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: A1723, A1724

FCC ID: BCG-E3042A
IC: 579C-E3042A

REPORT NUMBER: 15U21635-E1V3

ISSUE DATE: FEBRUARY 04, 2016

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

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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	01/27/2016	Initial Issue	M. Mekuria
V2	02/01/2016	Revised report to address TCB's questions	T. Chu
V3	02/04/2016	Revised Section 5.4 report to address TCB's question	T. Chu

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1. ATTESTATION OF TEST RESULTS

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

EUT DESCRIPTION: CELLULAR PHONE WITH BLUETOOTH AND WLAN RADIOS

MODEL: A1723, A1724

SERIAL NUMBER: C39Q4026GR20

DATE TESTED: AUGUST 17, 2015 – DECEMBER 18, 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:

MENGISTU MEKURIA
SENIOR ENGINEER
UL VERIFICATION SERVICES INC.

Tested By:

WILLIAM CHIE
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, Model A1622 is a mobile phone with multimedia functions (music, application support, and video), cellular GSM/GPRS/EGPRS/WCDMA/HSPA+/DC-HSDPA/LTE radio, IEEE 802.11a/b/g/n/ac,NFC and Bluetooth radio. The rechargeable battery is not user accessible.

5.2. MAXIMUM OUTPUT POWER

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

Frequency Range (MHz)	Mode	E Field at 30m distance (dBuV/m)
13.56	Type A	21.14
	Type B	20.66

5.3. SOFTWARE AND FIRMWARE

The test utility software used during testing was ES1.1 NCI.

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.

The worst case position 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.

There is no significant difference between OAT and chamber readings by comparison; therefore All radiated test was performed in the chamber.

5.5. DESCRIPTION OF TEST SETUP

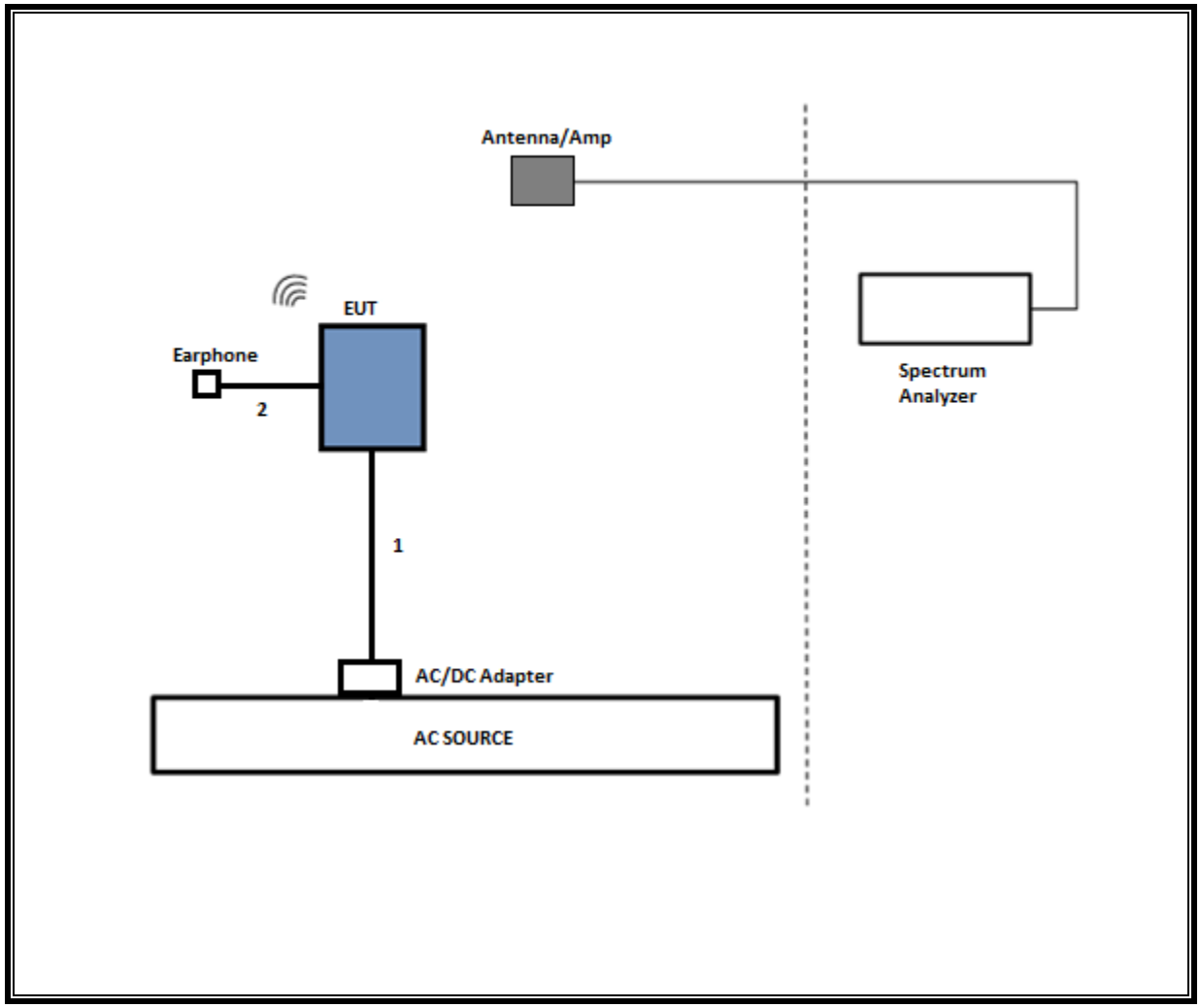
SUPPORT EQUIPMENT

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

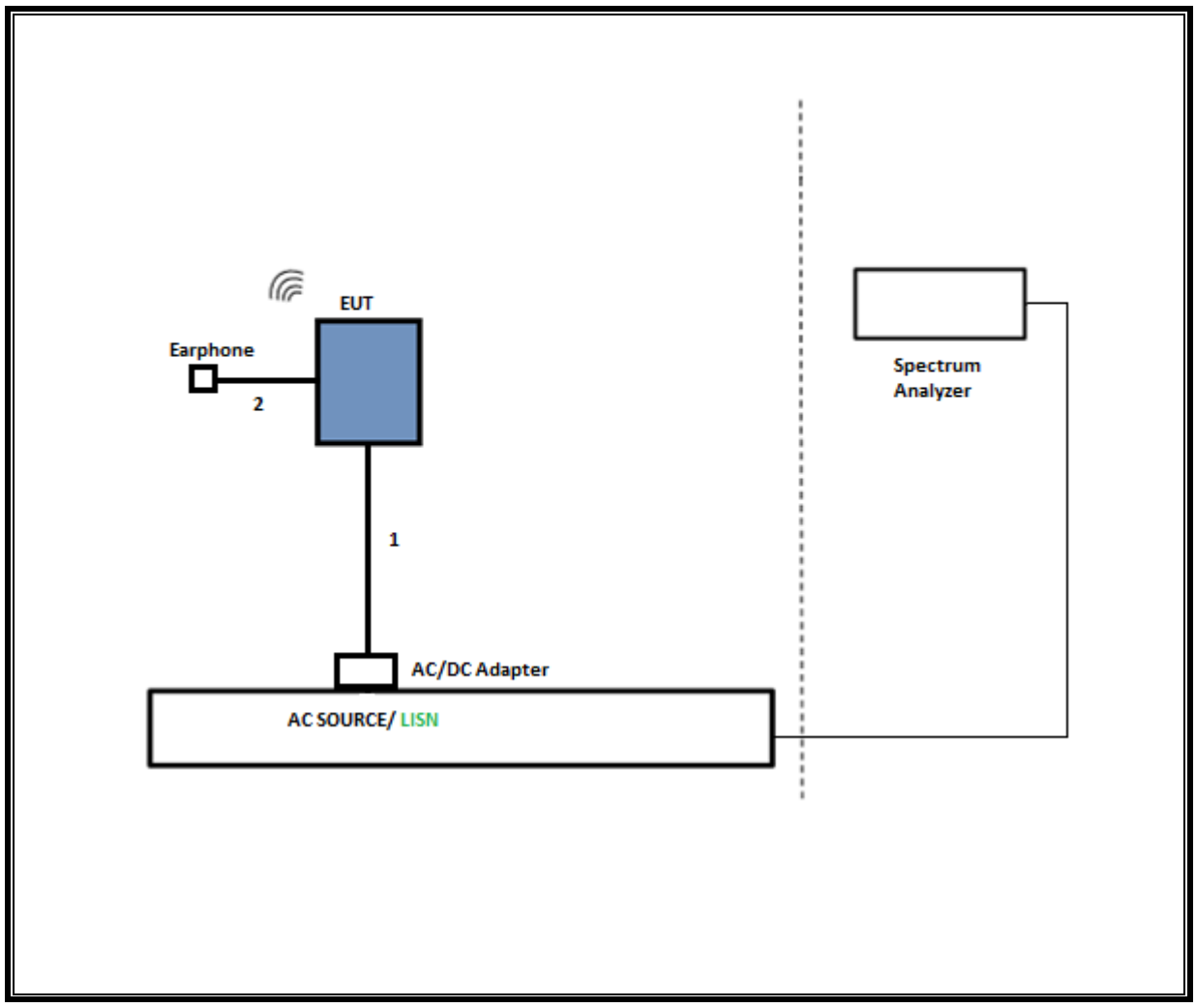
I/O CABLES

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

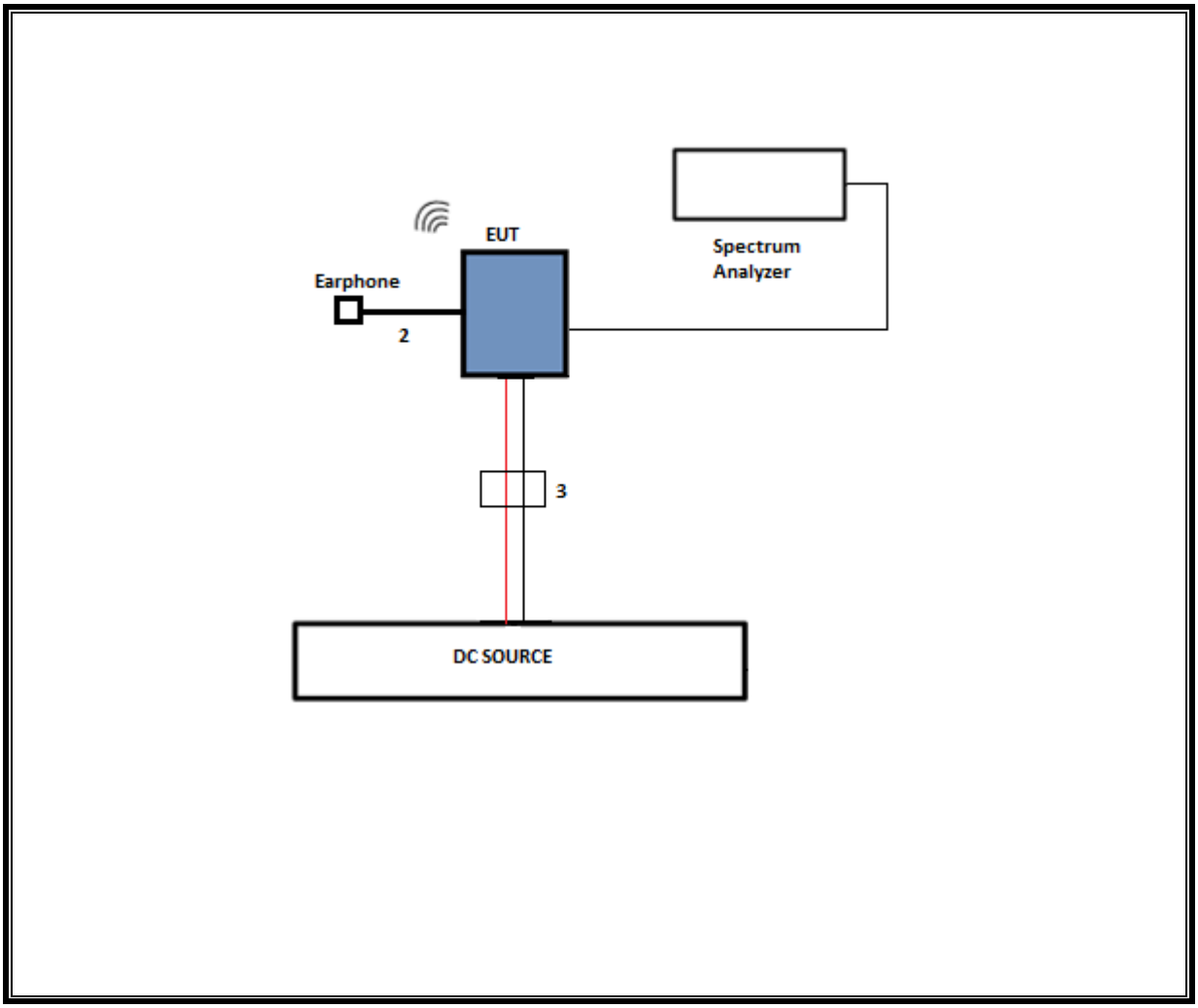
SETUP DIAGRAM RADIATED



SETUP DIAGRAM LINE CONDUCTED



SETUP DIAGRAM FREQUENCY STABILITY



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**
Spectrum Analyzer	Agilent	N9030A	906	06/11/16
Antenna, Broadband Hybrid	Sunol Sciences	JB3	900	04/10/16
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	835	06/09/16
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	834	02/16/16
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent	N9030A	906	06/11/16
Antenna, Loop, 30 MHz	ETS Lindgren	6502	757	05/21/16
Chamber, Environmental	Cincinnati Sub Zero	ZPHS-8-3.5-SCT/WC	754	03/21/16
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent	N9030A	1222	03/27/16
EMI Test Receiver, 9 kHz-7 GHz	R & S	ESCI 7	212	08/07/16
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	07/28/16
UL SOFTWARE				
*Radiated Software	UL	UL EMC	Fundamental mask, 5/7/15	
*Conducted Software	UL	UL EMC	Ver 2.2, March 31, 2015	
*Radiated Software	UL	UL EMC	Below 30Mhz, 6/24/15	
*Radiated Software	UL	UL EMC	Below 1Ghz, 7/15/14	
*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

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

99% and 20dB BW

Type A

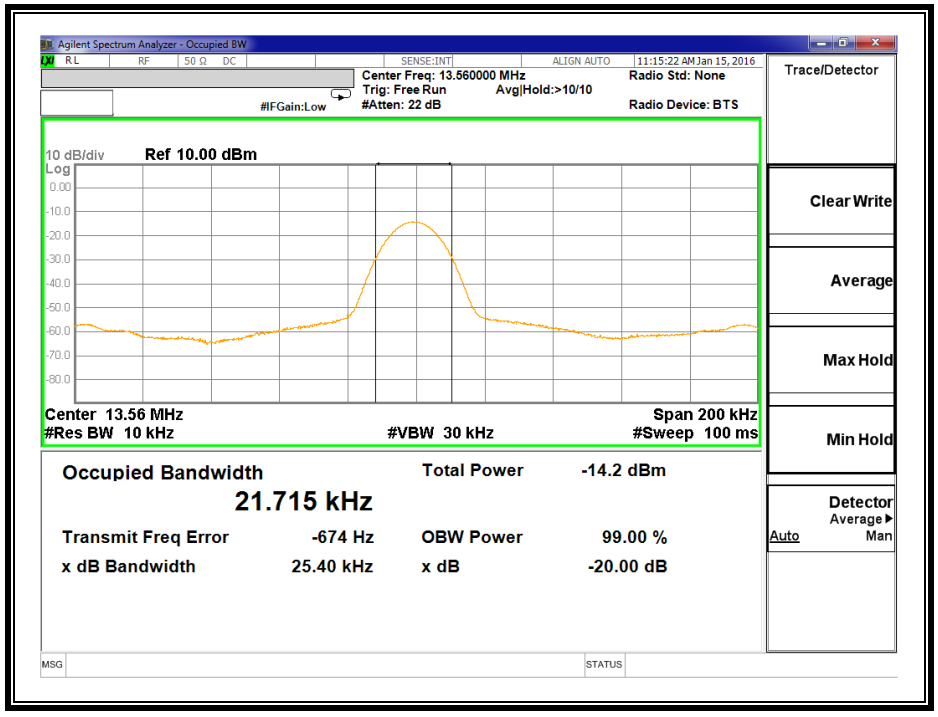
Mode Kbps	Frequency (MHz)	99% Bandwidth (KHz)	20dB Bandwidth (KHz)
424	13.56	21.715	25.40
212	13.56	21.735	25.44
106	13.56	21.871	24.97

Type B

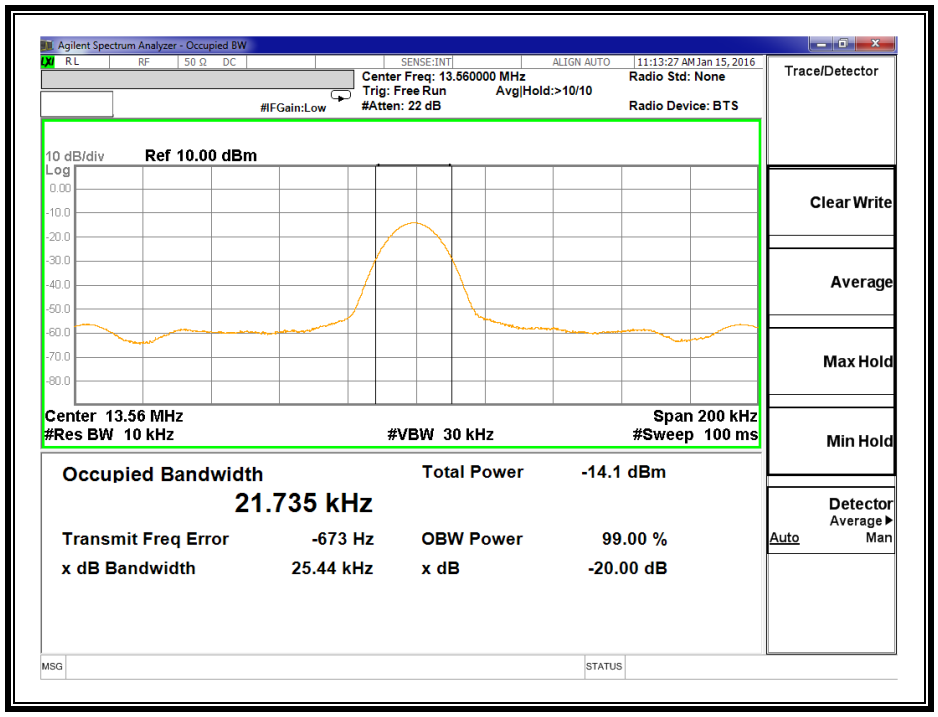
Mode Kbps	Frequency (MHz)	99% Bandwidth (KHz)	20dB Bandwidth (KHz)
424	13.56	21.755	25.43
212	13.56	21.752	25.44
106	13.56	21.734	25.39

7.1. TYPE A

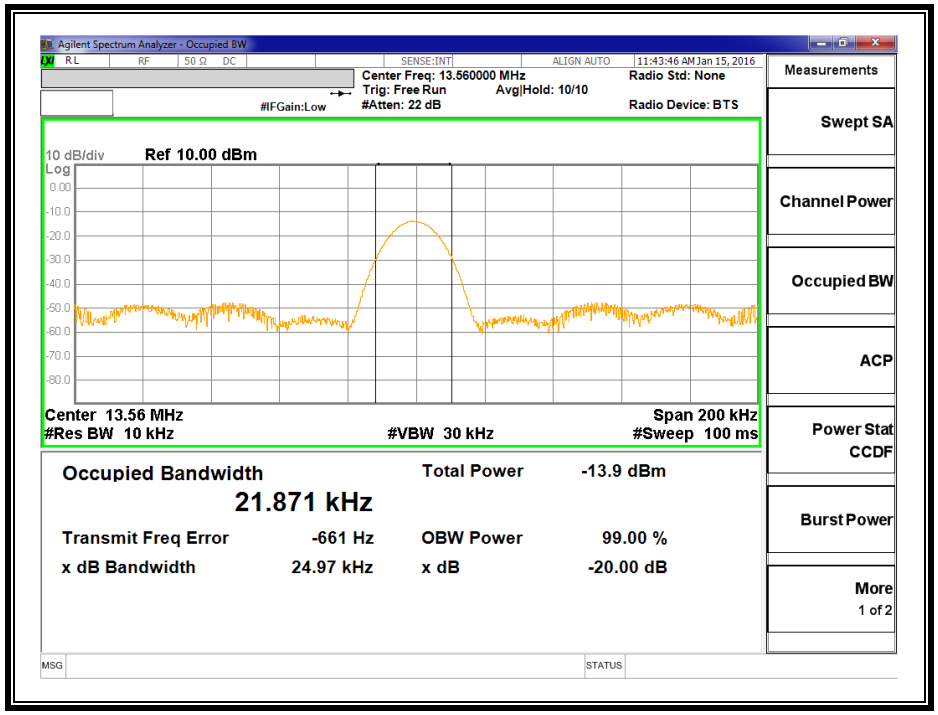
424Kbps



212Kbps

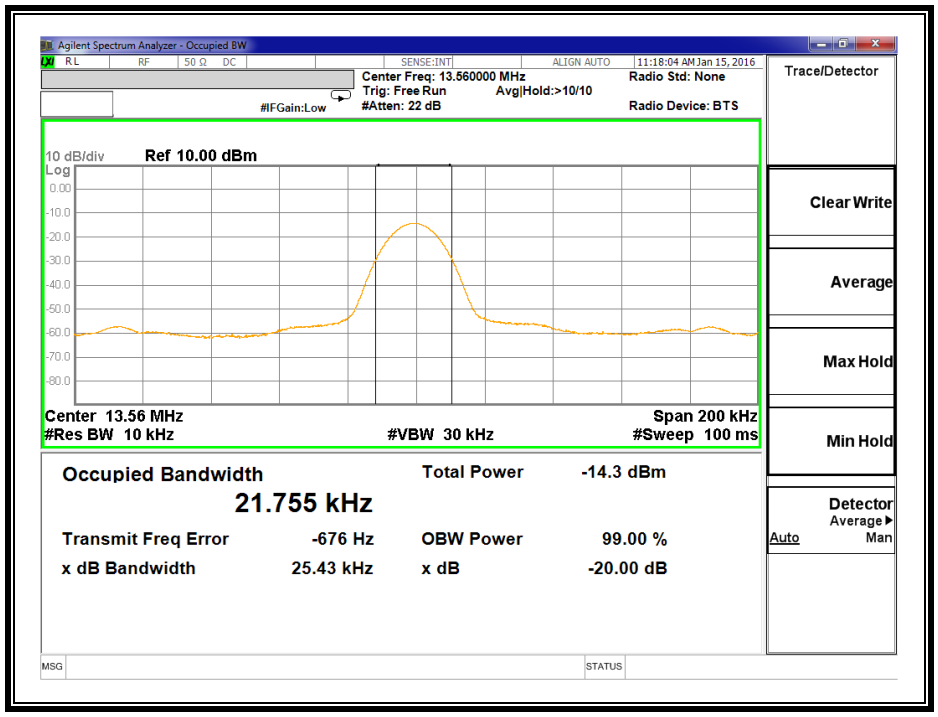


106Kbps

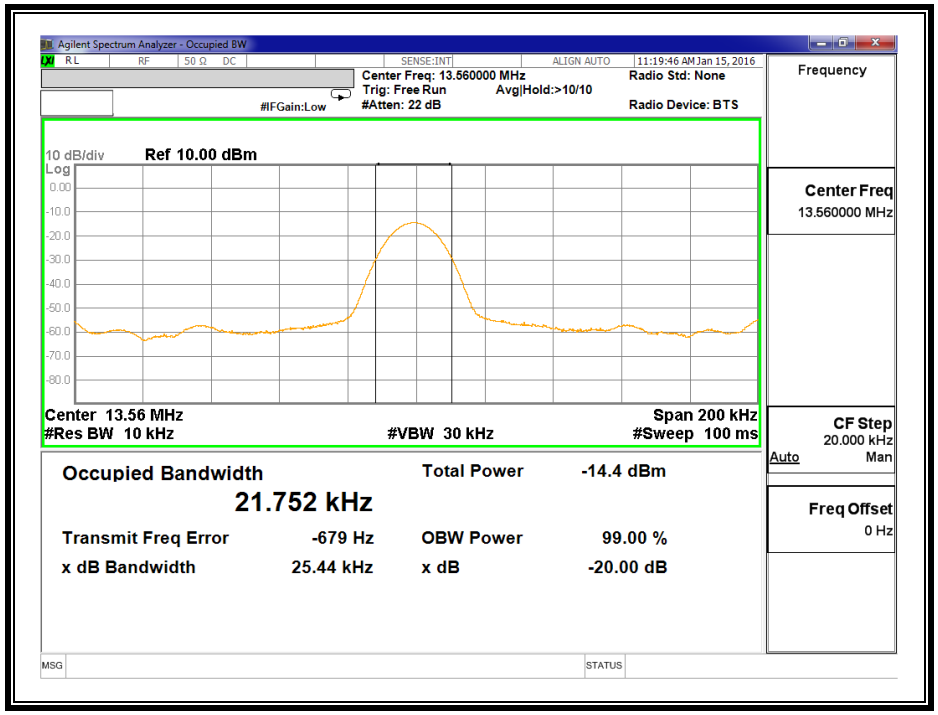


7.2. TYPE B

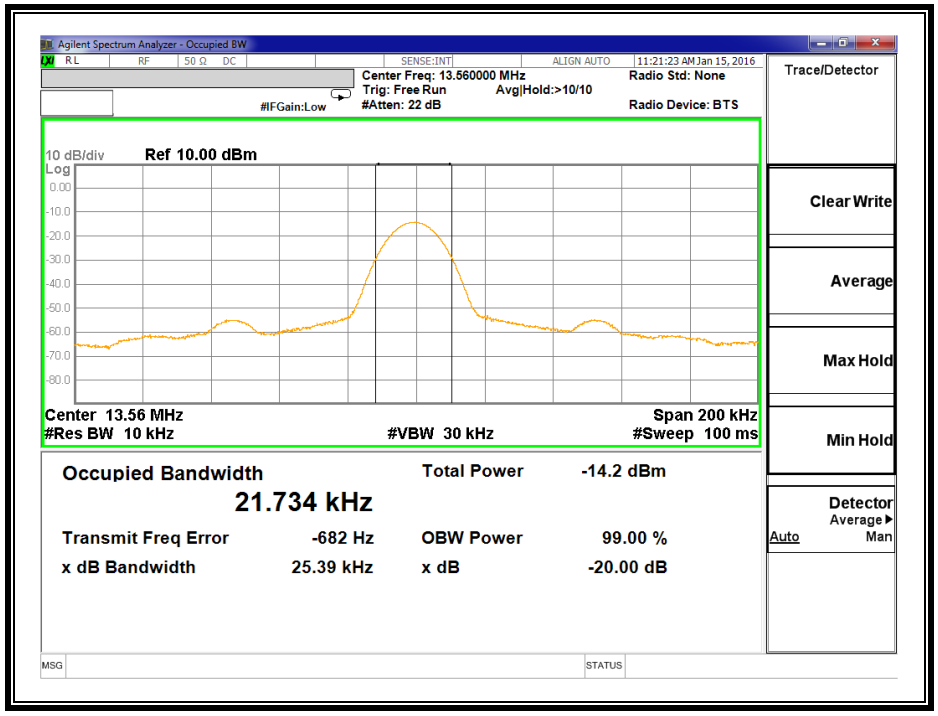
424Kbps



212Kbps



106Kbps



8. RADIATED EMISSION TEST RESULTS

8.1. 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

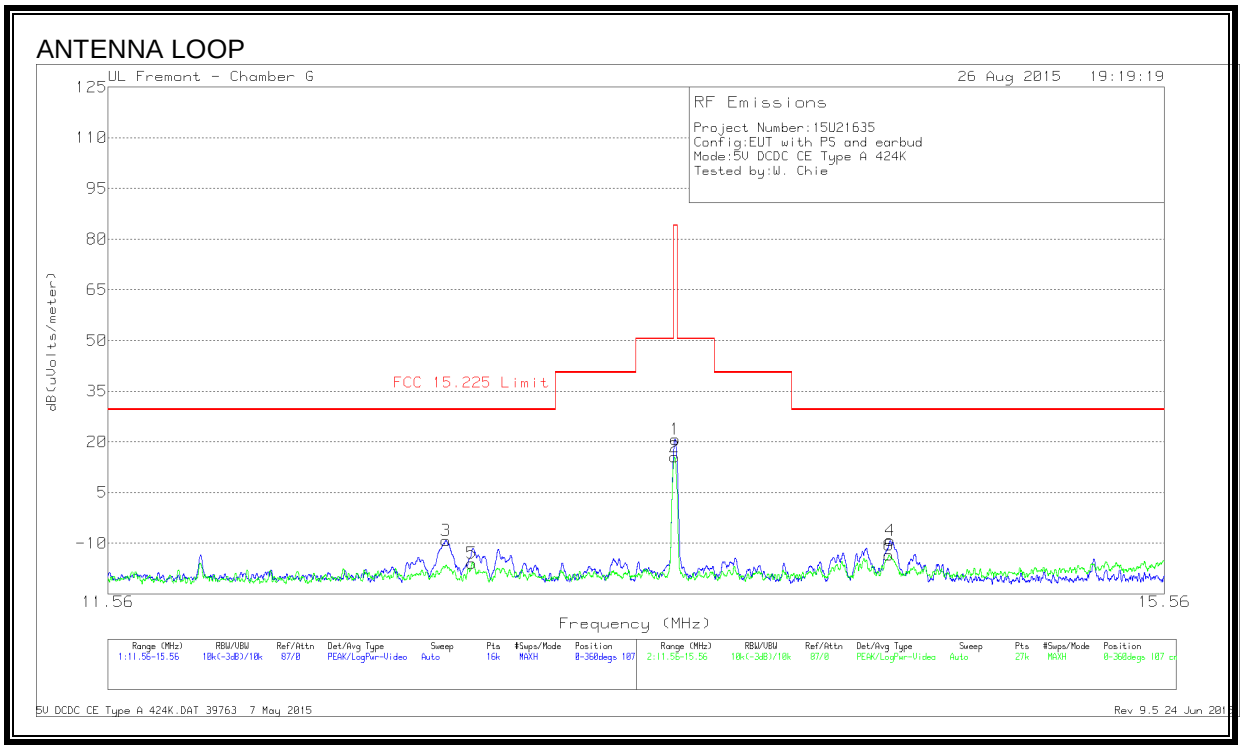
The EUT is an intentional radiator that incorporates a digital device, the highest fundamental frequency generated or used in the device is 13.56 MHz; therefore, the frequency range was investigated from 0.15 MHz to the 10th harmonic of the highest fundamental frequency, or 1000 MHz, whichever is greater.

