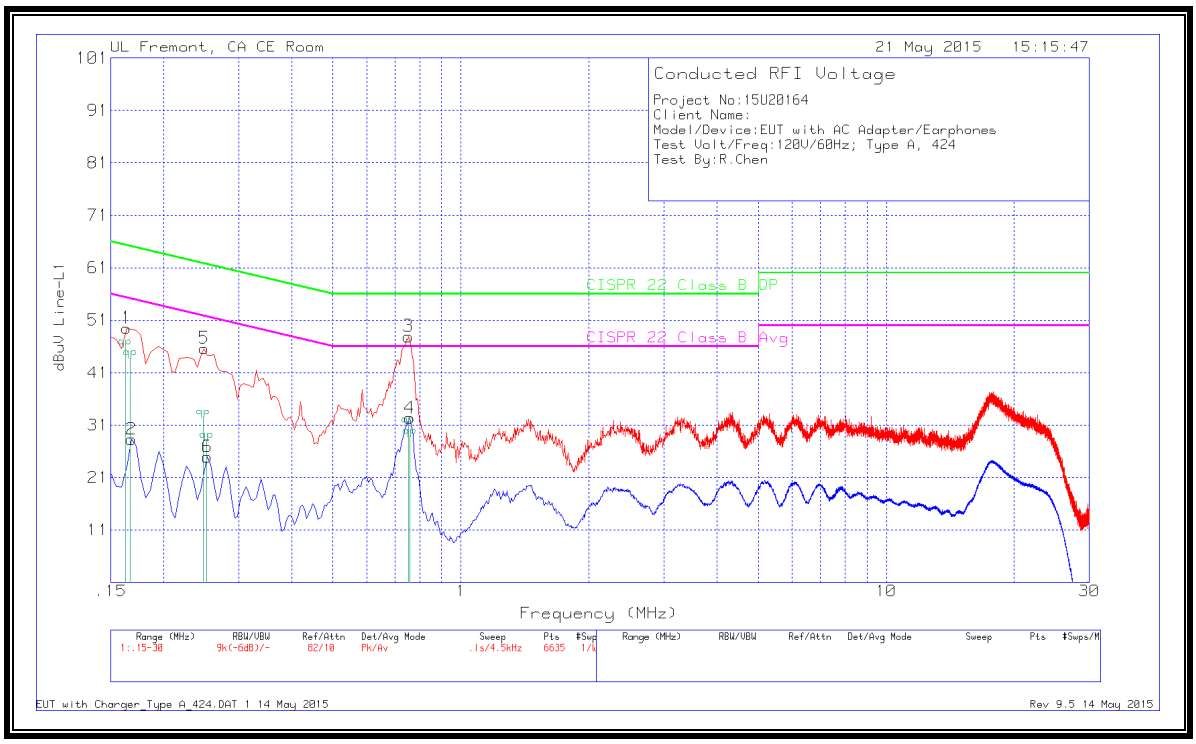
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.1635	48.28	Pk	1.2	0	49.48	65.28	-15.8	-	-
2	.168	27.1	Av	1.2	0	28.3	-	-	55.06	-26.76
3	.753	47.62	Pk	.3	0	47.92	56	-8.08	-	-
4	.7575	32.05	Av	.3	0	32.35	-	-	46	-13.65
5	.249	44.94	Pk	.7	0	45.64	61.79	-16.15	-	-
6	.2535	24.24	Av	.7	0	24.94	-	-	51.64	-26.7

Range 2: Line-L2 .15 - 30MHz

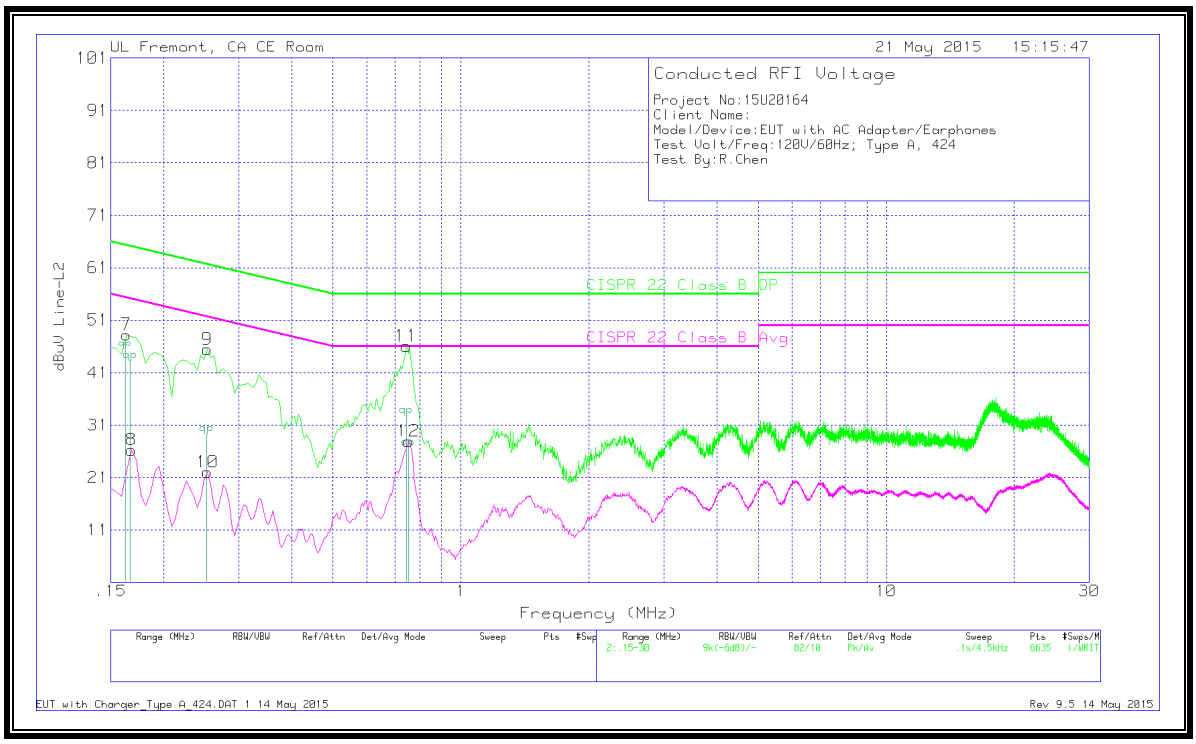
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.1635	46.9	Pk	1.3	0	48.2	65.28	-17.08	-	-
8	.168	24.96	Av	1.3	0	26.26	-	-	55.06	-28.8
9	.2535	44.7	Pk	.7	0	45.4	61.64	-16.24	-	-
10	.2535	21.3	Av	.7	0	22	-	-	51.64	-29.64
11	.744	45.75	Pk	.3	0	46.05	56	-9.95	-	-
12	.753	27.58	Av	.3	0	27.88	-	-	46	-18.12

Pk - Peak detector
Av - Average detection

LINE 1 RESULTS



LINE 2 RESULTS



13.1.3. NORMAL OPERATION, 212 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.159	38	Pk	1.3	0	39.3	65.52	-26.22	-	-
2	.159	17.45	Av	1.3	0	18.75	-	-	55.52	-36.77
3	.7935	38.01	Pk	.3	0	38.31	56	-17.69	-	-
4	.7935	24.86	Av	.3	0	25.16	-	-	46	-20.84
5	14.3565	28.87	Pk	.2	.2	29.27	60	-30.73	-	-
6	14.3565	19.61	Av	.2	.2	20.01	-	-	50	-29.99

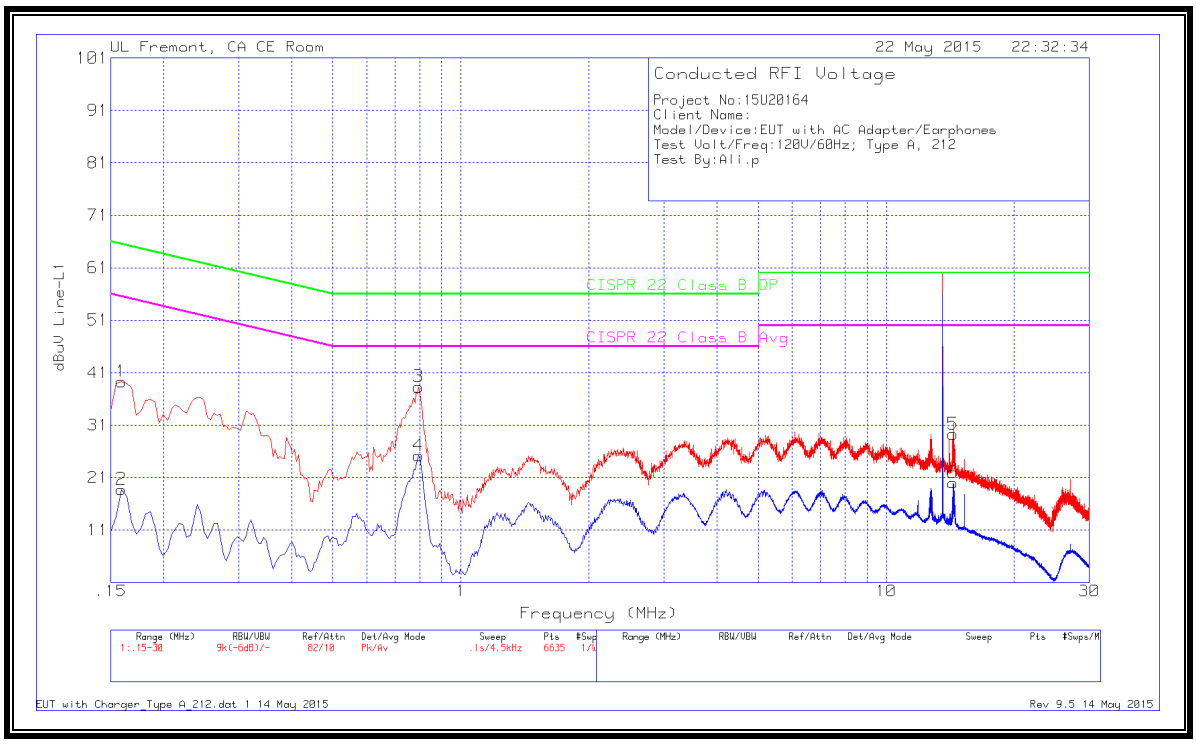
Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.159	41.34	Pk	1.4	0	42.74	65.52	-22.78	-	-
8	.1635	21.25	Av	1.3	0	22.55	-	-	55.28	-32.73
9	.7935	42.03	Pk	.3	0	42.33	56	-13.67	-	-
10	.8025	27.19	Av	.3	0	27.49	-	-	46	-18.51
11	14.3115	24.74	Pk	.2	.2	25.14	60	-34.86	-	-
12	14.3025	14.27	Av	.2	.2	14.67	-	-	50	-35.33

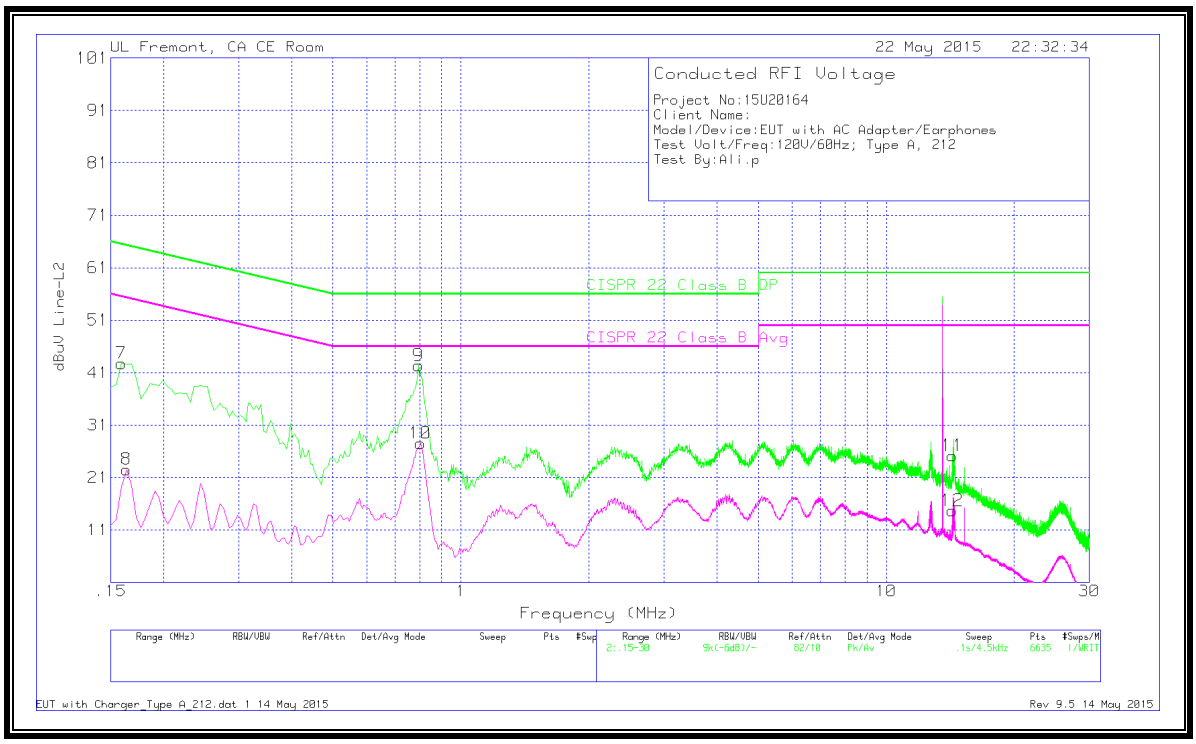
Pk - Peak detector
Av - Average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section indicate that when the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

LINE 1 RESULTS



LINE 2 RESULTS



13.1.4. NORMAL OPERATION WITH ANTENNA PORT TERMINATED, 212 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

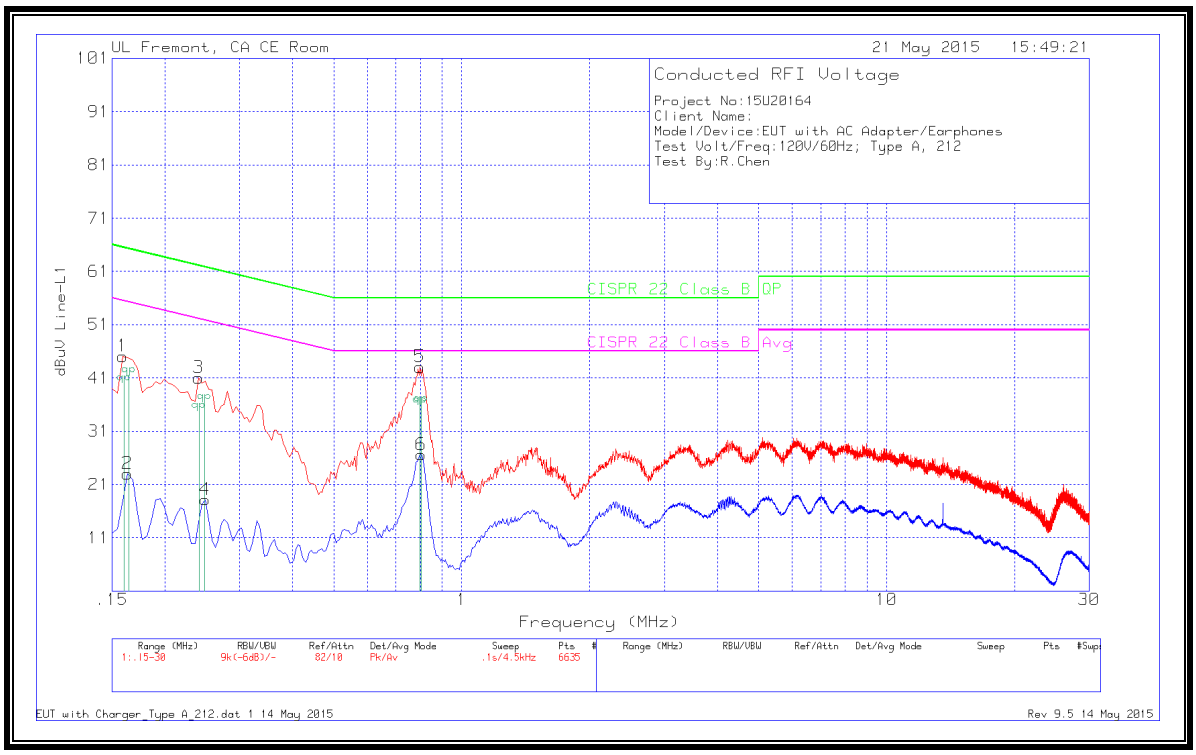
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.159	43.78	Pk	1.3	0	45.08	65.52	-20.44	-	-
2	.1635	21.84	Av	1.2	0	23.04	-	-	55.28	-32.24
3	.24	40.34	Pk	.7	0	41.04	62.1	-21.06	-	-
4	.249	17.46	Av	.7	0	18.16	-	-	51.79	-33.63
5	.798	42.72	Pk	.3	0	43.02	56	-12.98	-	-
6	.8025	26.3	Av	.3	0	26.6	-	-	46	-19.4

Range 2: Line-L2 .15 - 30MHz

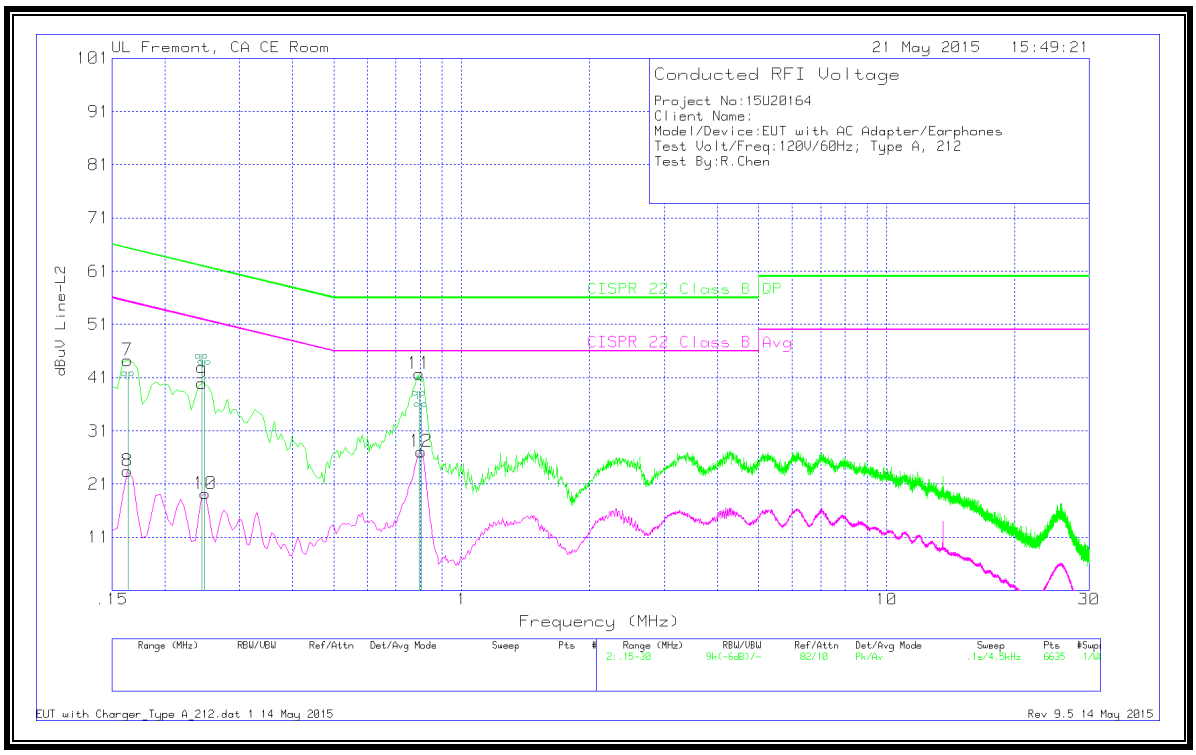
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.1635	42.96	Pk	1.3	0	44.26	65.28	-21.02	-	-
8	.1635	22.14	Av	1.3	0	23.44	-	-	55.28	-31.84
9	.2445	39.16	Pk	.8	0	39.96	61.94	-21.98	-	-
10	.249	18.52	Av	.7	0	19.22	-	-	51.79	-32.57
11	.7935	41.48	Pk	.3	0	41.78	56	-14.22	-	-
12	.8025	26.84	Av	.3	0	27.14	-	-	46	-18.86

Pk - Peak detector
Av - Average detection

LINE 1 RESULTS



LINE 2 RESULTS



13.1.5. NORMAL OPERATION, 106 KBPS

6 WORST EMISSIONS

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.168	36.6	Pk	1.2	0	37.8	65.06	-27.26	-	-
2	.168	15.93	Av	1.2	0	17.13	-	-	55.06	-37.93
3	.789	32.49	Pk	.3	0	32.79	56	-23.21	-	-
4	.7935	17.93	Av	.3	0	18.23	-	-	46	-27.77
5	13.56	55.21	Pk	.2	.2	55.61	60	-4.39	-	-
6	13.56	50.81	Av	.2	.2	51.21	-	-	50	1.21

Range 2: Line-L2 .15 - 30MHz

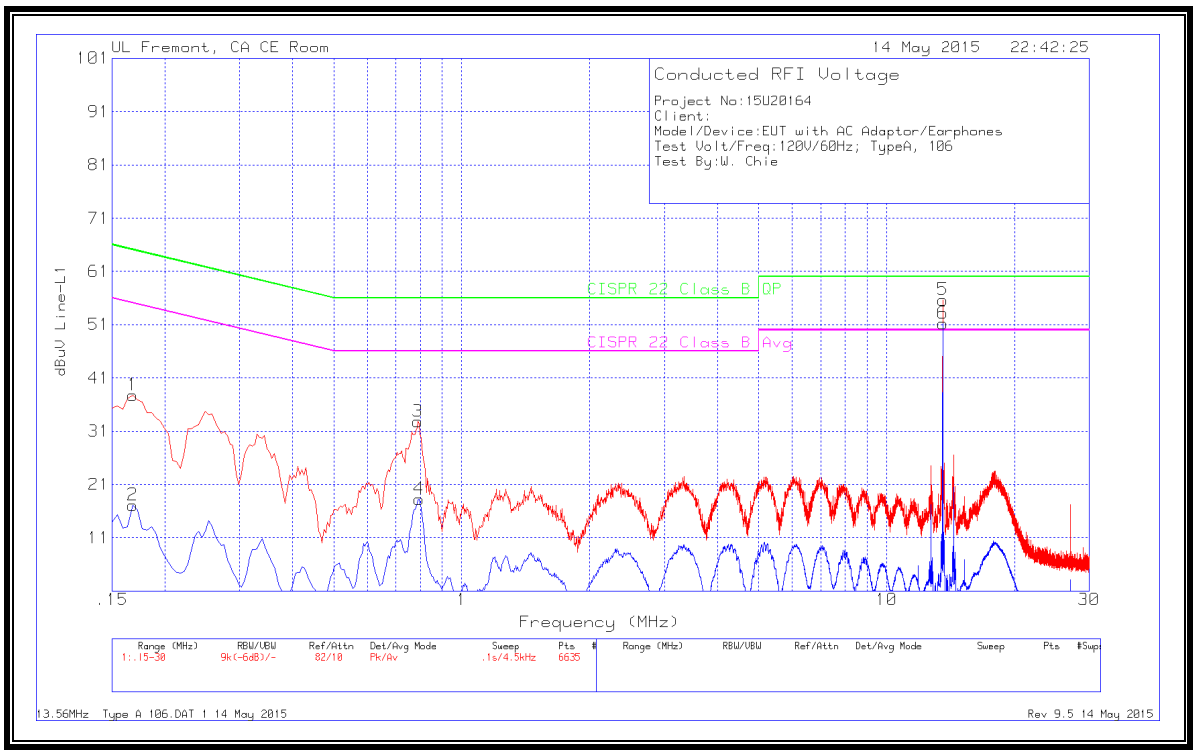
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.1635	35.82	Pk	1.3	0	37.12	65.28	-28.16	-	-
8	.168	15.86	Av	1.3	0	17.16	-	-	55.06	-37.9
9	.7845	30.56	Pk	.3	0	30.86	56	-25.14	-	-
10	.789	18.33	Av	.3	0	18.63	-	-	46	-27.37
11	13.2765	16.3	Pk	.2	.2	16.7	60	-43.3	-	-
12	13.56	49.95	Av	.2	.2	50.35	-	-	50	.35

