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 NUMBER: A1524

FCC ID: BCG-E2817A
IC: 579C-E2817A

REPORT NUMBER: 14U17676-E21, REVISION C

ISSUE DATE: SEPTEMBER 15, 2014

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

Prepared by
UL VERIFICATION SERVICES INC.
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	07/17/2014	Initial Issue	C. Pang
A	07/29/2014	Address TCB questions on Section 5.1, 5.4 and 8.	Oliver Su
B	08/01/2014	Address TCB''s Questions.	C. Pang
C	09/15/2014	Address TCB''s Questions.	O. Su

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TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS 4

2. TEST METHODOLOGY 5

3. FACILITIES AND ACCREDITATION 5

4. CALIBRATION AND UNCERTAINTY 5

4.1. MEASURING INSTRUMENT CALIBRATION 5

4.2. SAMPLE CALCULATION 5

4.3. MEASUREMENT UNCERTAINTY 6

5. EQUIPMENT UNDER TEST 7

5.1. DESCRIPTION OF EUT 7

5.2. MAXIMUM OUTPUT POWER 7

5.3. SOFTWARE AND FIRMWARE 7

5.4. WORST-CASE CONFIGURATION AND MODE 7

5.5. MODIFICATIONS 7

5.6. DESCRIPTION OF TEST SETUP 8

6. TEST AND MEASUREMENT EQUIPMENT 10

7. OCCUPIED BANDWIDTH 11

8. RADIATED EMISSION TEST RESULTS 13

8.1. LIMITS AND PROCEDURE 13

8.1.1. TYPE A FUNDAMENTAL AND SPURIOUS EMISSIONS (0.15 – 30 MHz) 15

8.1.2. TPYE B FUNDAMENTAL AND SPURIOUS EMISSIONS (0.15 – 30 MHz) 21

8.1.3. TYPE A TX SPURIOUS EMISSION 30 TO 1000 MHz 27

8.1.4. TYPE B TX SPURIOUS EMISSION 30 TO 1000 MHz 30

9. AC MAINS LINE CONDUCTED EMISSIONS 33

9.1. LIMITS AND PROCEDURE 33

9.2. TYPE A, 424 KBPS 34

9.2.1. WITHOUT DUMMY LOAD 34

9.2.2. WITH DUMMY LOAD 37

9.3. TYPE B, 424 KBPS 40

9.3.1. WITHOUT DUMMY LOAD 40

9.3.2. WITH DUMMY LOAD 43

10. FREQUENCY STABILITY 46

11. SETUP PHOTOS 48

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1. ATTESTATION OF TEST RESULTS

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

EUT DESCRIPTION: Cellular Phone with Bluetooth and WLAN Radios

MODEL: A1524

SERIAL NUMBER: C39MV022G2YGC39; C39MV00UG2YG

DATE TESTED: MAY 30 – JULY 03, 2014

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 3	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:

Oliver Su
Senior Engineer
UL Verification Services Inc.

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2009, FCC CFR 47 Part 2, and FCC CFR 47 Part 15, RSS-GEN Issue 3, 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

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

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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

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

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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/CDMA2000 1x RTT/EVDO Rev.A / EVDO Rev.B / WCDMA /HSPA+/DC-HSDPA/LTE FDD & Carrier Aggregation/TDD/TD-SCDMA radio, IEEE 802.11a/b/g/n/ac radio, Bluetooth radio and NFC (a tag device). The rechargeable battery is not user accessible.

5.2. MAXIMUM OUTPUT POWER

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

Frequency Range (MHz)	Mode	E field at 30 m distance (dBuV/M)
14.306	Type A	6.10
14.39	Type B	12.12

5.3. SOFTWARE AND FIRMWARE

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

5.4. WORST-CASE CONFIGURATION AND MODE

Radiated emission and power line conducted emission were performed with the EUT with dummy load, set to transmit at the channel with highest output power as worst-case scenario. The dummy load is a matching impedance at the antenna port.

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

Worst case of radiated emission test below 30MHz was found on antenna face-on orientation. Face-On is defined as when the loop antenna is parallel to the EUT, and face off is defined as when the loop antenna is perpendicular to the EUT.

5.5. MODIFICATIONS

No modifications were made during testing.