RESULTS

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

8.2.1. TYPE A

FUNDAMENTAL 424Kbps



DATA

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)
3	12.71263	19.84	Pk	10.4	.6	-40	-9.16	29.54	-38.7	0-360
5	12.80631	13.03	Pk	10.4	.6	-40	-15.97	29.54	-45.51	0-360
2	13.55748	44.46	Pk	10.4	.6	-40	15.46	84	-68.54	0-360
1	13.55938	49.73	Pk	10.4	.6	-40	20.73	84	-63.27	0-360
6	14.40049	15.67	Pk	10.3	.5	-40	-13.53	29.54	-43.07	0-360
4	14.40563	19.89	Pk	10.3	.5	-40	-9.31	29.54	-38.85	0-360

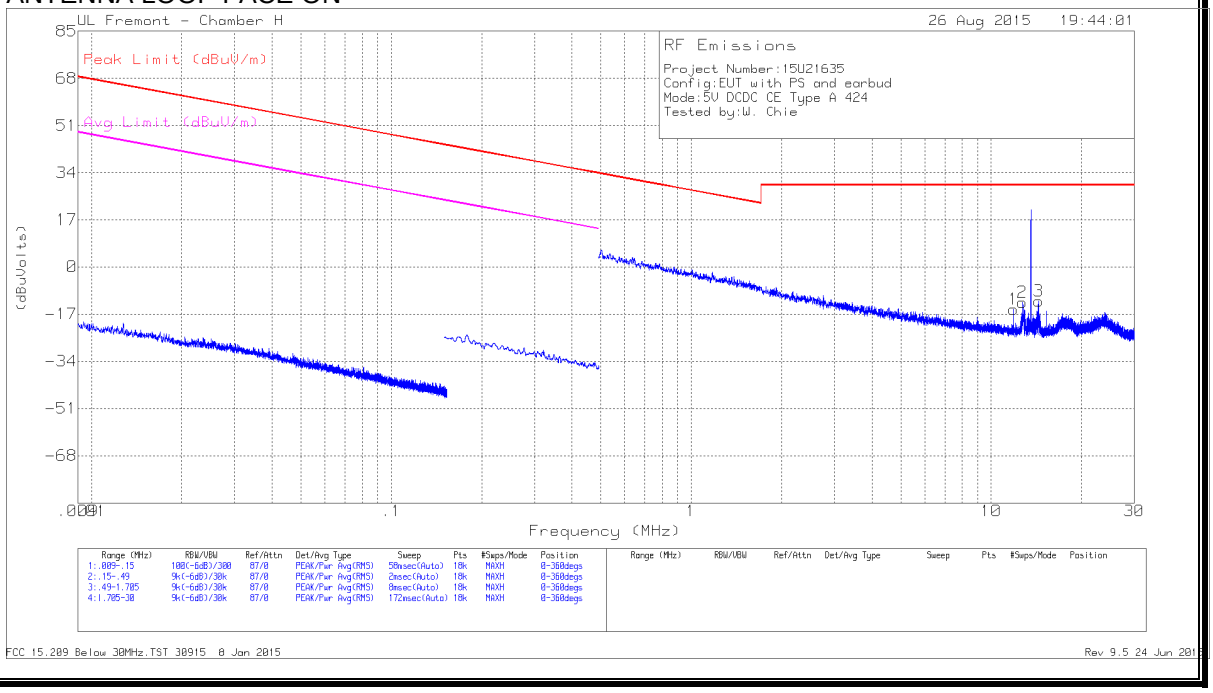
Pk - Peak detector

5V DCDC CE Type A 424K.DAT 39763 7 May 2015

Rev 9.5 24 Jun 2015

SPURIOUS EMISSIONS 424kbps

ANTENNA LOOP FACE ON



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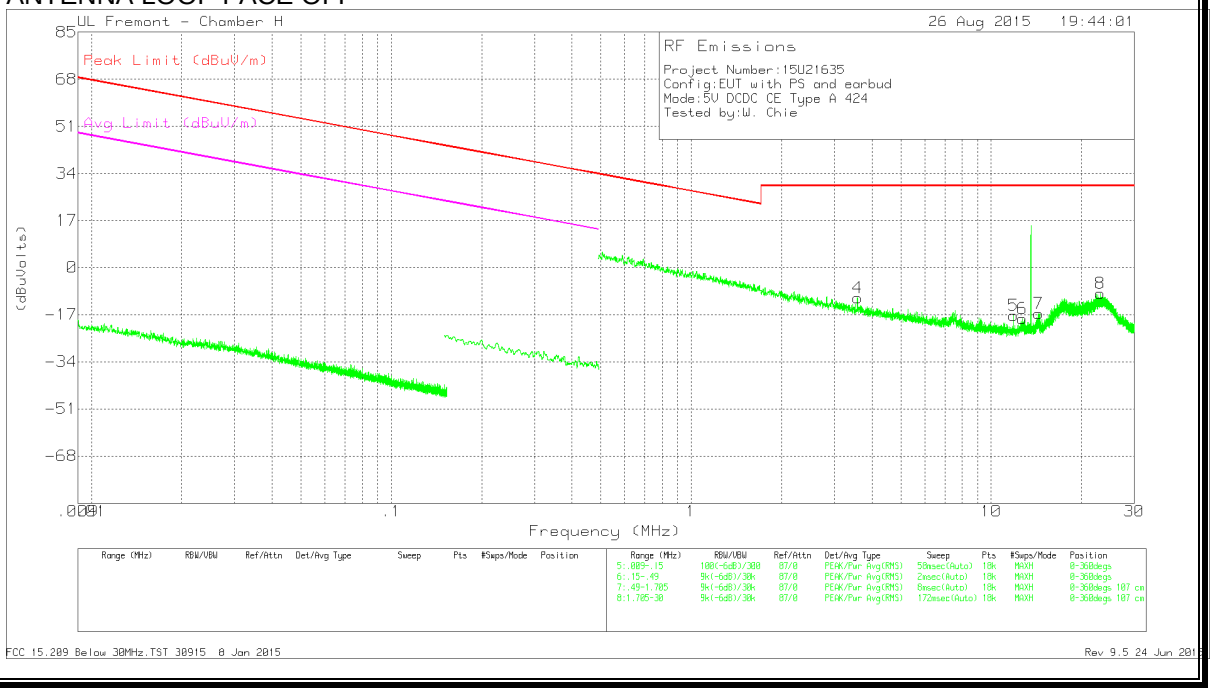
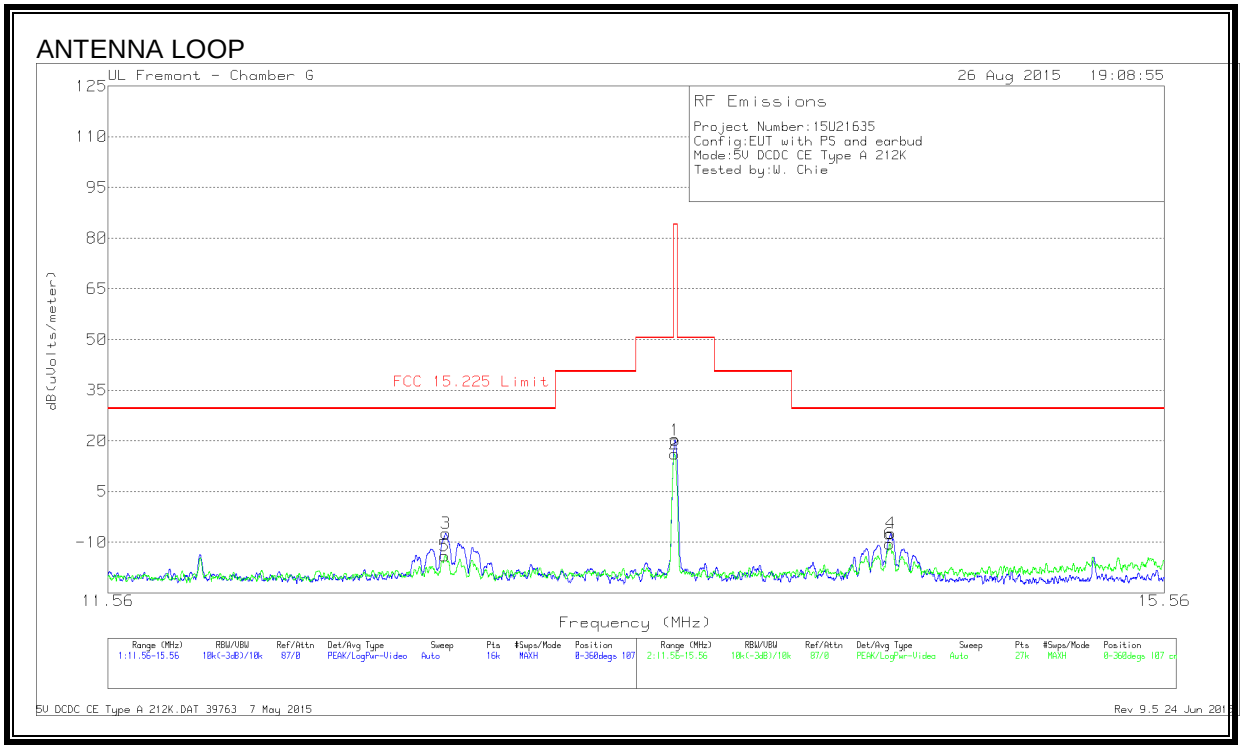


DATA

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)
4	3.5804	18.19	Pk	10.5	.3	-40	-11.01	29.54	-40.55	-	-	0-360
1	11.86326	13.96	Pk	10.4	.5	-40	-15.14	29.54	-44.68	-	-	0-360
5	11.86562	11.82	Pk	10.4	.5	-40	-17.28	29.54	-46.82	-	-	0-360
2	12.71214	16.33	Pk	10.4	.6	-40	-12.67	29.54	-42.21	-	-	0-360
6	12.71372	10.63	Pk	10.4	.6	-40	-18.37	29.54	-47.91	-	-	0-360
3	14.40519	16.98	Pk	10.3	.5	-40	-12.22	29.54	-41.76	-	-	0-360
7	14.41462	12.61	Pk	10.3	.5	-40	-16.59	29.54	-46.13	-	-	0-360
8	23.15022	20.68	Pk	9.2	.7	-40	-9.42	29.54	-38.96	-	-	0-360

Pk - Peak detector

FUNDAMENTAL 212Kbps

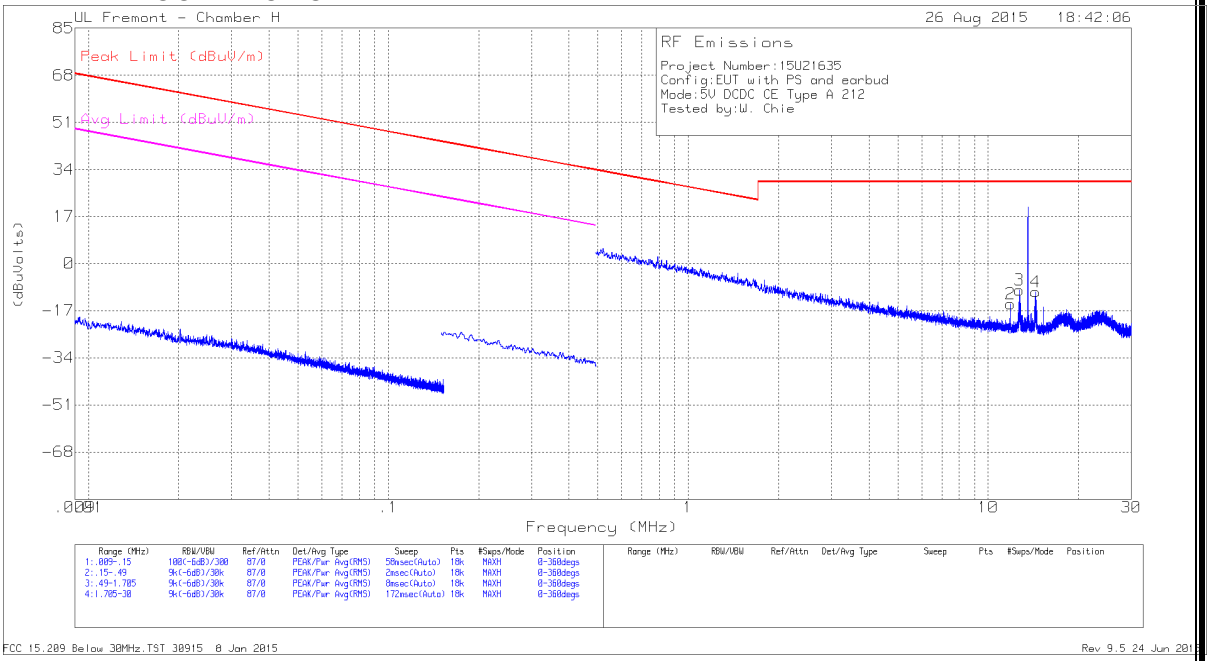


DATA

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)
5	12.70937	14.96	Pk	10.4	.6	-40	-14.04	29.54	-43.58	0-360
3	12.71213	21.66	Pk	10.4	.6	-40	-7.34	29.54	-36.88	0-360
2	13.55763	45.15	Pk	10.4	.6	-40	16.15	84	-67.85	0-360
1	13.55938	49.24	Pk	10.4	.6	-40	20.24	84	-63.76	0-360
6	14.40367	18.66	Pk	10.3	.5	-40	-10.54	29.54	-40.08	0-360
4	14.40763	21.76	Pk	10.3	.5	-40	-7.44	29.54	-36.98	0-360

SPURIOUS EMISSIONS 212kbps

ANTENNA LOOP FACE ON



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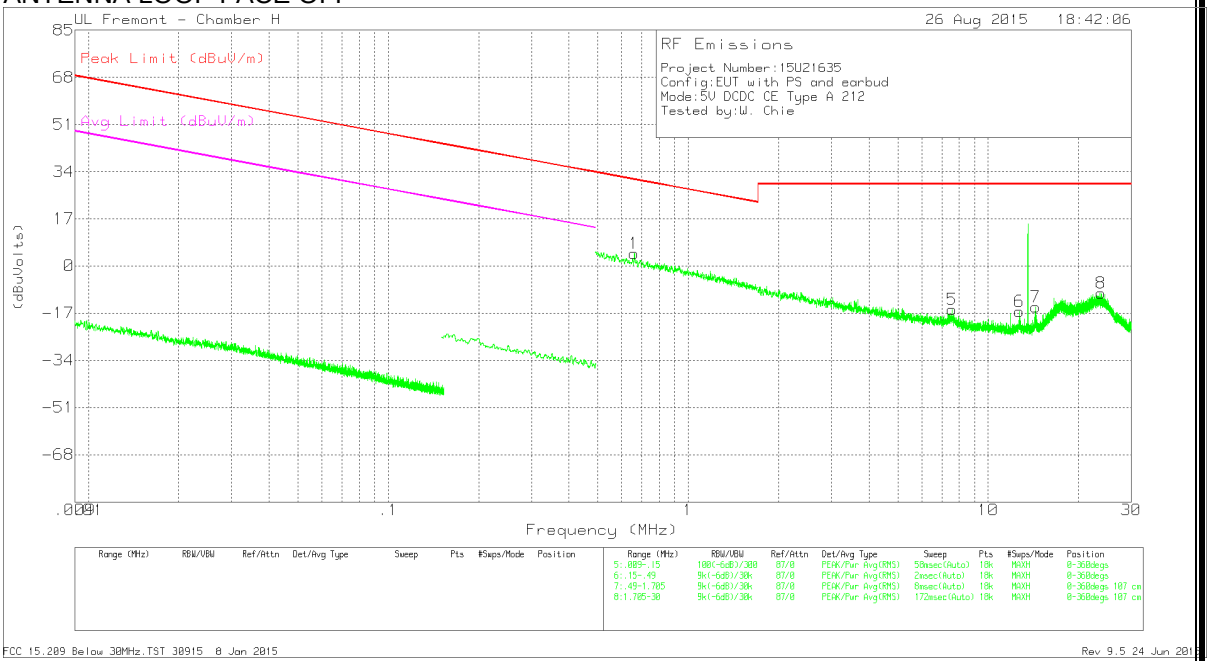
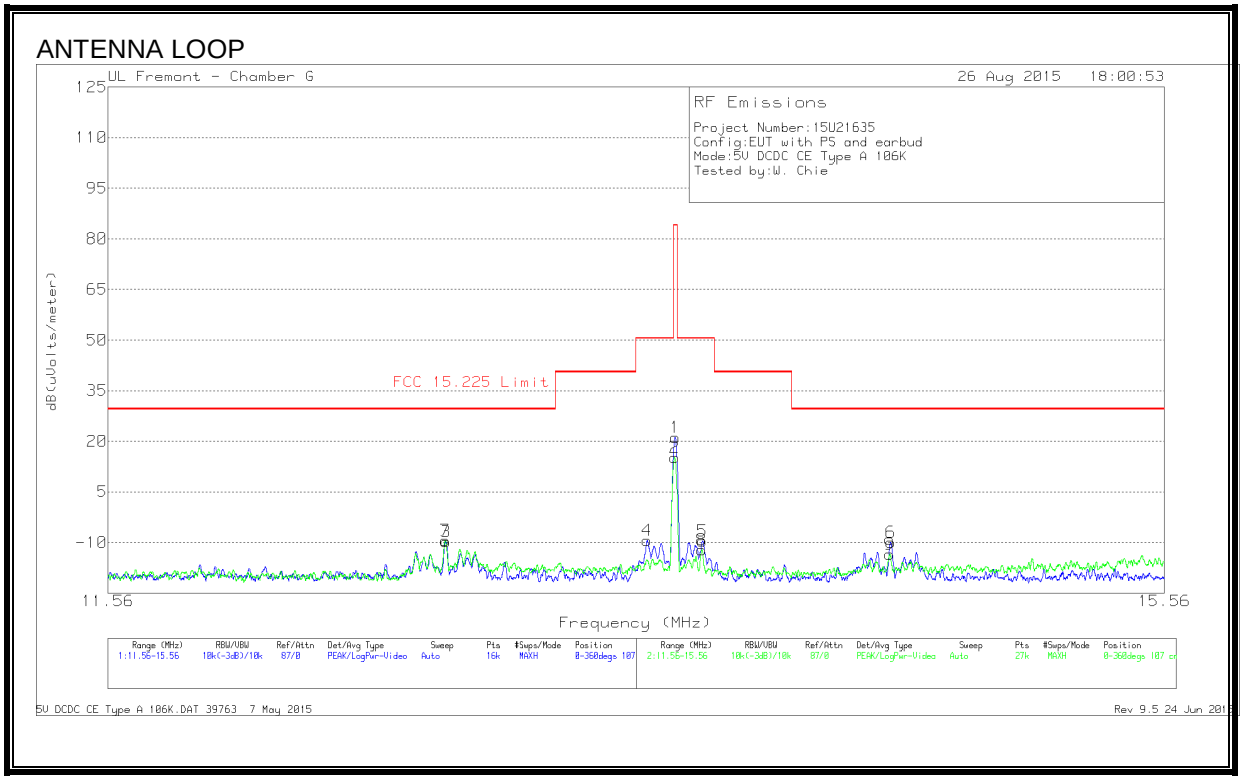


DATA

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	.66155	34.28	Pk	10.2	.1	-40	4.58	31.19	-26.61	-	-	0-360
5	7.56935	13.5	Pk	10.5	.4	-40	-15.6	29.54	-45.14	-	-	0-360
2	11.86484	14.58	Pk	10.4	.5	-40	-14.52	29.54	-44.06	-	-	0-360
3	12.71214	19.43	Pk	10.4	.6	-40	-9.57	29.54	-39.11	-	-	0-360
6	12.71214	12.66	Pk	10.4	.6	-40	-16.34	29.54	-45.88	-	-	0-360
7	14.40047	14.49	Pk	10.3	.5	-40	-14.71	29.54	-44.25	-	-	0-360
4	14.40519	19.08	Pk	10.3	.5	-40	-10.12	29.54	-39.66	-	-	0-360
8	23.724	20.38	Pk	9.1	.7	-40	-9.82	29.54	-39.36	-	-	0-360

Pk - Peak detector

FUNDAMENTAL 106Kbps



DATA

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)
7	12.71011	19.56	Pk	10.4	.6	-40	-9.44	29.54	-38.98	0-360
3	12.71263	19.25	Pk	10.4	.6	-40	-9.75	29.54	-39.29	0-360
4	13.45375	19.6	Pk	10.4	.6	-40	-9.4	50.5	-59.9	0-360
2	13.55785	44.17	Pk	10.4	.6	-40	15.17	84	-68.83	0-360
1	13.56025	50.14	Pk	10.4	.6	-40	21.14	84	-62.86	0-360
8	13.66182	16.83	Pk	10.4	.6	-40	-12.17	50.5	-62.67	0-360
5	13.66488	19.45	Pk	10.4	.6	-40	-9.55	50.5	-60.05	0-360
9	14.40367	15.71	Pk	10.3	.5	-40	-13.49	29.54	-43.03	0-360
6	14.40738	19.25	Pk	10.3	.5	-40	-9.95	29.54	-39.49	0-360