Pk - Peak detector

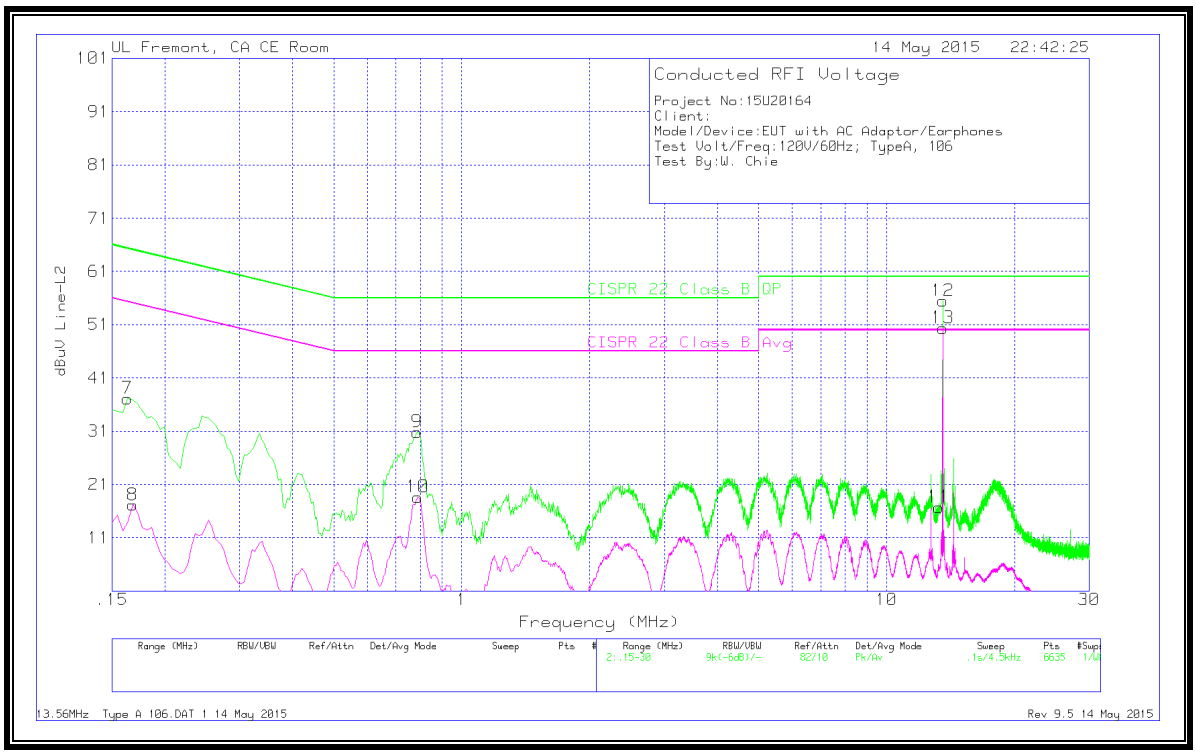
Av - Average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section indicate that when the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

LINE 1 RESULTS



LINE 2 RESULTS



13.1.6. NORMAL OPERATION WITH ANTENNA PORT TERMINATED, 106 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

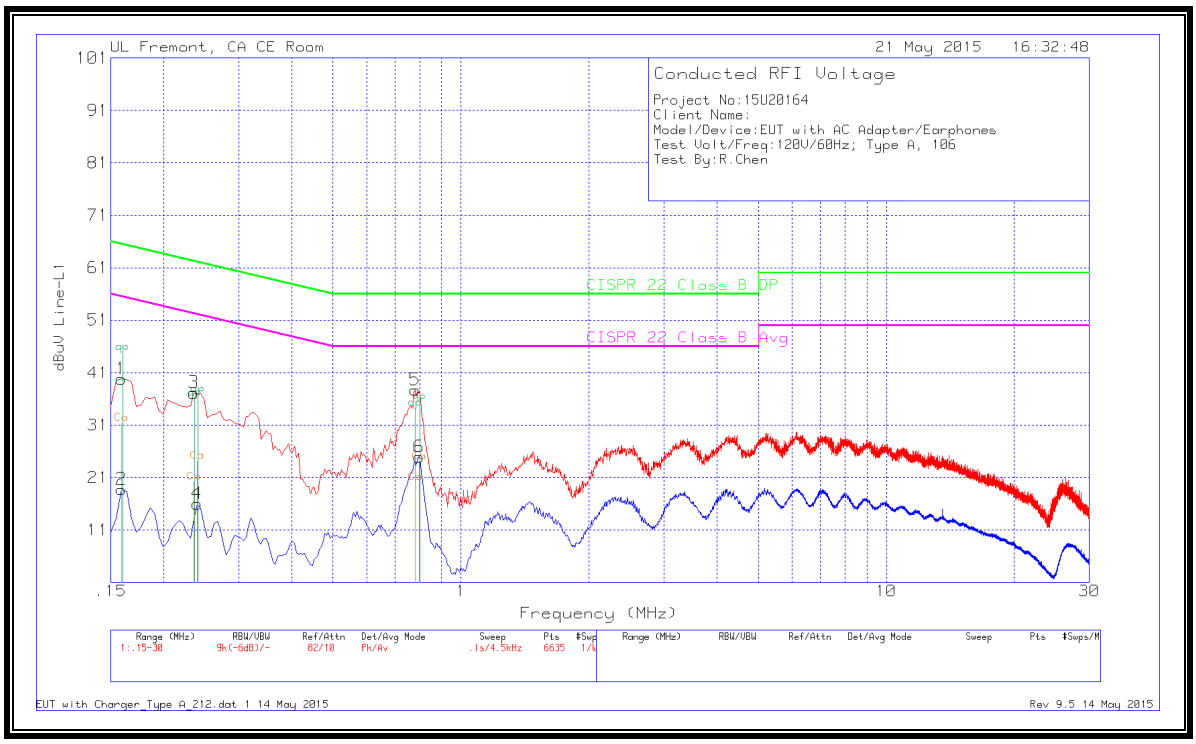
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.159	38.52	Pk	1.3	0	39.82	65.52	-25.7		
2	.159	17.44	Av	1.3	0	18.74	-	-	55.52	-36.78
3	.2355	36.36	Pk	.8	0	37.16	62.25	-25.09		
4	.24	15.31	Av	.7	0	16.01	-	-	52.1	-36.09
5	.78	37.41	Pk	.3	0	37.71	56	-18.29		
6	.798	24.63	Av	.3	0	24.93	-	-	46	-21.07

Range 2: Line-L2 .15 - 30MHz

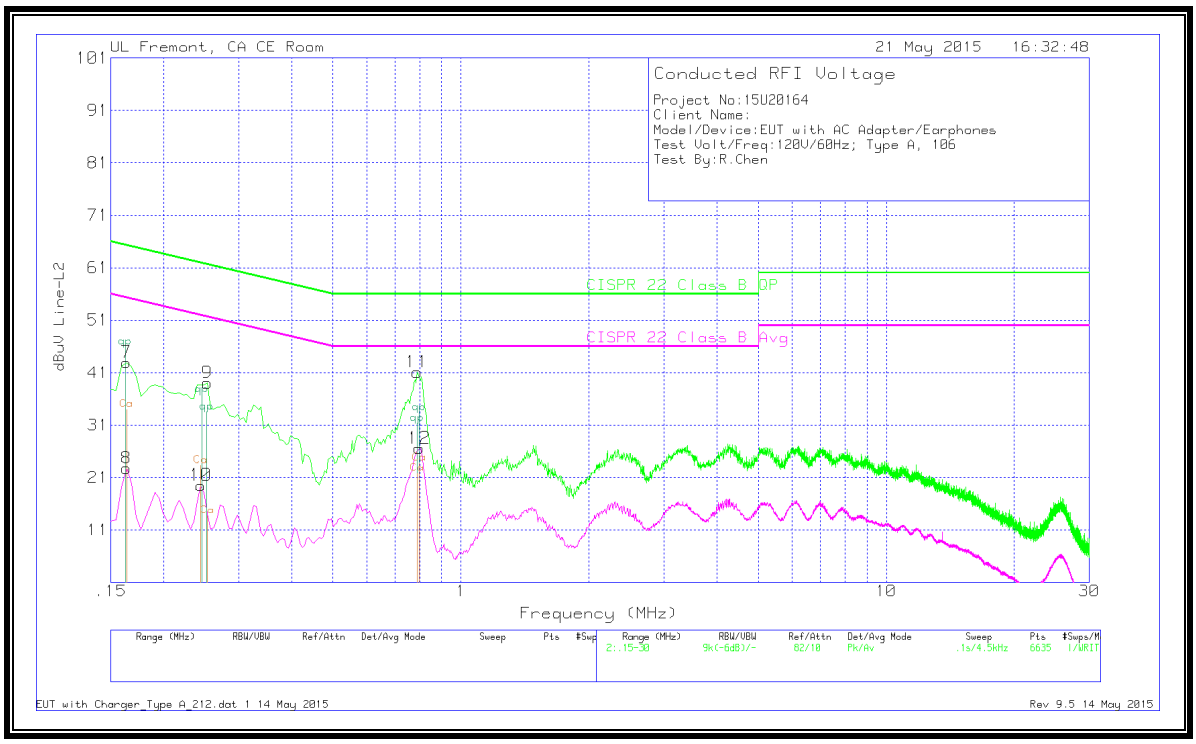
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.1635	41.65	Pk	1.3	0	42.95	65.28	-22.33		
8	.1635	21.46	Av	1.3	0	22.76	-	-	55.28	-32.52
9	.2535	38.33	Pk	.7	0	39.03	61.64	-22.61		
10	.2445	18.7	Av	.8	0	19.5	-	-	51.94	-32.44
11	.789	40.82	Pk	.3	0	41.12	56	-14.88		
12	.798	26.27	Av	.3	0	26.57	-	-	46	-19.43

Pk - Peak detector
Av - Average detection

LINE 1 RESULTS



LINE 2 RESULTS



13.1.7. NORMAL OPERATION WITH LAPTOP, WORST CASE

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

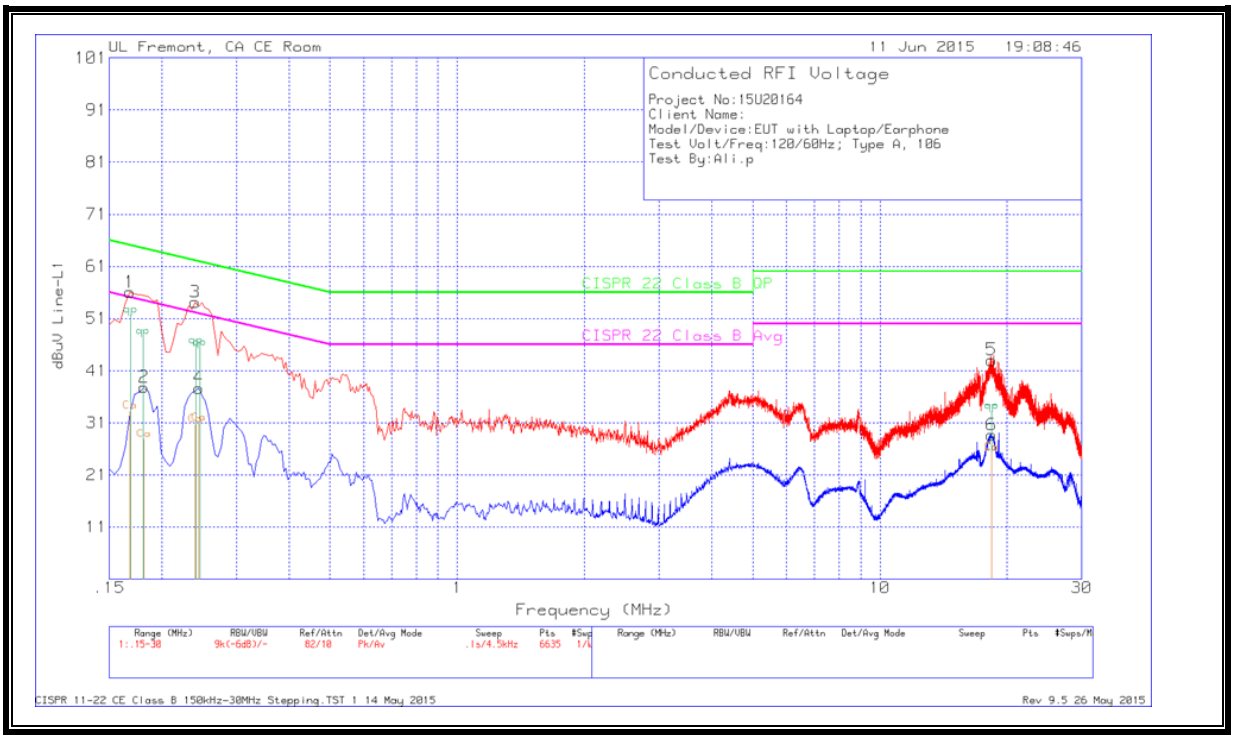
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.168	54.83	Pk	1.2	0	56.03	65.06	-9.03		
2	.1815	36.73	Av	1.1	0	37.83	-	-	54.42	-16.59
3	.24	53.43	Pk	.7	0	54.13	62.1	-7.97		
4	.2445	36.97	Av	.7	0	37.67	-	-	51.94	-14.27
5	18.375	42.55	Pk	.3	.2	43.05	60	-16.95		
6	18.366	28.15	Av	.3	.2	28.65	-	-	50	-21.35

Range 2: Line-L2 .15 - 30MHz

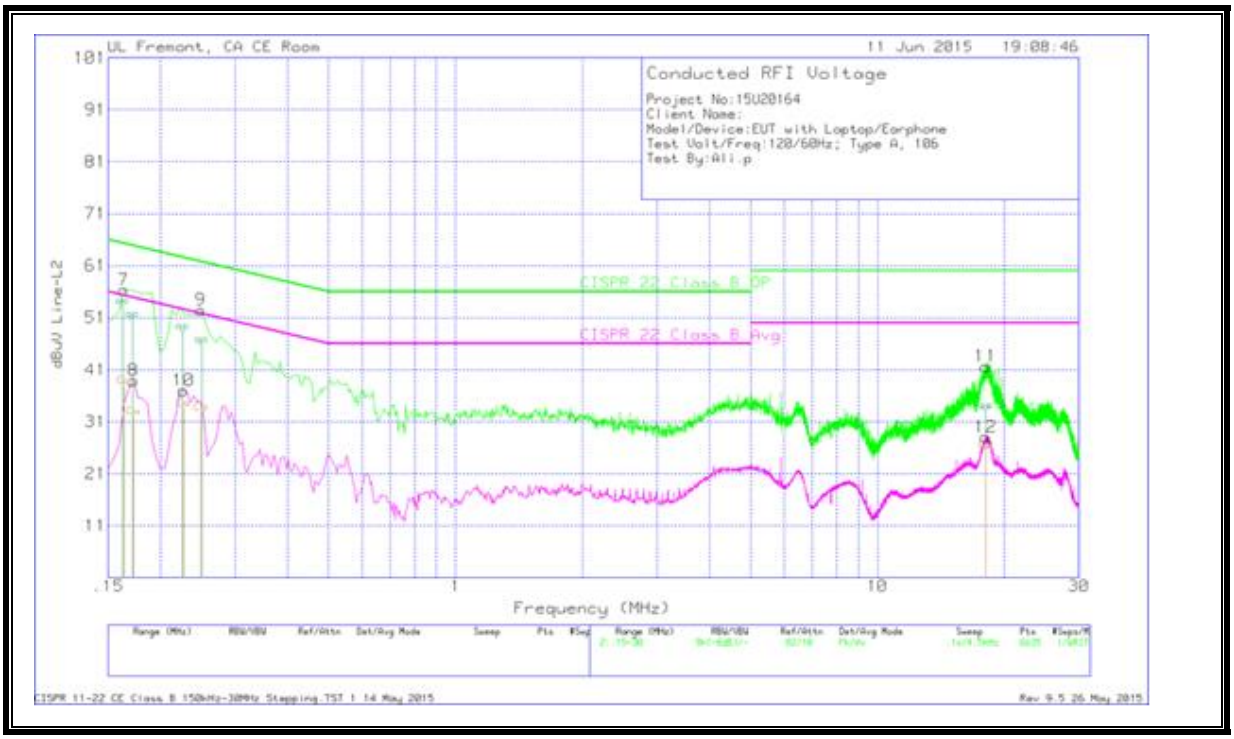
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.1635	55.04	Pk	1.3	0	56.34	65.28	-8.94		
8	.1725	37.71	Av	1.2	0	38.91	-	-	54.84	-15.93
9	.249	51.8	Pk	.7	0	52.5	61.79	-9.29		
10	.2265	36.08	Av	.9	0	36.98	-	-	52.58	-15.6
11	18.0465	41.13	Pk	.3	.2	41.63	60	-18.37		
12	18.04875	27.51	Av	.3	.2	28.01	-	-	50	-21.99

Pk - Peak detector
Av - Average detection

LINE 1 RESULTS



LINE 2 RESULTS



13.2. TYPE B

13.2.1. NORMAL OPERATION, 424 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.798	44.02	Pk	.3	0	44.32	56	-11.68		
2	.8025	26.16	Av	.3	0	26.46	-	-	46	-19.54
3	14.3745	26.49	Pk	.2	.2	26.89	60	-33.11		
4	14.3745	15.78	Av	.2	.2	16.18	-	-	50	-33.82
11	14.406	33.98	Pk	.2	.2	34.38	60	-25.62		
12	14.4015	22.5	Av	.2	.2	22.9	-	-	50	-27.1

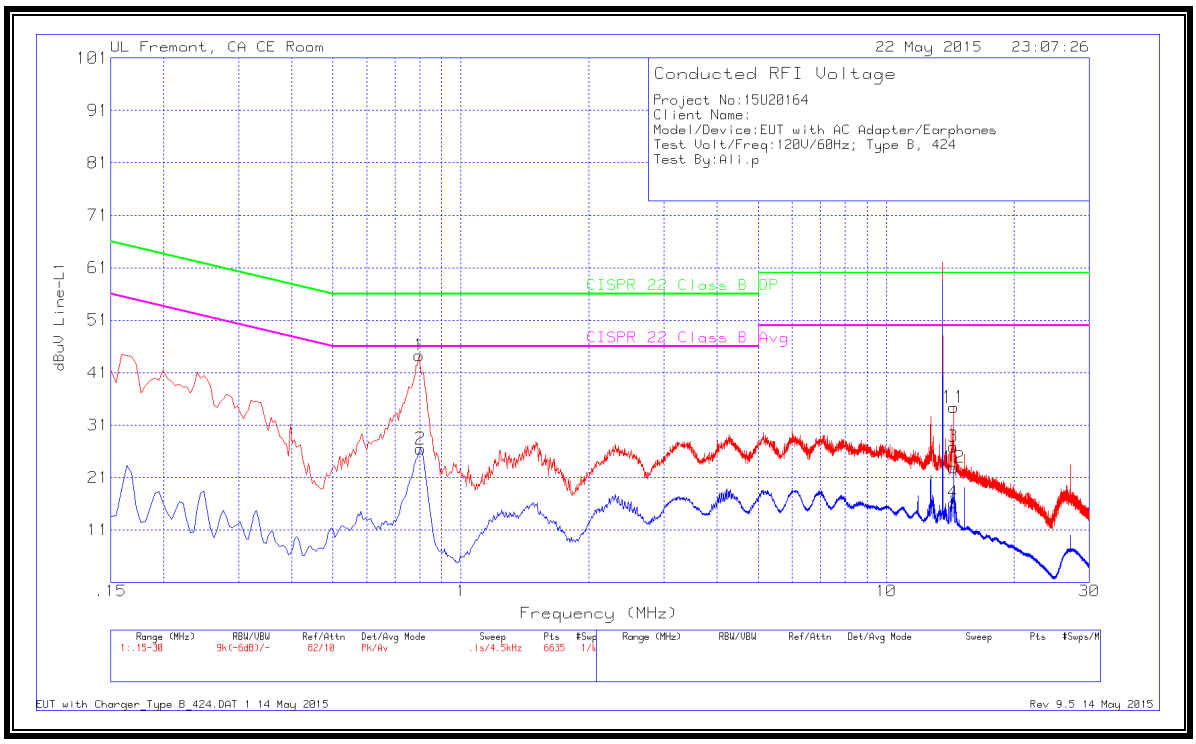
Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
5	.1635	42.91	Pk	1.3	0	44.21	65.28	-21.07	55.28	-11.07
6	.1635	23.61	Av	1.3	0	24.91	-	-	55.28	-30.37
7	.798	43.84	Pk	.3	0	44.14	56	-11.86	46	-1.86
8	.807	27.57	Av	.3	0	27.87	-	-	46	-18.13
9	14.343	27.27	Pk	.2	.2	27.67	60	-32.33	50	-22.33
10	14.343	14.79	Av	.2	.2	15.19	-	-	50	-34.81

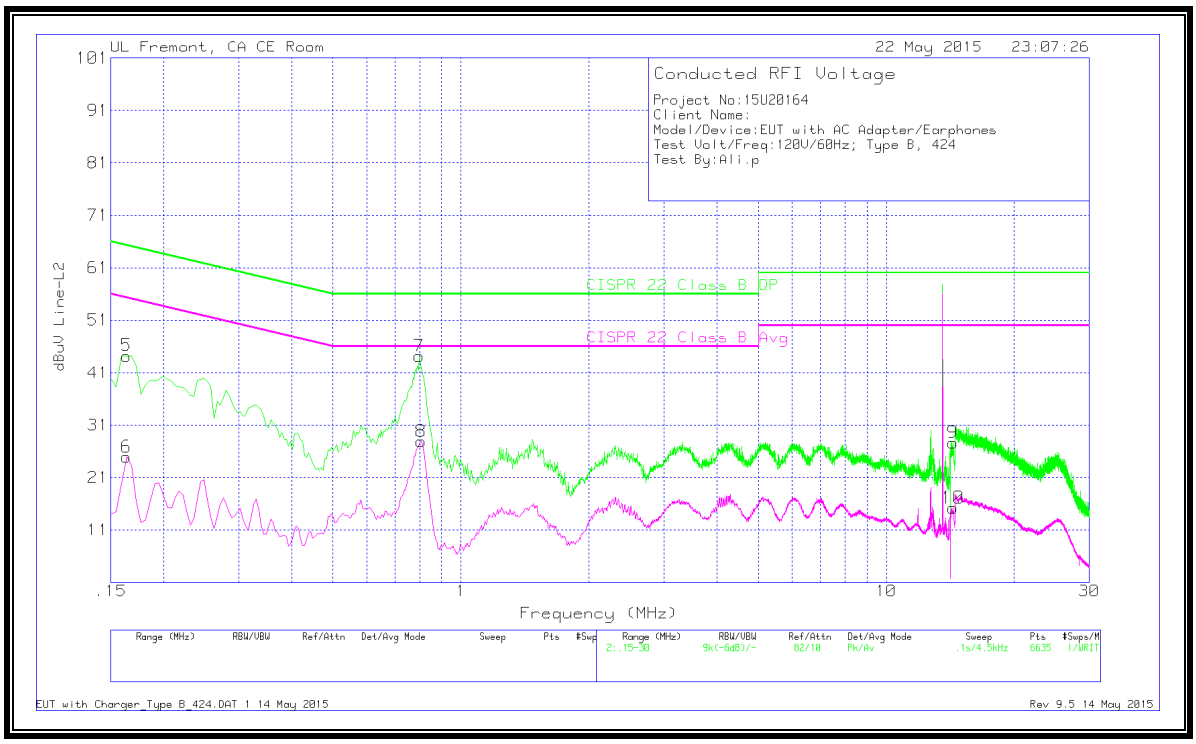
Pk - Peak detector
Av - Average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section indicate that when the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