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5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC/DC adapter	Apple	A1401	60812	NA
Earphone	Apple	NA	NA	NA

I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	1	US115	Un-Shielded	80cm	NA
2	DC	1	USB	Un-Shielded	1m	NA
3	Audio	1	Jack	Un-Shielded	0.5m	NA

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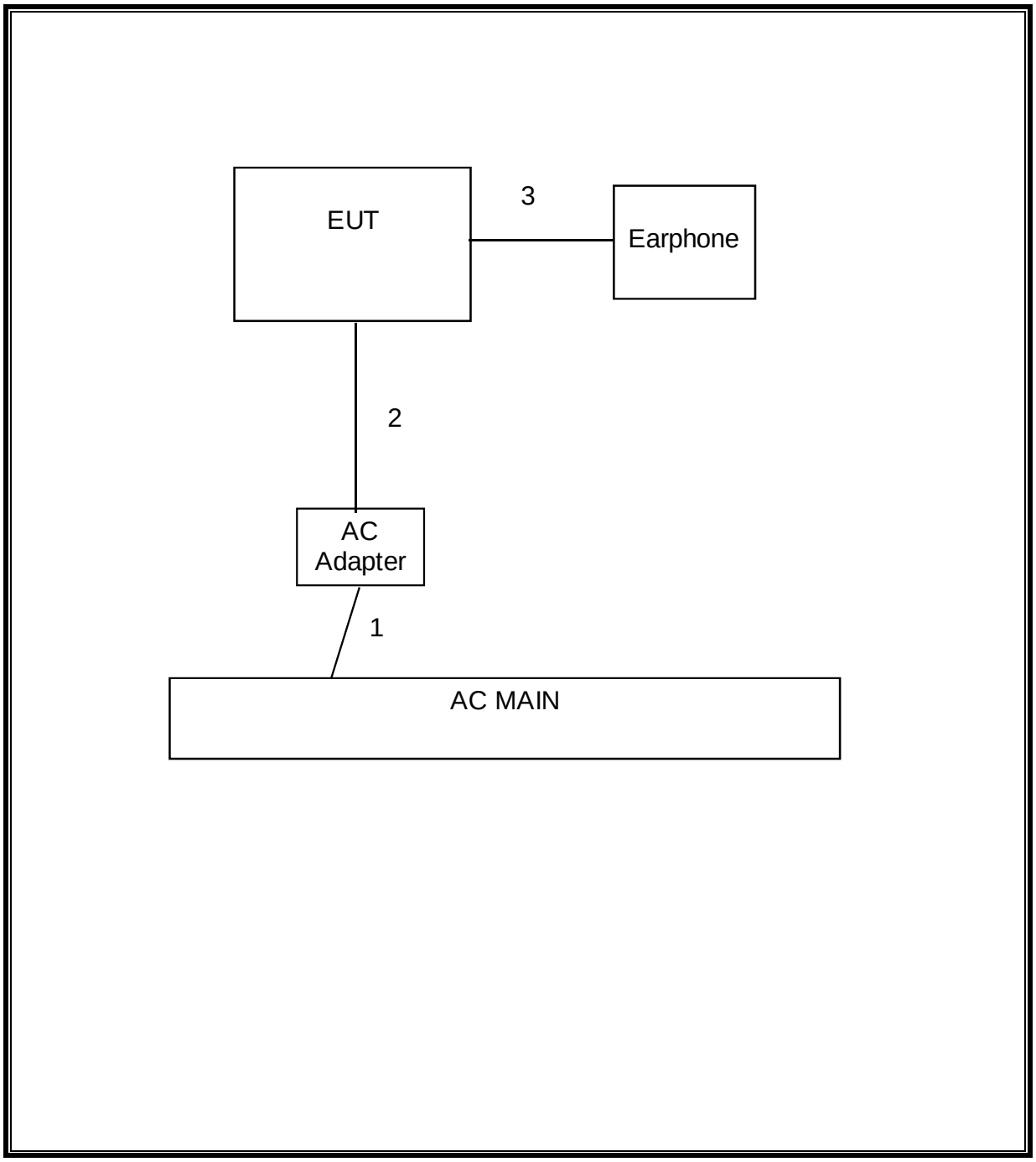
SETUP DIAGRAM FOR TESTS



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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**	**Asset**	**Cal Due**
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	F00129	02/22/15
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	F00168	03/28/15
Preamplifier, 1300 MHz	Sonoma	310	F00008	05/27/15
Loop Antenna	ETS Lindgren	6502	F00370	10/04/14
Close-Field Probe	Agilent / HP	11941A	N02873	08/15/14
Temperature Chamber	Cincinnati Sub Zero	ZPHS-8-3.5-SCT/WC	F00363	10/11/14
EMI Test Receiver, 9 KHz-7 GHz	R & S	ESCI 7	F00092	09/05/14
LISN, 30 MHz	FCC	LISN-50/250-25-2	C00626	01/14/15