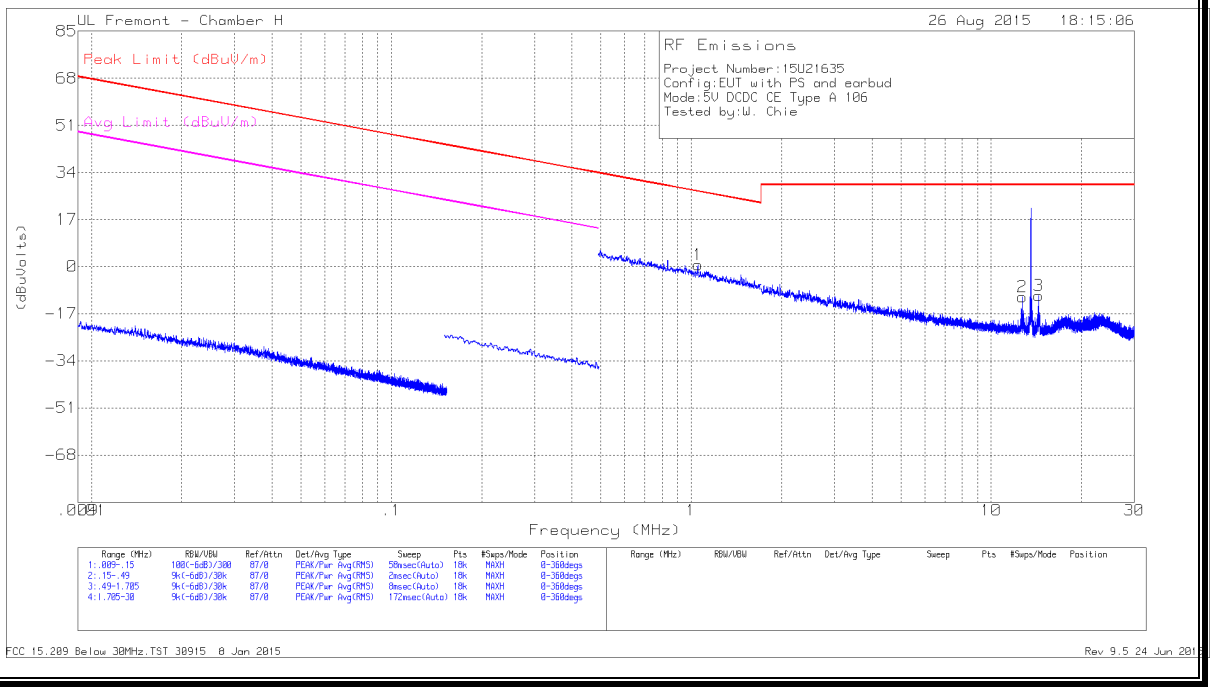
Pk - Peak detector

5V DCDC CE Type A 106K.DAT 39763 7 May 2015

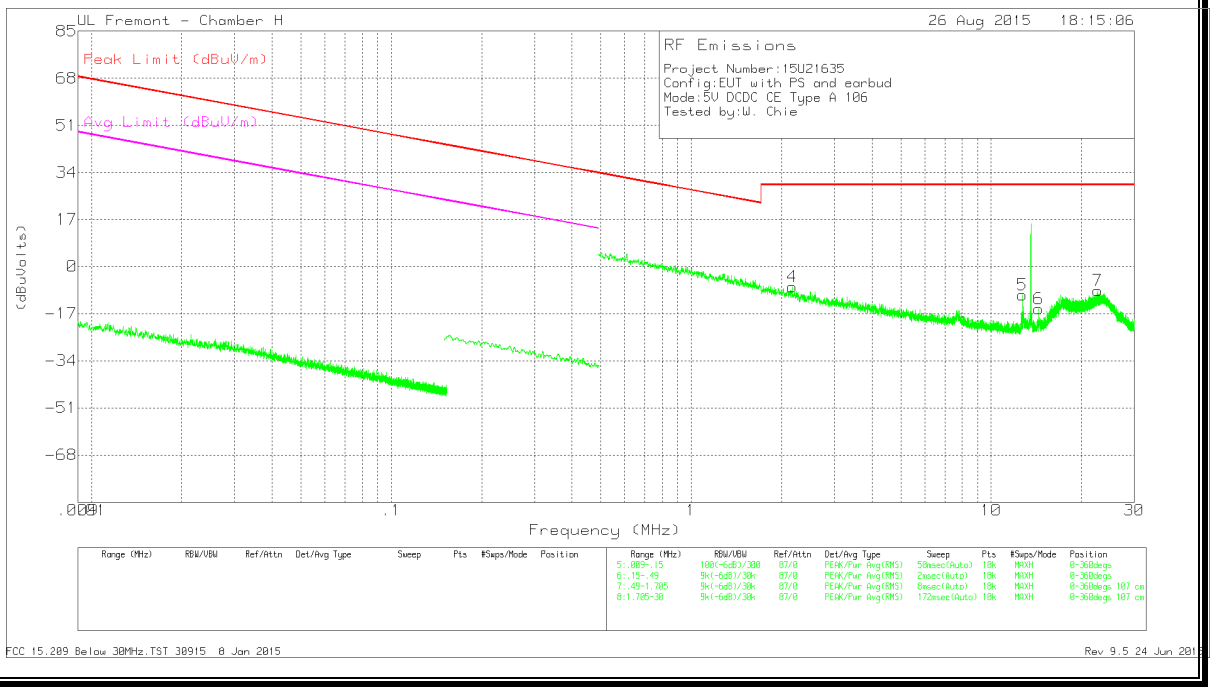
Rev 9.5 24 Jun 2015

SPURIOUS EMISSIONS 106Kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



DATA

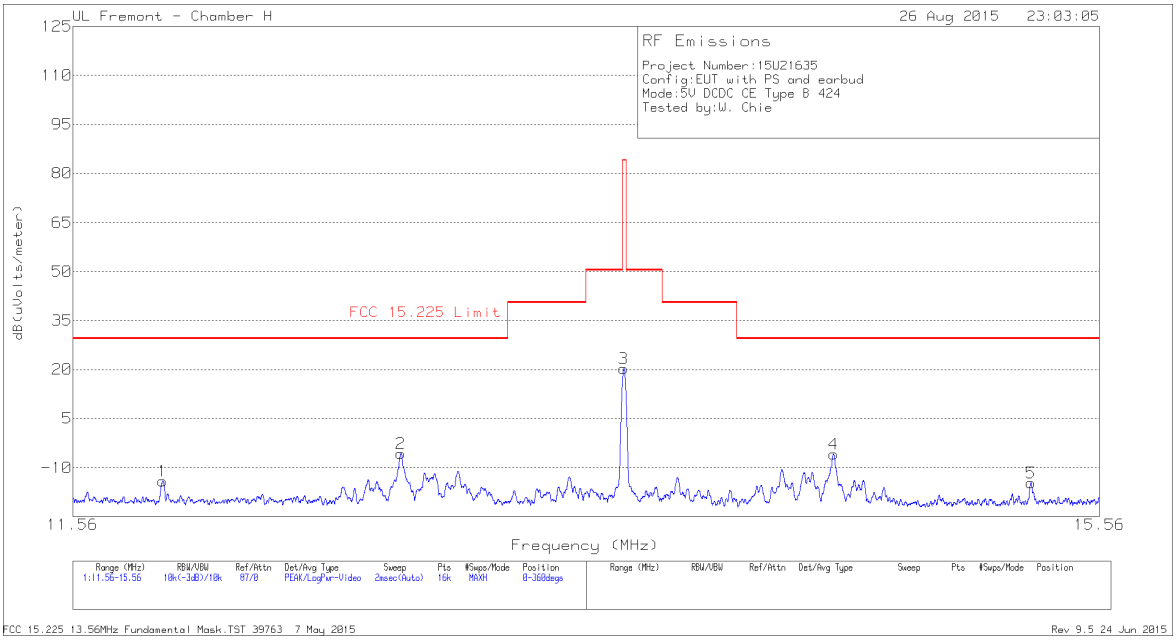
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	1.05303	30	Pk	10.4	.2	-40	.6	27.16	-26.56	-	-	0-360
4	2.17188	22.19	Pk	10.4	.2	-40	-7.21	29.54	-36.75	-	-	0-360
2	12.71214	17.99	Pk	10.4	.6	-40	-11.01	29.54	-40.55	-	-	0-360
5	12.71214	18.84	Pk	10.4	.6	-40	-10.16	29.54	-39.7	-	-	0-360
3	14.40676	18.83	Pk	10.3	.5	-40	-10.37	29.54	-39.91	-	-	0-360
6	14.40676	13.97	Pk	10.3	.5	-40	-15.23	29.54	-44.77	-	-	0-360
7	22.69827	21.42	Pk	9.3	.7	-40	-8.58	29.54	-38.12	-	-	0-360

Pk - Peak detector

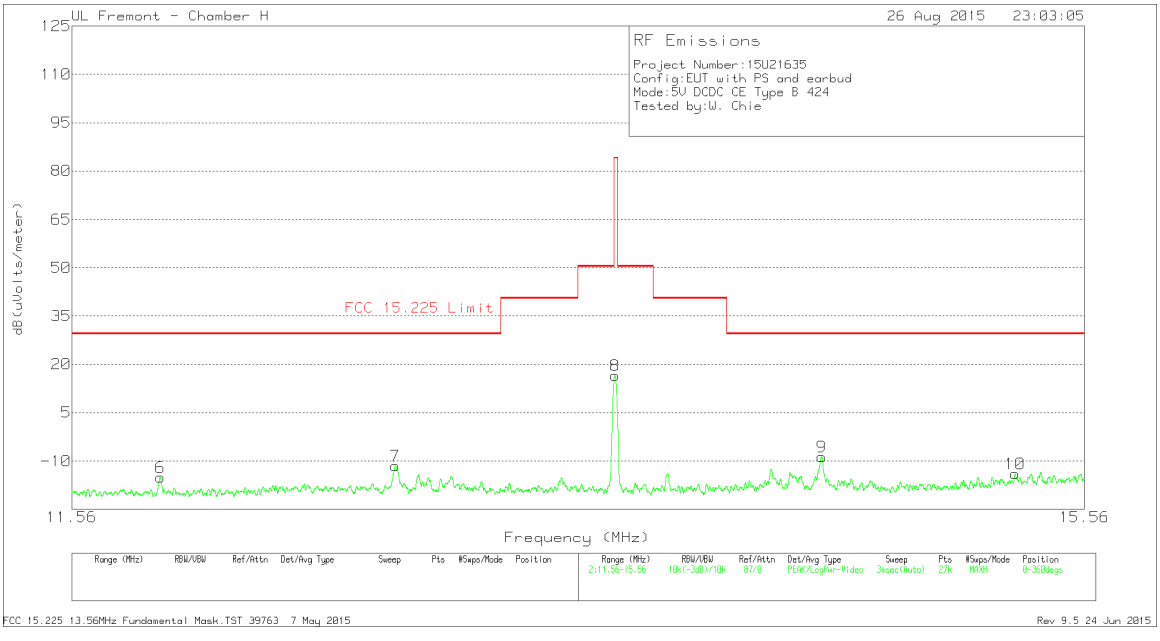
8.2.2. TYPE B

FUNDAMENTAL 424Kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



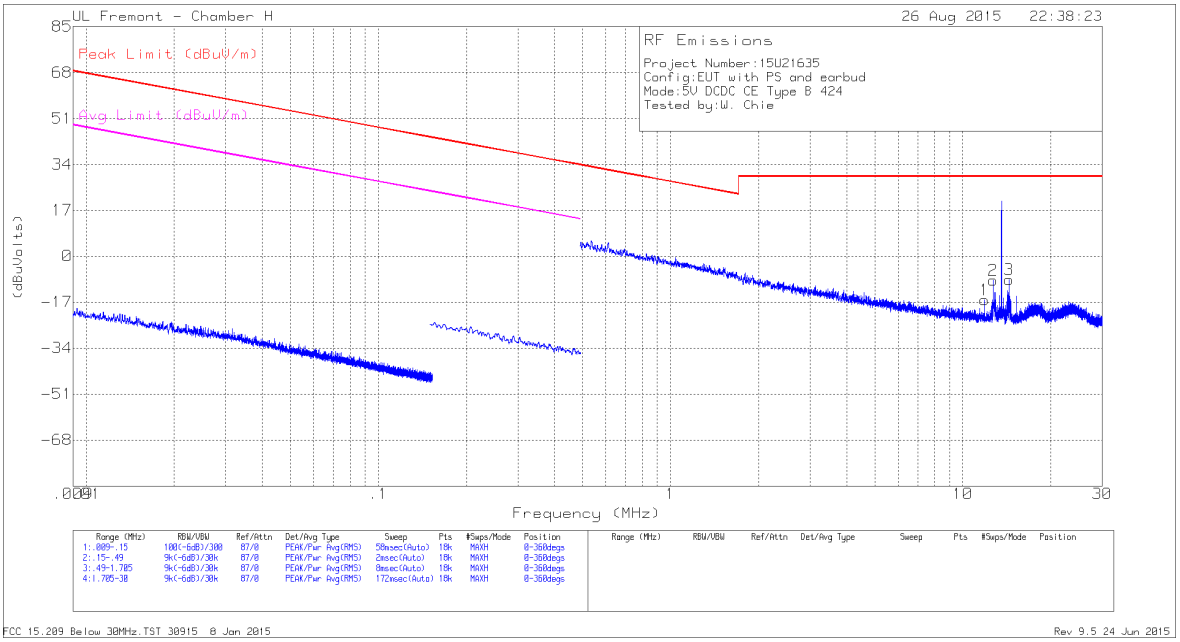
DATA

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	Margin (dB)	Azimuth (Degs)
6	11.86436	14.01	Pk	10.4	.5	-40	-15.09	-	-	0-360
1	11.86563	15.04	Pk	10.4	.5	-40	-14.06	-	-	0-360
7	12.71181	17.55	Pk	10.4	.6	-40	-11.45	-	-	0-360
2	12.71238	23.36	Pk	10.4	.6	-40	-5.64	-	-	0-360
8	13.55763	45.58	Pk	10.4	.6	-40	16.58	-	-	0-360
3	13.55938	49.34	Pk	10.4	.6	-40	20.34	-	-	0-360
9	14.4053	20.61	Pk	10.3	.5	-40	-8.59	-	-	0-360
4	14.40763	23.39	Pk	10.3	.5	-40	-5.81	-	-	0-360
10	15.2472	15.13	Pk	10.3	.6	-40	-13.97	-	-	0-360
5	15.25488	14.53	Pk	10.3	.6	-40	-14.57	-	-	0-360

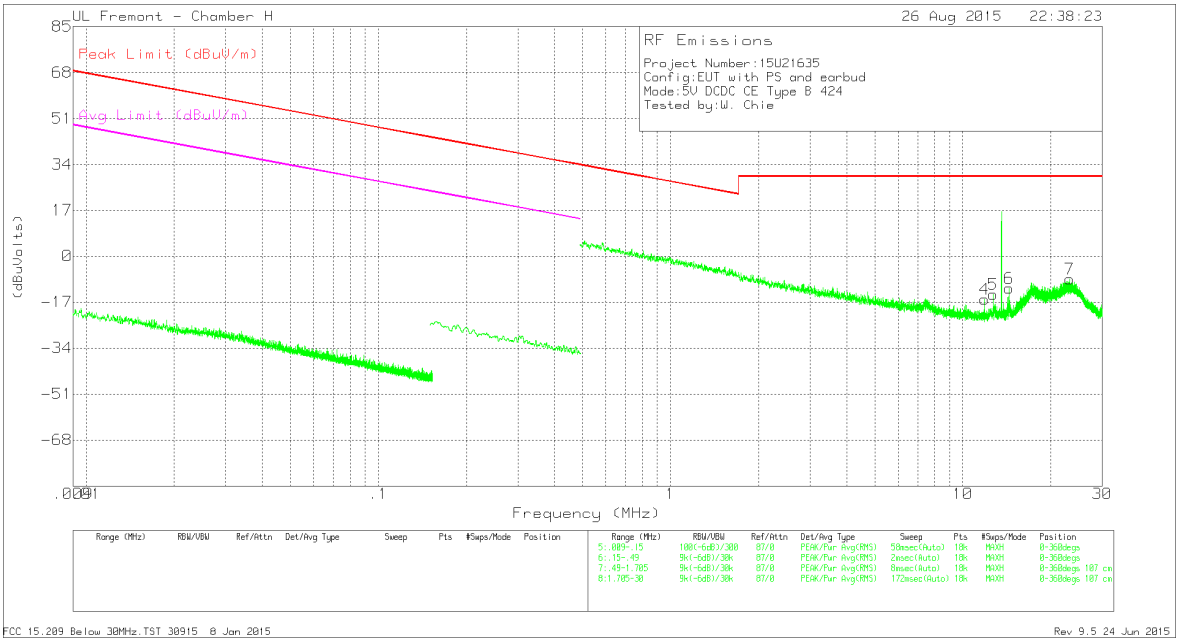
Pk - Peak detector

SPURIOUS EMISSIONS 424Kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



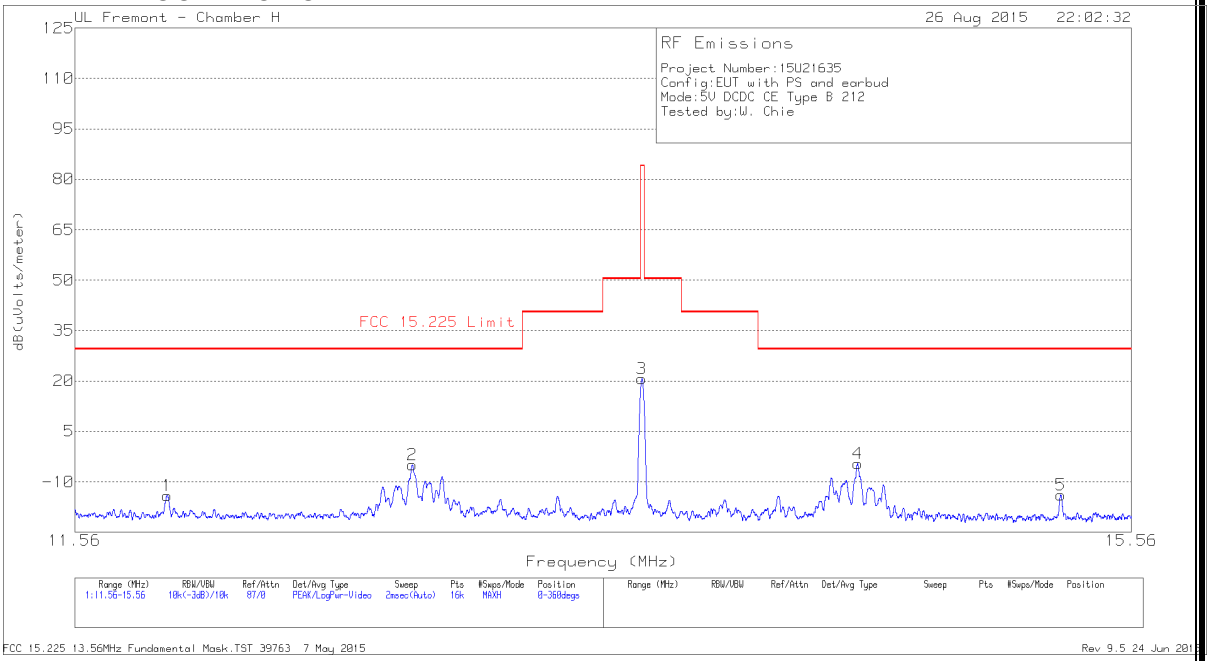
DATA

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	Pk	10.4	.5	-40	-16.1	29.54	-45.64	-	-	0-360
4	11.86484	13.22	Pk	10.4	.5	-40	-15.88	29.54	-45.42	-	-	0-360
5	12.70743	15.02	Pk	10.4	.6	-40	-13.98	29.54	-43.52	-	-	0-360
2	12.71372	20.2	Pk	10.4	.6	-40	-8.8	29.54	-38.34	-	-	0-360
6	14.40362	17.35	Pk	10.3	.5	-40	-11.85	29.54	-41.39	-	-	0-360
3	14.40676	20.58	Pk	10.3	.5	-40	-8.62	29.54	-38.16	-	-	0-360
7	23.21546	21.58	Pk	9.2	.7	-40	-8.52	29.54	-38.06	-	-	0-360

Pk - Peak detector

FUNDAMENTAL 212Kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF

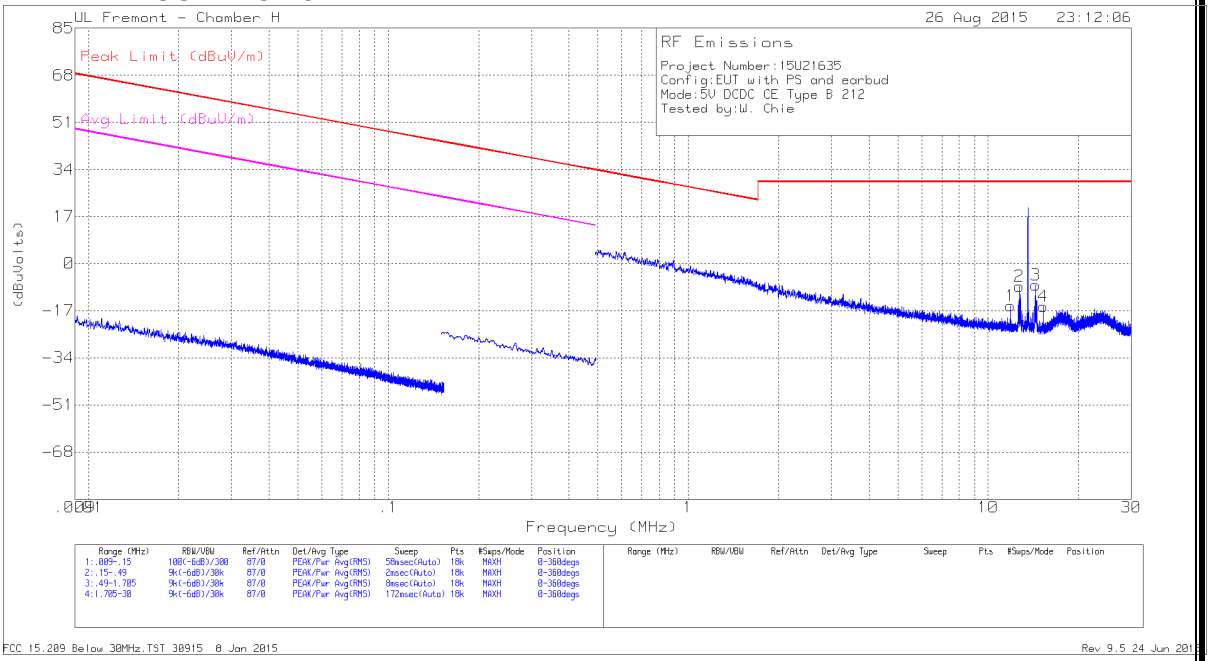
DATA

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	Margin (dB)	Azimuth (Degs)
6	11.86259	14.7	Pk	10.4	.5	-40	-14.4	29.54	-43.94	0-360
1	11.86563	15.06	Pk	10.4	.5	-40	-14.04	29.54	-43.58	0-360
7	12.71033	18.8	Pk	10.4	.6	-40	-10.2	29.54	-39.74	0-360
2	12.71163	24.03	Pk	10.4	.6	-40	-4.97	29.54	-34.51	0-360
8	13.55763	45.84	Pk	10.4	.6	-40	16.84	84	-67.16	0-360
3	13.55938	49.66	Pk	10.4	.6	-40	20.66	84	-63.34	0-360
9	14.40419	21.28	Pk	10.3	.5	-40	-7.92	29.54	-37.46	0-360
4	14.407	24.59	Pk	10.3	.5	-40	-4.61	29.54	-34.15	0-360
10	15.25208	16.78	Pk	10.3	.6	-40	-12.32	29.54	-41.86	0-360
5	15.25413	15.21	Pk	10.3	.6	-40	-13.89	29.54	-43.43	0-360

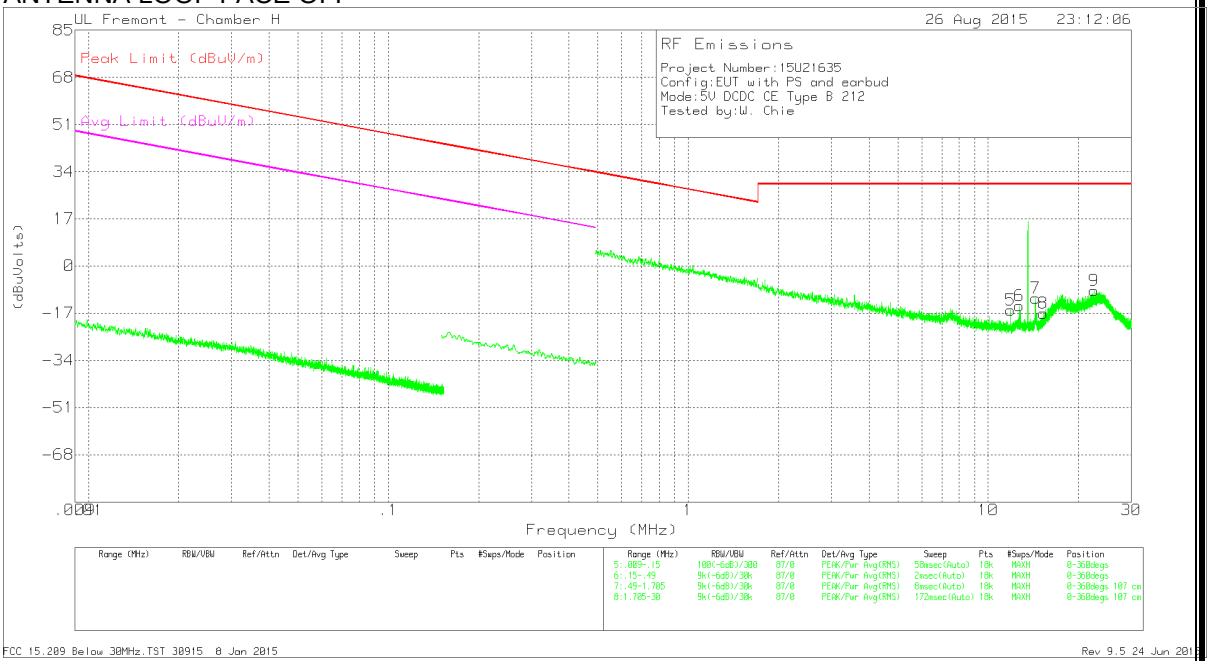
Pk - Peak detector

SPURIOUS EMISSIONS 212Kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



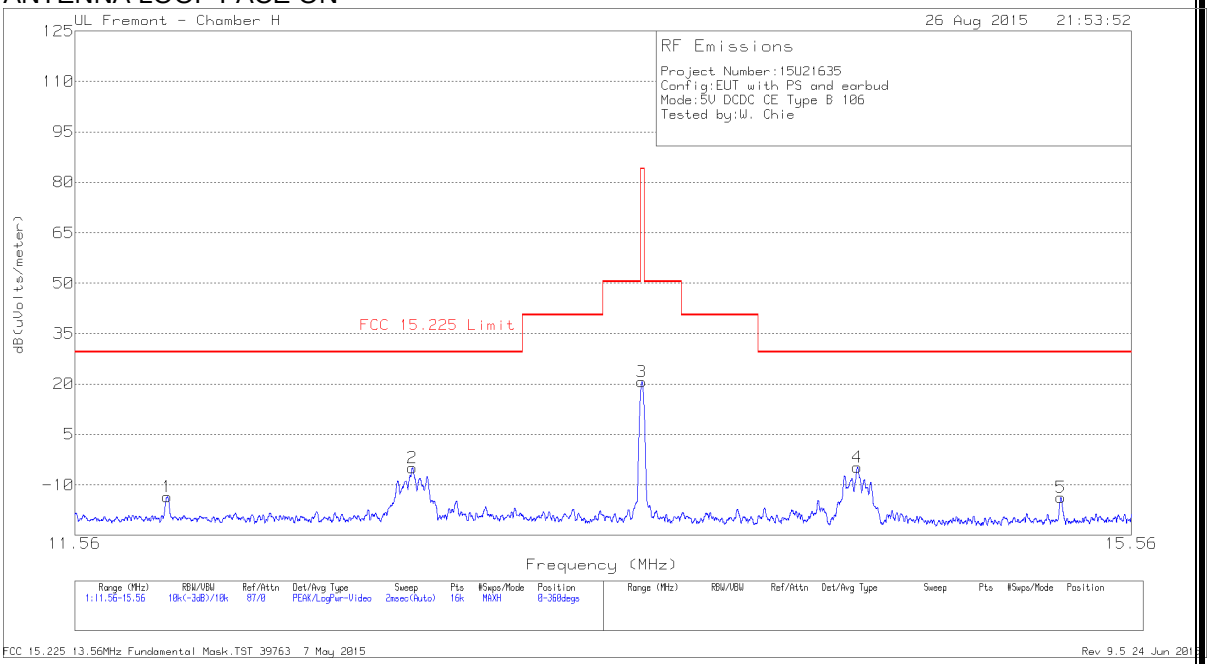
DATA

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)
5	11.86405	13.16	Pk	10.4	.5	-40	-15.94	29.54	-45.48	-	-	0-360
1	11.86484	13.96	Pk	10.4	.5	-40	-15.14	29.54	-44.68	-	-	0-360
2	12.71214	20.79	Pk	10.4	.6	-40	-8.21	29.54	-37.75	-	-	0-360
6	12.71372	14.66	Pk	10.4	.6	-40	-14.34	29.54	-43.88	-	-	0-360
3	14.40519	21.37	Pk	10.3	.5	-40	-7.83	29.54	-37.37	-	-	0-360
7	14.40597	17.54	Pk	10.3	.5	-40	-11.66	29.54	-41.2	-	-	0-360
4	15.25407	13.63	Pk	10.3	.6	-40	-15.47	29.54	-45.01	-	-	0-360
8	15.25407	11.99	Pk	10.3	.6	-40	-17.11	29.54	-46.65	-	-	0-360
9	22.56701	21.04	Pk	9.3	.7	-40	-8.96	29.54	-38.5	-	-	0-360