LINE 1 RESULTS



LINE 2 RESULTS



13.2.2. NORMAL OPERATION WITH ANTENNA PORT TERMINATED, 424 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

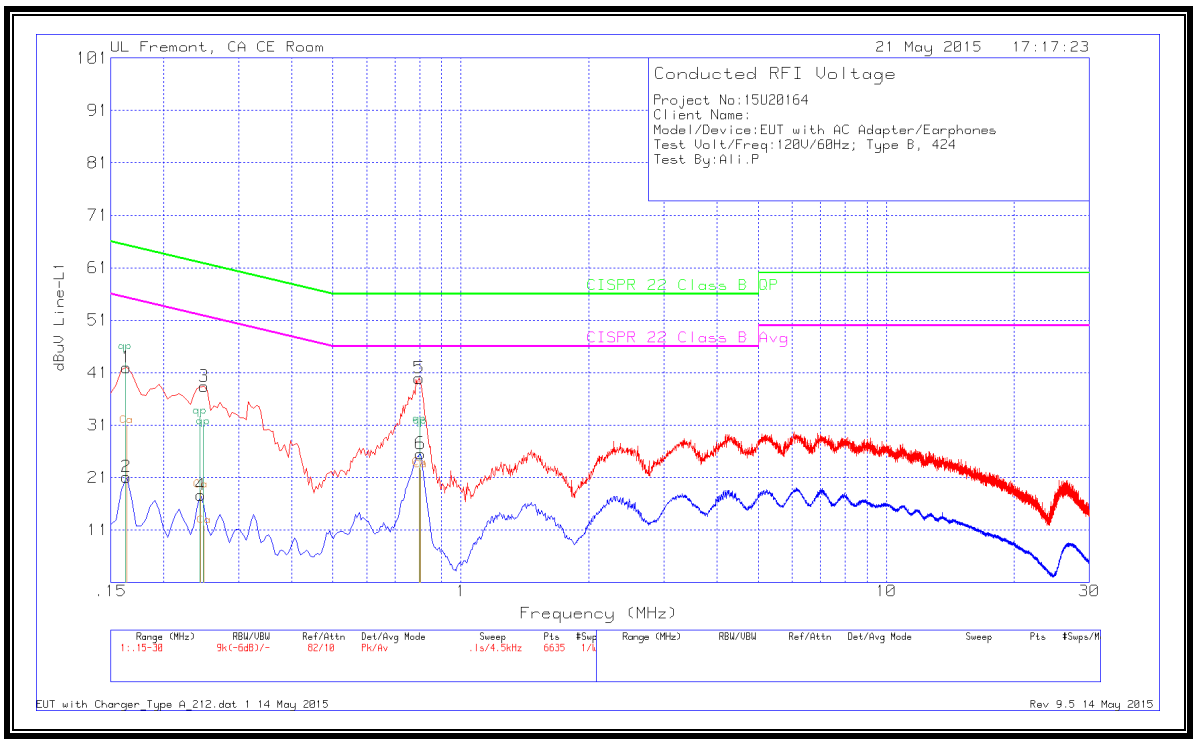
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.1635	40.8	Pk	1.2	0	42	65.28	-23.28	-	-
2	.1635	19.93	Av	1.2	0	21.13	-	-	55.28	-34.15
3	.249	37.67	Pk	.7	0	38.37	61.79	-23.42	-	-
4	.2445	16.94	Av	.7	0	17.64	-	-	51.94	-34.3
5	.798	39.67	Pk	.3	0	39.97	56	-16.03	-	-
6	.8025	25.23	Av	.3	0	25.53	-	-	46	-20.47

Range 2: Line-L2 .15 - 30MHz

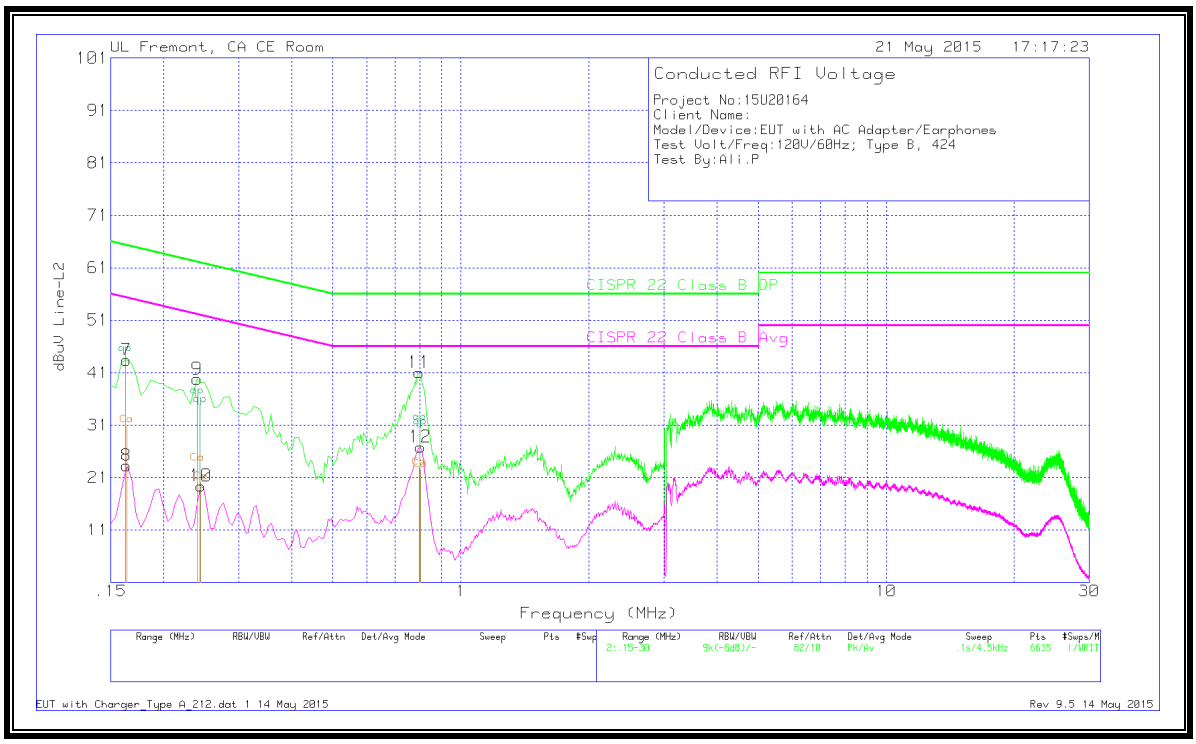
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.1635	42.11	Pk	1.3	0	43.41	65.28	-21.87	-	-
8	.1635	21.97	Av	1.3	0	23.27	-	-	55.28	-32.01
9	.24	38.97	Pk	.8	0	39.77	62.1	-22.33	-	-
10	.2445	18.58	Av	.8	0	19.38	-	-	51.94	-32.56
11	.798	40.73	Pk	.3	0	41.03	56	-14.97	-	-
12	.8025	26.51	Av	.3	0	26.81	-	-	46	-19.19

Pk - Peak detector
Av - Average detection

LINE 1 RESULTS



LINE 2 RESULTS



13.2.3. NORMAL OPERATION, 212 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.7755	34.58	Pk	.3	0	34.88	56	-21.12		
2	.7845	23.09	Av	.3	0	23.39	-	-	46	-22.61
3	13.56	57.89	Pk	.2	.2	58.29	60	-1.71		
4	13.56	53.92	Av	.2	.2	54.32	-	-	**50**	**4.32**
5	14.406	32.18	Pk	.2	.2	32.58	60	-27.42		
6	14.406	19.49	Av	.2	.2	19.89	-	-	50	-30.11

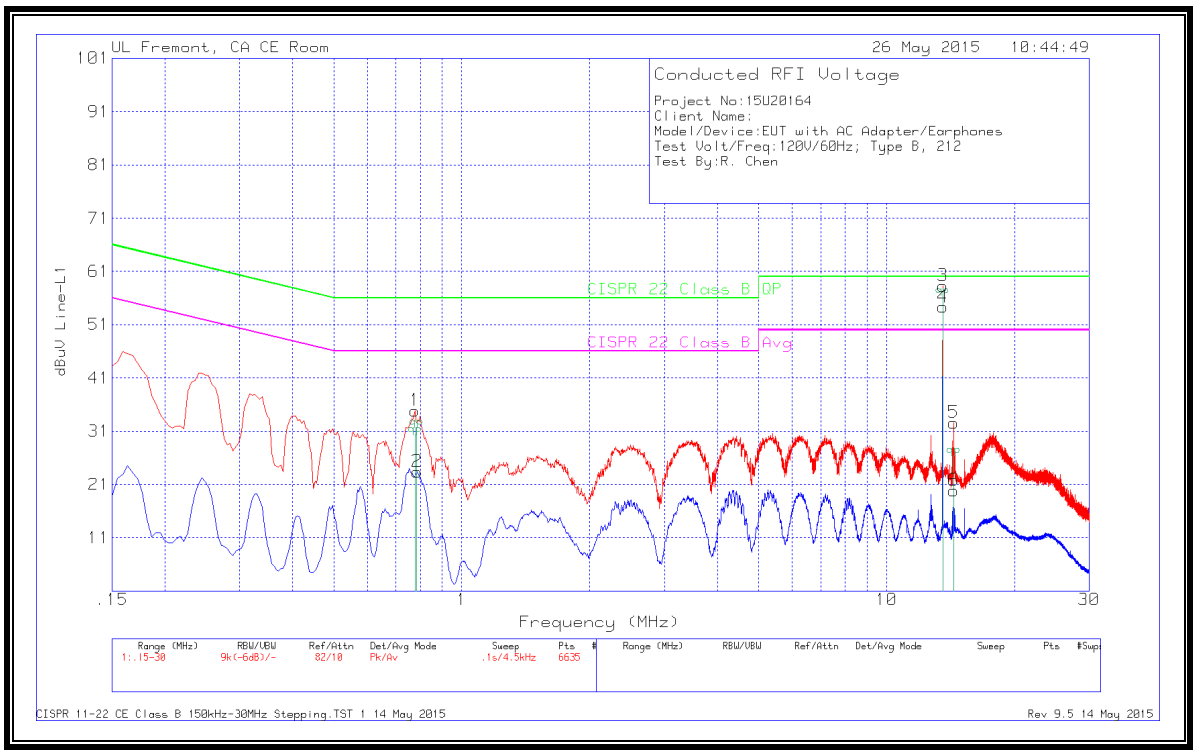
Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.78	37.3	Pk	.3	0	37.6	56	-18.4		
8	.762	18.28	Av	.3	0	18.58	-	-	46	-27.42
9	13.56	53.76	Pk	.2	.2	54.16	60	-5.84		
10	13.56	51.27	Av	.2	.2	51.67	-	-	**50**	**1.67**
11	14.406	27.58	Pk	.2	.2	27.98	60	-32.02		
12	14.406	16.76	Av	.2	.2	17.16	-	-	50	-32.84

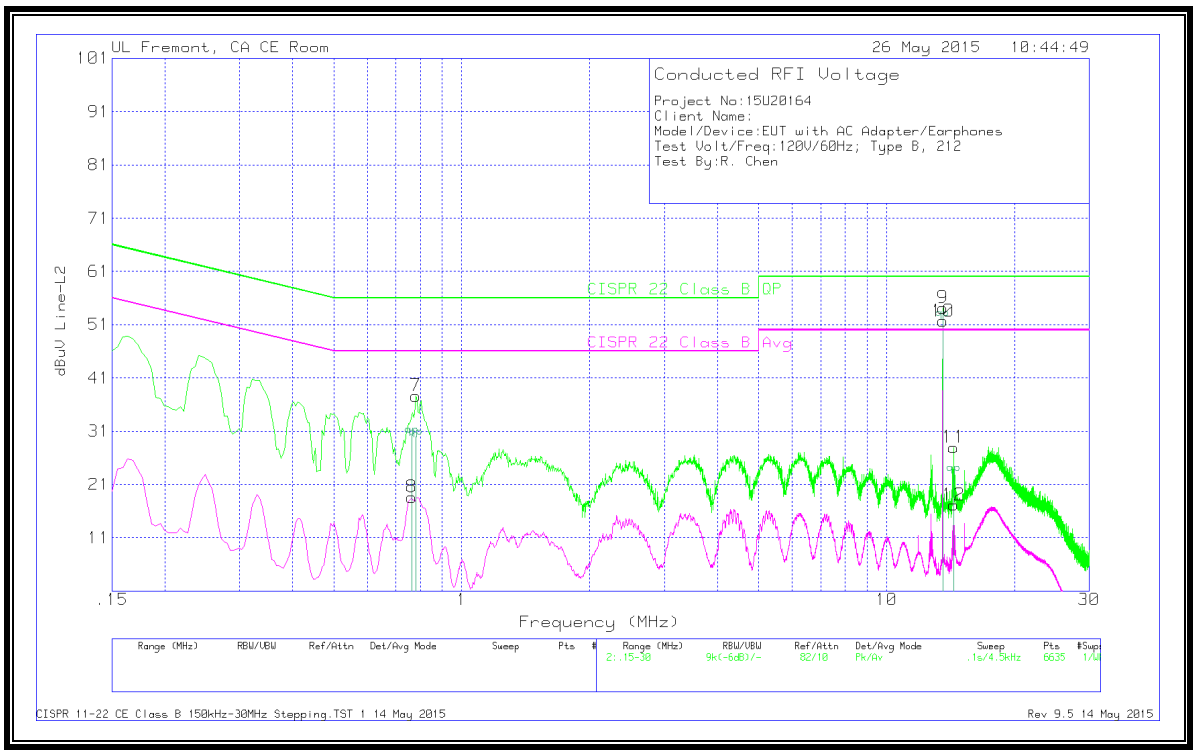
Pk - Peak detector
Av - Average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section indicate that when the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

LINE 1 RESULTS



LINE 2 RESULTS



13.2.4. NORMAL OPERATION WITH ANTENNA PORT TERMINATED, 212 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

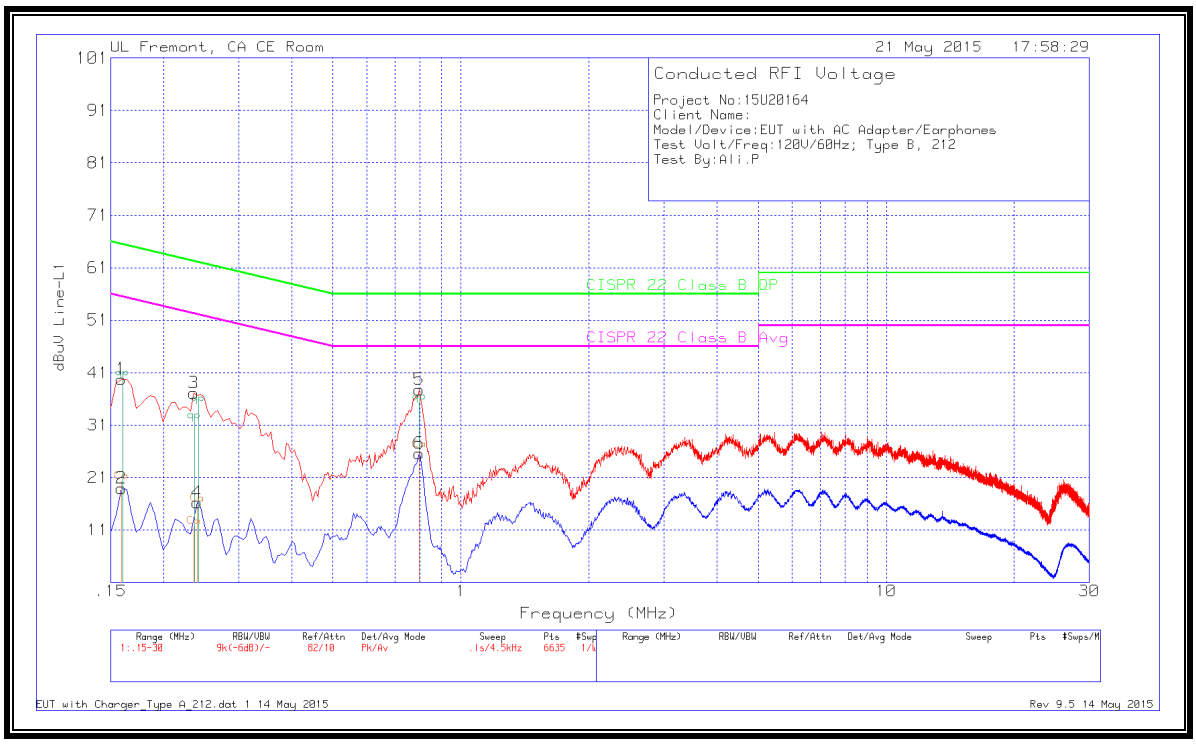
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.159	38.45	Pk	1.3	0	39.75	65.52	-25.77		
2	.159	17.64	Av	1.3	0	18.94	-	-	55.52	-36.58
3	.2355	36.3	Pk	.8	0	37.1	62.25	-25.15		
4	.24	15.5	Av	.7	0	16.2	-	-	52.1	-35.9
5	.798	37.46	Pk	.3	0	37.76	56	-18.24		
6	.798	25.31	Av	.3	0	25.61	-	-	46	-20.39

Range 2: Line-L2 .15 - 30MHz

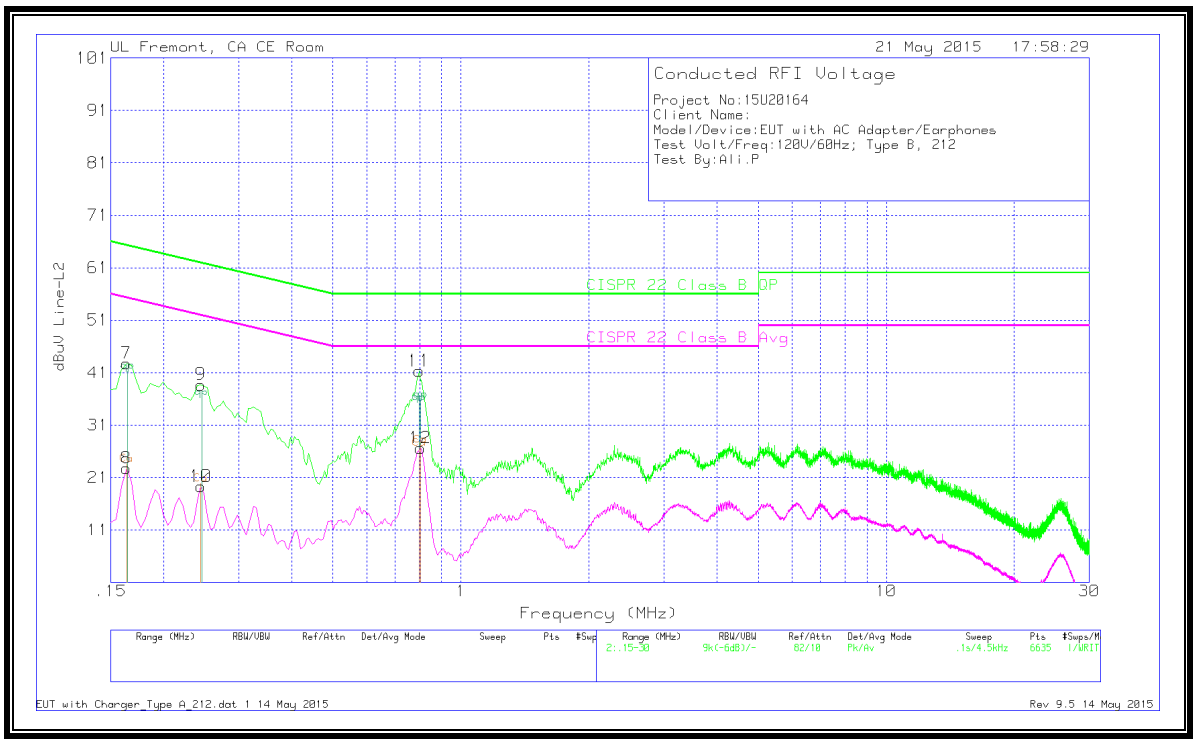
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.1635	41.48	Pk	1.3	0	42.78	65.28	-22.5		
8	.1635	21.46	Av	1.3	0	22.76	-	-	55.28	-32.52
9	.2445	37.9	Pk	.8	0	38.7	61.94	-23.24		
10	.2445	18.49	Av	.8	0	19.29	-	-	51.94	-32.65
11	.798	41	Pk	.3	0	41.3	56	-14.7		
12	.8025	26.32	Av	.3	0	26.62	-	-	46	-19.38

Pk - Peak detector
Av - Average detection

LINE 1 RESULTS



LINE 2 RESULTS



13.2.5. NORMAL OPERATION, 106 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.168	46.39	Pk	1.2	0	47.59	65.06	-17.47		
2	.168	25.55	Av	1.2	0	26.75	-	-	55.06	-28.31
3	.789	41.96	Pk	.3	0	42.26	56	-13.74		
4	.789	26.94	Av	.3	0	27.24	-	-	46	-18.76
5	13.56	62.23	Pk	.2	.2	62.63	**60**	**2.63**		
6	13.56	58.2	Av	.2	.2	58.6	-	-	**50**	**8.6**
7	18.3075	29.69	Pk	.3	.2	30.19	60	-29.81		
8	18.294	14.98	Av	.3	.2	15.48	-	-	50	-34.52