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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 1% to 3% of the 99 % bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

RESULTS

Moduation	Frequency	99% Bandwidth
	(MHz)	(MHz)
Type A	13.56	5.6887
Type B	13.56	5.4806

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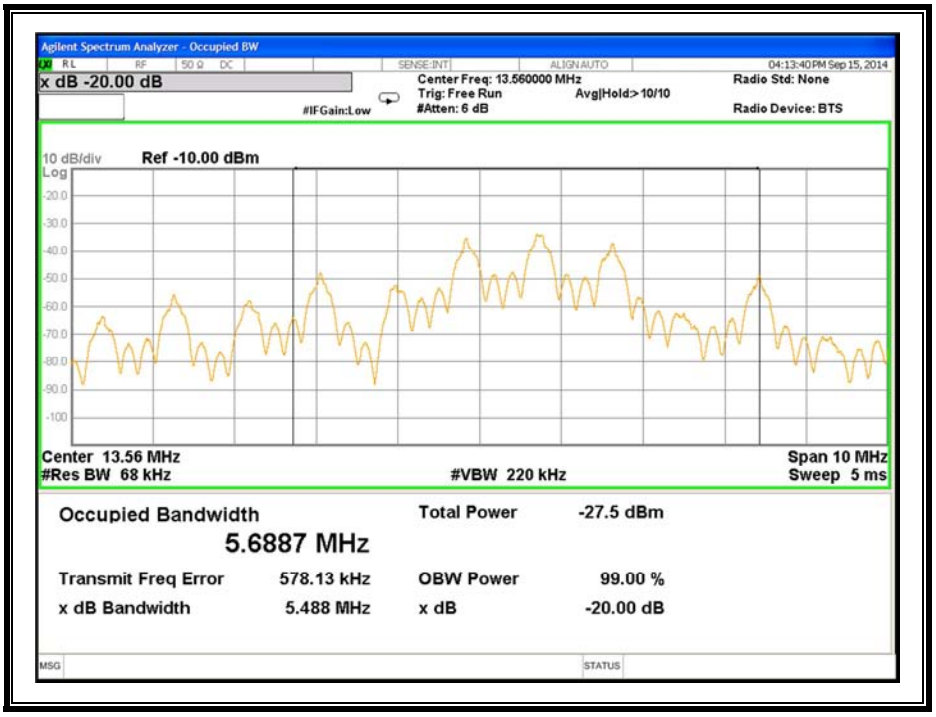
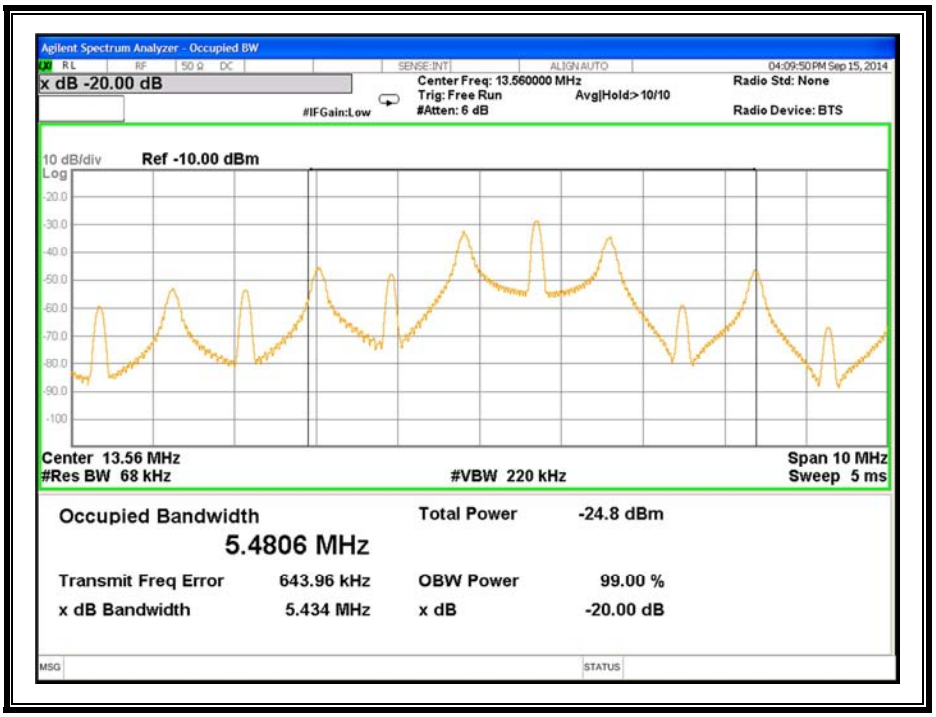
Type A