Pk - Peak detector

FUNDAMENTAL 106Kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF

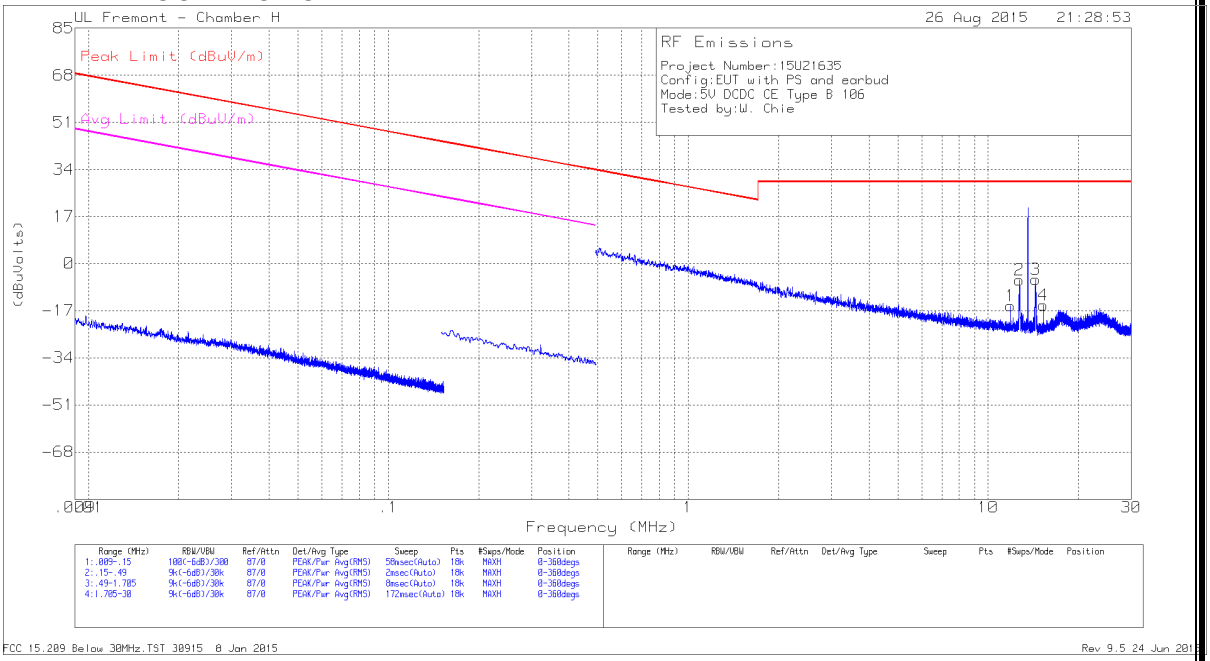
DATA

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	Margin (dB)	Azimuth (Degs)
6	11.86436	14.91	Pk	10.4	.5	-40	-14.19	29.54	-43.73	0-360
1	11.86563	15.6	Pk	10.4	.5	-40	-13.5	29.54	-43.04	0-360
7	12.71018	18.03	Pk	10.4	.6	-40	-10.97	29.54	-40.51	0-360
2	12.71213	24.15	Pk	10.4	.6	-40	-4.85	29.54	-34.39	0-360
8	13.55748	45.5	Pk	10.4	.6	-40	16.5	84	-67.5	0-360
3	13.55938	49.66	Pk	10.4	.6	-40	20.66	84	-63.34	0-360
9	14.40404	21.82	Pk	10.3	.5	-40	-7.38	29.54	-36.92	0-360
4	14.40663	24.45	Pk	10.3	.5	-40	-4.75	29.54	-34.29	0-360
10	15.25149	15.72	Pk	10.3	.6	-40	-13.38	29.54	-42.92	0-360
5	15.25438	15.38	Pk	10.3	.6	-40	-13.72	29.54	-43.26	0-360

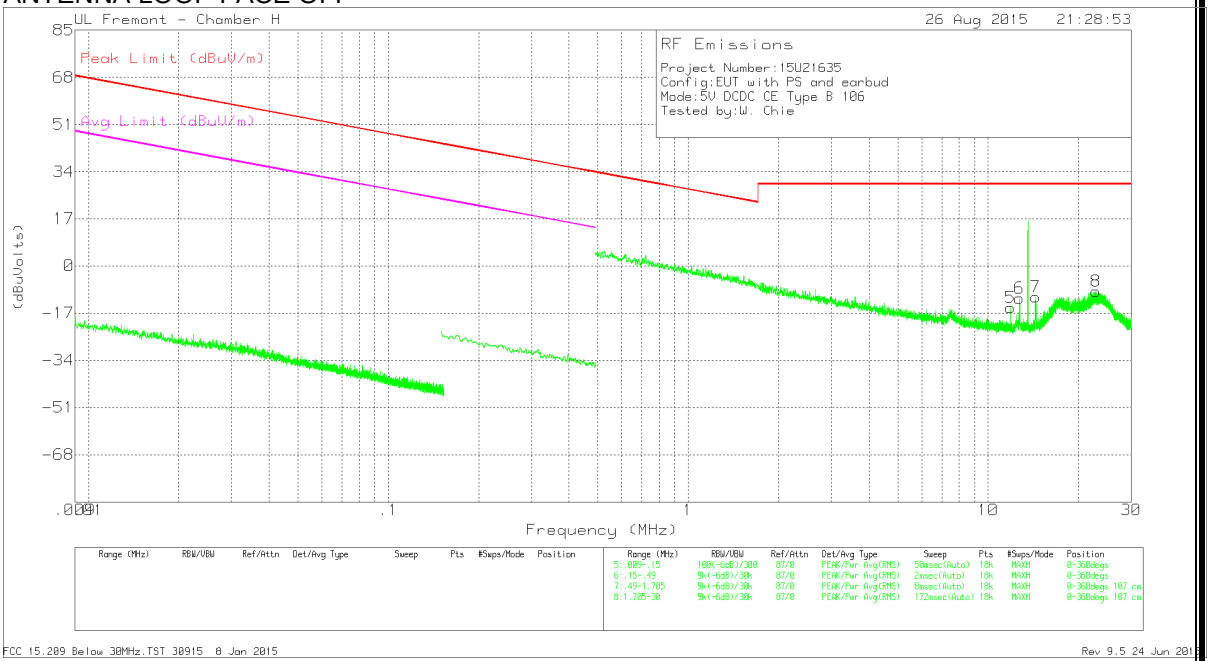
Pk - Peak detector

SPURIOUS EMISSIONS 106Kbps

ANTENNA LOOP FACE ON



ANTENNA LOOP FACE OFF



DATA

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	13.84	Pk	10.4	.5	-40	-15.26	29.54	-44.8	-	-	0-360
5	11.86484	14.01	Pk	10.4	.5	-40	-15.09	29.54	-44.63	-	-	0-360
2	12.71214	23.08	Pk	10.4	.6	-40	-5.92	29.54	-35.46	-	-	0-360
6	12.71293	17.45	Pk	10.4	.6	-40	-11.55	29.54	-41.09	-	-	0-360
7	14.40597	18.02	Pk	10.3	.5	-40	-11.18	29.54	-40.72	-	-	0-360
3	14.40676	23.6	Pk	10.3	.5	-40	-5.6	29.54	-35.14	-	-	0-360
4	15.25407	14.12	Pk	10.3	.6	-40	-14.98	29.54	-44.52	-	-	0-360
8	22.89242	20.98	Pk	9.3	.7	-40	-9.02	29.54	-38.56	-	-	0-360

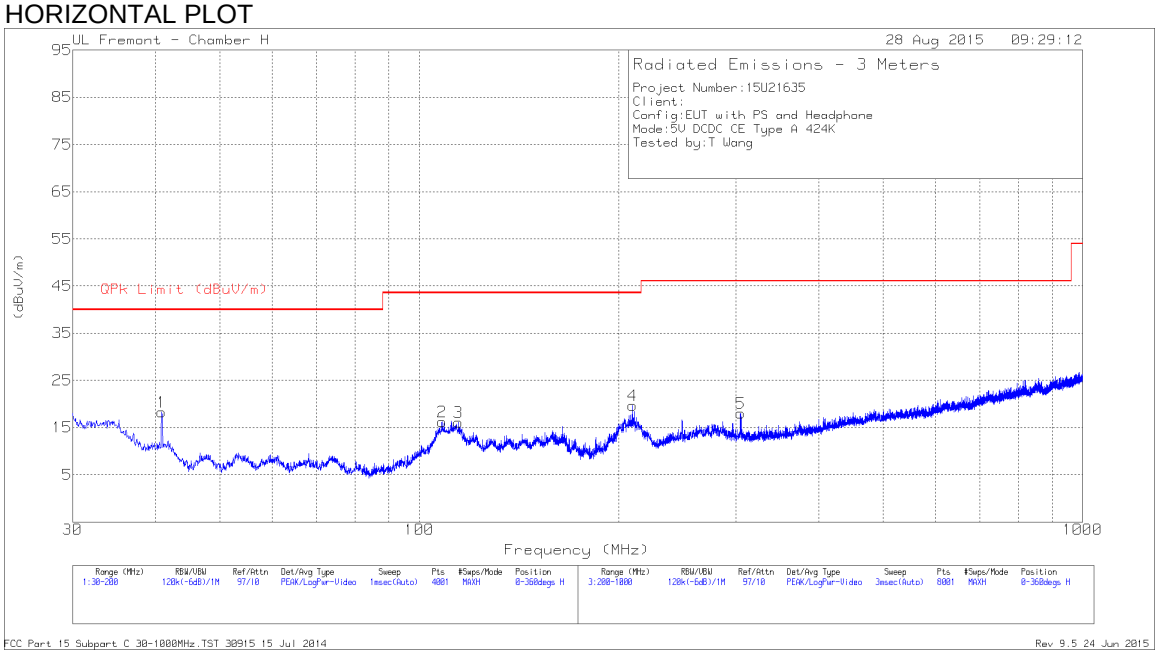
Pk - Peak detector

8.3. TX SPURIOUS EMISSION 30 TO 1000 MHz

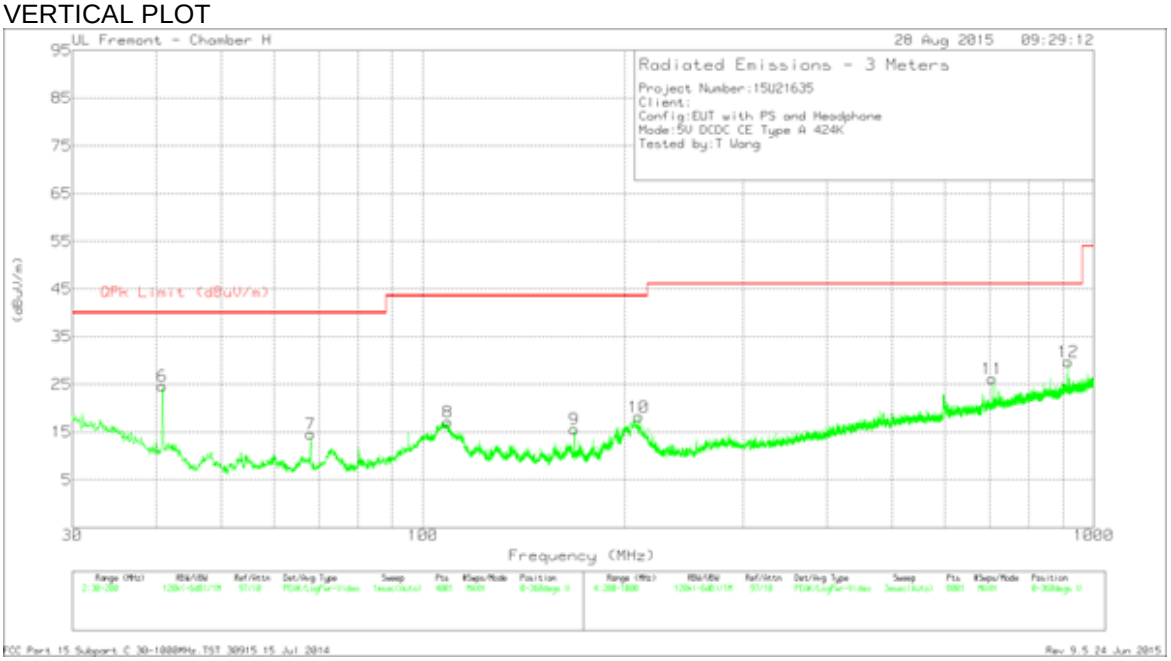
8.3.1. TYPE A

424Kbps

HORIZONTAL PLOT



VERTICAL PLOT



DATA

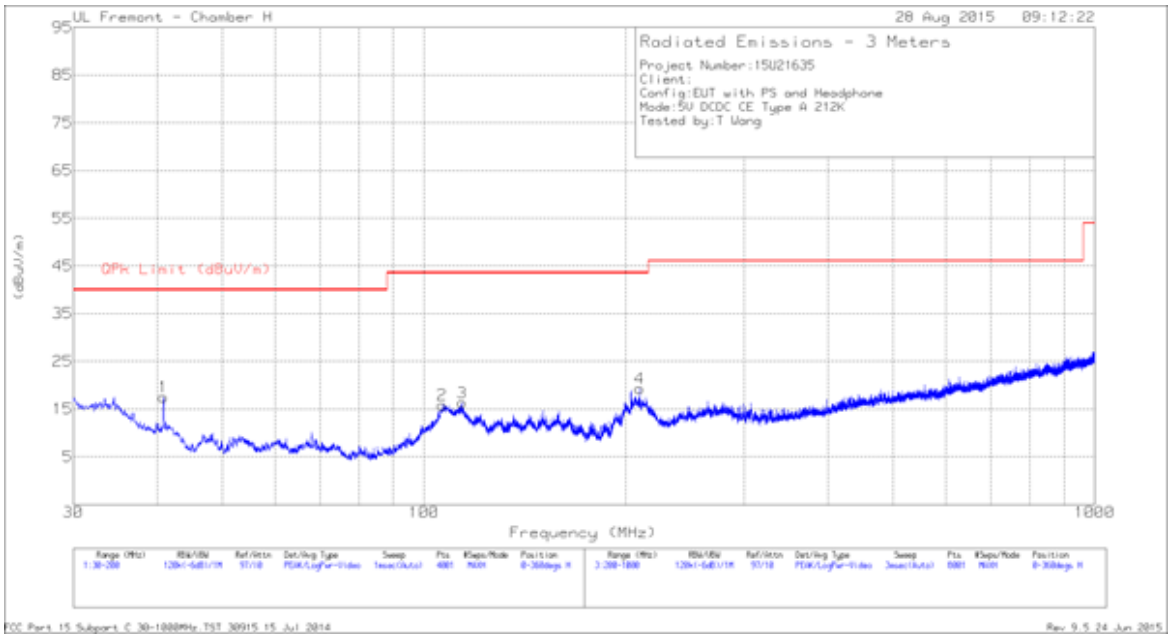
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T900 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 108.1575	34.55	Pk	12.1	-30.4	16.25	43.52	-27.27	0-360	301	H
3	* 114.575	33.38	Pk	13.2	-30.4	16.18	43.52	-27.34	0-360	201	H
8	* 108.8375	35.24	Pk	12.3	-30.4	17.14	43.52	-26.38	0-360	100	V
9	* 168.21	33.7	Pk	11.8	-29.9	15.6	43.52	-27.92	0-360	100	V
1	40.88	35.5	Pk	14	-31.2	18.3	40	-21.7	0-360	401	H
6	40.88	41.87	Pk	14	-31.2	24.67	40	-15.33	0-360	100	V
7	67.995	37.02	Pk	8.5	-30.9	14.62	40	-25.38	0-360	100	V
4	209.6	39.11	Pk	10.3	-29.7	19.71	43.52	-23.81	0-360	100	H
10	209.6	37.63	Pk	10.3	-29.7	18.23	43.52	-25.29	0-360	100	V
5	305.2	33.62	Pk	13.4	-29	18.02	46.02	-28	0-360	100	H
11	705.6	33.83	Pk	20.1	-27.7	26.23	46.02	-19.79	0-360	100	V
12	916.1	33.72	Pk	22.4	-26.3	29.82	46.02	-16.2	0-360	301	V

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

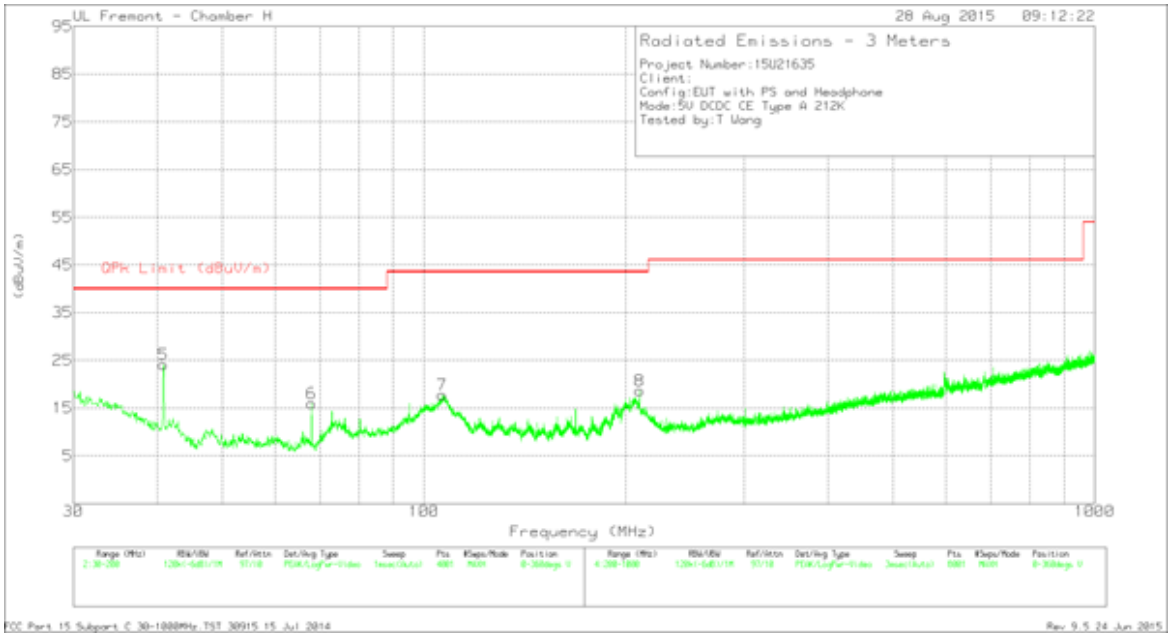
Pk - Peak detector

212Kbps

HORIZONTAL PLOT



VERTICAL PLOT



DATA

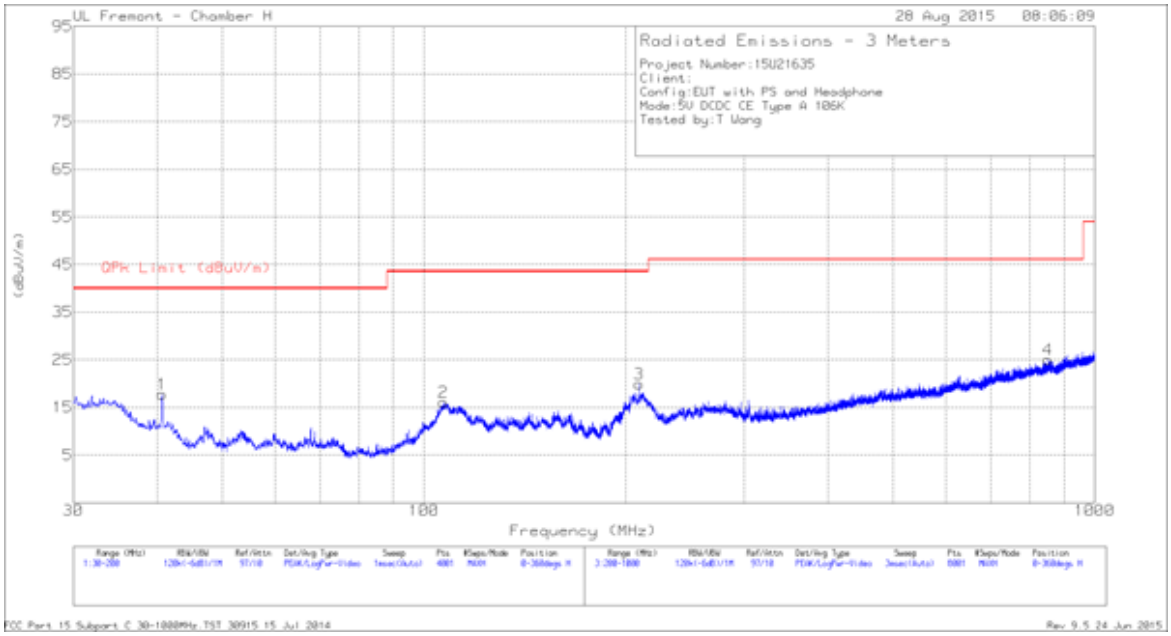
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T900 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 114.15	33.62	Pk	13.1	-30.4	16.32	43.52	-27.2	0-360	201	H
1	40.88	34.69	Pk	14	-31.2	17.49	40	-22.51	0-360	301	H
5	40.88	41.36	Pk	14	-31.2	24.16	40	-15.84	0-360	100	V
6	67.995	38.43	Pk	8.5	-30.9	16.03	40	-23.97	0-360	100	V
2	106.4575	34.63	Pk	11.7	-30.5	15.83	43.52	-27.69	0-360	301	H
7	106.5	36.61	Pk	11.7	-30.5	17.81	43.52	-25.71	0-360	100	V
4	209.6	38.68	Pk	10.3	-29.7	19.28	43.52	-24.24	0-360	100	H
8	209.6	38.08	Pk	10.3	-29.7	18.68	43.52	-24.84	0-360	100	V

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

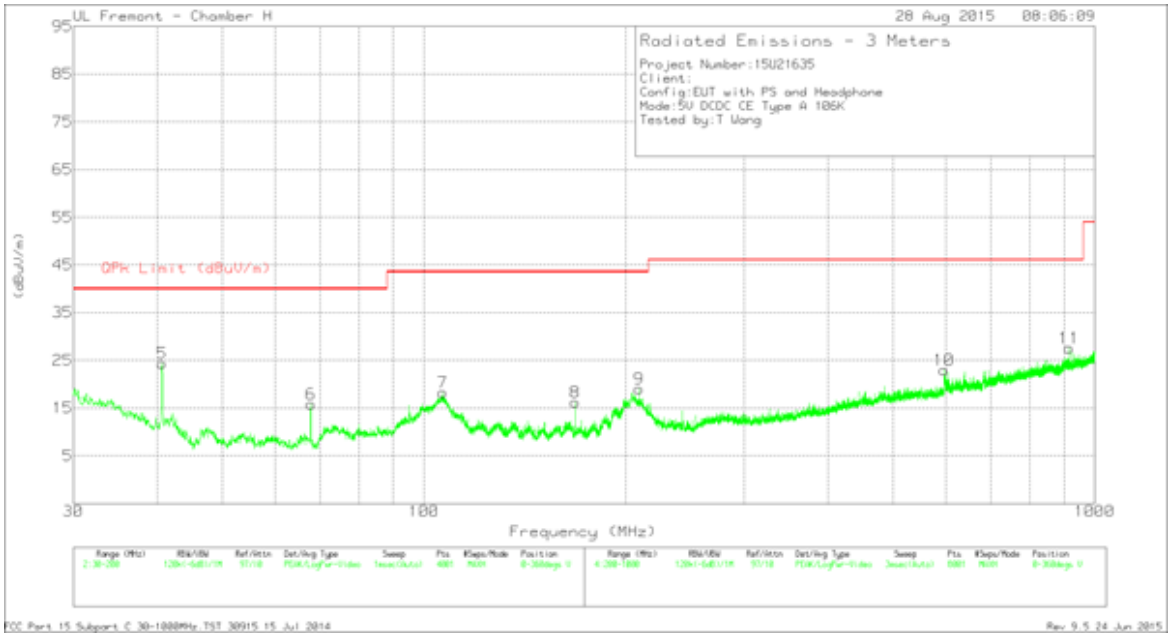
Pk - Peak detector

106Kbps

HORIZONTAL PLOT



VERTICAL PLOT



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T900 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
8	* 168.04	34.39	Pk	11.8	-29.9	16.29	43.52	-27.23	0-360	100	V
1	40.6675	34.92	Pk	14.1	-31.2	17.82	40	-22.18	0-360	401	H
5	40.6675	41.46	Pk	14.1	-31.2	24.36	40	-15.64	0-360	100	V
6	67.7825	38.12	Pk	8.5	-30.8	15.82	40	-24.18	0-360	100	V
7	106.67	37.05	Pk	11.7	-30.5	18.25	43.52	-25.27	0-360	100	V
2	106.925	34.81	Pk	11.8	-30.5	16.11	43.52	-27.41	0-360	201	H
3	209.2	39.31	Pk	10.4	-29.7	20.01	43.52	-23.51	0-360	100	H
9	209.3	38.32	Pk	10.4	-29.7	19.02	43.52	-24.5	0-360	100	V
10	596.3	32.52	Pk	18.6	-28.1	23.02	46.02	-23	0-360	100	V
4	851.3	29.96	Pk	22	-26.9	25.06	46.02	-20.96	0-360	301	H
11	915.8	31.4	Pk	22.5	-26.3	27.6	46.02	-18.42	0-360	301	V

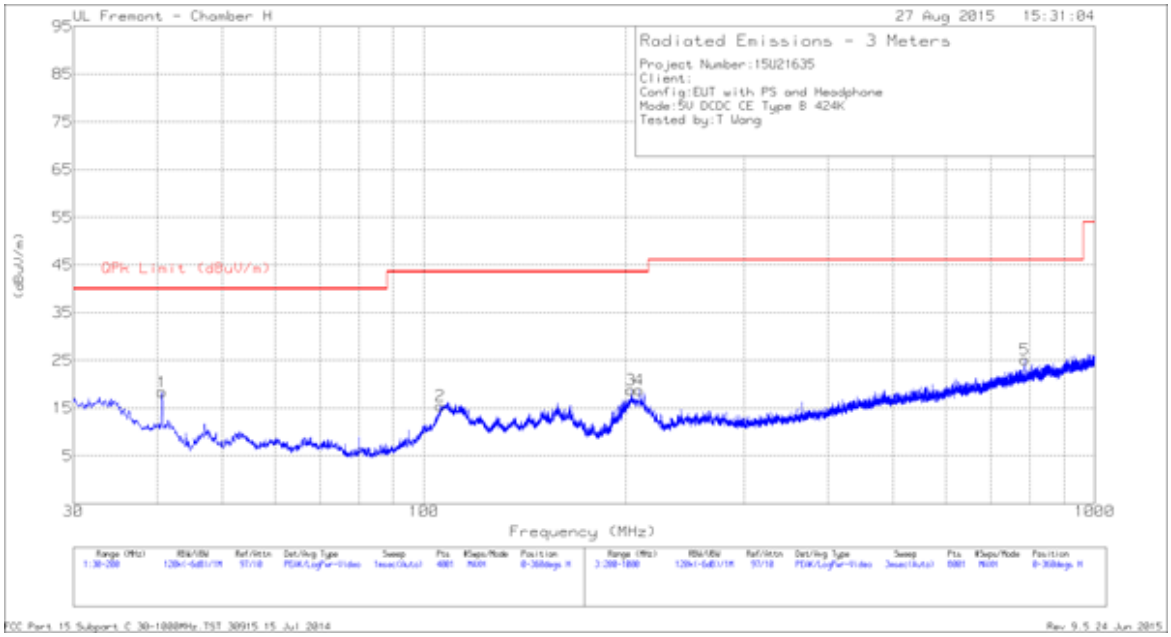
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