Range 2: Line-L2 .15 - 30MHz

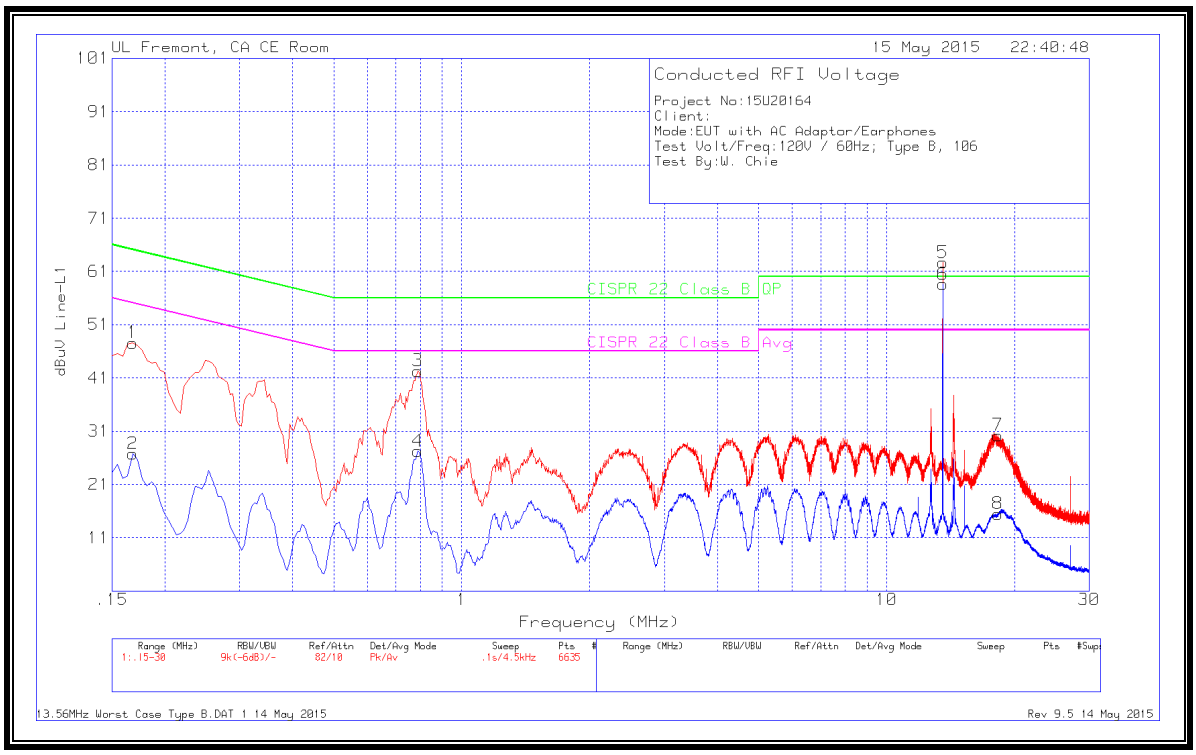
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
9	.168	45.73	Pk	1.3	0	47.03	65.06	-18.03		
10	.168	25.25	Av	1.3	0	26.55	-	-	55.06	-28.51
11	.7845	41.55	Pk	.3	0	41.85	56	-14.15		
12	.7935	25.82	Av	.3	0	26.12	-	-	46	-19.88
13	13.56	58.63	Pk	.2	.2	59.03	60	-.97		
14	13.56	56.25	Av	.2	.2	56.65	-	-	**50**	**6.65**
15	18.1815	28.09	Pk	.3	.2	28.59	60	-31.41		
16	17.853	17.24	Av	.3	.2	17.74	-	-	50	-32.26

Pk - Peak detector

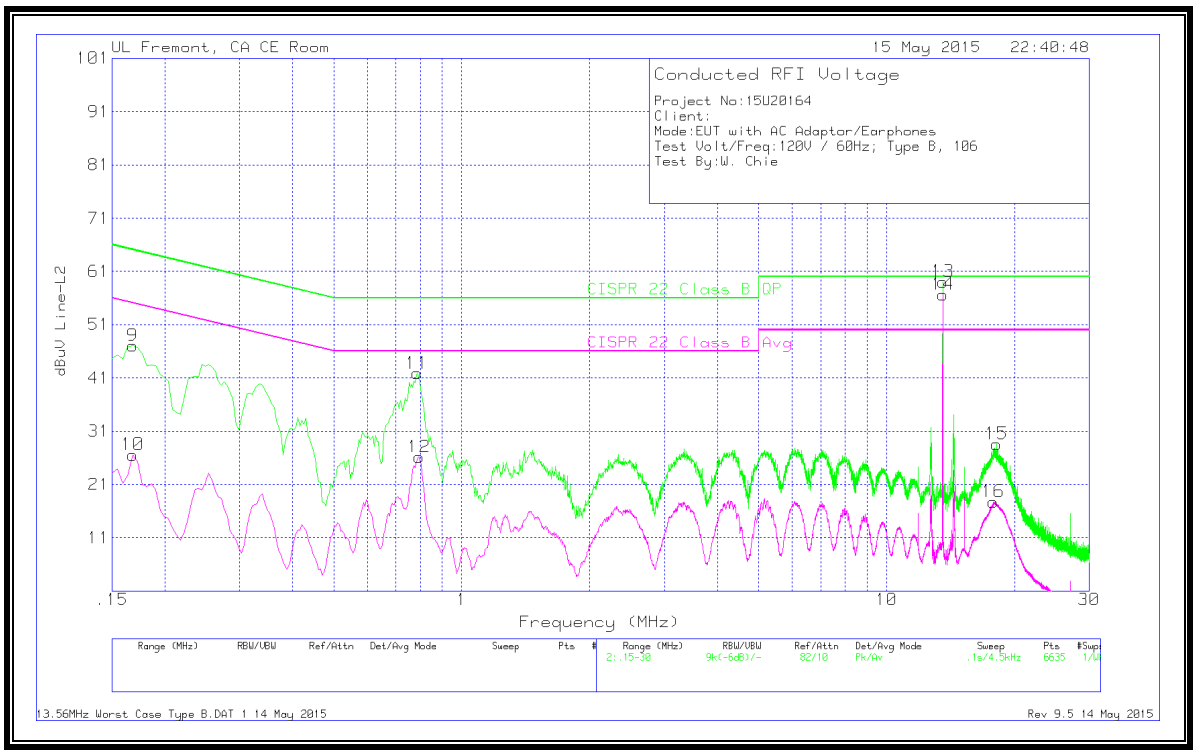
Av - Average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section indicate that when the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

LINE 1 RESULTS



LINE 2 RESULTS



13.2.6. NORMAL OPERATION WITH ANTENNA PORT TERMINATED, 106 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

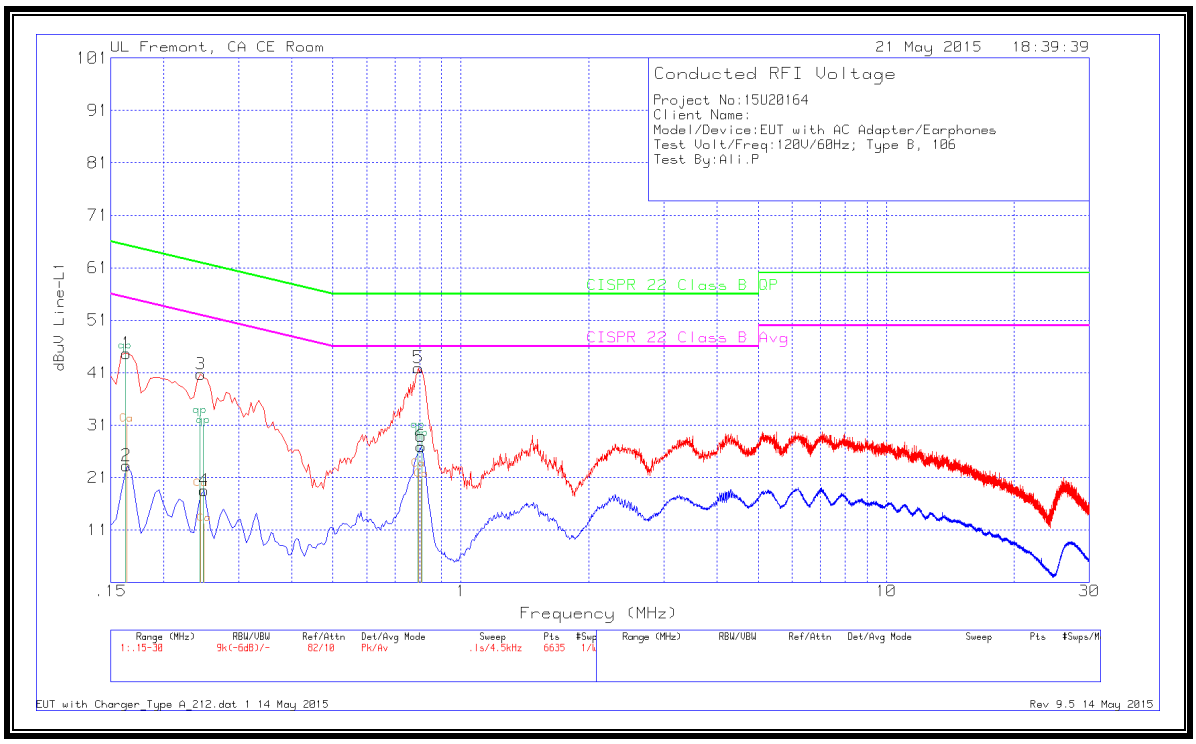
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.1635	43.47	Pk	1.2	0	44.67	65.28	-20.61	-	-
2	.1635	22.06	Av	1.2	0	23.26	-	-	55.28	-32.02
3	.2445	40	Pk	.7	0	40.7	61.94	-21.24	-	-
4	.249	17.81	Av	.7	0	18.51	-	-	51.79	-33.28
5	.7935	41.61	Pk	.3	0	41.91	56	-14.09	-	-
6	.807	26.64	Av	.3	0	26.94	-	-	46	-19.06

Range 2: Line-L2 .15 - 30MHz

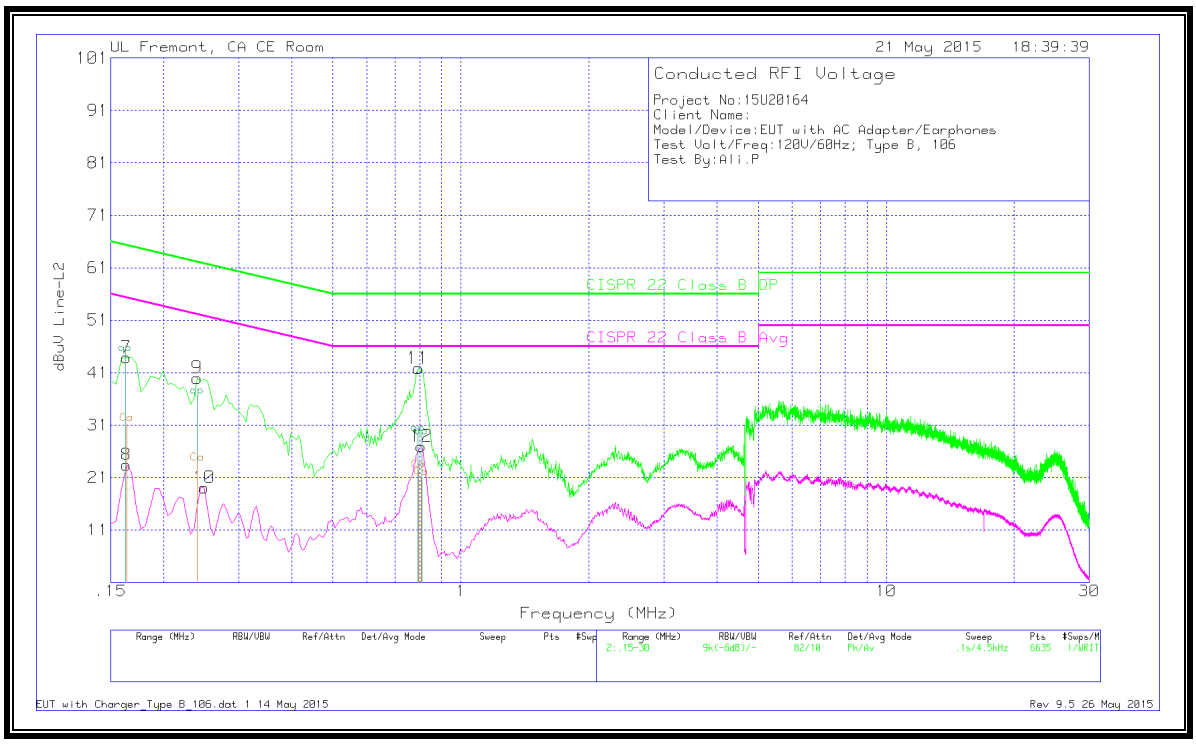
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.1635	42.62	Pk	1.3	0	43.92	65.28	-21.36	-	-
8	.1635	22.1	Av	1.3	0	23.4	-	-	55.28	-31.88
9	.24	39.18	Pk	.8	0	39.98	62.1	-22.12	-	-
10	.249	18.36	Av	.7	0	19.06	-	-	51.79	-32.73
11	.7935	41.52	Pk	.3	0	41.82	56	-14.18	-	-
12	.807	26.64	Av	.3	0	26.94	-	-	46	-19.06

Pk - Peak detector
Av - Average detection

LINE 1 RESULTS



LINE 2 RESULTS



13.2.7. NORMAL OPERATION WITH LAPTOP, WORST CASE

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.2625	51.45	Pk	.7	0	52.15	61.35	-9.2		
2	.2535	38.14	Av	.7	0	38.84	-	-	51.64	-12.8
3	.357	47.43	Pk	.5	0	47.93	58.8	-10.87		
4	.357	34.44	Av	.5	0	34.94	-	-	48.8	-13.86
5	15.36	34.94	Pk	.3	.2	35.44	60	-24.56		
6	15.36	31.15	Av	.3	.2	31.65	-	-	50	-18.35

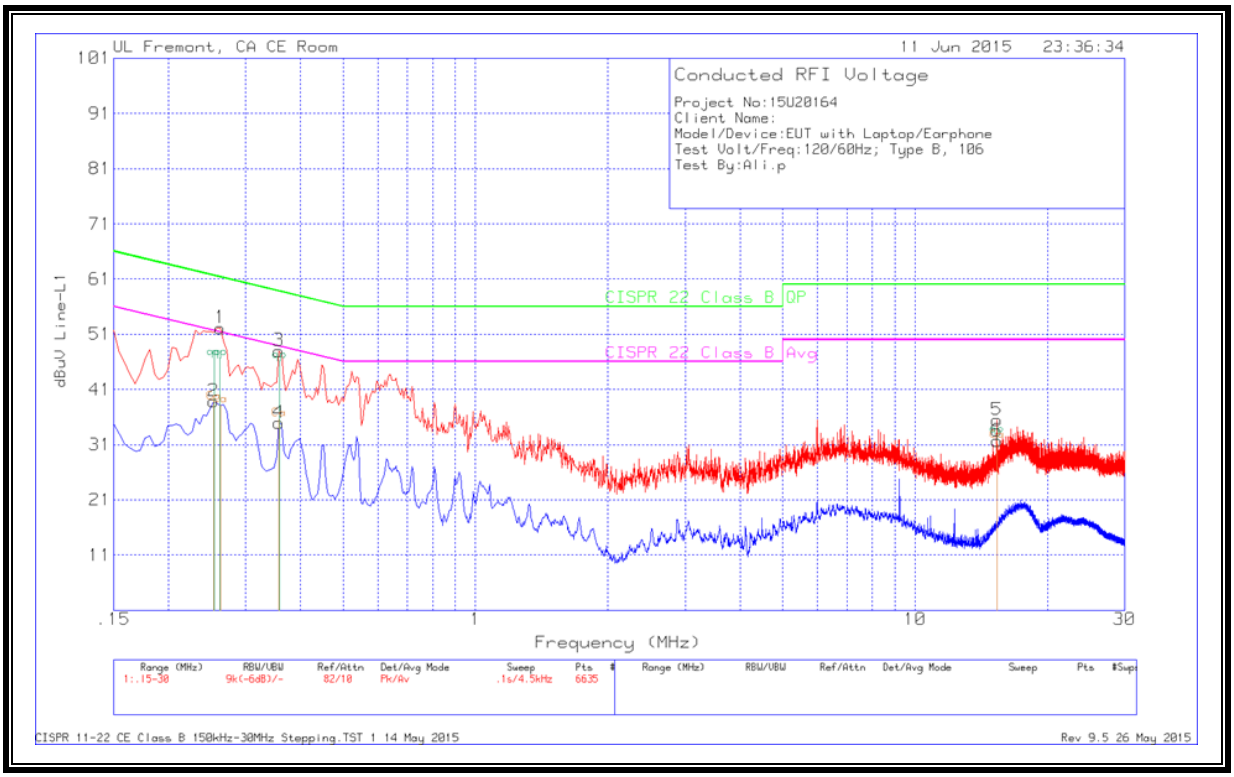
Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.2535	49.99	Pk	.7	0	50.69	61.64	-10.95		
8	.258	37.07	Av	.7	0	37.77	-	-	51.5	-13.73
9	.357	48.52	Pk	.5	0	49.02	58.8	-9.78		
10	.357	34.19	Av	.5	0	34.69	-	-	48.8	-14.11
11	.645	45.68	Pk	.3	0	45.98	56	-10.02		
12	.654	28.77	Av	.3	0	29.07	-	-	46	-16.93
13	15.36	36.69	Pk	.3	.2	37.19	60	-22.81		
14	15.36	32.22	Av	.3	.2	32.72	-	-	50	-17.28

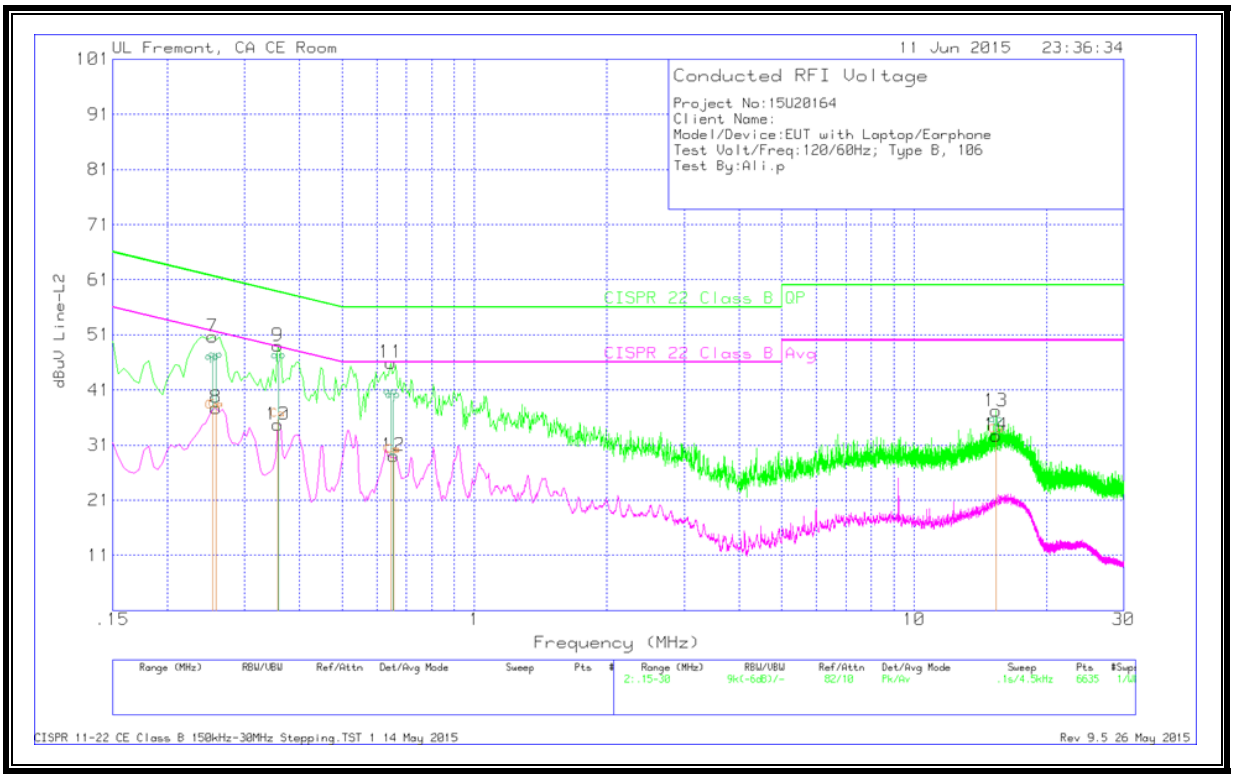
Pk - Peak detector

Av - Average detection

LINE 1 RESULTS



LINE 2 RESULTS



14. AC MAINS LINE CONDUCTED EMISSIONS (MODEL: A1688)

LIMITS

§15.207
IC RSS-GEN, Section 7.2.2

(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50µH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

Frequency range (MHz)	Limits (dBµV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
Notes: 1. The lower limit shall apply at the transition frequencies 2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

TEST PROCEDURE

ANSI C63.10:2013

RESULTS

14.1. TYPE A

14.1.1. NORMAL OPERATION, 424 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.1635	44.73	Pk	1.2	0	45.93	65.28	-19.35	-	-
2	.168	25.74	Av	1.2	0	26.94	-	-	55.06	-28.12
3	.2535	40.28	Pk	.7	0	40.98	61.64	-20.66	-	-
4	.2535	23.69	Av	.7	0	24.39	-	-	51.64	-27.25
5	.8115	43.07	Pk	.3	0	43.37	56	-12.63	-	-
6	.8025	31.65	Av	.3	0	31.95	-	-	46	-14.05

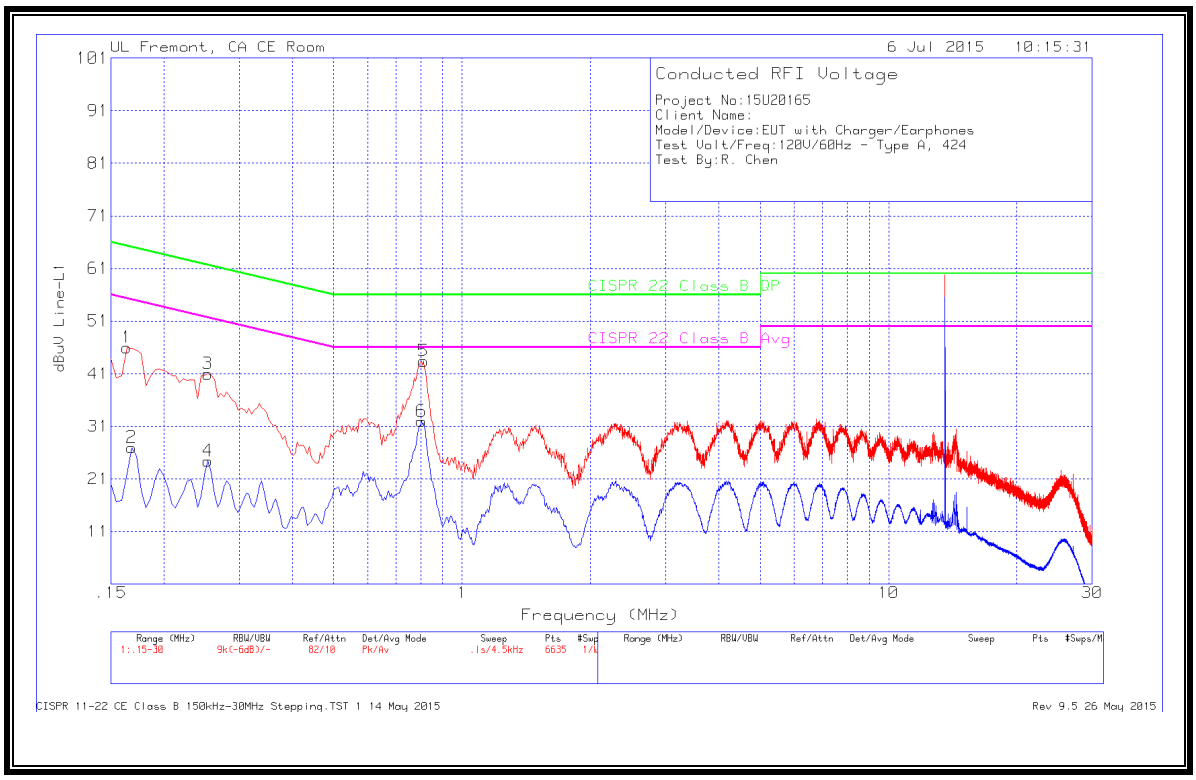
Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.1635	44.11	Pk	1.3	0	45.41	65.28	-19.87	-	-
8	.168	23.45	Av	1.3	0	24.75	-	-	55.06	-30.31
9	.2535	39.88	Pk	.7	0	40.58	61.64	-21.06	-	-
10	.2535	19.47	Av	.7	0	20.17	-	-	51.64	-31.47
11	.8025	43.71	Pk	.3	0	44.01	56	-11.99	-	-
12	.8025	25.96	Av	.3	0	26.26	-	-	46	-19.74