Pk - Peak detector

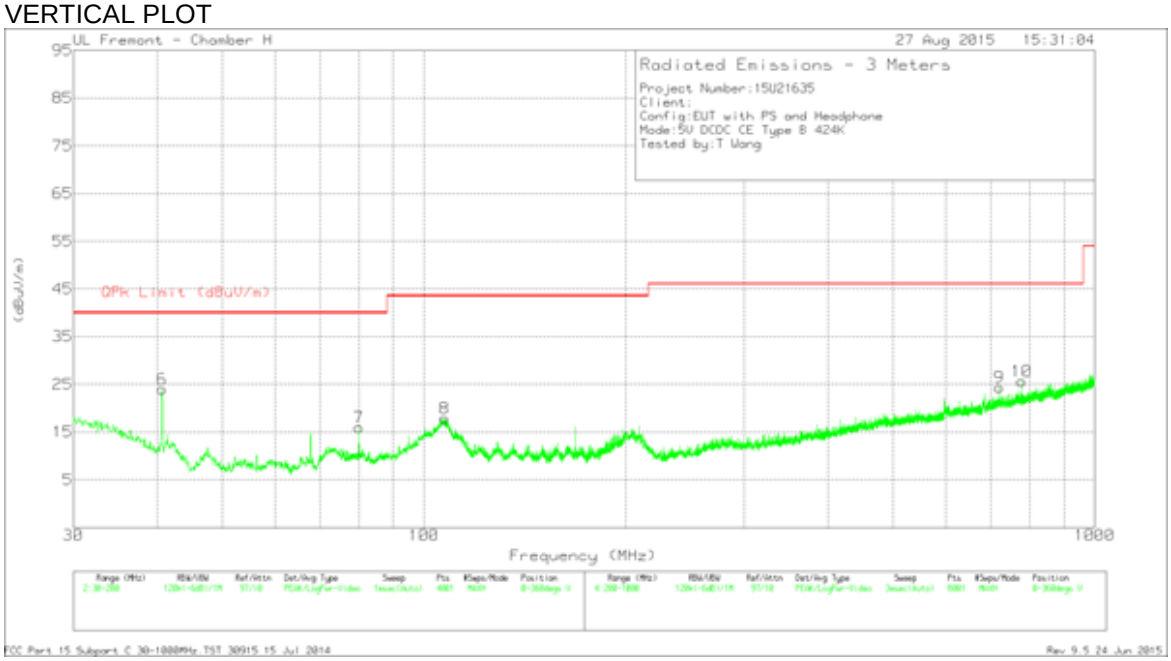
8.3.2. TYPE B

424Kbps

HORIZONTAL PLOT



VERTICAL PLOT



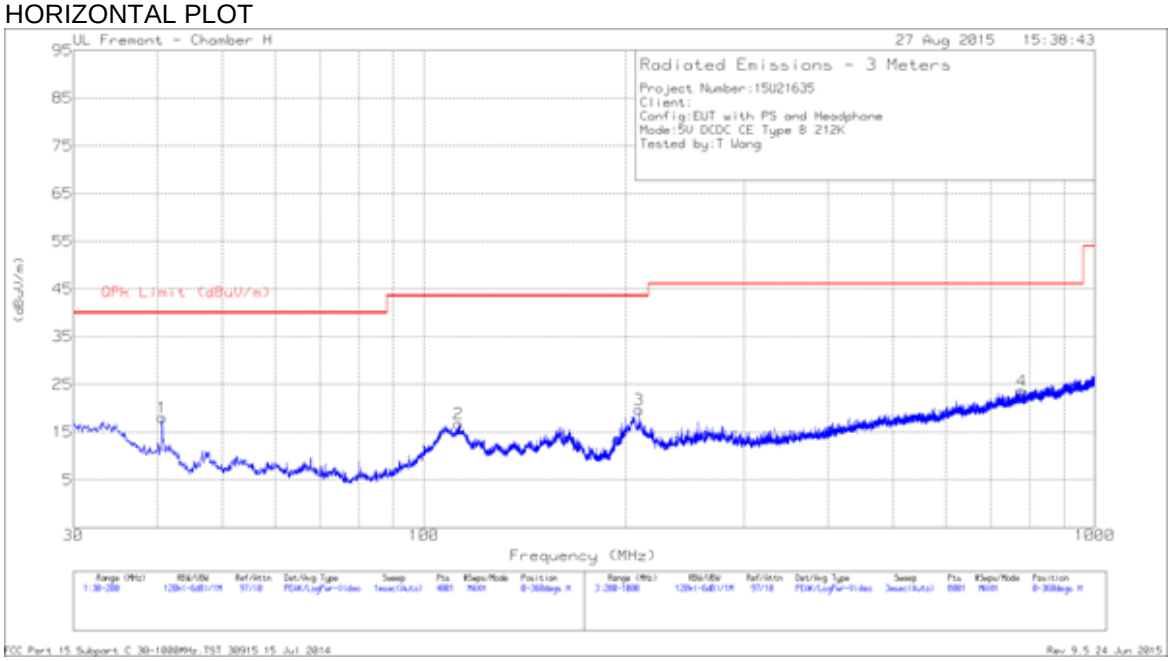
DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T900 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	40.6675	35.46	Pk	14.1	-31.2	18.36	40	-21.64	0-360	401	H
6	40.6675	41.1	Pk	14.1	-31.2	24	40	-16	0-360	100	V
7	80.0013	38.9	Pk	7.8	-30.7	16	40	-24	0-360	100	V
2	105.8625	34.35	Pk	11.6	-30.5	15.45	43.52	-28.07	0-360	301	H
8	107.3075	36.42	Pk	11.9	-30.4	17.92	43.52	-25.6	0-360	100	V
3	203.8	37.19	Pk	11.3	-29.7	18.79	43.52	-24.73	0-360	201	H
4	209.3	38.13	Pk	10.4	-29.7	18.83	43.52	-24.69	0-360	100	H
9	720	31.26	Pk	20.7	-27.6	24.36	46.02	-21.66	0-360	201	V
10	778.6	32.12	Pk	20.9	-27.3	25.72	46.02	-20.3	0-360	301	V
5	785.7	31.71	Pk	20.9	-27.4	25.21	46.02	-20.81	0-360	201	H

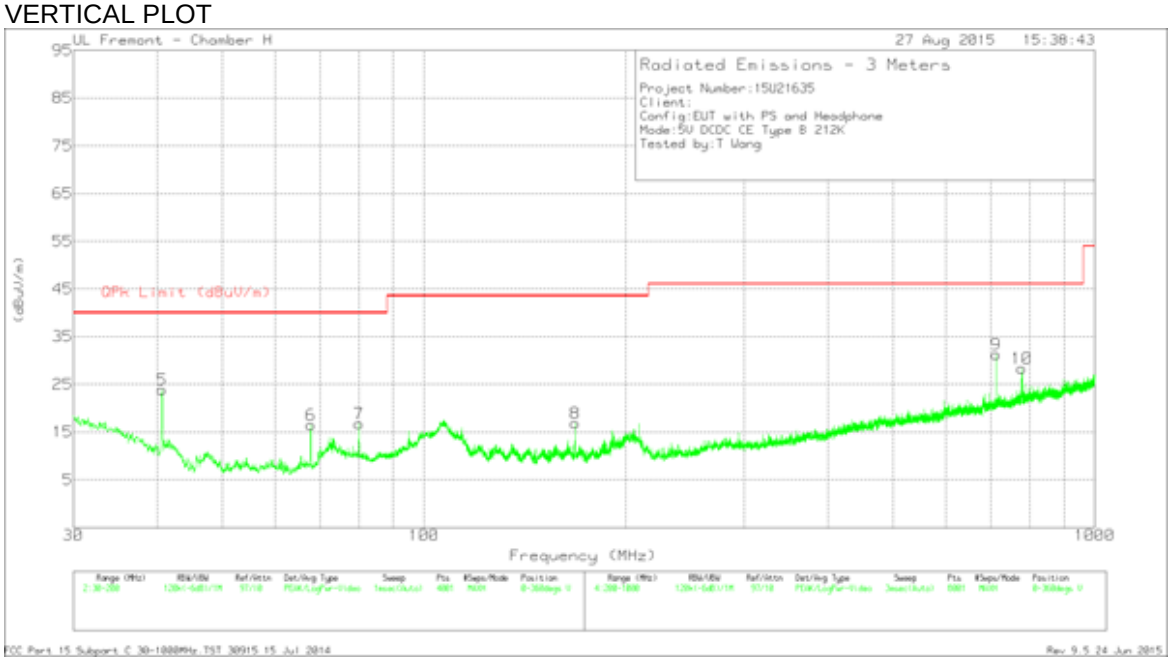
Pk - Peak detector

212Kbps

HORIZONTAL PLOT



VERTICAL PLOT



DATA

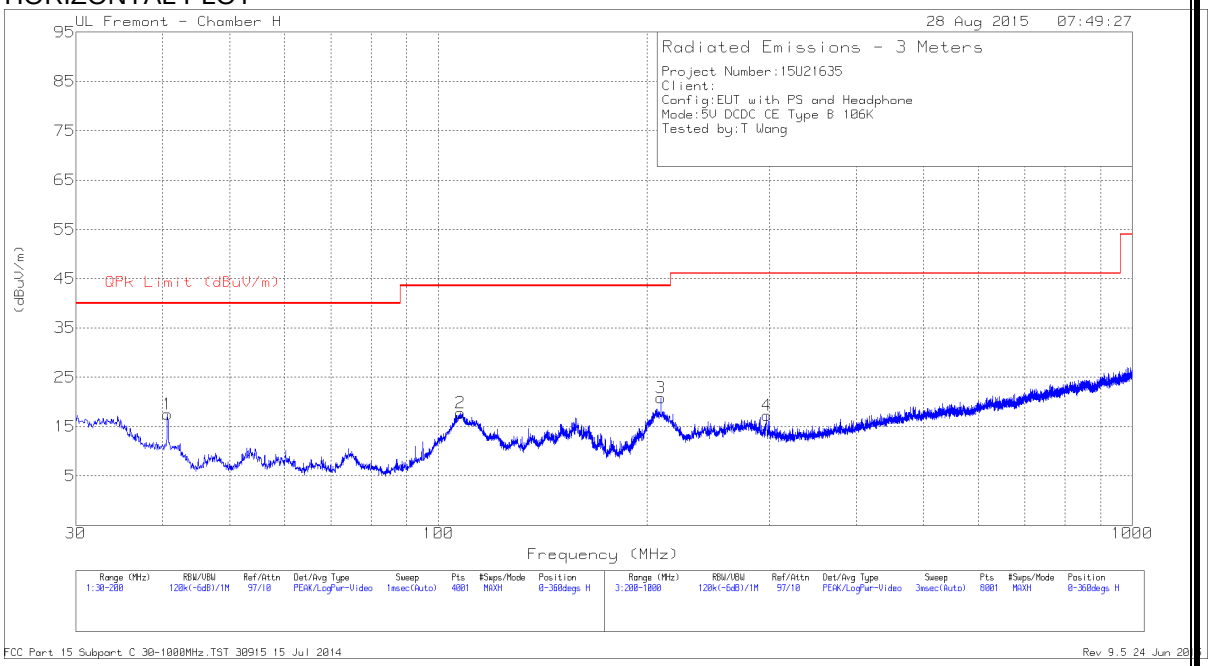
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T900 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 112.705	34.08	Pk	13	-30.3	16.78	43.52	-26.74	0-360	301	H
8	* 167.9975	35.03	Pk	11.8	-29.9	16.93	43.52	-26.59	0-360	100	V
1	40.6675	35.08	Pk	14.1	-31.2	17.98	40	-22.02	0-360	401	H
5	40.6675	41.04	Pk	14.1	-31.2	23.94	40	-16.06	0-360	100	V
6	67.7825	38.87	Pk	8.5	-30.8	16.57	40	-23.43	0-360	100	V
7	79.98	39.62	Pk	7.8	-30.7	16.72	40	-23.28	0-360	100	V
3	209.3	38.94	Pk	10.4	-29.7	19.64	43.52	-23.88	0-360	100	H
9	713.45	38.59	Pk	20.4	-27.7	31.29	46.02	-14.73	0-360	301	V
4	778.7	30.1	Pk	20.9	-27.3	23.7	46.02	-22.32	0-360	301	H
10	778.7	34.74	Pk	20.9	-27.3	28.34	46.02	-17.68	0-360	301	V

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

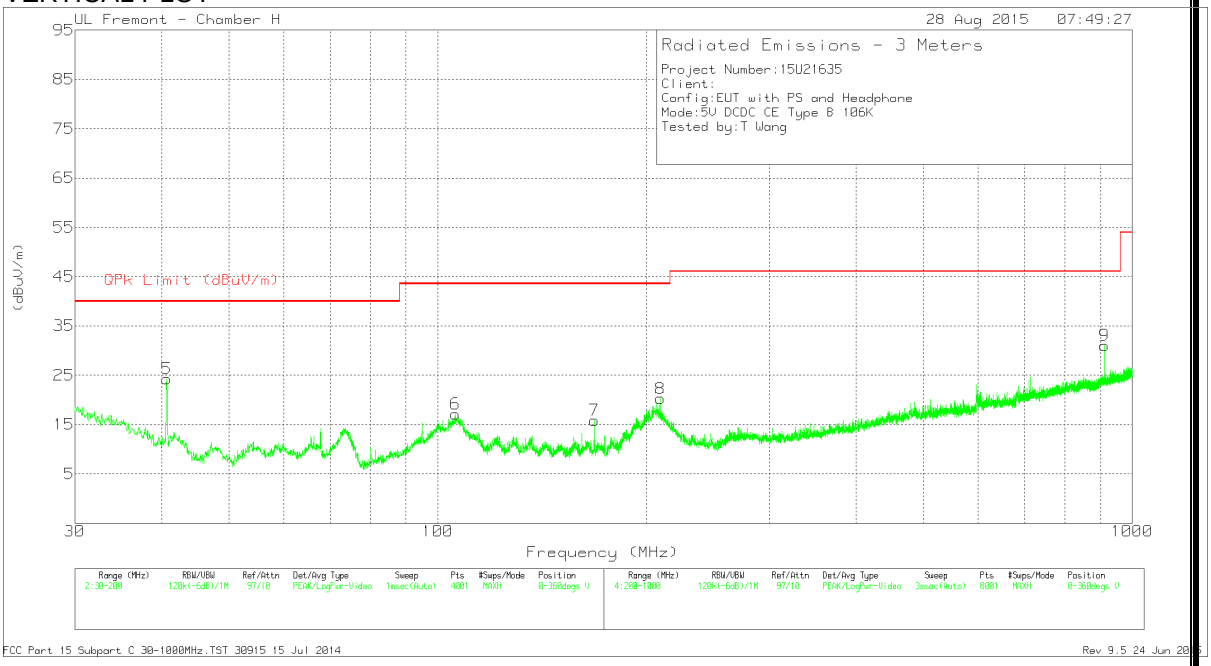
Pk - Peak detector

106Kbps

HORIZONTAL PLOT



VERTICAL PLOT



DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T900 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
7	* 167.9975	33.99	Pk	11.8	-29.9	15.89	43.52	-27.63	0-360	100	V
1	40.6675	34.65	Pk	14.1	-31.2	17.55	40	-22.45	0-360	401	H
5	40.6675	41.35	Pk	14.1	-31.2	24.25	40	-15.75	0-360	100	V
6	106.0325	36.1	Pk	11.6	-30.5	17.2	43.52	-26.32	0-360	100	V
2	107.605	36.25	Pk	12	-30.5	17.75	43.52	-25.77	0-360	401	H
3	209.2	40.18	Pk	10.4	-29.7	20.88	43.52	-22.64	0-360	100	H
8	209.2	39.57	Pk	10.4	-29.7	20.27	43.52	-23.25	0-360	100	V
4	297.3	33.23	Pk	13.2	-29.1	17.33	46.02	-28.69	0-360	100	H
9	911.9	35.02	Pk	22.4	-26.4	31.02	46.02	-15	0-360	100	V

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

Pk - Peak detector

9. FREQUENCY STABILITY

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

9.1. 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	13.5592573	4.866	13.5592529	5.187	13.5592528	5.198	13.5592527	5.202	± 100
3.80	40	13.5592745	3.592	13.5592720	3.777	13.5592695	3.961	13.5592694	3.972	± 100
3.80	30	13.5592915	2.339	13.5592915	2.342	13.5592909	2.386	13.5592899	2.457	± 100
3.80	***20***	***13.5593233***	***0.000***	***13.5593223***	***0.074***	***13.5593178***	***0.400***	***13.5593173***	***0.439***	***± 100***
3.80	10	13.5594202	-7.148	13.5594113	-6.492	13.5594113	-6.495	13.5594116	-6.513	± 100
3.80	0	13.5594367	-8.365	13.5594366	-8.361	13.5594366	-8.360	13.5594367	-8.368	± 100
3.80	-10	13.5594502	-9.365	13.5594502	-9.363	13.5594500	-9.344	13.5594500	-9.345	± 100
3.80	-20	13.5594516	-9.462	13.5594539	-9.638	13.5594508	-9.403	13.5594507	-9.400	± 100
3.23	20	13.5592912	2.364	13.5592889	2.532	13.5592880	2.600	13.5592864	2.715	± 100
4.37	20	13.5592863	2.724	13.5592860	2.751	13.5592851	2.816	13.5592844	2.864	± 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	13.5592520	4.249	13.5592504	4.370	13.5592492	4.461	13.5592485	4.510	± 100
3.80	40	13.5592772	2.392	13.5592763	2.460	13.5592737	2.652	13.5592736	2.662	± 100
3.80	30	13.5593085	0.081	13.5593020	0.561	13.5593020	0.564	13.5593008	0.650	± 100
3.80	***20***	***13.5593097***	***0.000***	***13.5593101***	***-0.035***	***13.5593129***	***-0.242***	***13.5593149***	***-0.387***	***± 100***
3.80	10	13.5593565	-3.452	13.5594002	-6.680	13.5594003	-6.682	13.5594011	-6.746	± 100
3.80	0	13.5594278	-8.709	13.5594292	-8.817	13.5594298	-8.864	13.5594304	-8.902	± 100
3.80	-10	13.5594488	-10.263	13.5594493	-10.295	13.5594511	-10.435	13.5594512	-10.439	± 100
3.80	-20	13.5594539	-10.639	13.5594537	-10.623	13.5594537	-10.621	13.5594528	-10.559	± 100
3.23	20	13.5592805	2.149	13.5592784	2.307	13.5592775	2.371	13.5592748	2.571	± 100
4.37	20	13.5592858	1.760	13.5592827	1.990	13.5592818	2.055	13.5592811	2.108	± 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	13.5592489	3.674	13.5592466	3.845	13.5592452	3.949	13.5592433	4.086	± 100
3.80	40	13.5592514	3.492	13.5592534	3.342	13.5592550	3.226	13.5592562	3.139	± 100
3.80	30	13.5592811	1.302	13.5592813	1.283	13.5592814	1.275	13.5592828	1.175	± 100
3.80	***20***	***13.5592987***	***0.000***	***13.5593093***	***-0.780***	***13.5593092***	***-0.775***	***13.5593108***	***-0.886***	***± 100***
3.80	10	13.5593261	-2.021	13.5593252	-1.951	13.5593285	-2.196	13.5593287	-2.206	± 100
3.80	0	13.5593520	-3.929	13.5593511	-3.863	13.5593499	-3.770	13.5593488	-3.692	± 100
3.80	-10	13.5593529	-3.993	13.5593530	-4.001	13.5593530	-4.003	13.5593599	-4.509	± 100
3.80	-20	13.5594058	-7.897	13.5594057	-7.886	13.5594056	-7.883	13.5594056	-7.877	± 100
3.23	20	13.5592806	1.335	13.5592801	1.373	13.5592796	1.409	13.5592800	1.383	± 100
4.37	20	13.5592919	0.507	13.5592964	0.176	13.5592926	0.454	13.5592929	0.431	± 100

9.2. 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	13.5592431	5.536	13.5592438	5.483	13.5592433	5.520	13.5592431	5.533	± 100
3.80	40	13.5592507	4.975	13.5592565	4.545	13.5592638	4.008	13.5592648	3.930	± 100
3.80	30	13.5592863	2.346	13.5592944	1.753	13.5592988	1.427	13.5593046	0.998	± 100
3.80	***20***	***13.5593181***	***0.000***	***13.5593156***	***0.188***	***13.5593127***	***0.403***	***13.5593125***	***0.415***	***± 100***
3.80	10	13.5593249	-0.496	13.5593287	-0.781	13.5593321	-1.028	13.5593336	-1.138	± 100
3.80	0	13.5593502	-2.368	13.5593508	-2.407	13.5593512	-2.439	13.5593514	-2.455	± 100
3.80	-10	13.5593523	-2.523	13.5593532	-2.583	13.5593536	-2.614	13.5593537	-2.621	± 100
3.80	-20	13.5593497	-2.327	13.5593472	-2.147	13.5593463	-2.076	13.5593469	-2.120	± 100
3.23	20	13.5592954	1.678	13.5592956	1.664	13.5592945	1.743	13.5592940	1.778	± 100
4.37	20	13.5592978	1.496	13.5592979	1.493	13.5592990	1.413	13.5593001	1.326	± 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	13.5592532	6.119	13.5592504	6.326	13.5592474	6.546	13.5592472	6.559	± 100
3.80	40	13.5592831	3.911	13.5592809	4.071	13.5592781	4.283	13.5592771	4.355	± 100
3.80	30	13.5593363	-0.011	13.5593167	1.433	13.5593151	1.551	13.5592971	2.882	± 100
3.80	***20***	***13.5593361***	***0.000***	***13.5593345***	***0.120***	***13.5593295***	***0.487***	***13.5593221***	***1.034***	***± 100***
3.80	10	13.5593320	0.308	13.5593332	0.214	13.5593347	0.106	13.5593355	0.050	± 100
3.80	0	13.5593493	-0.972	13.5593506	-1.067	13.5593507	-1.076	13.5593509	-1.089	± 100
3.80	-10	13.5593525	-1.204	13.5593523	-1.188	13.5593522	-1.187	13.5593522	-1.183	± 100
3.80	-20	13.5593415	-0.392	13.5593401	-0.294	13.5593382	-0.150	13.5593365	-0.028	± 100
3.23	20	13.5593498	-1.008	13.5593516	-1.139	13.5593843	-3.549	13.5593843	-3.551	± 100
4.37	20	13.5593982	-4.577	13.5593971	-4.497	13.5593963	-4.433	13.5593945	-4.306	± 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	13.5592718	5.127	13.5592640	5.702	13.5592608	5.941	13.5592598	6.016	± 100
3.80	40	13.5592849	4.166	13.5592904	3.762	13.5592853	4.133	13.5592816	4.408	± 100
3.80	30	13.5593177	1.749	13.5593143	1.998	13.5593115	2.200	13.5593053	2.657	± 100
3.80	***20***	***13.5593414***	***0.000***	***13.5593373***	***0.301***	***13.5593329***	***0.625***	***13.5593305***	***0.803***	***± 100***
3.80	10	13.5593510	-0.714	13.5593493	-0.589	13.5593481	-0.494	13.5593479	-0.480	± 100
3.80	0	13.5593530	-0.855	13.5593553	-1.031	13.5593559	-1.074	13.5593561	-1.088	± 100
3.80	-10	13.5593456	-0.313	13.5593494	-0.596	13.5593501	-0.647	13.5593508	-0.693	± 100
3.80	-20	13.5593544	-0.963	13.5593501	-0.646	13.5593469	-0.408	13.5593441	-0.198	± 100
3.23	20	13.5593552	-1.019	13.5593568	-1.140	13.5593496	-0.609	13.5593510	-0.711	± 100
4.37	20	13.5593569	-1.142	13.5593575	-1.192	13.5593601	-1.383	13.5593620	-1.519	± 100

10. AC MAINS LINE CONDUCTED EMISSIONS

LIMITS

§15.207
IC RSS-GEN, Section 8.8

(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:

10.1. TYPE A

10.1.1. NORMAL OPERATION, 424 KBPS

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	37.56	Pk	1.2	0	38.76	65.06	-26.3		
2	.1635	19	Av	1.2	0	20.2	-	-	55.28	-35.08
3	.798	39.55	Pk	.3	0	39.85	56	-16.15		
4	.8025	27.42	Av	.3	0	27.72	-	-	46	-18.28
5	13.56	66.39	Pk	.2	.2	66.79	60	6.79		
6	13.56	62.47	Av	.2	.2	62.87	-	-	50	12.87
7	14.406	34.76	Pk	.2	.2	35.16	60	-24.84		
8	14.4015	24.29	Av	.2	.2	24.69	-	-	50	-25.31
9	15.2565	32	Pk	.3	.2	32.5	60	-27.5		
10	15.2565	24.14	Av	.3	.2	24.64	-	-	50	-25.36
11	16.2285	27.1	Pk	.3	.2	27.6	60	-32.4		
12	16.17	20.38	Av	.3	.2	20.88	-	-	50	-29.12

Pk - Peak detector

Av - Average detection

Range 2: Line-L2 .15 - 30MHz

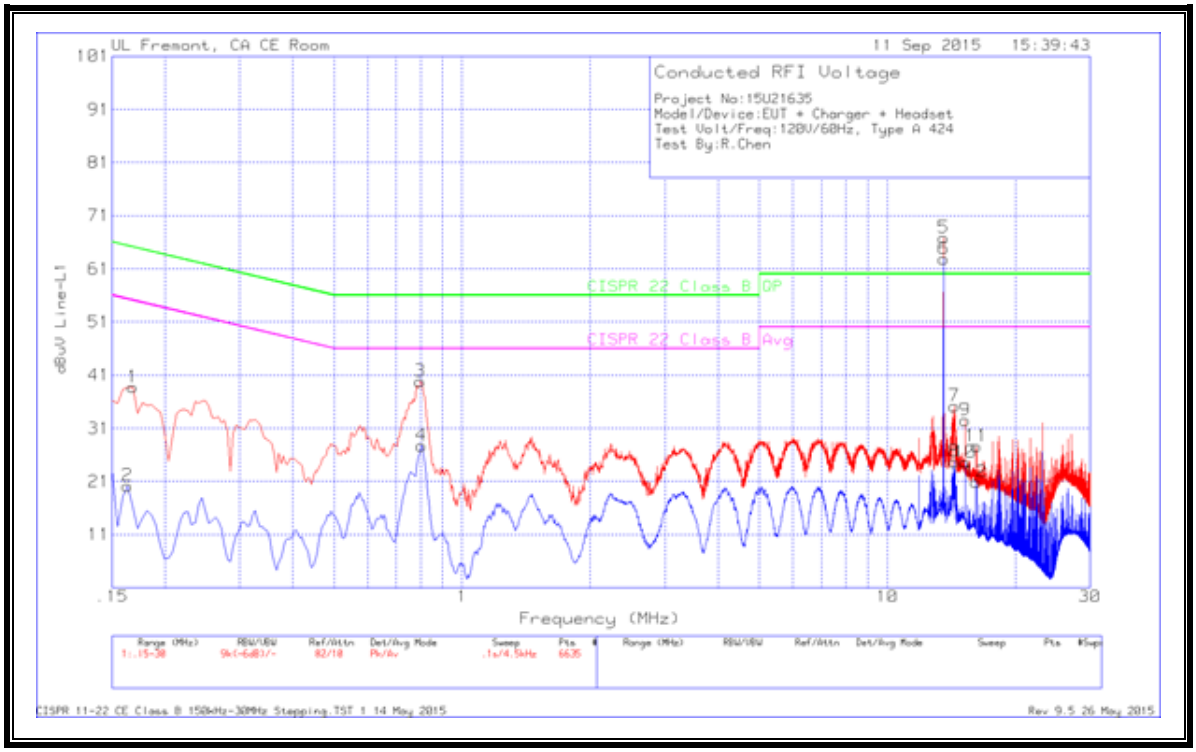
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
13	.168	42.12	Pk	1.3	0	43.42	65.06	-21.64		
14	.168	23.14	Av	1.3	0	24.44	-	-	55.06	-30.62
15	.249	38.87	Pk	.7	0	39.57	61.79	-22.22		
16	.249	20.65	Av	.7	0	21.35	-	-	51.79	-30.44
17	.8115	41.87	Pk	.3	0	42.17	56	-13.83		
18	.80925	28.93	Av	.3	0	29.23	-	-	46	-16.77
19	3.1965	28.07	Pk	.2	.1	28.37	56	-27.63		
20	3.2145	18.29	Av	.2	.1	18.59	-	-	46	-27.41
21	13.56	62.13	Pk	.2	.2	62.53	60	2.53		
22	13.56	59.86	Av	.2	.2	60.26	-	-	50	10.26
23	23.1315	26.57	Pk	.3	.2	27.07	60	-32.93		
24	23.1315	23.31	Av	.3	.2	23.81	-	-	50	-26.19

Pk - Peak detector

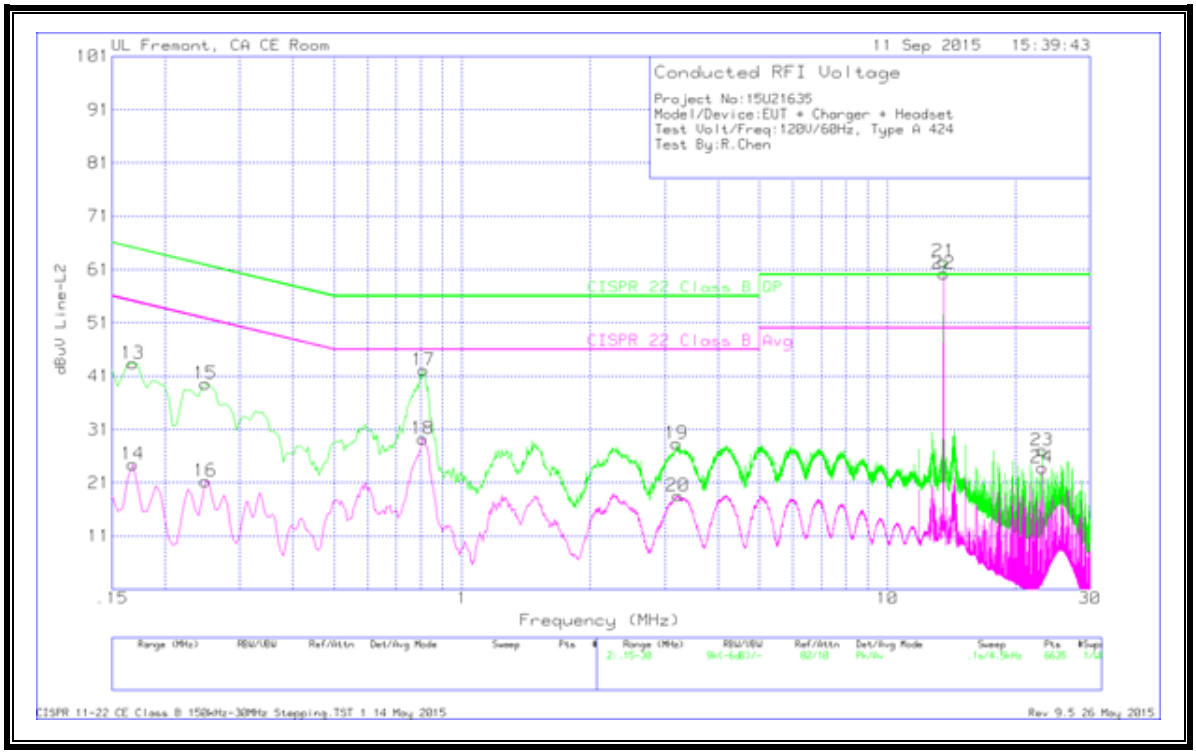
Av - Average detection

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



10.1.2. NORMAL OPERATION WITH ANTENNA PORT TERMINATED, 424 KBPS

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	45.8	Pk	1.2	0	47	65.06	-18.06		
2	.168	25.52	Av	1.2	0	26.72	-	-	55.06	-28.34
3	.8115	44.09	Pk	.3	0	44.39	56	-11.61		
4	.807	31.32	Av	.3	0	31.62	-	-	46	-14.38
5	3.21	32.35	Pk	.2	.1	32.65	56	-23.35		
6	3.2145	20.34	Av	.2	.1	20.64	-	-	46	-25.36
7	25.2015	21.74	Pk	.3	.3	22.34	60	-37.66		
8	25.2015	9.94	Av	.3	.3	10.54	-	-	50	-39.46

Pk - Peak detector

Av - Average detection

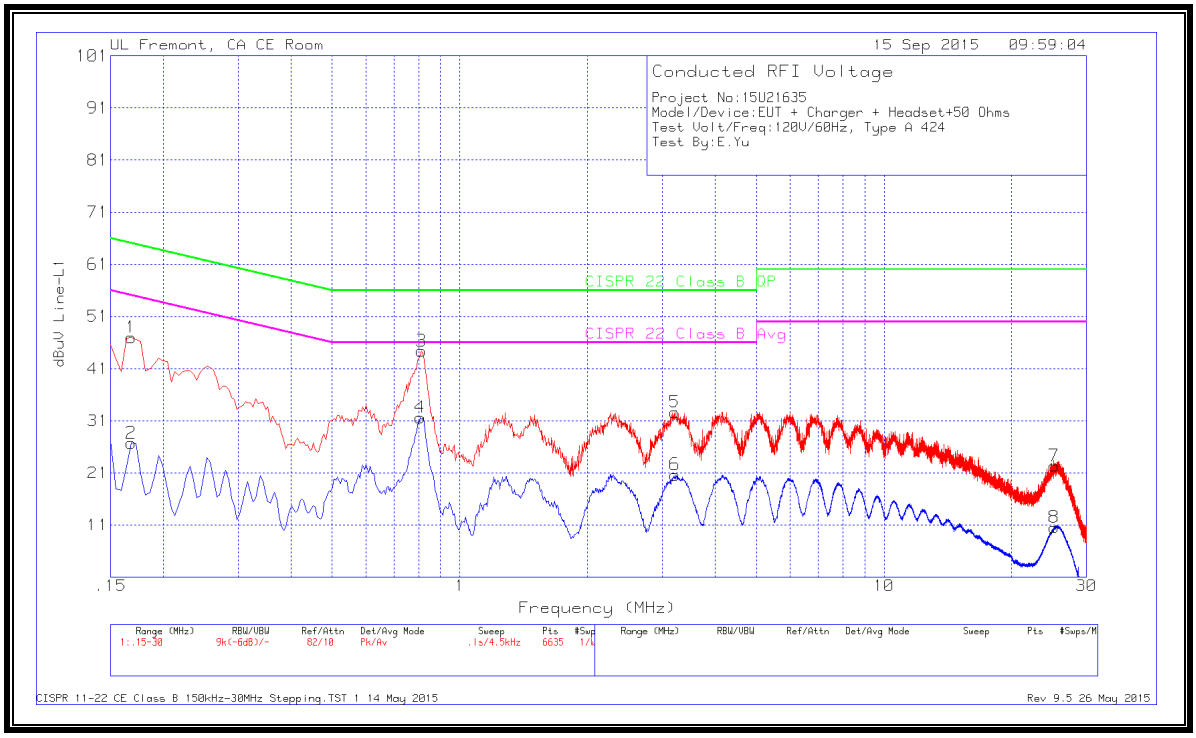
Range 2: Line-L2 .15 - 30MHz

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	.1635	44.71	Pk	1.3	0	46.01	65.28	-19.27		
10	.168	23.91	Av	1.3	0	25.21	-	-	55.06	-29.85
11	.807	43.64	Pk	.3	0	43.94	56	-12.06		
12	.816	26.44	Av	.3	0	26.74	-	-	46	-19.26
13	5.073	30.66	Pk	.2	.1	30.96	60	-29.04		
14	5.082	20.64	Av	.2	.1	20.94	-	-	50	-29.06
15	26.007	22.79	Pk	.3	.3	23.39	60	-36.61		
16	26.052	9.38	Av	.3	.3	9.98	-	-	50	-40.02

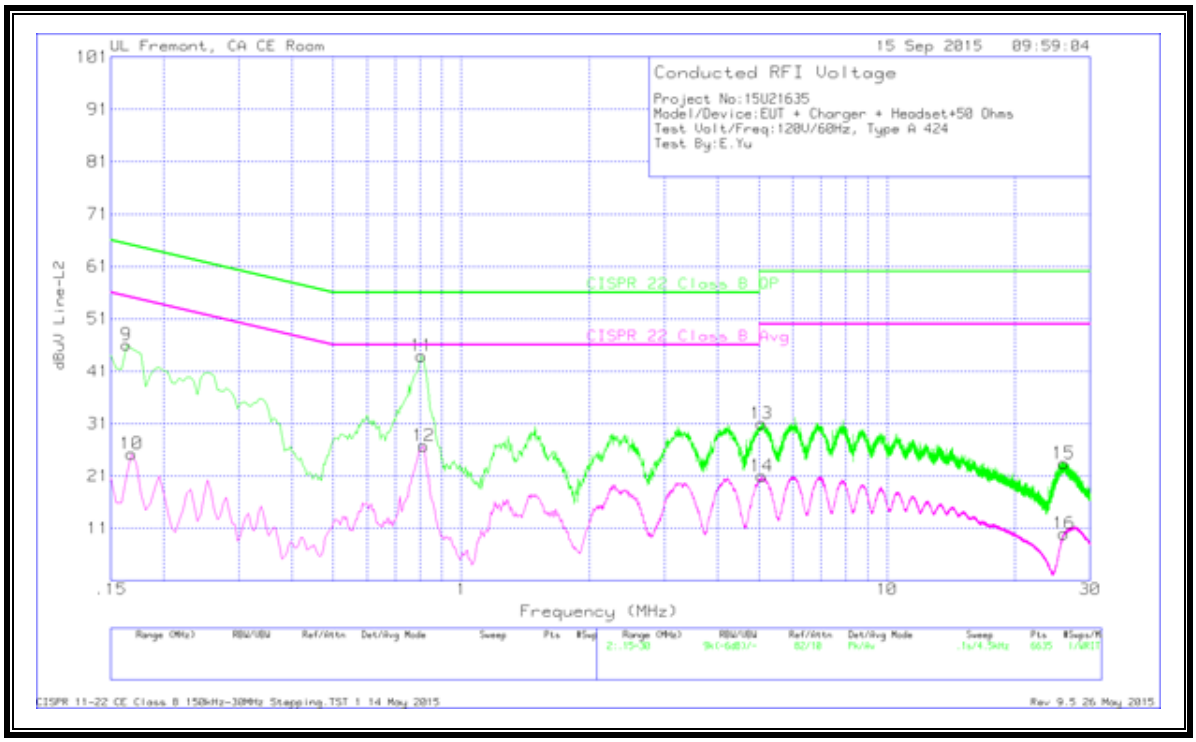
Pk - Peak detector

Av - Average detection

LINE 1 RESULTS



LINE 2 RESULTS



10.1.3. NORMAL OPERATION, 212 KBPS

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	44.79	Pk	1.2	0	45.99	65.06	-19.07	-	-
2	.168	24.29	Av	1.2	0	25.49	-	-	55.06	-29.57
3	.2535	40.45	Pk	.7	0	41.15	61.64	-20.49	-	-
4	.2535	21.32	Av	.7	0	22.02	-	-	51.64	-29.62
5	.8025	44.59	Pk	.3	0	44.89	56	-11.11	-	-
6	.816	28	Av	.3	0	28.3	-	-	46	-17.7
7	13.56	67.37	Pk	.2	.2	67.77	60	7.77	-	-
8	13.56	63.33	Av	.2	.2	63.73	-	-	50	13.73
9	23.1315	35.5	Pk	.3	.2	36	60	-24	-	-
10	23.1315	30.76	Av	.3	.2	31.26	-	-	50	-18.74

Pk - Peak detector

Av - Average detection

Range 2: Line-L2 .15 - 30MHz

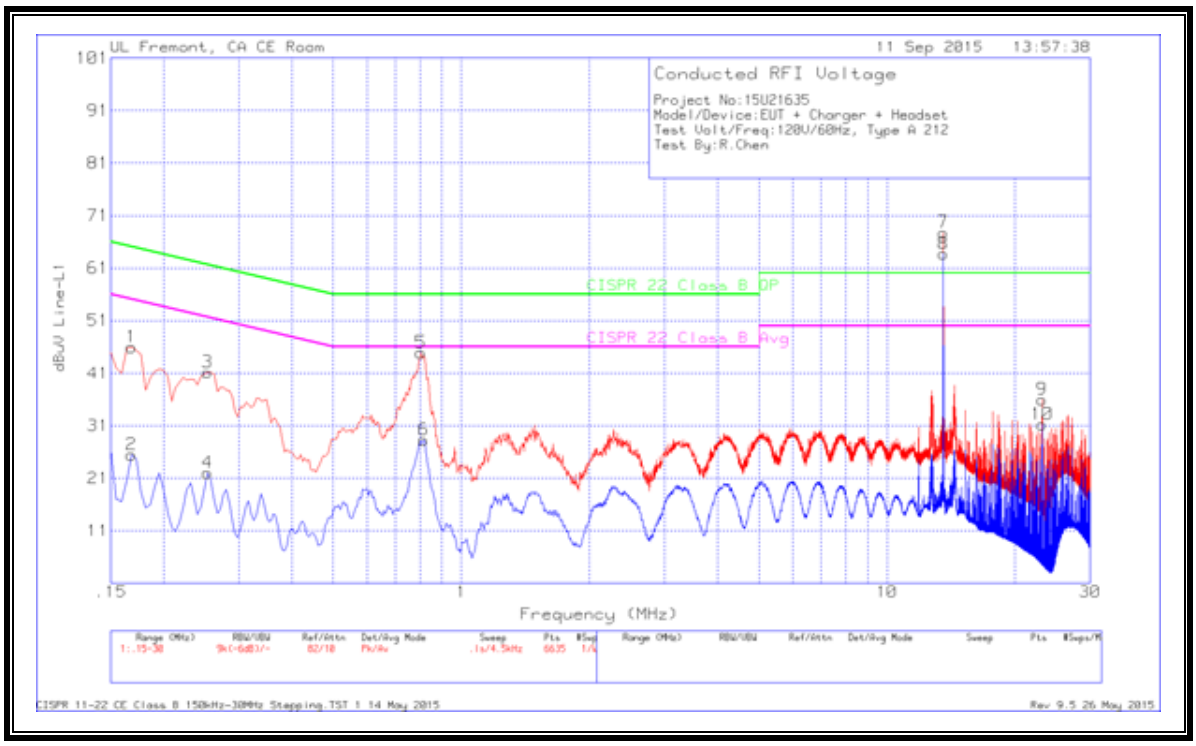
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
11	.168	44.57	Pk	1.3	0	45.87	65.06	-19.19	-	-
12	.168	24.88	Av	1.3	0	26.18	-	-	55.06	-28.88
13	.591	33.91	Pk	.3	0	34.21	56	-21.79	-	-
14	.5865	20.87	Av	.3	0	21.17	-	-	46	-24.83
15	.8025	43.4	Pk	.3	0	43.7	56	-12.3	-	-
16	.816	29.75	Av	.3	0	30.05	-	-	46	-15.95
17	13.56	63.02	Pk	.2	.2	63.42	60	3.42	-	-
18	13.56	60.77	Av	.2	.2	61.17	-	-	50	11.17
19	23.1315	29.86	Pk	.3	.2	30.36	60	-29.64	-	-
20	23.1315	26.35	Av	.3	.2	26.85	-	-	50	-23.15

Pk - Peak detector

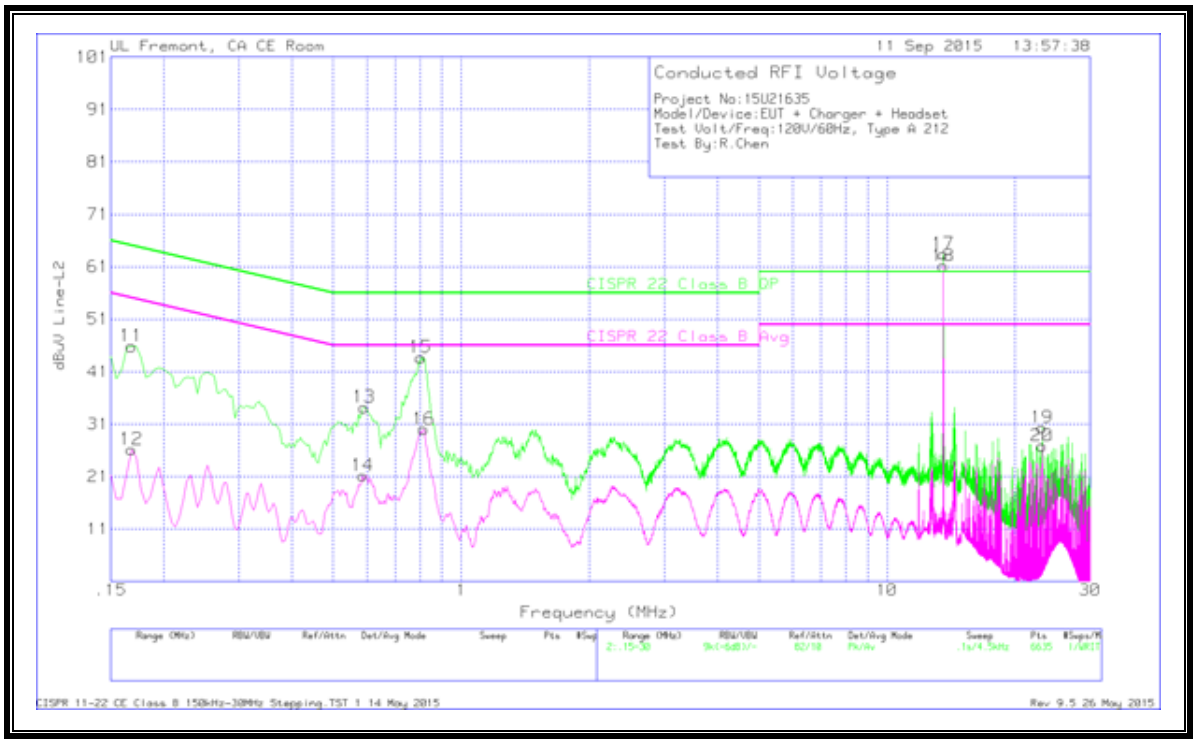
Av - Average detection

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



10.1.4. NORMAL OPERATION WITH ANTENNA PORT TERMINATED, 212 KBPS

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	45.12	Pk	1.2	0	46.32	65.06	-18.74		
2	.168	25.45	Av	1.2	0	26.65	-	-	55.06	-28.41
3	.8115	44.02	Pk	.3	0	44.32	56	-11.68		
4	.816	31.57	Av	.3	0	31.87	-	-	46	-14.13
5	5.0595	32.57	Pk	.2	.1	32.87	60	-27.13		
6	5.082	20.22	Av	.2	.1	20.52	-	-	50	-29.48
7	25.0125	21.28	Pk	.3	.3	21.88	60	-38.12		
8	25.0215	9.69	Av	.3	.3	10.29	-	-	50	-39.71

Pk - Peak detector

Av - Average detection

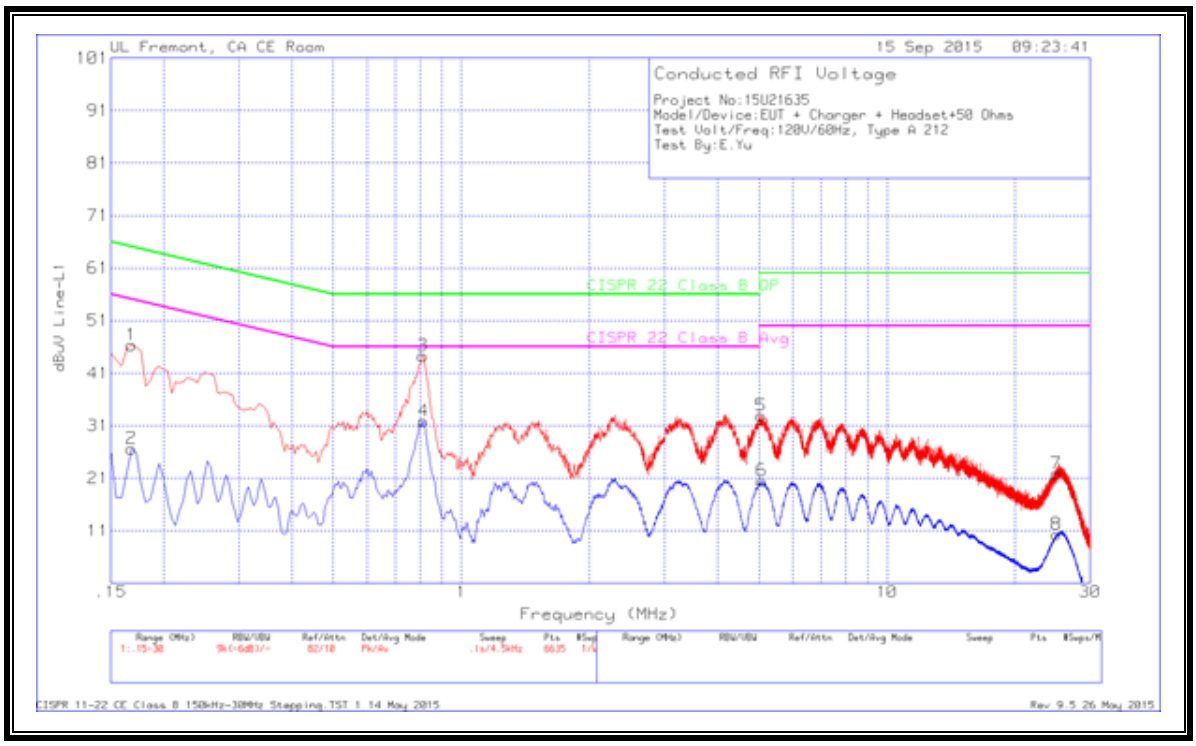
Range 2: Line-L2 .15 - 30MHz

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	.1635	44.31	Pk	1.3	0	45.61	65.28	-19.67		
10	.168	23.85	Av	1.3	0	25.15	-	-	55.06	-29.91
11	.807	44.14	Pk	.3	0	44.44	56	-11.56		
12	.816	26.32	Av	.3	0	26.62	-	-	46	-19.38
13	4.182	30.58	Pk	.2	.1	30.88	56	-25.12		
14	4.1595	19.93	Av	.2	.1	20.23	-	-	46	-25.77
15	26.106	22.91	Pk	.3	.3	23.51	60	-36.49		
16	26.1285	9.59	Av	.3	.3	10.19	-	-	50	-39.81

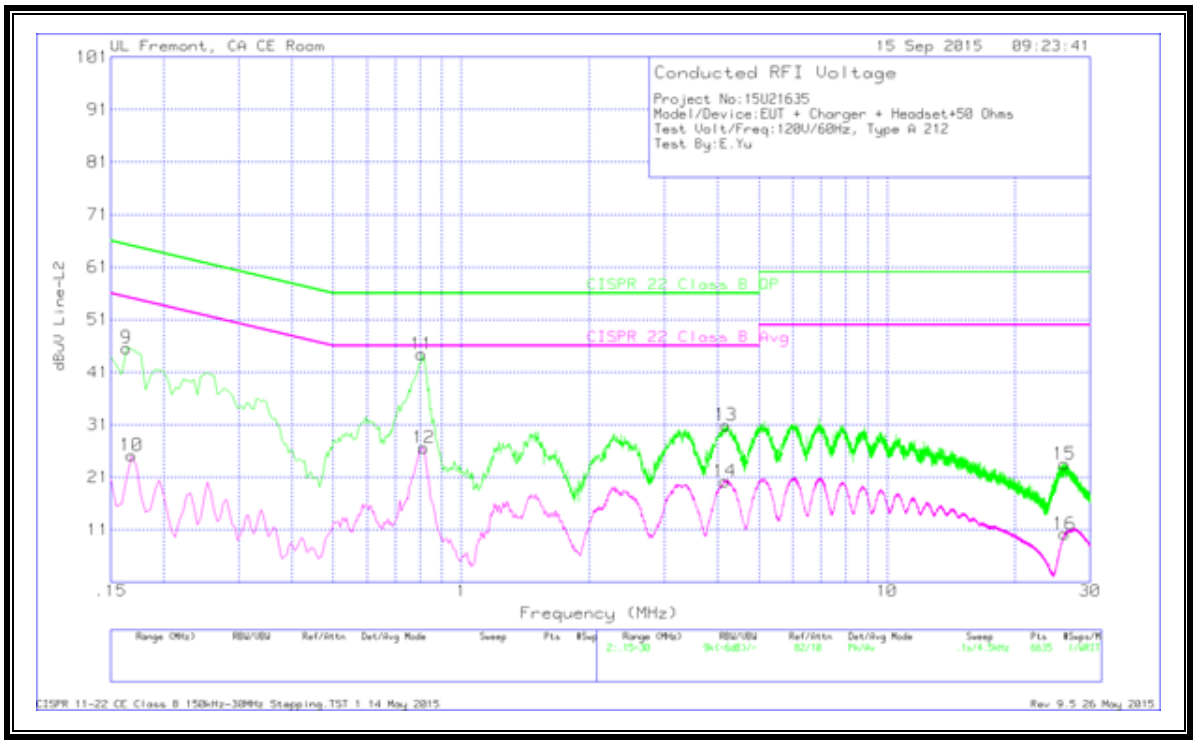
Pk - Peak detector

Av - Average detection

LINE 1 RESULTS



LINE 2 RESULTS



10.1.5. NORMAL OPERATION, 106 KBPS

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	44.67	Pk	1.2	0	45.87	65.06	-19.19		
2	.168	25.31	Av	1.2	0	26.51	-	-	55.06	-28.55
3	.8115	43.82	Pk	.3	0	44.12	56	-11.88		
4	.816	31.8	Av	.3	0	32.1	-	-	46	-13.9
5	4.173	32.82	Pk	.2	.1	33.12	56	-22.88		
6	4.155	20.46	Av	.2	.1	20.76	-	-	46	-25.24
7	13.56	65.1	Pk	.2	.2	65.5	60	5.5		
8	13.56	61.01	Av	.2	.2	61.41	-	-	50	11.41
9	27.1185	26.55	Pk	.3	.3	27.15	60	-32.85		
10	27.1185	12.85	Av	.3	.3	13.45	-	-	50	-36.55