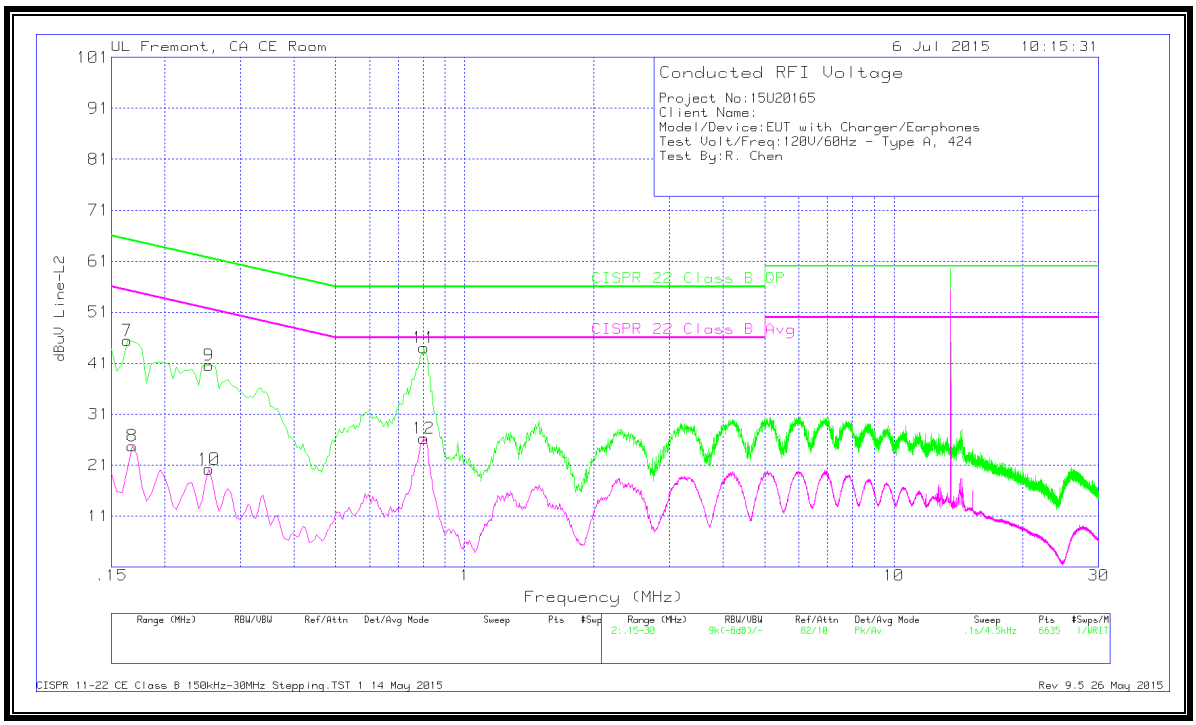
Pk - Peak detector
Av - Average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section indicate that when the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

LINE 1 RESULTS



LINE 2 RESULTS



14.1.2. NORMAL OPERATION WITH ANTENNA PORT TERMINATED, 424 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

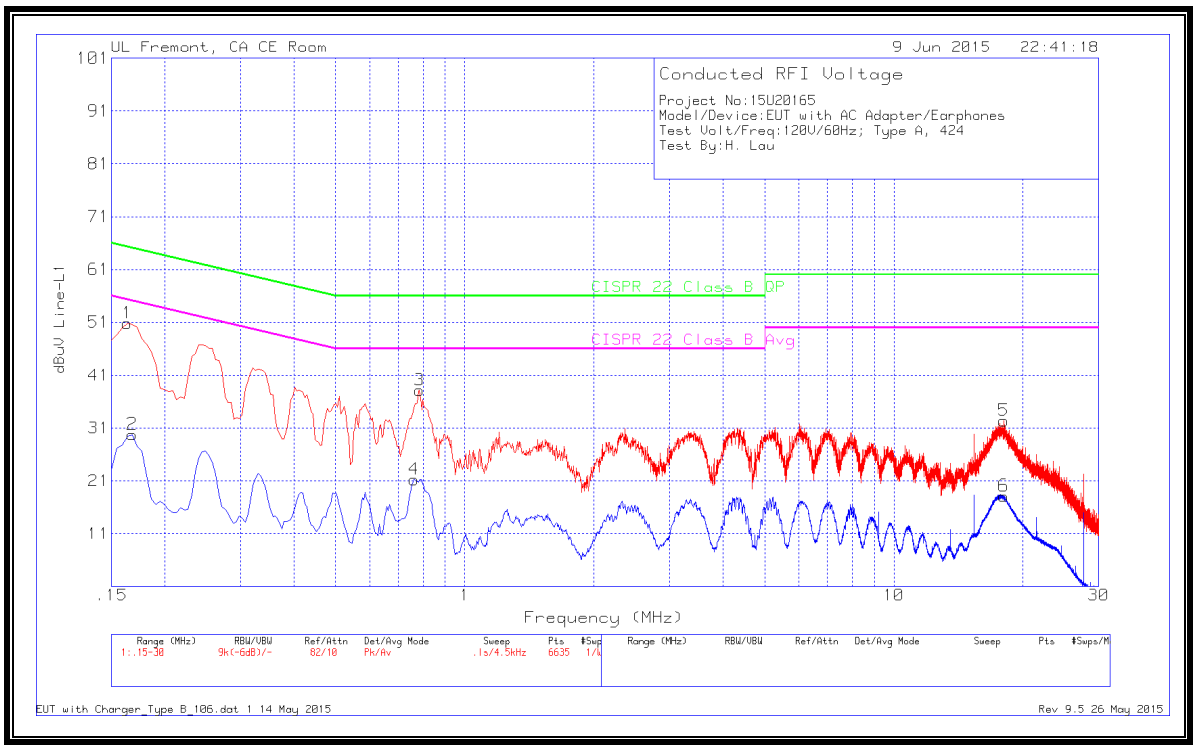
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.1635	49.61	Pk	1.2	0	50.81	65.28	-14.47	-	-
2	.168	28.56	Av	1.2	0	29.76	-	-	55.06	-25.3
3	.7845	37.82	Pk	.3	0	38.12	56	-17.88	-	-
4	.762	20.95	Av	.3	0	21.25	-	-	46	-24.75
5	18.0285	31.87	Pk	.3	.2	32.37	60	-27.63	-	-
6	18.024	17.6	Av	.3	.2	18.1	-	-	50	-31.9

Range 2: Line-L2 .15 - 30MHz

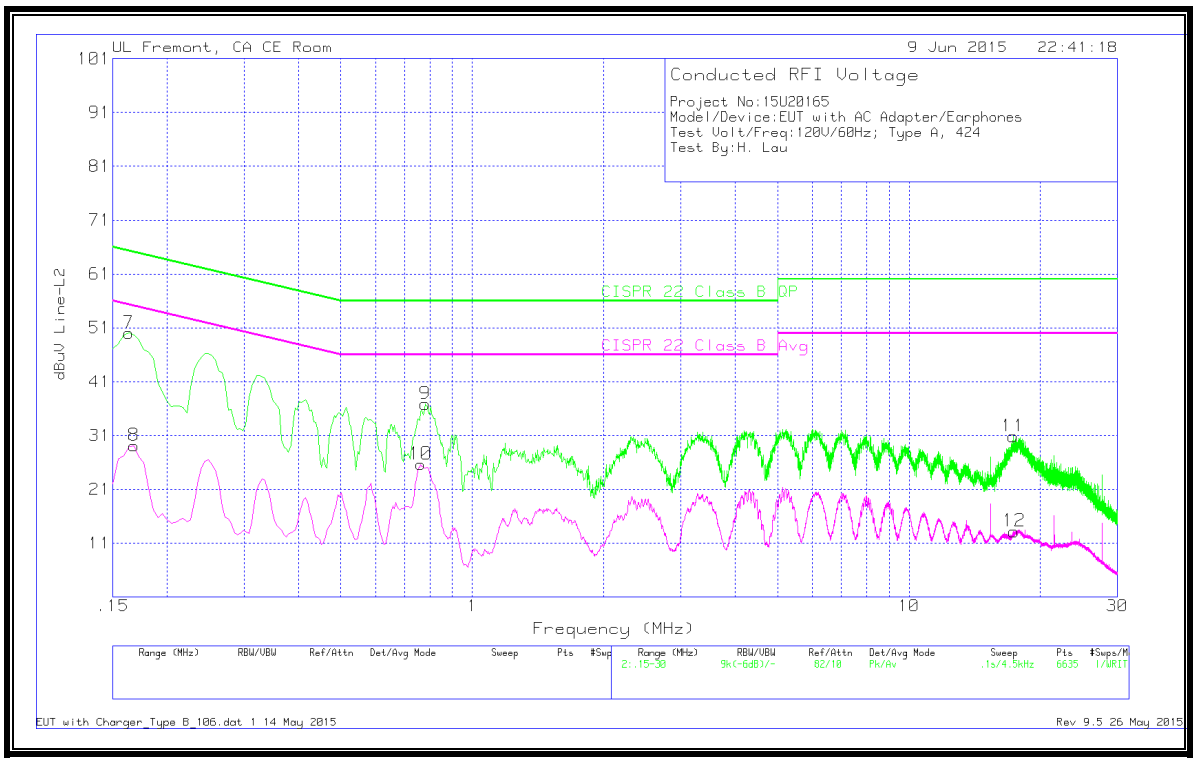
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.1635	48.77	Pk	1.3	0	50.07	65.28	-15.21	-	-
8	.168	27.81	Av	1.3	0	29.11	-	-	55.06	-25.95
9	.78	36.59	Pk	.3	0	36.89	56	-19.11	-	-
10	.762	25.35	Av	.3	0	25.65	-	-	46	-20.35
11	17.322	30.32	Pk	.3	.2	30.82	60	-29.18	-	-
12	17.412	12.72	Av	.3	.2	13.22	-	-	50	-36.78

Pk - Peak detector
Av - Average detection

LINE 1 RESULTS



LINE 2 RESULTS



14.1.3. NORMAL OPERATION, 212 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.168	46.23	Pk	1.2	0	47.43	65.06	-17.63	-	-
2	.1725	26.73	Av	1.1	0	27.83	-	-	54.84	-27.01
3	.258	40.87	Pk	.7	0	41.57	61.5	-19.93	-	-
4	.2535	23.75	Av	.7	0	24.45	-	-	51.64	-27.19
5	.8115	44.48	Pk	.3	0	44.78	56	-11.22	-	-
6	.807	32.11	Av	.3	0	32.41	-	-	46	-13.59

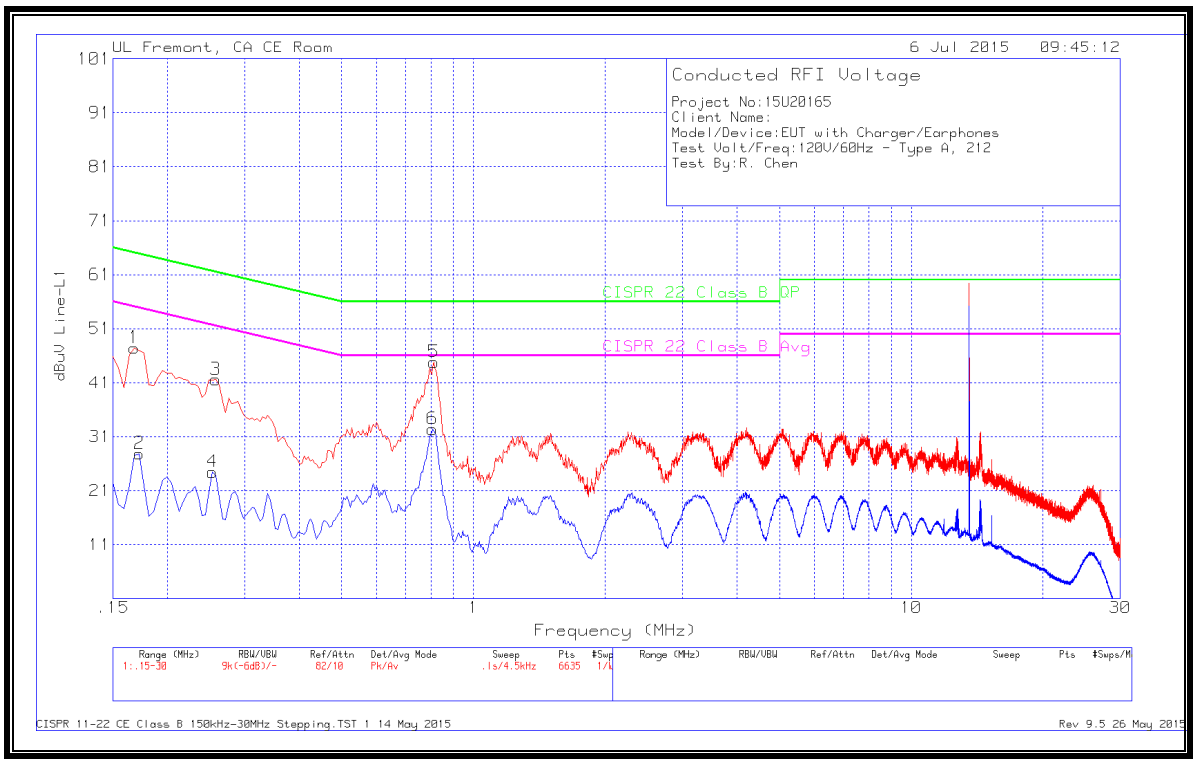
Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.168	44.4	Pk	1.3	0	45.7	65.06	-19.36	-	-
8	.168	24.36	Av	1.3	0	25.66	-	-	55.06	-29.4
9	.2535	40.14	Pk	.7	0	40.84	61.64	-20.8	-	-
10	.2535	20.13	Av	.7	0	20.83	-	-	51.64	-30.81
11	.8025	43.48	Pk	.3	0	43.78	56	-12.22	-	-
12	.8025	26.18	Av	.3	0	26.48	-	-	46	-19.52

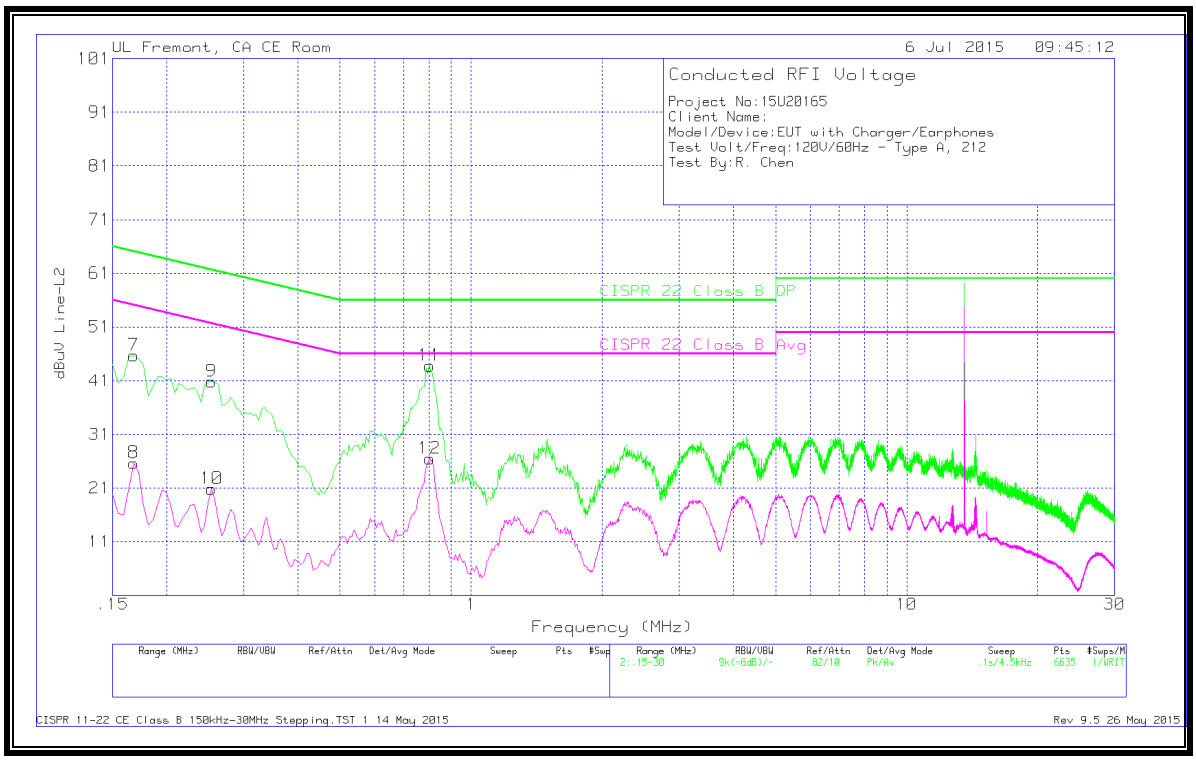
Pk - Peak detector
Av - Average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section indicate that when the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

LINE 1 RESULTS



LINE 2 RESULTS



14.1.4. NORMAL OPERATION WITH ANTENNA PORT TERMINATED, 212 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.1635	50.58	Pk	1.2	0	51.78	65.28	-13.5	55.28	-3.5
2	.168	29.31	Av	1.2	0	30.51	-	-	55.06	-24.55
3	.789	38.87	Pk	.3	0	39.17	56	-16.83	46	-6.83
4	.7665	21.14	Av	.3	0	21.44	-	-	46	-24.56
5	17.304	31.78	Pk	.3	.2	32.28	60	-27.72	50	-17.72
6	17.3895	17.8	Av	.3	.2	18.3	-	-	50	-31.7

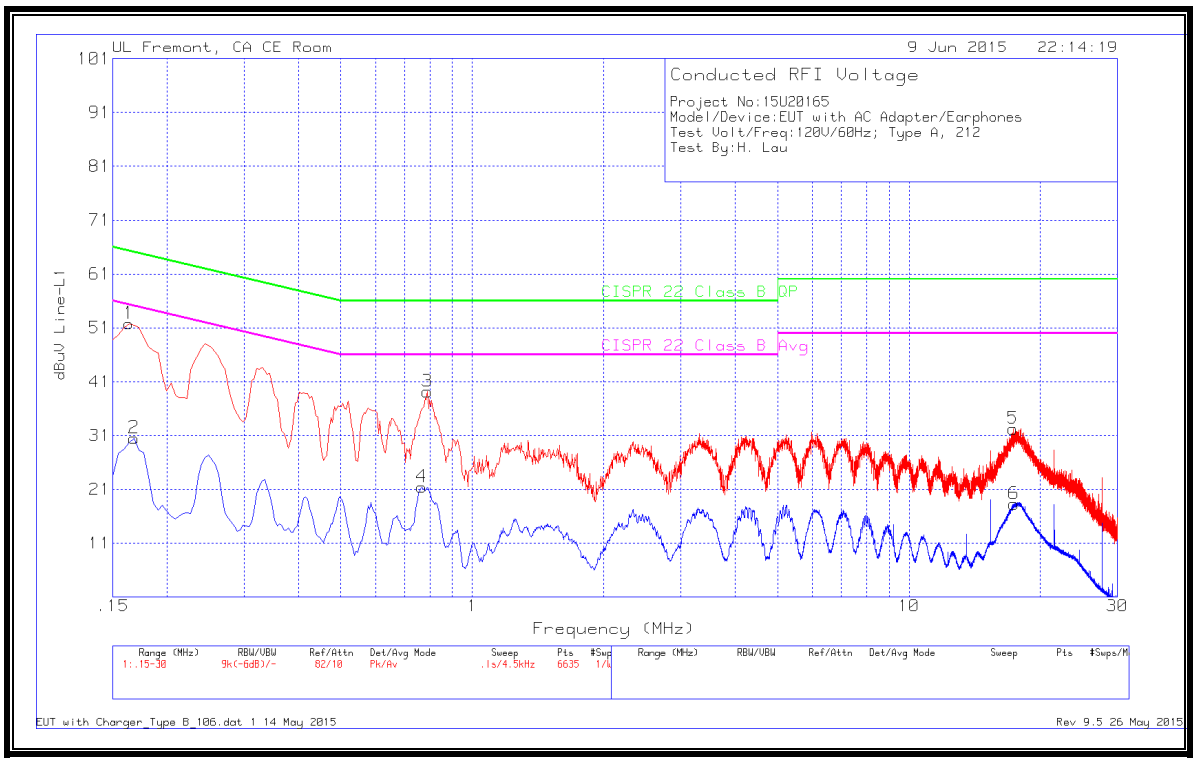
Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.1635	49.08	Pk	1.3	0	50.38	65.28	-14.9	55.28	-4.9
8	.168	27.82	Av	1.3	0	29.12	-	-	55.06	-25.94
9	.789	37.07	Pk	.3	0	37.37	56	-18.63	46	-8.63
10	.762	25.56	Av	.3	0	25.86	-	-	46	-20.14
11	17.3445	30.76	Pk	.3	.2	31.26	60	-28.74	50	-18.74
12	17.4345	12.9	Av	.3	.2	13.4	-	-	50	-36.6

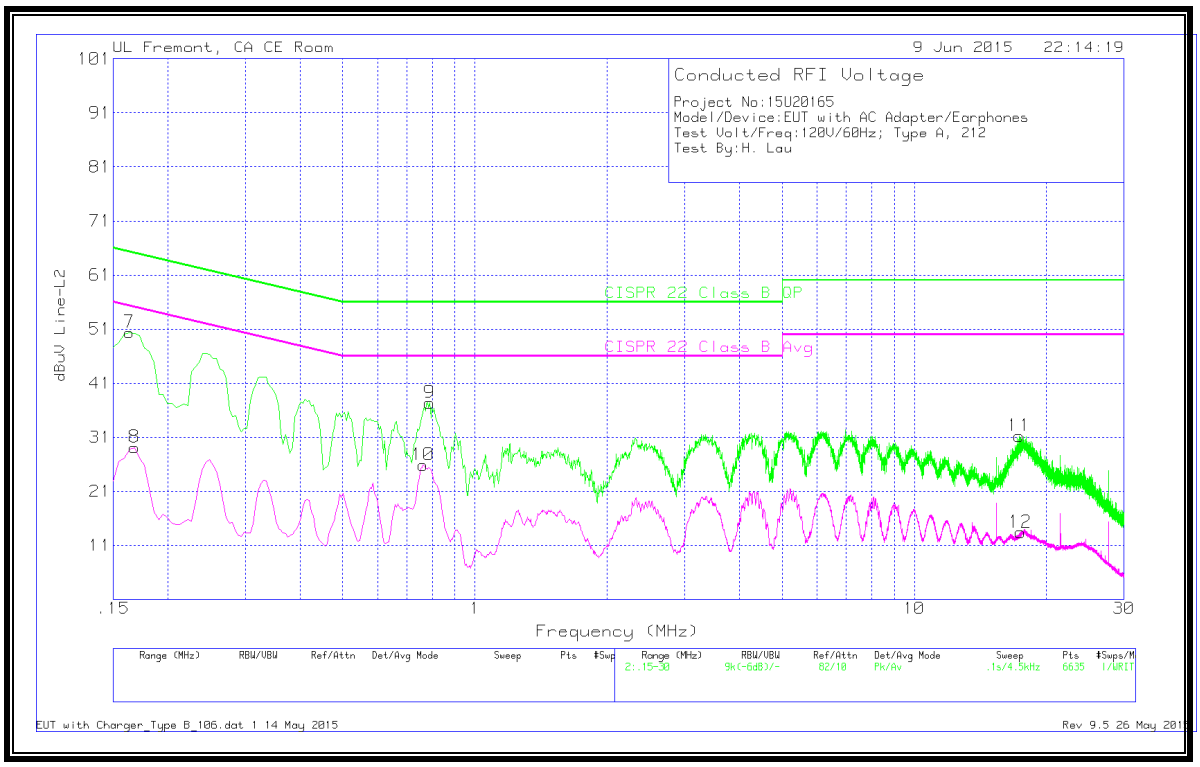
Pk - Peak detector

Av - Average detection

LINE 1 RESULTS



LINE 2 RESULTS



14.1.5. NORMAL OPERATION, 106 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.1635	35.84	Pk	1.2	0	37.04	65.28	-28.24		
2	.168	16.4	Av	1.2	0	17.6	-	-	55.06	-37.46
3	.789	31.41	Pk	.3	0	31.71	56	-24.29		
4	.789	17.43	Av	.3	0	17.73	-	-	46	-28.27
5	13.56	55.08	Pk	.2	.2	55.48	60	-4.52		
6	13.56	50.77	Av	.2	.2	51.17	-	-	50	1.17