Pk - Peak detector

Av - Average detection

Range 2: Line-L2 .15 - 30MHz

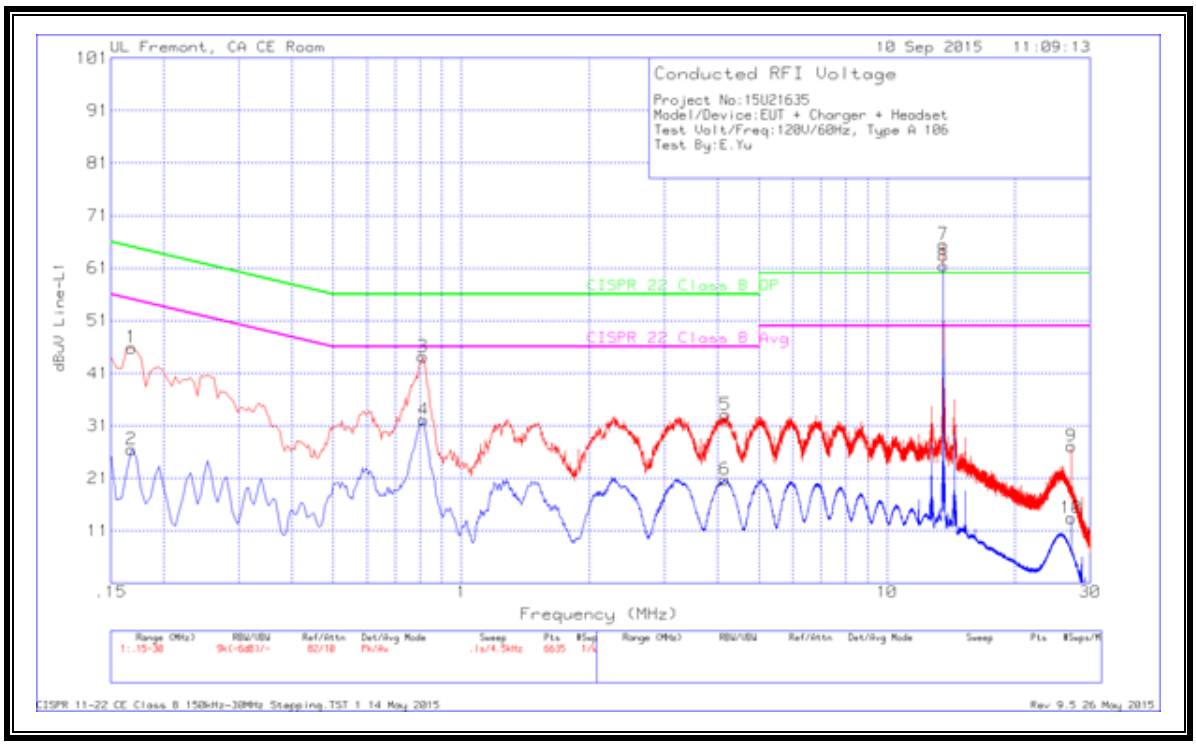
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
11	.168	44.49	Pk	1.3	0	45.79	65.06	-19.27		
12	.168	23.24	Av	1.3	0	24.54	-	-	55.06	-30.52
13	.8115	43.21	Pk	.3	0	43.51	56	-12.49		
14	.816	26.32	Av	.3	0	26.62	-	-	46	-19.38
15	4.164	30.62	Pk	.2	.1	30.92	56	-25.08		
16	4.1595	19.88	Av	.2	.1	20.18	-	-	46	-25.82
17	13.56	65.18	Pk	.2	.2	65.58	60	5.58		
18	13.56	60.5	Av	.2	.2	60.9	-	-	50	10.9
19	27.1275	23.1	Pk	.3	.3	23.7	60	-36.3		
20	27.1185	12.34	Av	.3	.3	12.94	-	-	50	-37.06

Pk - Peak detector

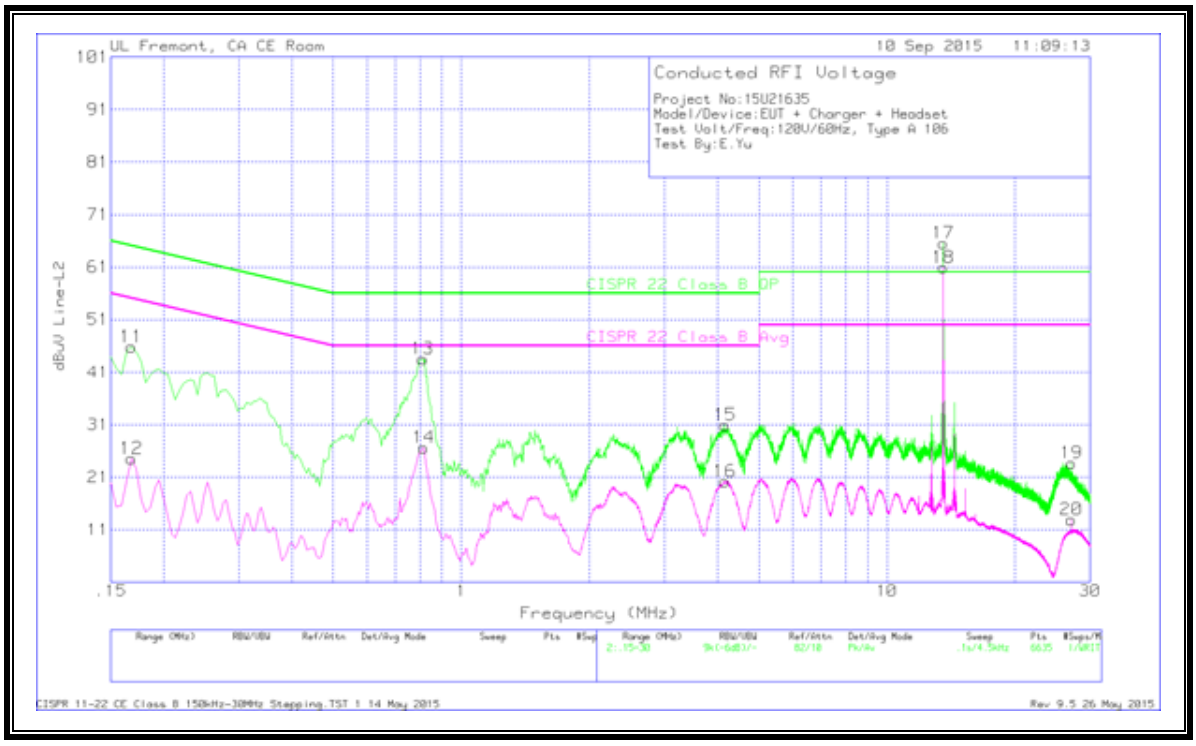
Av - Average detection

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



10.1.6. NORMAL OPERATION WITH ANTENNA PORT TERMINATED, 106 KBPS

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	46.86	Pk	1.2	0	48.06	65.06	-17		
2	.1725	27.02	Av	1.1	0	28.12	-	-	54.84	-26.72
3	.816	44.46	Pk	.3	0	44.76	56	-11.24		
4	.8115	31.95	Av	.3	0	32.25	-	-	46	-13.75
5	4.191	32.53	Pk	.2	.1	32.83	56	-23.17		
6	4.191	20.48	Av	.2	.1	20.78	-	-	46	-25.22
7	25.836	22.63	Pk	.3	.3	23.23	60	-36.77		
8	25.8315	10.24	Av	.3	.3	10.84	-	-	50	-39.16

Pk - Peak detector

Av - Average detection

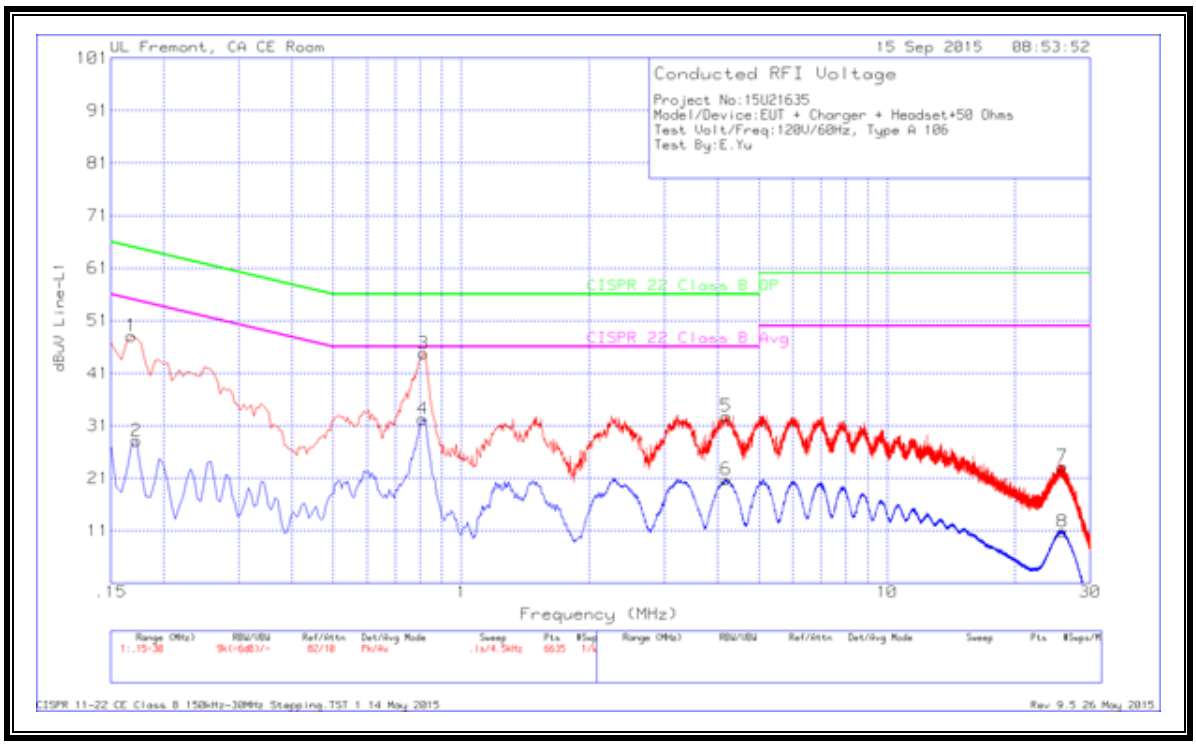
Range 2: Line-L2 .15 - 30MHz

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	44.82	Pk	1.3	0	46.12	65.06	-18.94		
10	.168	24.21	Av	1.3	0	25.51	-	-	55.06	-29.55
11	.807	43.56	Pk	.3	0	43.86	56	-12.14		
12	.816	26.3	Av	.3	0	26.6	-	-	46	-19.4
13	5.181	31.12	Pk	.2	.1	31.42	60	-28.58		
14	5.1585	20.41	Av	.2	.1	20.71	-	-	50	-29.29
15	26.0475	22.38	Pk	.3	.3	22.98	60	-37.02		
16	26.025	9.2	Av	.3	.3	9.8	-	-	50	-40.2

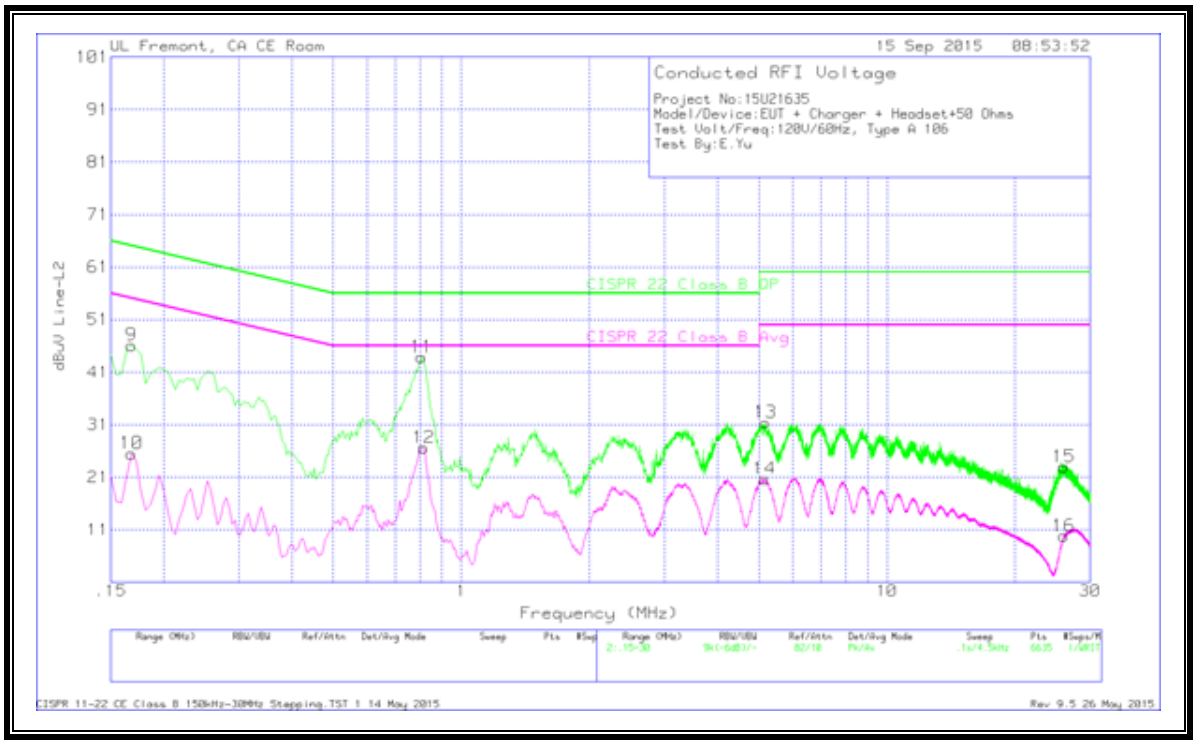
Pk - Peak detector

Av - Average detection

LINE 1 RESULTS



LINE 2 RESULTS



10.2. TYPE B

10.2.1. 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	.8205	43.93	Pk	.3	0	44.23	56	-11.77	-	-
2	.816	27.58	Av	.3	0	27.88	-	-	46	-18.12
3	1.131	31.79	Pk	.2	0	31.99	56	-24.01	-	-
4	1.149	11.42	Av	.2	0	11.62	-	-	46	-34.38
5	2.283	28.97	Pk	.2	.1	29.27	56	-26.73	-	-
6	2.292	18.71	Av	.2	.1	19.01	-	-	46	-26.99
7	13.56	68.08	Pk	.2	.2	68.48	60	8.48	-	-
8	13.56	64.07	Av	.2	.2	64.47	-	-	50	14.47
9	21.6645	26.74	Pk	.3	.2	27.24	60	-32.76	-	-
10	21.6645	21.36	Av	.3	.2	21.86	-	-	50	-28.14
11	23.1315	31.05	Pk	.3	.2	31.55	60	-28.45	-	-
12	23.1315	25.57	Av	.3	.2	26.07	-	-	50	-23.93

Pk - Peak detector

Av - Average detection

Range 2: Line-L2 .15 - 30MHz

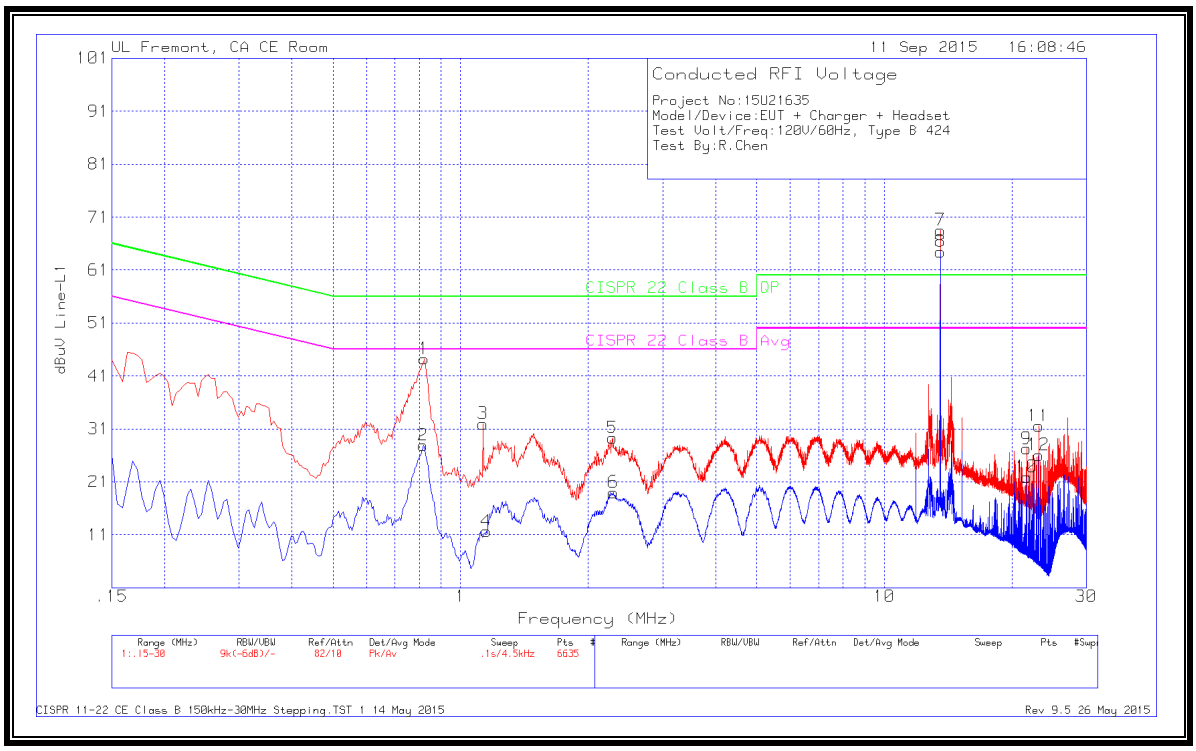
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
13	.1635	44.07	Pk	1.3	0	45.37	65.28	-19.91	-	-
14	.816	29.47	Av	.3	0	29.77	-	-	46	-16.23
15	.8115	43.53	Pk	.3	0	43.83	56	-12.17	-	-
16	.816	29.47	Av	.3	0	29.77	-	-	46	-16.23
17	6.8145	33.34	Pk	.2	.1	33.64	60	-26.36	-	-
18	6.9315	17.61	Av	.2	.1	17.91	-	-	50	-32.09
19	13.56	63.78	Pk	.2	.2	64.18	60	4.18	-	-
20	13.56	61.51	Av	.2	.2	61.91	-	-	50	11.91
21	15.2565	28.76	Pk	.3	.2	29.26	60	-30.74	-	-
22	15.2565	23.51	Av	.3	.2	24.01	-	-	50	-25.99
23	27.1185	25.27	Pk	.3	.3	25.87	60	-34.13	-	-
24	27.1635	14.18	Av	.3	.3	14.78	-	-	50	-35.22

Pk - Peak detector

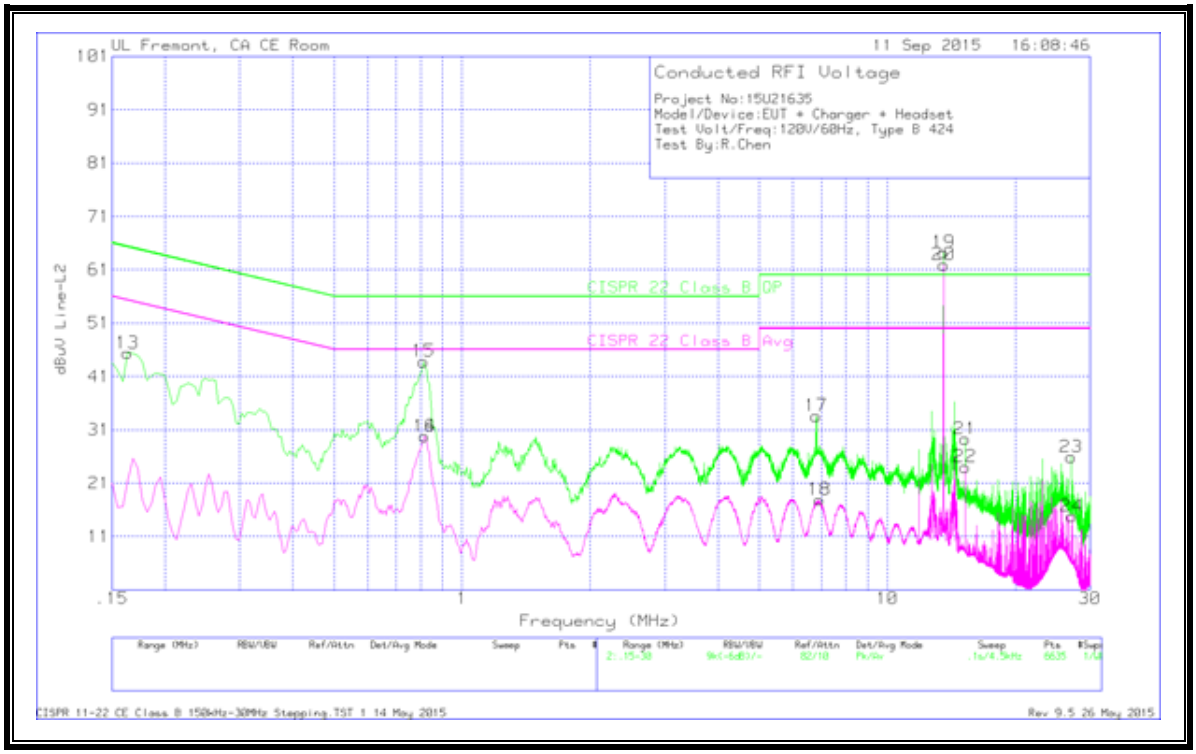
Av - Average detection

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



10.2.2. NORMAL OPERATION WITH ANTENNA PORT TERMINATED, 424 KBPS

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	44.91	Pk	1.2	0	46.11	65.06	-18.95		
2	.168	24.39	Av	1.2	0	25.59	-	-	55.06	-29.47
3	.2535	40.58	Pk	.7	0	41.28	61.64	-20.36		
4	.2535	20.72	Av	.7	0	21.42	-	-	51.64	-30.22
5	.816	43.38	Pk	.3	0	43.68	56	-12.32		
6	.816	26.67	Av	.3	0	26.97	-	-	46	-19.03

Pk - Peak detector

Av - Average detection

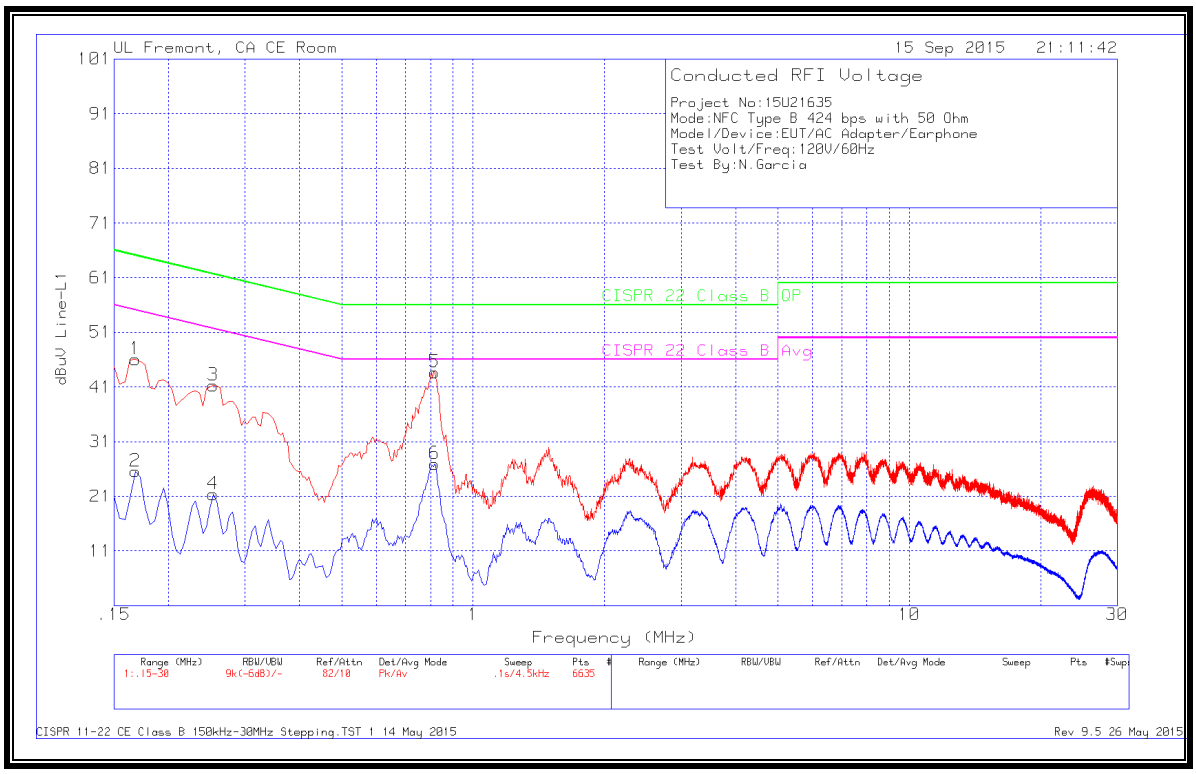
Range 2: Line-L2 .15 - 30MHz

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	44.5	Pk	1.3	0	45.8	65.06	-19.26		
8	.168	25.08	Av	1.3	0	26.38	-	-	55.06	-28.68
9	.2535	40.23	Pk	.7	0	40.93	61.64	-20.71		
10	.2535	22.81	Av	.7	0	23.51	-	-	51.64	-28.13
11	.8205	41.51	Pk	.3	0	41.81	56	-14.19		
12	.8205	29.23	Av	.3	0	29.53	-	-	46	-16.47