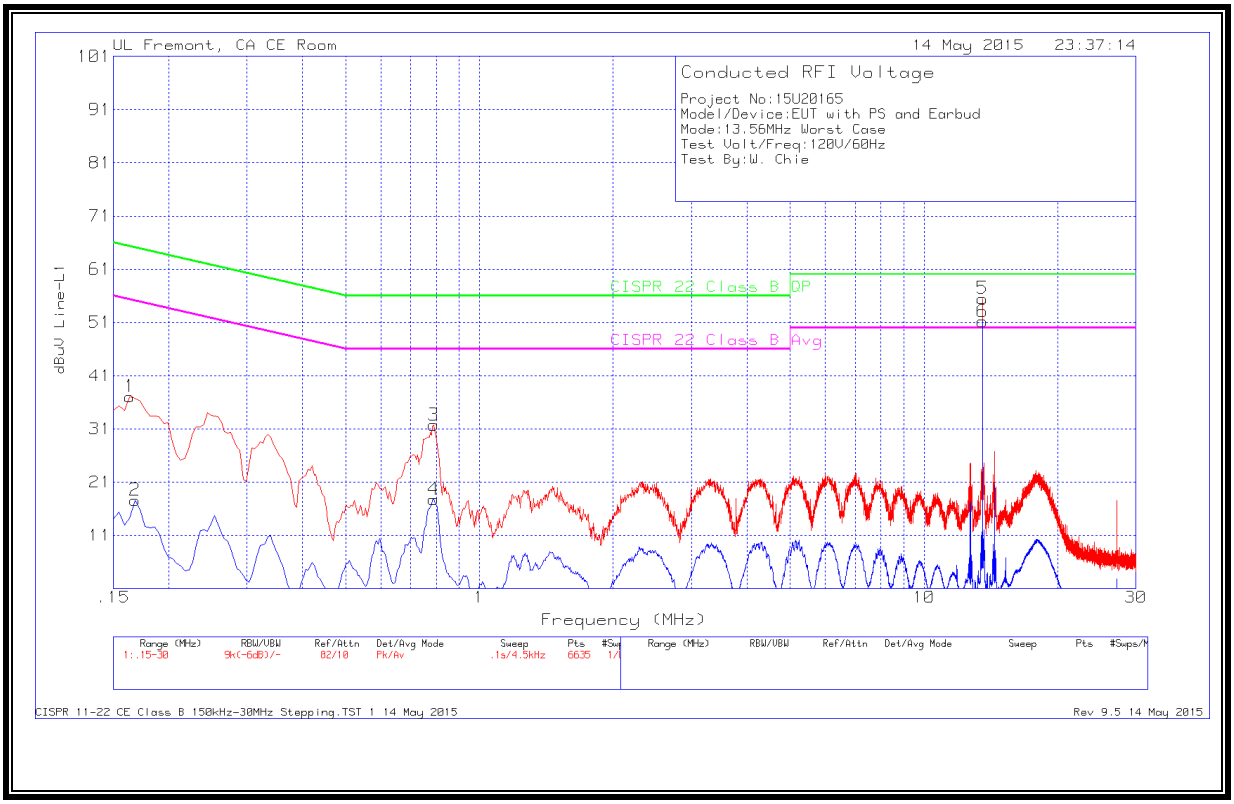
Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.168	35.69	Pk	1.3	0	36.99	65.06	-28.07		
8	.168	15.83	Av	1.3	0	17.13	-	-	55.06	-37.93
9	.789	31.2	Pk	.3	0	31.5	56	-24.5		
10	.789	18.3	Av	.3	0	18.6	-	-	46	-27.4
11	13.56	55.1	Pk	.2	.2	55.5	60	-4.5		
12	13.56	49.92	Av	.2	.2	50.32	-	-	50	.32

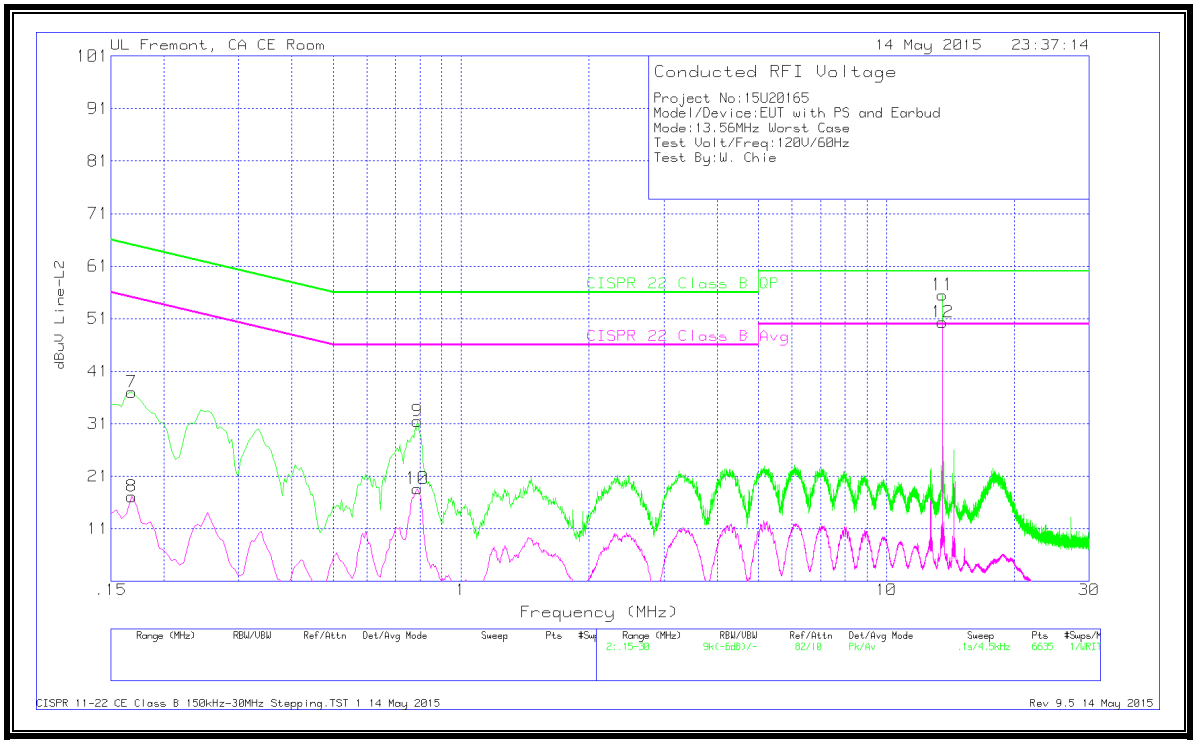
Pk - Peak detector
Av - Average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section indicate that when the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

LINE 1 RESULTS



LINE 2 RESULTS



14.1.6. NORMAL OPERATION WITH ANTENNA PORT TERMINATED, 106 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

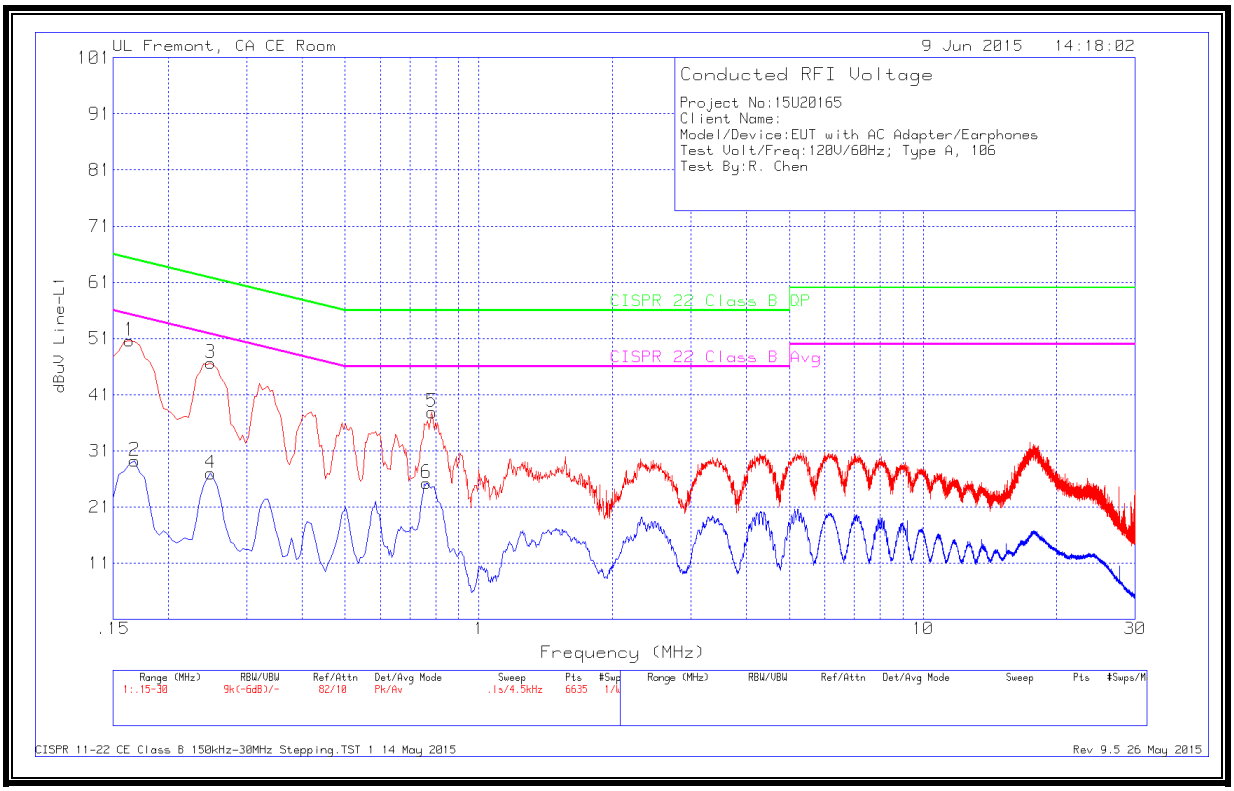
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.1635	49.42	Pk	1.2	0	50.62	65.28	-14.66	-	-
2	.168	28.04	Av	1.2	0	29.24	-	-	55.06	-25.82
3	.249	45.97	Pk	.7	0	46.67	61.79	-15.12	-	-
4	.249	26.32	Av	.7	0	27.02	-	-	51.79	-24.77
5	.7845	37.63	Pk	.3	0	37.93	56	-18.07	-	-
6	.762	24.98	Av	.3	0	25.28	-	-	46	-20.72

Range 2: Line-L2 .15 - 30MHz

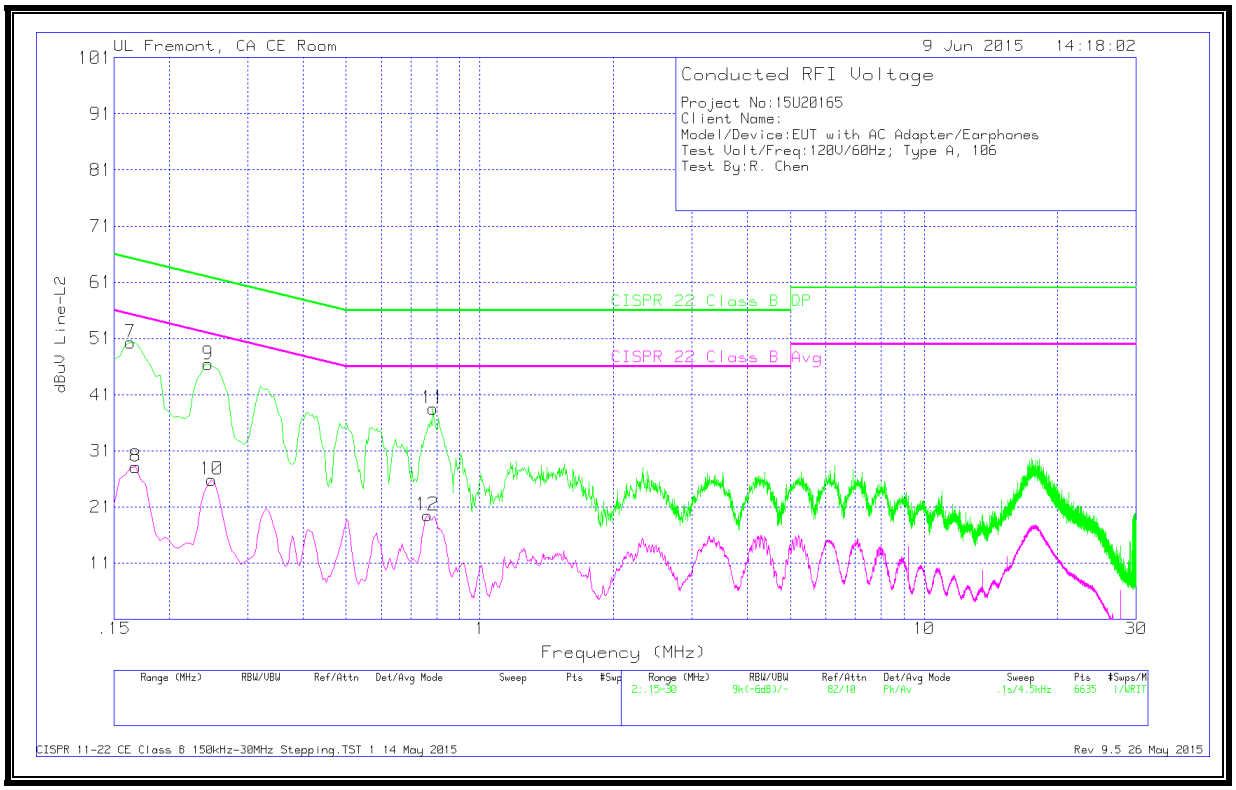
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.1635	49.03	Pk	1.3	0	50.33	65.28	-14.95	-	-
8	.168	26.86	Av	1.3	0	28.16	-	-	55.06	-26.9
9	.2445	45.63	Pk	.8	0	46.43	61.94	-15.51	-	-
10	.249	25.18	Av	.7	0	25.88	-	-	51.79	-25.91
11	.7845	38.23	Pk	.3	0	38.53	56	-17.47	-	-
12	.762	19.22	Av	.3	0	19.52	-	-	46	-26.48

Pk - Peak detector
Av - Average detection

LINE 1 RESULTS



LINE 2 RESULTS



14.1.7. NORMAL OPERATION WITH LAPTOP, WORST CASE

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

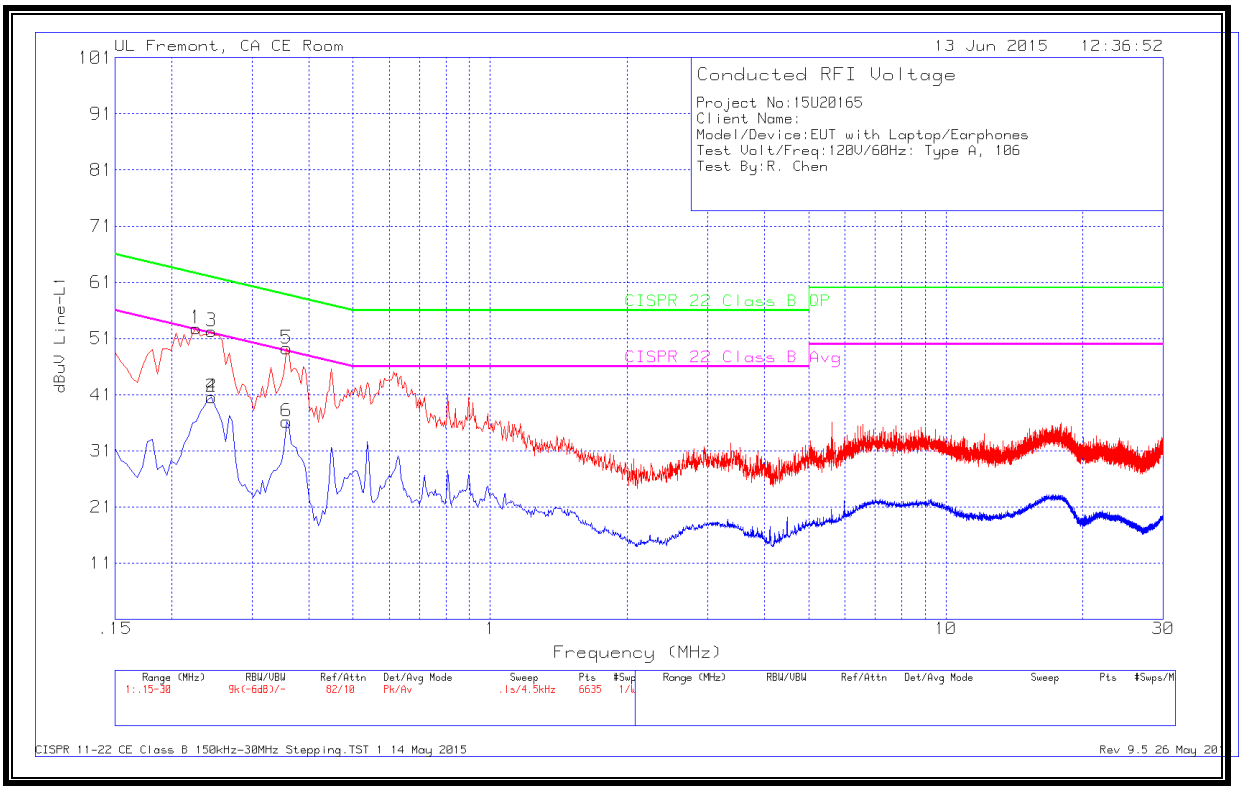
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.2265	52	Pk	.8	0	52.8	62.58	-9.78		
2	.2445	39.91	Av	.7	0	40.61	-	-	51.94	-11.33
3	.2445	51.59	Pk	.7	0	52.29	61.94	-9.65		
4	.2445	39.91	Av	.7	0	40.61	-	-	51.94	-11.33
5	.357	48.75	Pk	.5	0	49.25	58.8	-9.55		
6	.357	35.71	Av	.5	0	36.21	-	-	48.8	-12.59

Range 2: Line-L2 .15 - 30MHz

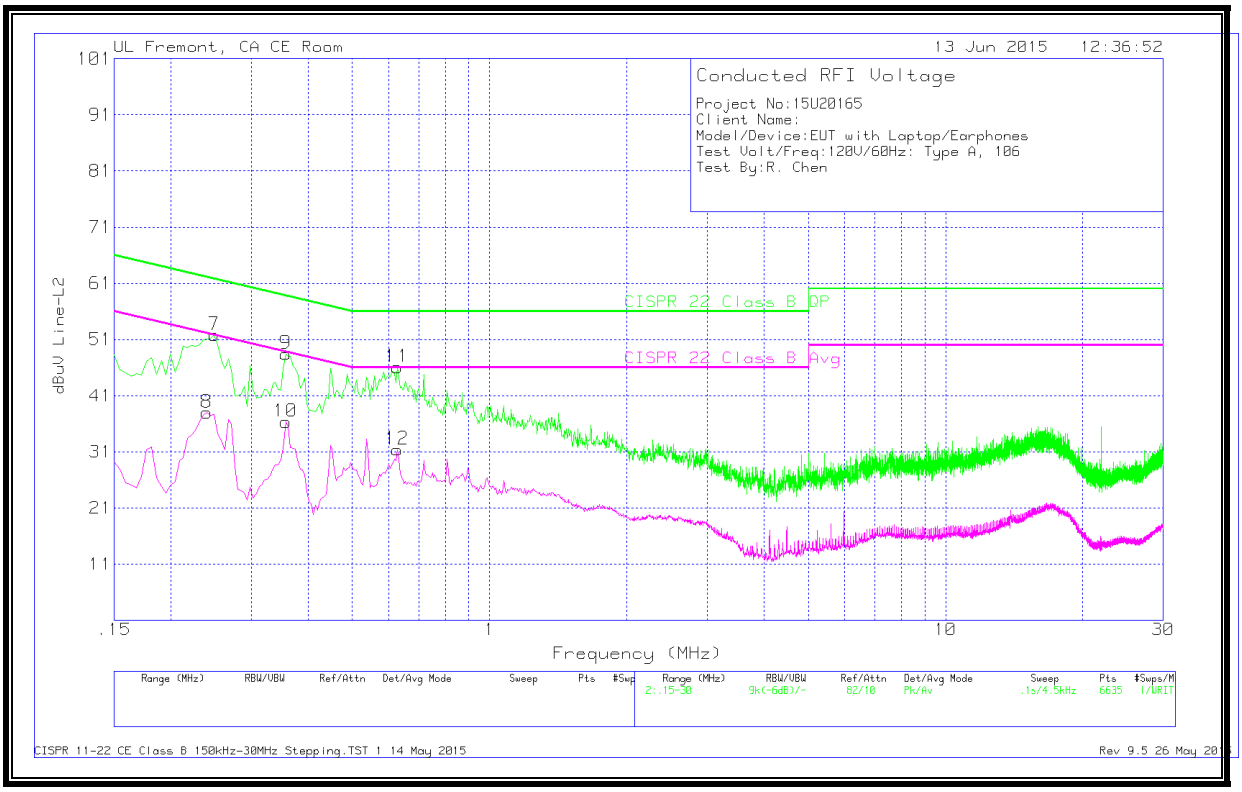
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.249	51.11	Pk	.7	0	51.81	61.79	-9.98		
8	.24	37.18	Av	.8	0	37.98	-	-	52.1	-14.12
9	.357	47.94	Pk	.5	0	48.44	58.8	-10.36		
10	.357	35.85	Av	.5	0	36.35	-	-	48.8	-12.45
11	.627	45.79	Pk	.3	0	46.09	56	-9.91		
12	.627	31.11	Av	.3	0	31.41	-	-	46	-14.59

Pk - Peak detector
Av - Average detection

LINE 1 RESULTS



LINE 2 RESULTS



14.2. TYPE B

14.2.1. NORMAL OPERATION, 424 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.168	46	Pk	1.2	0	47.2	65.06	-17.86	-	-
2	.1725	26.08	Av	1.1	0	27.18	-	-	54.84	-27.66
3	.258	40.99	Pk	.7	0	41.69	61.5	-19.81	-	-
4	.2535	23.48	Av	.7	0	24.18	-	-	51.64	-27.46
5	.8025	43.64	Pk	.3	0	43.94	56	-12.06	-	-
6	.807	31.89	Av	.3	0	32.19	-	-	46	-13.81

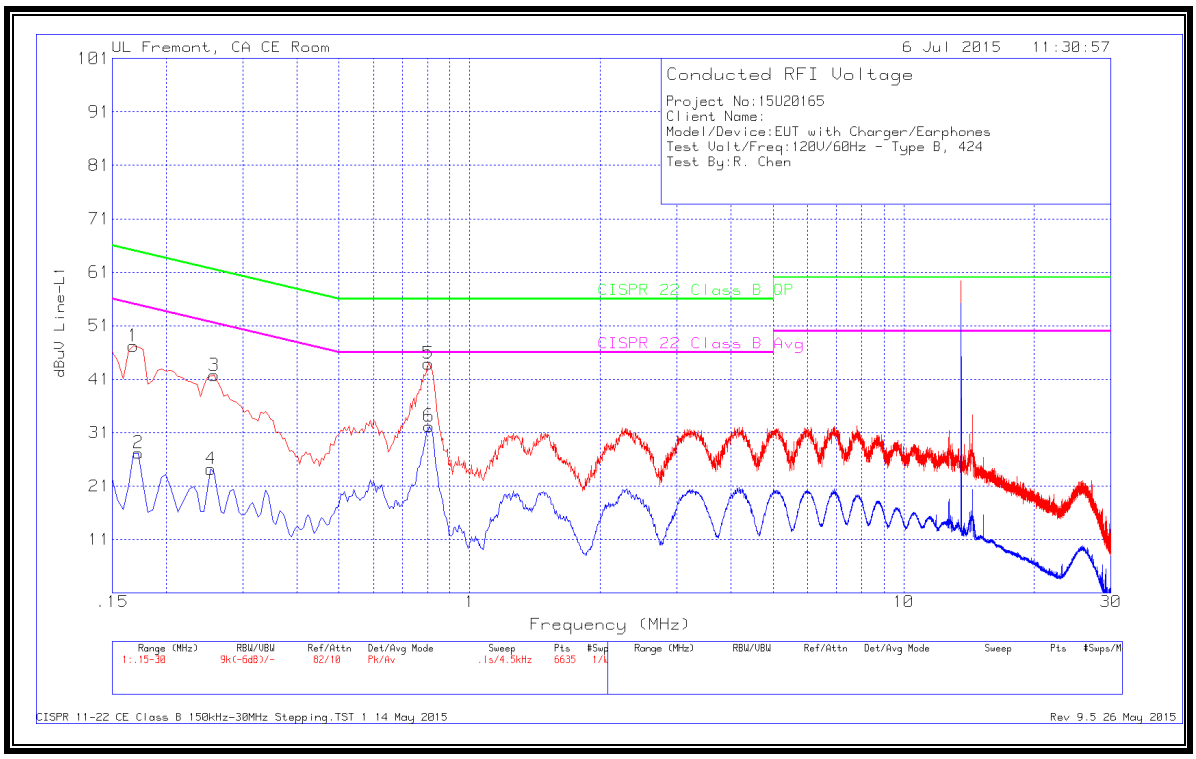
Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.1635	44.07	Pk	1.3	0	45.37	65.28	-19.91	-	-
8	.168	23.55	Av	1.3	0	24.85	-	-	55.06	-30.21
9	.2535	40	Pk	.7	0	40.7	61.64	-20.94	-	-
10	.2535	19.52	Av	.7	0	20.22	-	-	51.64	-31.42
11	.8025	43.29	Pk	.3	0	43.59	56	-12.41	-	-
12	.8025	26.18	Av	.3	0	26.48	-	-	46	-19.52

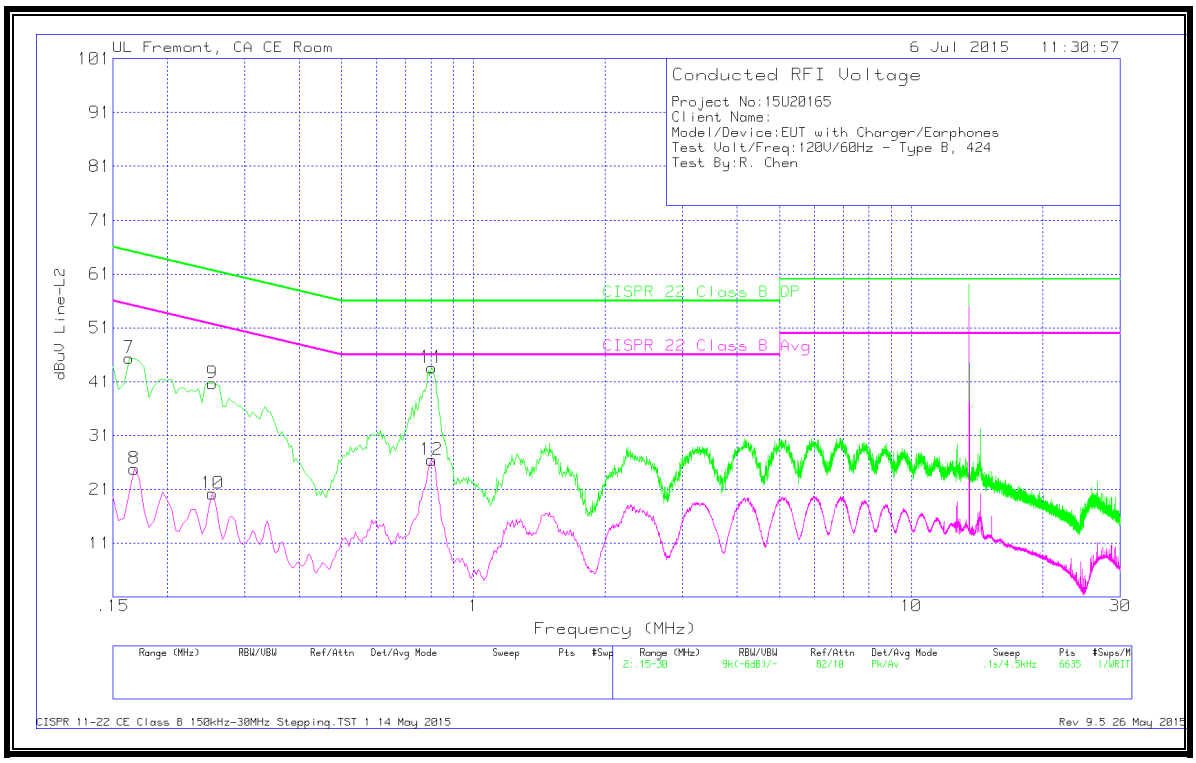
Pk - Peak detector
Av - Average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section indicate that when the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

LINE 1 RESULTS



LINE 2 RESULTS



14.2.2. NORMAL OPERATION WITH ANTENNA PORT TERMINATED, 424 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

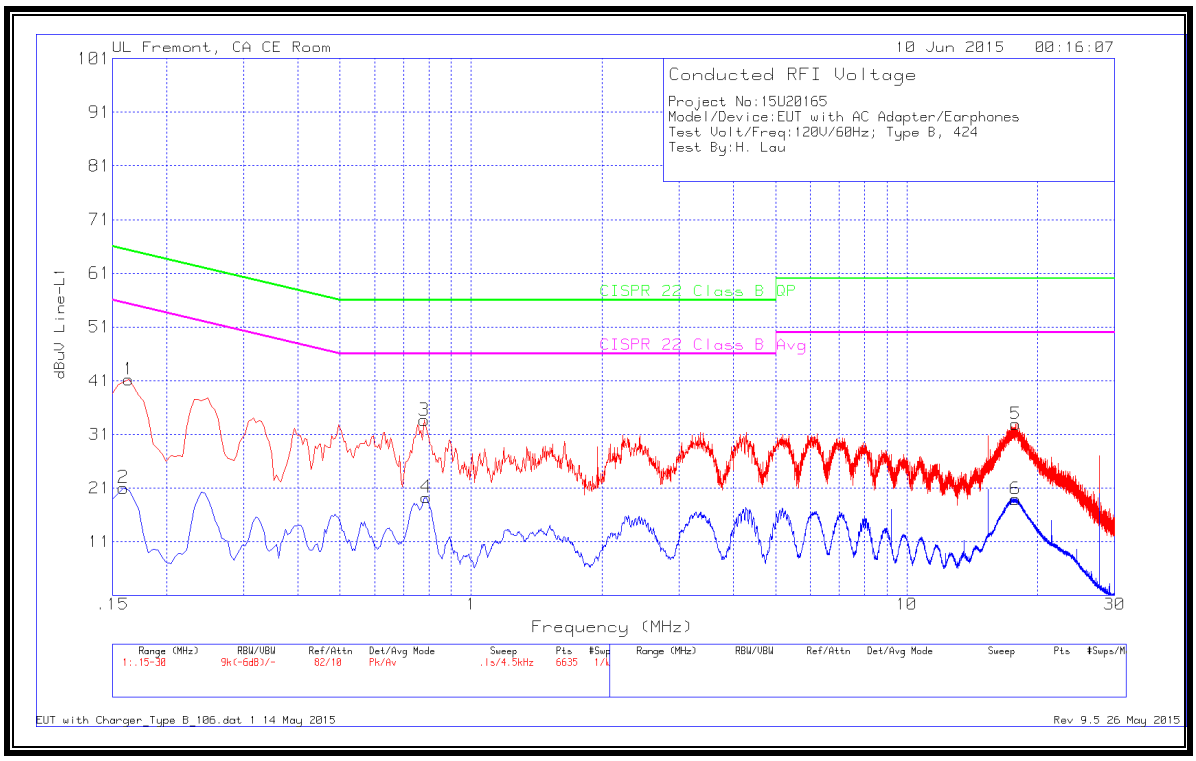
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.1635	40.01	Pk	1.2	0	41.21	65.28	-24.07	55.28	-14.07
2	.159	19.73	Av	1.3	0	21.03	-	-	55.52	-34.49
3	.78	33.32	Pk	.3	0	33.62	56	-22.38	46	-12.38
4	.789	18.96	Av	.3	0	19.26	-	-	46	-26.74
5	17.799	32.39	Pk	.3	.2	32.89	60	-27.11	50	-17.11
6	17.754	18.42	Av	.3	.2	18.92	-	-	50	-31.08

Range 2: Line-L2 .15 - 30MHz

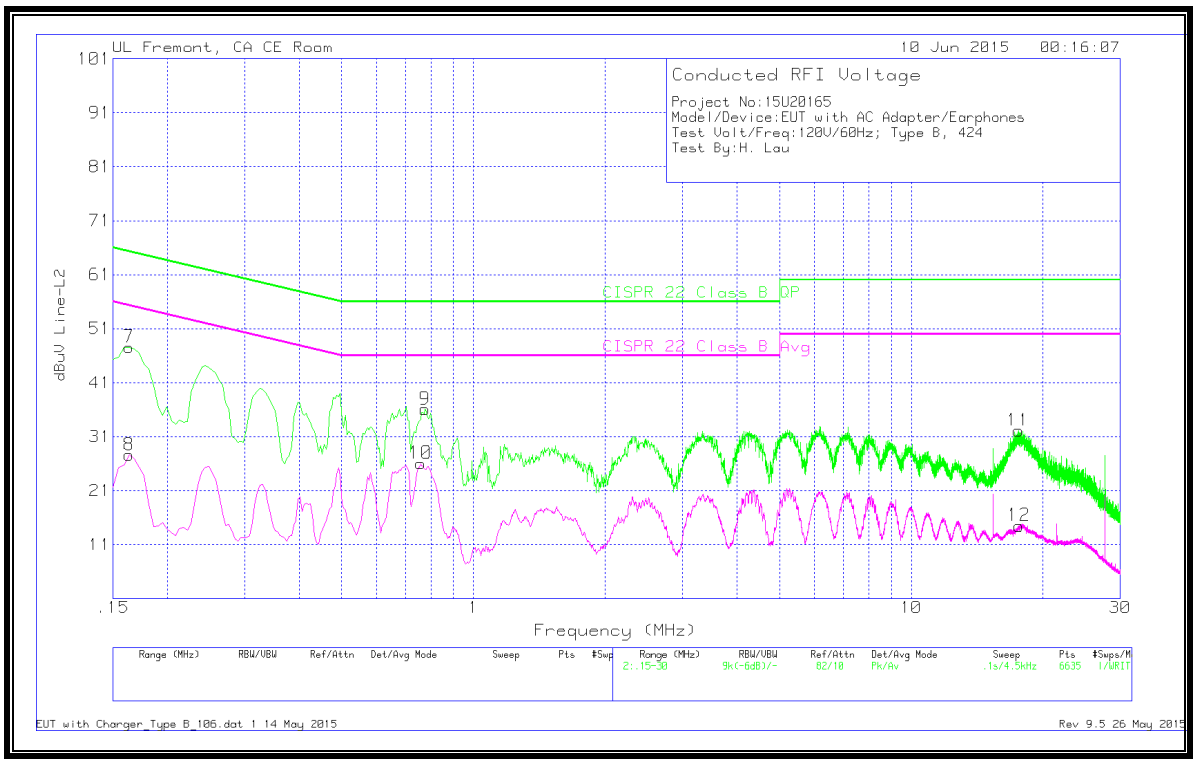
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.1635	46.26	Pk	1.3	0	47.56	65.28	-17.72	55.28	-7.72
8	.1635	26.3	Av	1.3	0	27.6	-	-	55.28	-27.68
9	.7755	35.76	Pk	.3	0	36.06	56	-19.94	46	-9.94
10	.7575	25.74	Av	.3	0	26.04	-	-	46	-19.96
11	17.565	31.62	Pk	.3	.2	32.12	60	-27.88	50	-17.88
12	17.6235	13.99	Av	.3	.2	14.49	-	-	50	-35.51

Pk - Peak detector
Av - Average detection

LINE 1 RESULTS



LINE 2 RESULTS



14.2.3. NORMAL OPERATION, 212 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.168	45.44	Pk	1.2	0	46.64	65.06	-18.42	-	-
2	.168	25.96	Av	1.2	0	27.16	-	-	55.06	-27.9
3	.249	40.72	Pk	.7	0	41.42	61.79	-20.37	-	-
4	.2535	23.69	Av	.7	0	24.39	-	-	51.64	-27.25
5	.807	43.48	Pk	.3	0	43.78	56	-12.22	-	-
6	.8025	31.66	Av	.3	0	31.96	-	-	46	-14.04

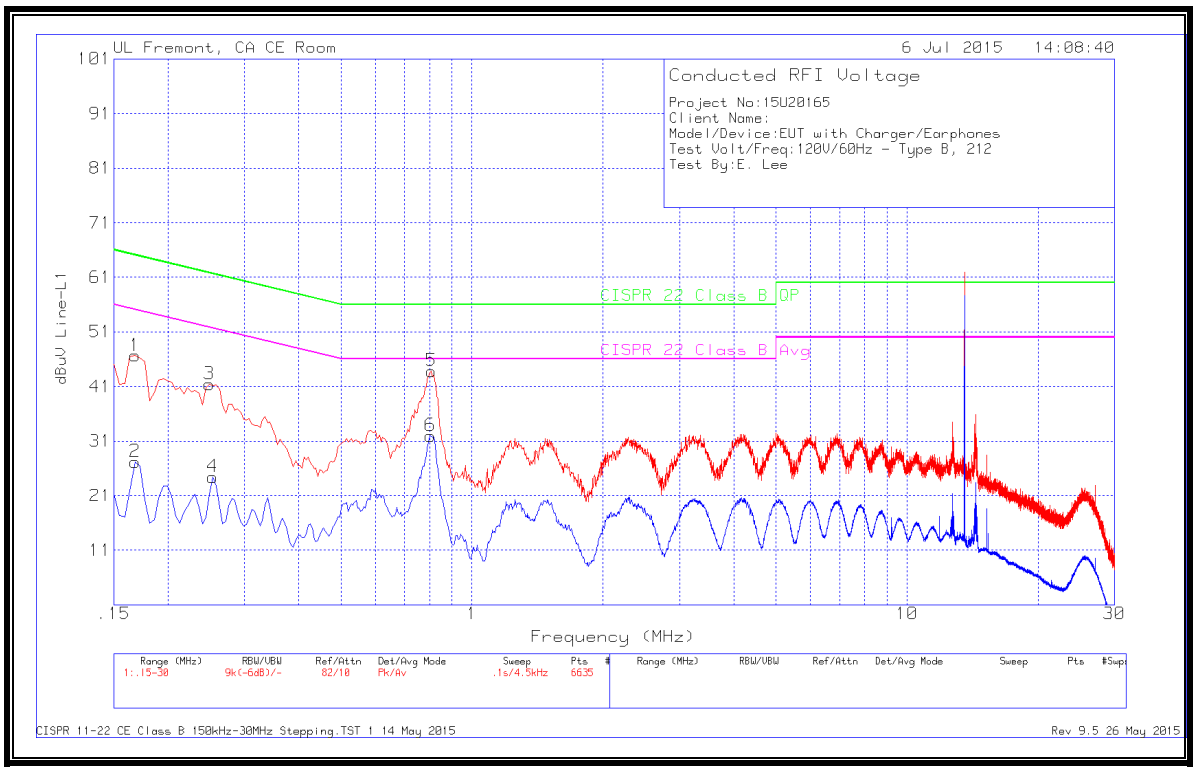
Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.1635	44.19	Pk	1.3	0	45.49	65.28	-19.79	-	-
8	.168	23.69	Av	1.3	0	24.99	-	-	55.06	-30.07
9	.249	40.32	Pk	.7	0	41.02	61.79	-20.77	-	-
10	.2535	19.61	Av	.7	0	20.31	-	-	51.64	-31.33
11	.8025	43.33	Pk	.3	0	43.63	56	-12.37	-	-
12	.8025	26.08	Av	.3	0	26.38	-	-	46	-19.62

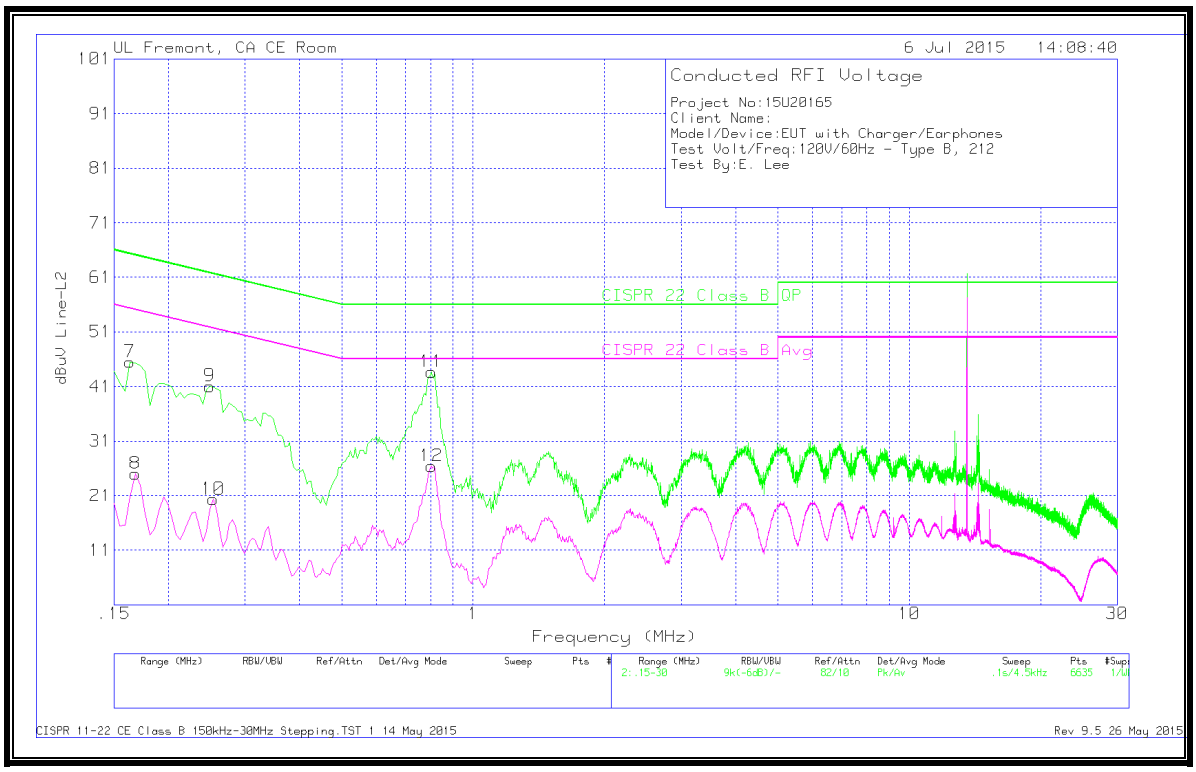
Pk - Peak detector
Av - Average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section indicate that when the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

LINE 1 RESULTS



LINE 2 RESULTS



14.2.4. NORMAL OPERATION WITH ANTENNA PORT TERMINATED, 212 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

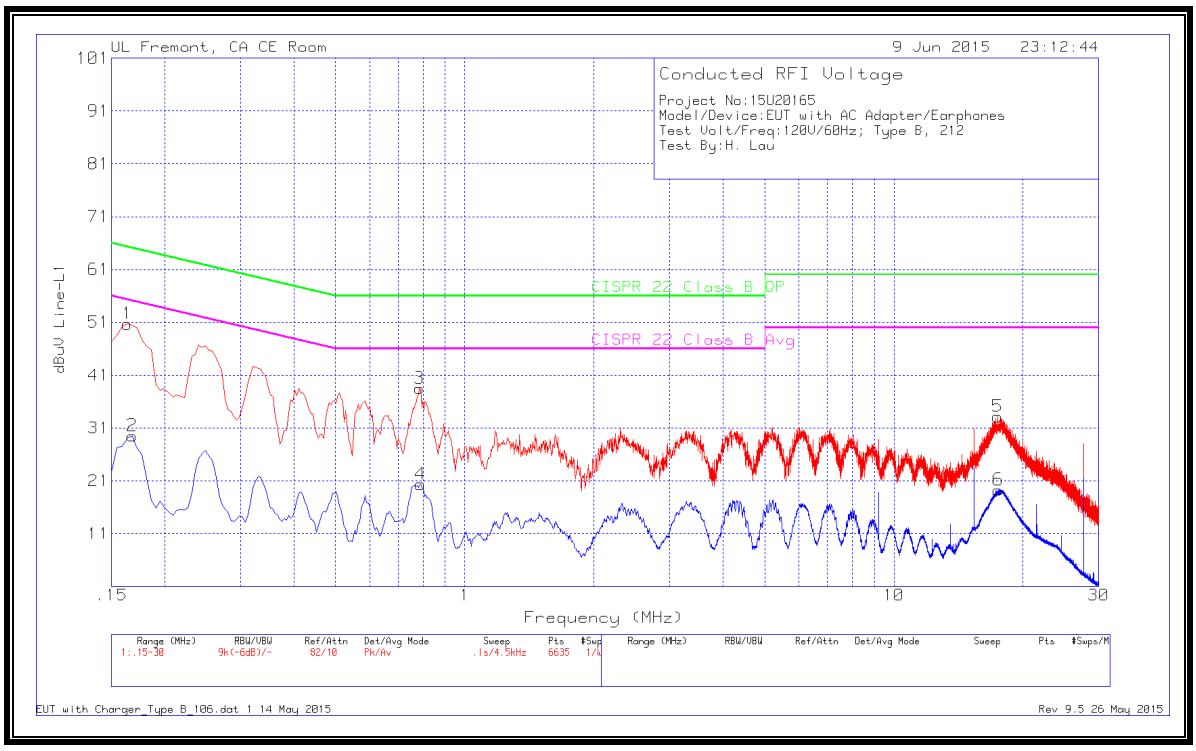
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.1635	49.49	Pk	1.2	0	50.69	65.28	-14.59	-	-
2	.168	28.31	Av	1.2	0	29.51	-	-	55.06	-25.55
3	.7845	38.18	Pk	.3	0	38.48	56	-17.52	46	-7.52
4	.789	20.02	Av	.3	0	20.32	-	-	-	-
5	17.466	32.63	Pk	.3	.2	33.13	60	-26.87	50	-16.87
6	17.5245	18.74	Av	.3	.2	19.24	-	-	-	-