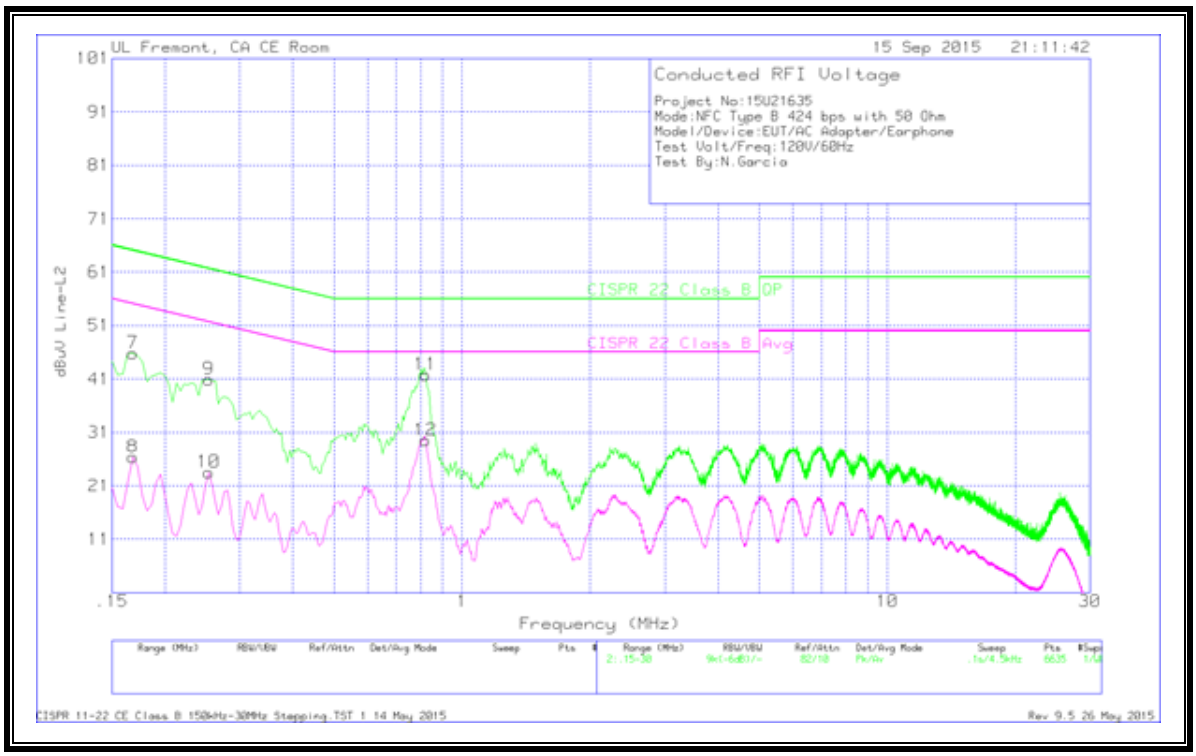
Pk - Peak detector

Av - Average detection

LINE 1 RESULTS



LINE 2 RESULTS



10.2.3. 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	40.79	Pk	1.2	0	41.99	65.06	-23.07		
2	.168	19.55	Av	1.2	0	20.75	-	-	55.06	-34.31
3	.798	41.11	Pk	.3	0	41.41	56	-14.59		
4	.8025	25.48	Av	.3	0	25.78	-	-	46	-20.22
5	1.833	31.69	Pk	.2	.1	31.99	56	-24.01		
6	1.824	7.63	Av	.2	.1	7.93	-	-	46	-38.07
7	13.56	62.45	Pk	.2	.2	62.85	60	2.85		
8	13.56	58.44	Av	.2	.2	58.84	-	-	50	8.84
9	.798	41.11	Pk	.3	0	41.41	56	-14.59		
10	.8025	25.48	Av	.3	0	25.78	-	-	46	-20.22

Pk - Peak detector

Av - Average detection

Range 2: Line-L2 .15 - 30MHz

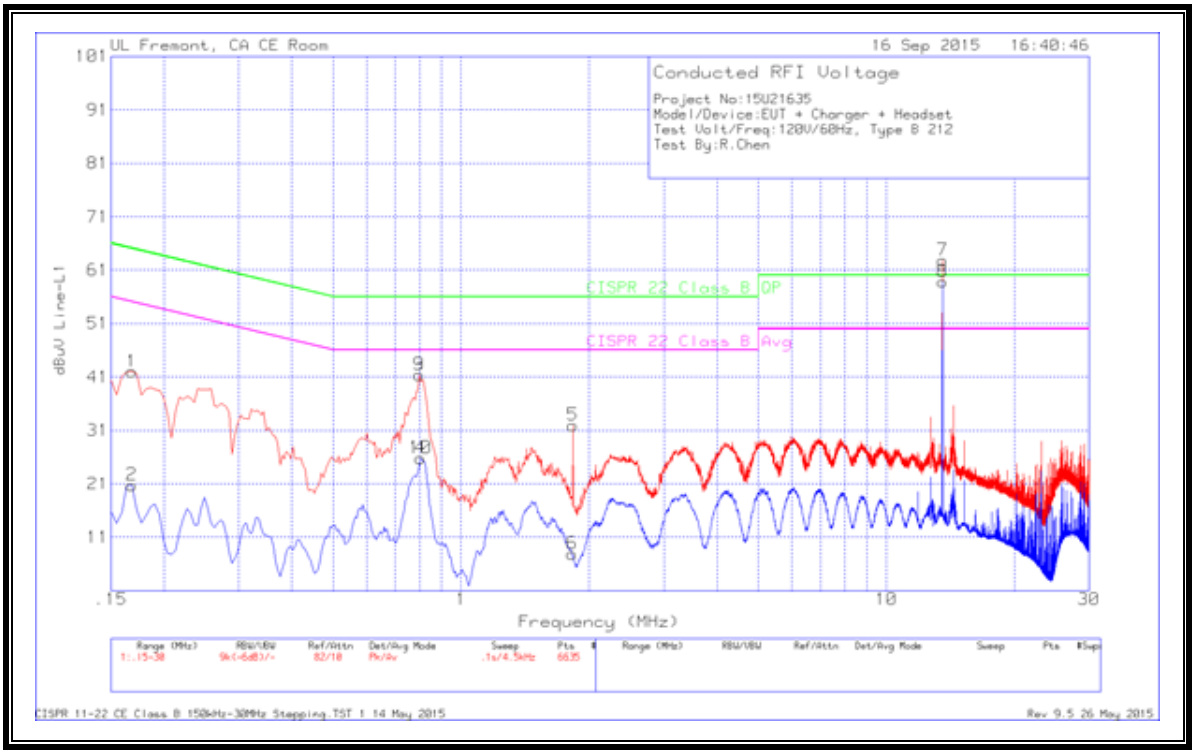
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
11	.1635	43.07	Pk	1.3	0	44.37	65.28	-20.91		
12	.168	23.05	Av	1.3	0	24.35	-	-	55.06	-30.71
13	.8115	42.04	Pk	.3	0	42.34	56	-13.66		
14	.8115	28.42	Av	.3	0	28.72	-	-	46	-17.28
15	13.56	57.19	Pk	.2	.2	57.59	60	-2.41		
16	13.56	54.99	Av	.2	.2	55.39	-	-	50	5.39

Pk - Peak detector

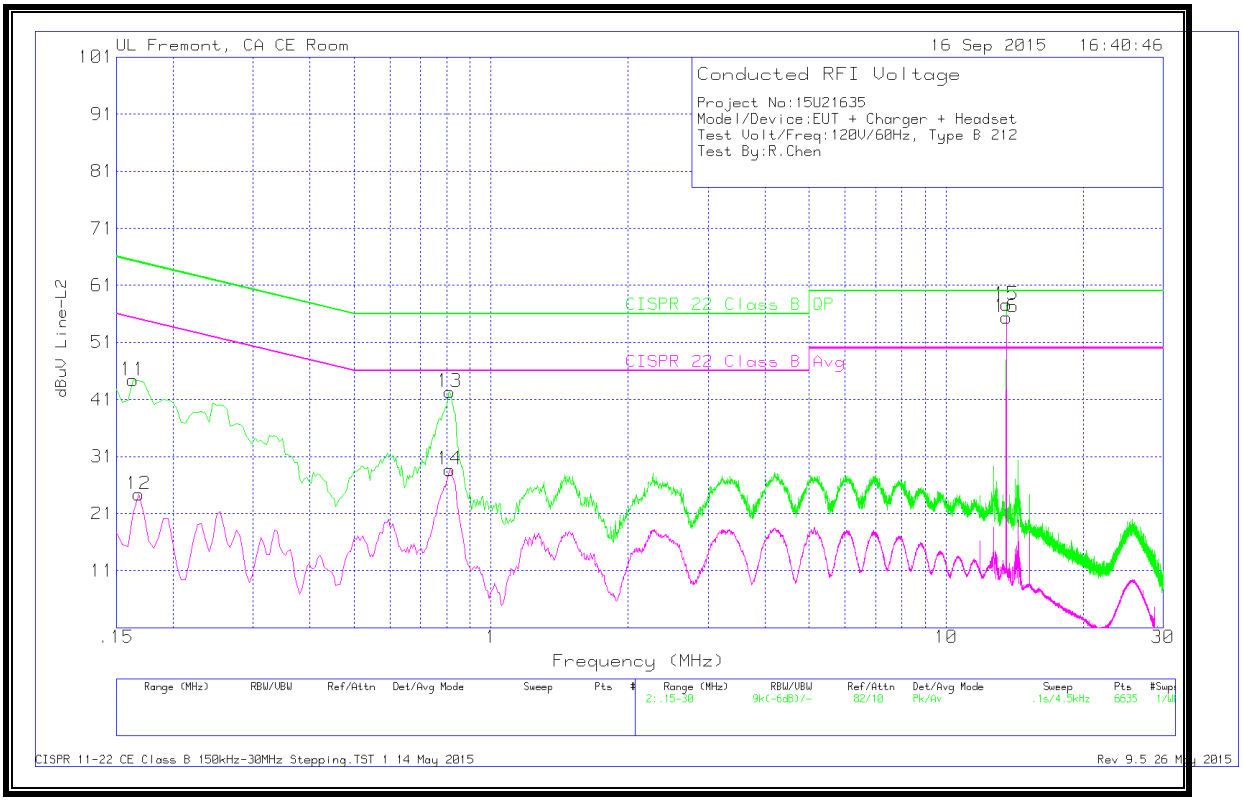
Av - Average detection

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



10.2.4. NORMAL OPERATION WITH ANTENNA PORT TERMINATED, 212 KBPS

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	45.17	Pk	1.2	0	46.37	65.06	-18.69		
2	.168	25.05	Av	1.2	0	26.25	-	-	55.06	-28.81
3	.8115	43.48	Pk	.3	0	43.78	56	-12.22		
4	.816	31.19	Av	.3	0	31.49	-	-	46	-14.51
5	2.2875	32.33	Pk	.2	.1	32.63	56	-23.37		
6	2.301	20.22	Av	.2	.1	20.52	-	-	46	-25.48
7	26.025	22.46	Pk	.3	.3	23.06	60	-36.94		
8	26.0295	9.85	Av	.3	.3	10.45	-	-	50	-39.55

Pk - Peak detector

Av - Average detection

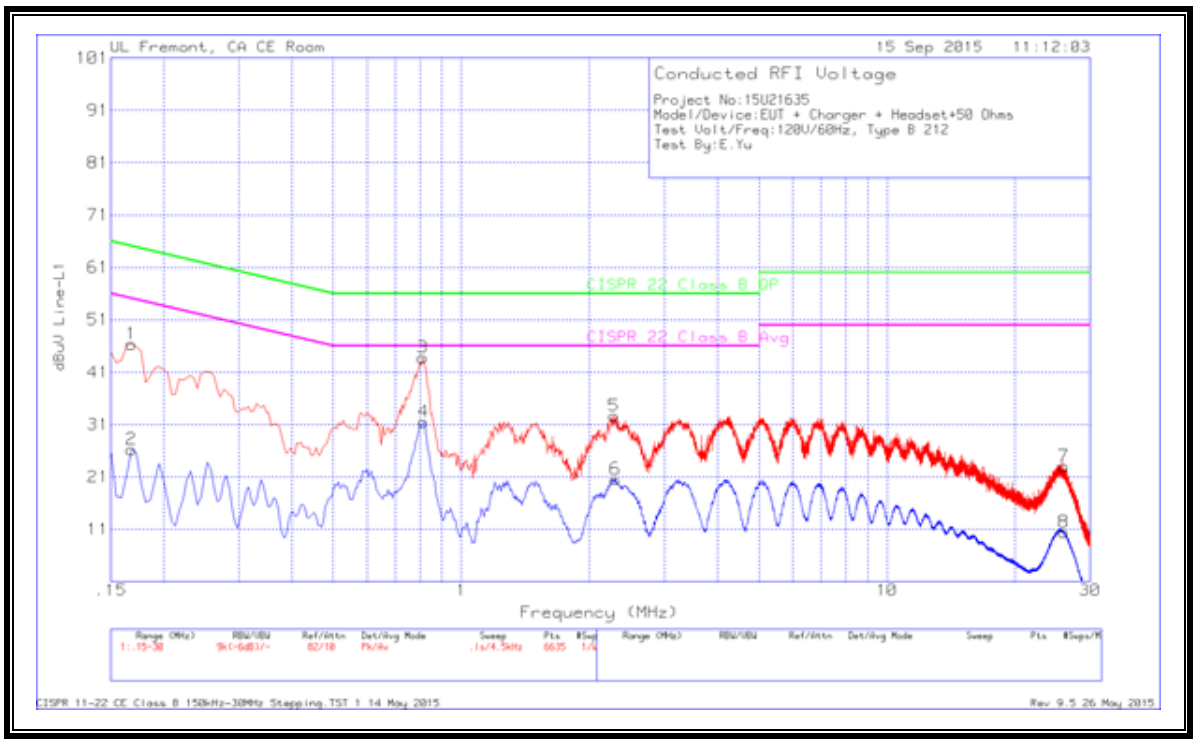
Range 2: Line-L2 .15 - 30MHz

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	.1635	43.98	Pk	1.3	0	45.28	65.28	-20		
10	.168	23.67	Av	1.3	0	24.97	-	-	55.06	-30.09
11	.8025	43.14	Pk	.3	0	43.44	56	-12.56		
12	.816	26.07	Av	.3	0	26.37	-	-	46	-19.63
13	4.137	30.23	Pk	.2	.1	30.53	56	-25.47		
14	4.164	20.01	Av	.2	.1	20.31	-	-	46	-25.69
15	26.421	21.76	Pk	.3	.3	22.36	60	-37.64		
16	26.412	10.56	Av	.3	.3	11.16	-	-	50	-38.84

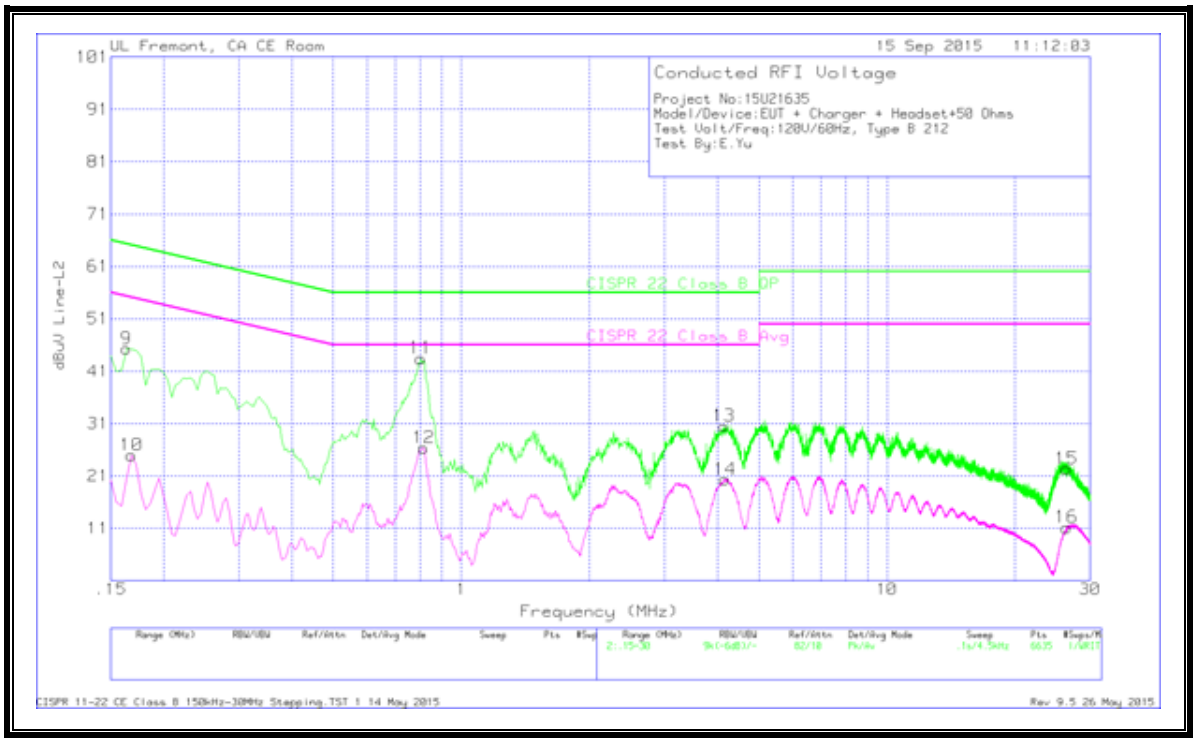
Pk - Peak detector

Av - Average detection

LINE 1 RESULTS



LINE 2 RESULTS



10.2.5. NORMAL OPERATION, 106 KBPS

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	44.29	Pk	1.2	0	45.49	65.28	-19.79		
2	.168	23.34	Av	1.2	0	24.54	-	-	55.06	-30.52
3	.8115	43.33	Pk	.3	0	43.63	56	-12.37		
4	.816	27.16	Av	.3	0	27.46	-	-	46	-18.54
5	13.56	64.73	Pk	.2	.2	65.13	60	5.13		
6	13.56	60.56	Av	.2	.2	60.96	-	-	50	10.96

Pk - Peak detector

Av - Average detection

Range 2: Line-L2 .15 - 30MHz

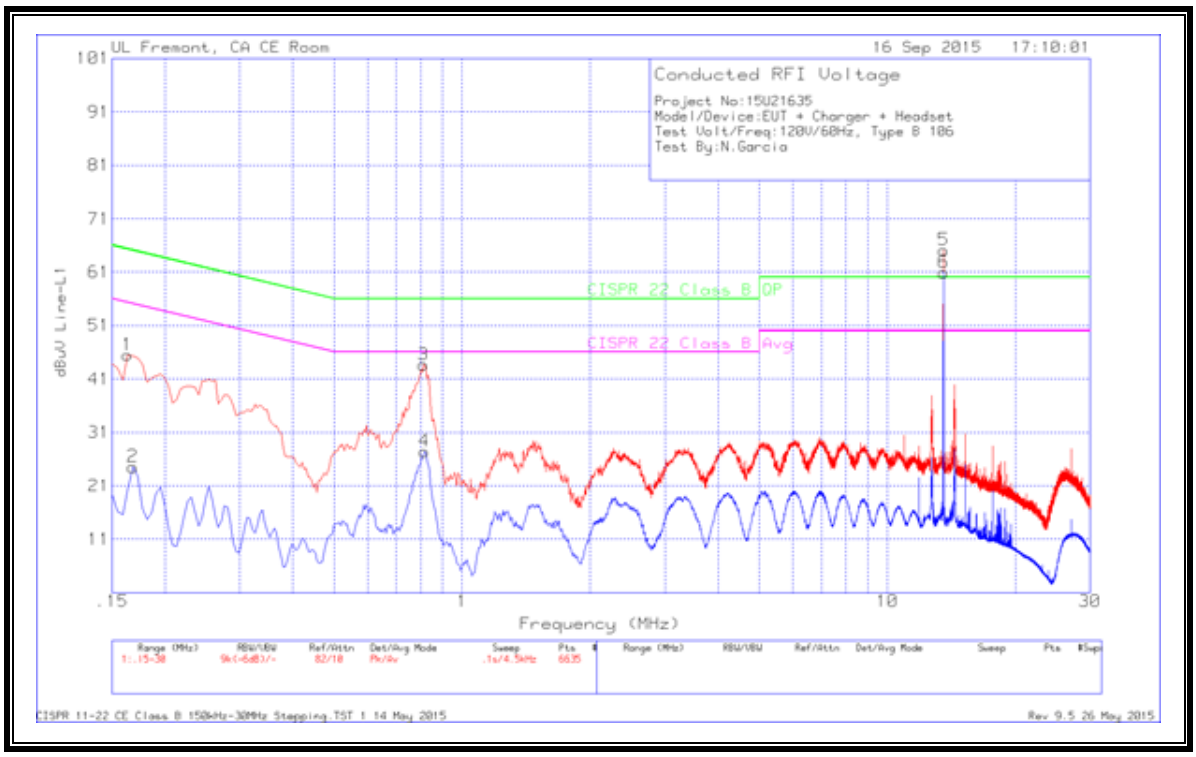
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
7	.1635	44.31	Pk	1.3	0	45.61	65.28	-19.67		
8	.168	23.77	Av	1.3	0	25.07	-	-	55.06	-29.99
9	.8115	43.62	Pk	.3	0	43.92	56	-12.08		
10	.816	29.75	Av	.3	0	30.05	-	-	46	-15.95
11	13.56	59.45	Pk	.2	.2	59.85	60	-.15		
12	13.56	57.79	Av	.2	.2	58.19	-	-	50	8.19

Pk - Peak detector

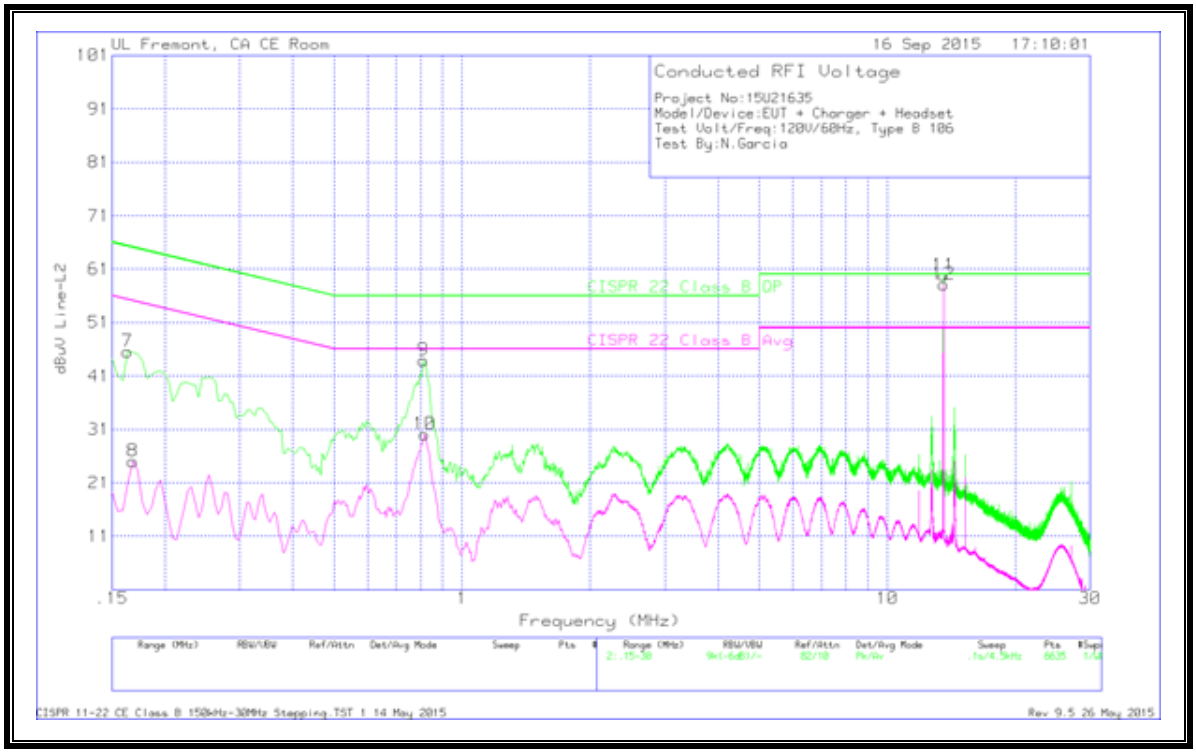
Av - Average detection

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



10.2.6. NORMAL OPERATION WITH ANTENNA PORT TERMINATED, 106 KBPS

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	45.07	Pk	1.2	0	46.27	65.06	-18.79		
2	.168	25.2	Av	1.2	0	26.4	-	-	55.06	-28.66
3	.816	43.87	Pk	.3	0	44.17	56	-11.83		
4	.816	31.39	Av	.3	0	31.69	-	-	46	-14.31
5	2.2875	32.26	Pk	.2	.1	32.56	56	-23.44		
6	2.274	20.57	Av	.2	.1	20.87	-	-	46	-25.13
7	25.7415	21.98	Pk	.3	.3	22.58	60	-37.42		
8	25.7415	10.18	Av	.3	.3	10.78	-	-	50	-39.22

Pk - Peak detector

Av - Average detection

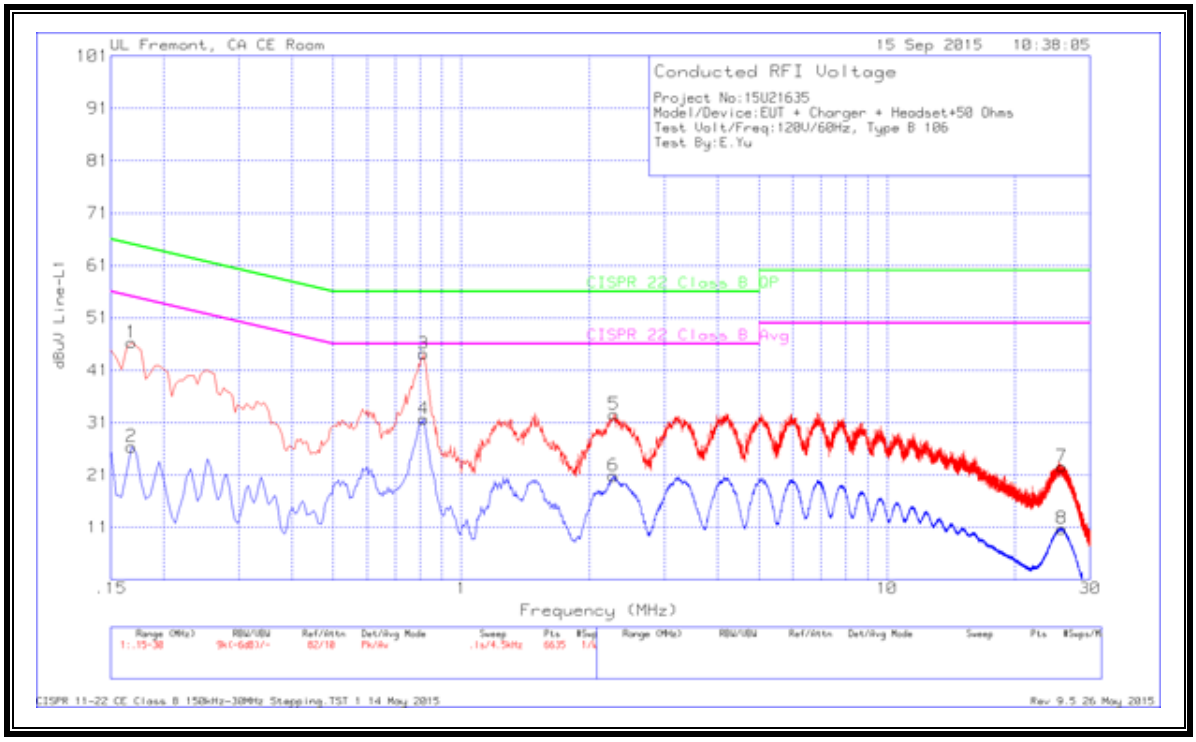
Range 2: Line-L2 .15 - 30MHz

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	43.82	Pk	1.3	0	45.12	65.06	-19.94		
10	.168	23.54	Av	1.3	0	24.84	-	-	55.06	-30.22
11	.807	43.12	Pk	.3	0	43.42	56	-12.58		
12	.816	26.05	Av	.3	0	26.35	-	-	46	-19.65
13	4.218	30.41	Pk	.2	.1	30.71	56	-25.29		
14	4.218	20.29	Av	.2	.1	20.59	-	-	46	-25.41
15	26.3985	22.5	Pk	.3	.3	23.1	60	-36.9		
16	26.394	9.93	Av	.3	.3	10.53	-	-	50	-39.47

Pk - Peak detector

Av - Average detection

LINE 1 RESULTS



LINE 2 RESULTS