Range 2: Line-L2 .15 - 30MHz

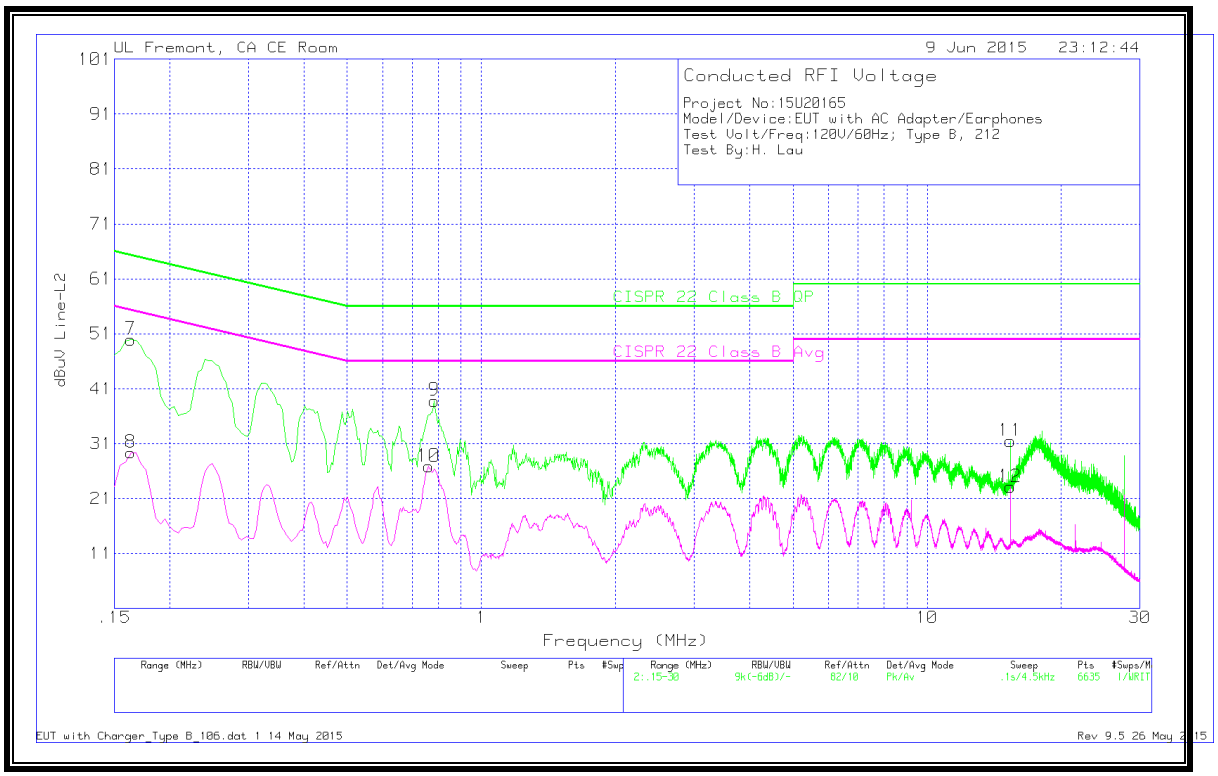
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.1635	48.67	Pk	1.3	0	49.97	65.28	-15.31	-	-
8	.1635	28.07	Av	1.3	0	29.37	-	-	55.28	-25.91
9	.7845	38.53	Pk	.3	0	38.83	56	-17.17	-	-
10	.762	26.53	Av	.3	0	26.83	-	-	46	-19.17
11	15.36	31.01	Pk	.3	.2	31.51	60	-28.49	-	-
12	15.36	22.62	Av	.3	.2	23.12	-	-	50	-26.88

Pk - Peak detector
Av - Average detection

LINE 1 RESULTS



LINE 2 RESULTS



14.2.5. NORMAL OPERATION, 106 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.168	46.15	Pk	1.2	0	47.35	65.06	-17.71	-	-
2	.168	25.07	Av	1.2	0	26.27	-	-	55.06	-28.79
3	.789	40.8	Pk	.3	0	41.1	56	-14.9	-	-
4	.789	26.41	Av	.3	0	26.71	-	-	46	-19.29
5	13.56	62.2	Pk	.2	.2	62.6	60	2.6	-	-
6	13.56	58.14	Av	.2	.2	58.54	-	-	50	8.54
7	18.1275	30.26	Pk	.3	.2	30.76	60	-29.24	-	-
8	18.708	15.57	Av	.3	.2	16.07	-	-	50	-33.93

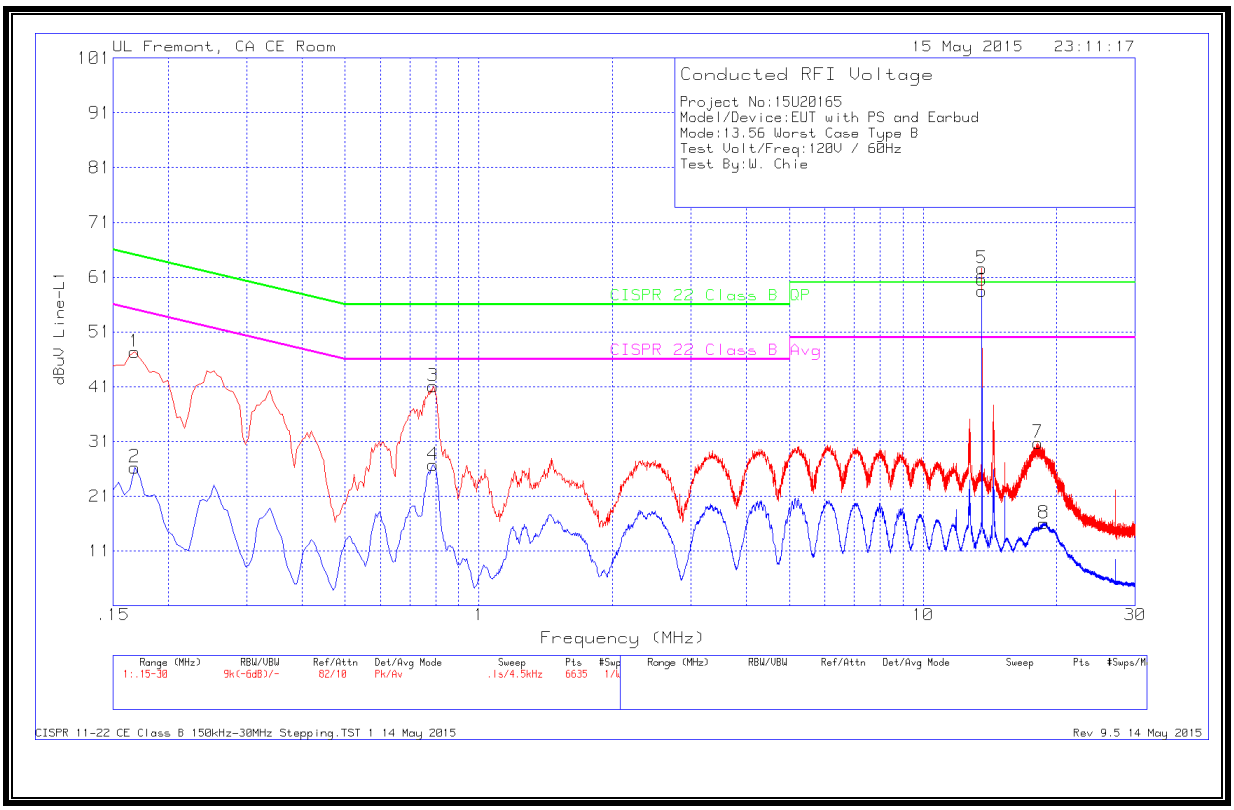
Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
9	.168	45.52	Pk	1.3	0	46.82	65.06	-18.24	-	-
10	.168	24.72	Av	1.3	0	26.02	-	-	55.06	-29.04
11	.7935	41.33	Pk	.3	0	41.63	56	-14.37	-	-
12	.7935	25.56	Av	.3	0	25.86	-	-	46	-20.14
13	13.56	58.42	Pk	.2	.2	58.82	60	-1.18	-	-
14	13.56	56.22	Av	.2	.2	56.62	-	-	50	6.62
15	18.1185	27.07	Pk	.3	.2	27.57	60	-32.43	-	-
16	17.9385	17.04	Av	.3	.2	17.54	-	-	50	-32.46

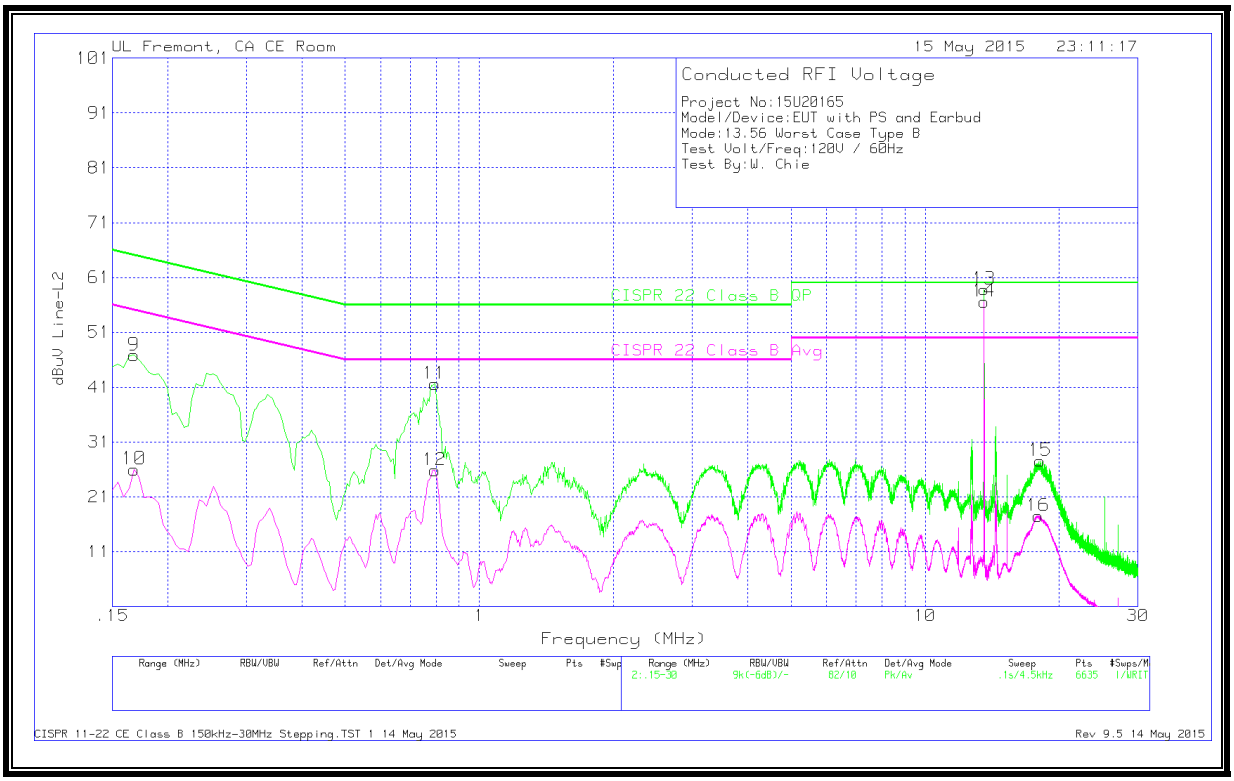
Pk - Peak detector
Av - Average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section indicate that when the antenna terminal is terminated the fundamental amplitude is lowering below the limit line.

LINE 1 RESULTS



LINE 2 RESULTS



14.2.6. NORMAL OPERATION WITH ANTENNA PORT TERMINATED, 106 KBPS

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.1635	49.97	Pk	1.2	0	51.17	65.28	-14.11	-	-
2	.168	27.89	Av	1.2	0	29.09	-	-	55.06	-25.97
3	.24	46.39	Pk	.7	0	47.09	62.1	-15.01	-	-
4	.249	25.23	Av	.7	0	25.93	-	-	51.79	-25.86
5	.8025	38.02	Pk	.3	0	38.32	56	-17.68	-	-
6	.7845	22.04	Av	.3	0	22.34	-	-	46	-23.66

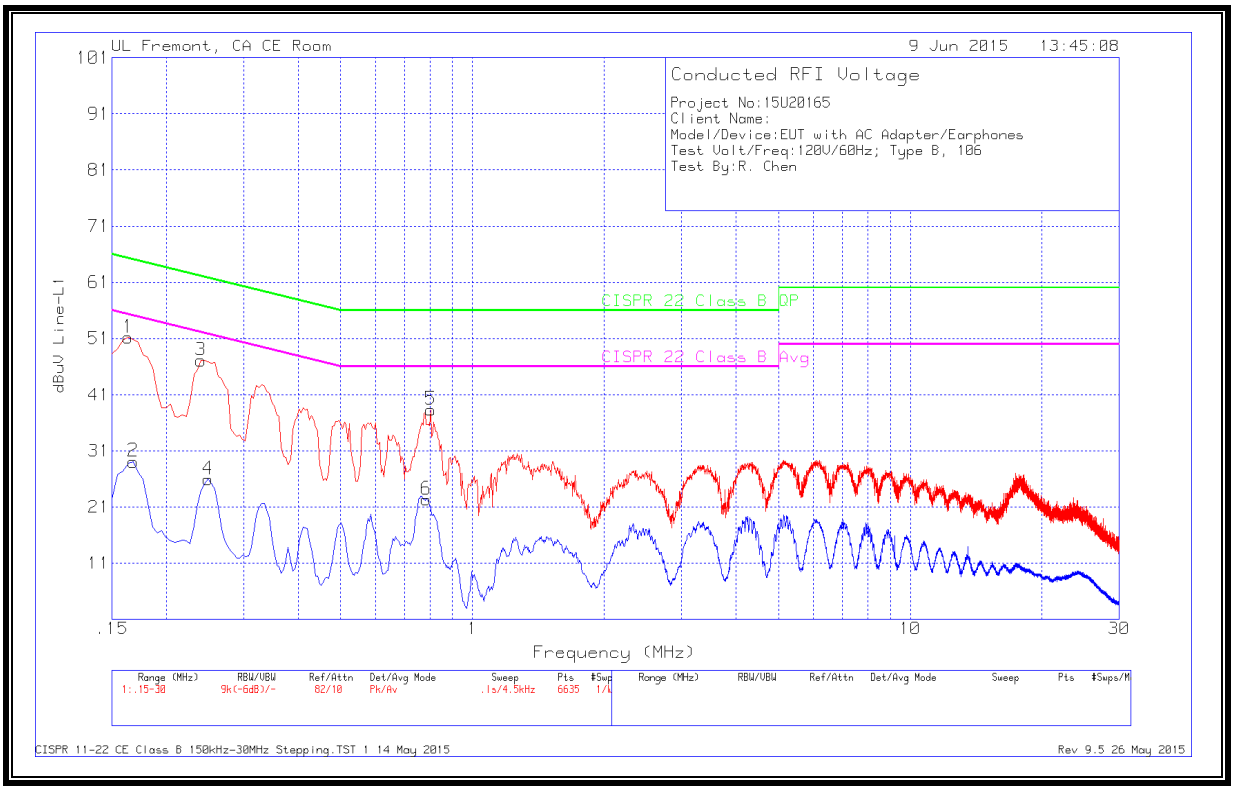
Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.1635	49.16	Pk	1.3	0	50.46	65.28	-14.82		
8	.168	27.35	Av	1.3	0	28.65	-	-	55.06	-26.41
9	.249	45.83	Pk	.7	0	46.53	61.79	-15.26		
10	.249	25.09	Av	.7	0	25.79	-	-	51.79	-26
11	.7845	37.87	Pk	.3	0	38.17	56	-17.83		
12	.762	21.87	Av	.3	0	22.17	-	-	46	-23.83

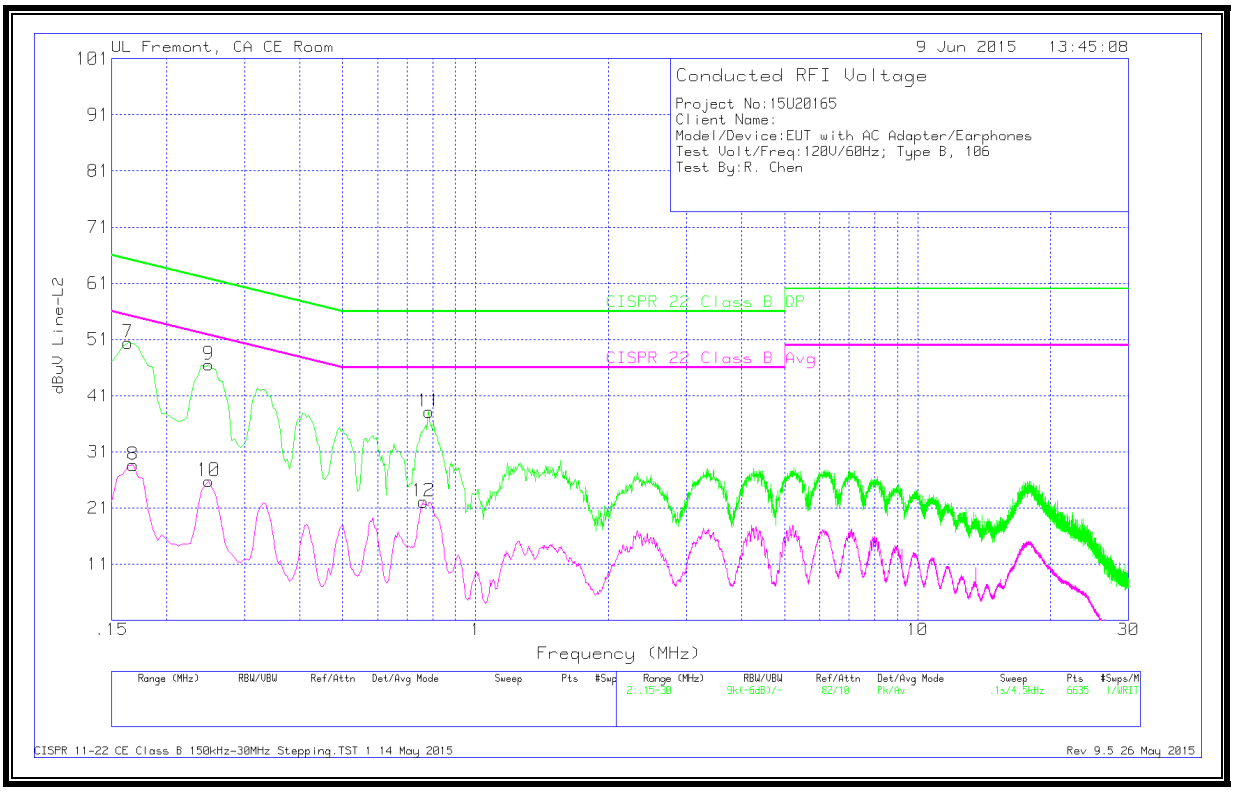
Pk - Peak detector

Av - Average detection

LINE 1 RESULTS



LINE 2 RESULTS



14.2.7. NORMAL OPERATION WITH LAPTOP, WORST CASE

6 WORST EMISSIONS

Range 1: Line-L1 .15 - 30MHz

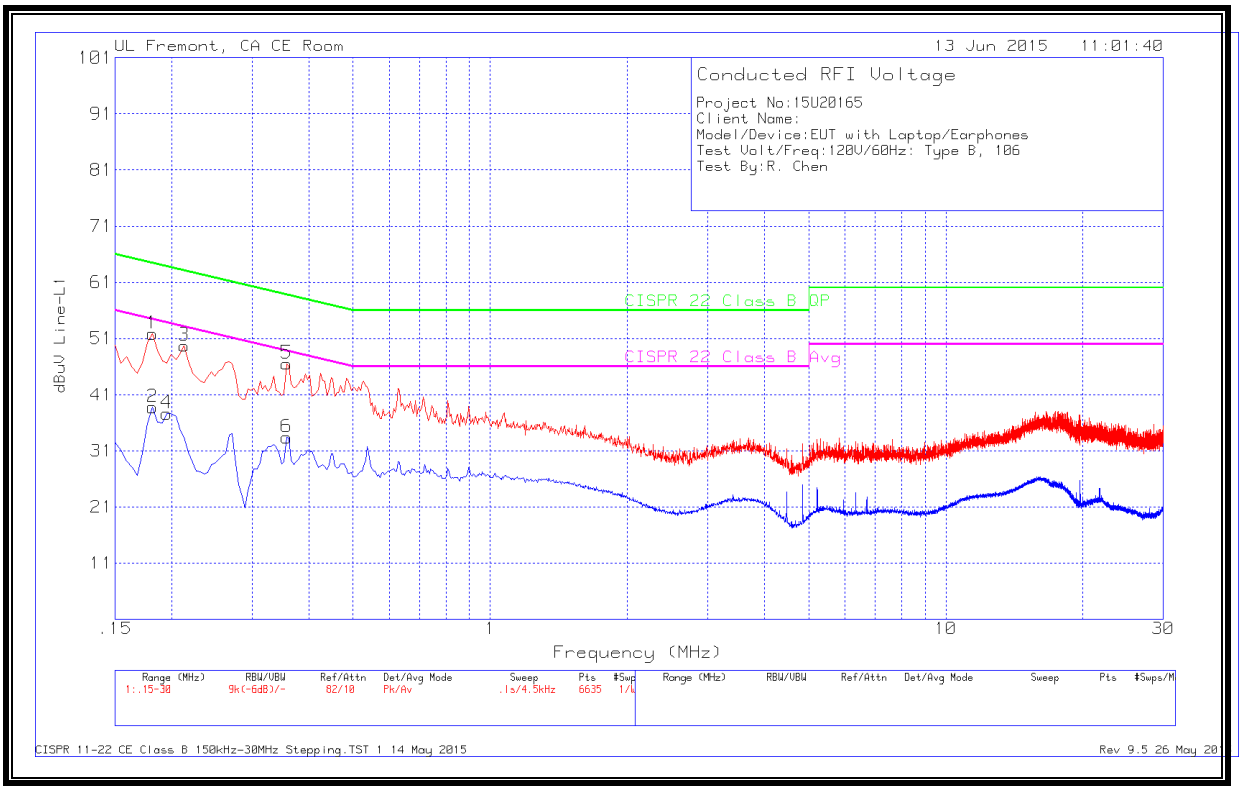
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.1815	50.74	Pk	1.1	0	51.84	64.42	-12.58		
2	.1815	37.66	Av	1.1	0	38.76	-	-	54.42	-15.66
3	.213	48.82	Pk	.9	0	49.72	63.09	-13.37		
4	.195	36.67	Av	1	0	37.67	-	-	53.82	-16.15
5	.357	46.02	Pk	.5	0	46.52	58.8	-12.28		
6	.357	32.93	Av	.5	0	33.43	-	-	48.8	-15.37

Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.3615	46.8	Pk	.5	0	47.3	58.69	-11.39		
8	.3615	33.73	Av	.5	0	34.23	-	-	48.69	-14.46
9	.4515	46.5	Pk	.4	0	46.9	56.85	-9.95		
10	.4515	33.42	Av	.4	0	33.82	-	-	46.85	-13.03
11	.5595	45.85	Pk	.3	0	46.15	56	-9.85		
12	.537	32.69	Av	.3	0	32.99	-	-	46	-13.01

Pk - Peak detector
Av - Average detection

LINE 1 RESULTS



LINE 2 RESULTS