Type B



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8. RADIATED EMISSION TEST RESULTS

8.1. LIMITS AND PROCEDURE

LIMIT

§15.225
IC RSS-210, Section 2.6 (Transmitter)
IC RSS-GEN, Section 6 (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)

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In addition:

§15.209 (d) The emission limits shown the above table is 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 C63.4, 2009

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

Offset = 40*log (3/30) + Antenna Factor
Offset = -40 dB + 11 dB = -29 dB

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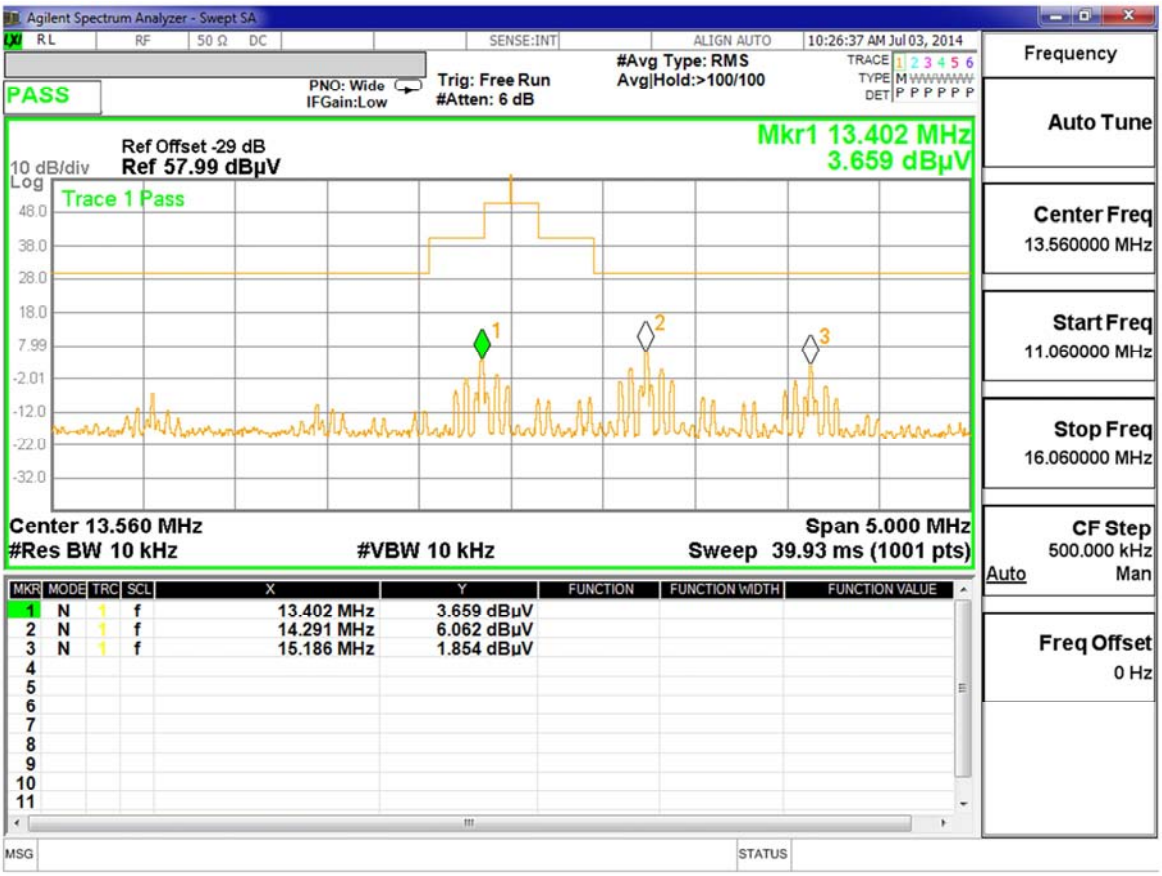
8.1.1. TYPE A FUNDAMENTAL AND SPURIOUS EMISSIONS (0.15 – 30 MHz)

TYPE A, 424 Kbps, ANTENNA FACE ON

13.56 MHz



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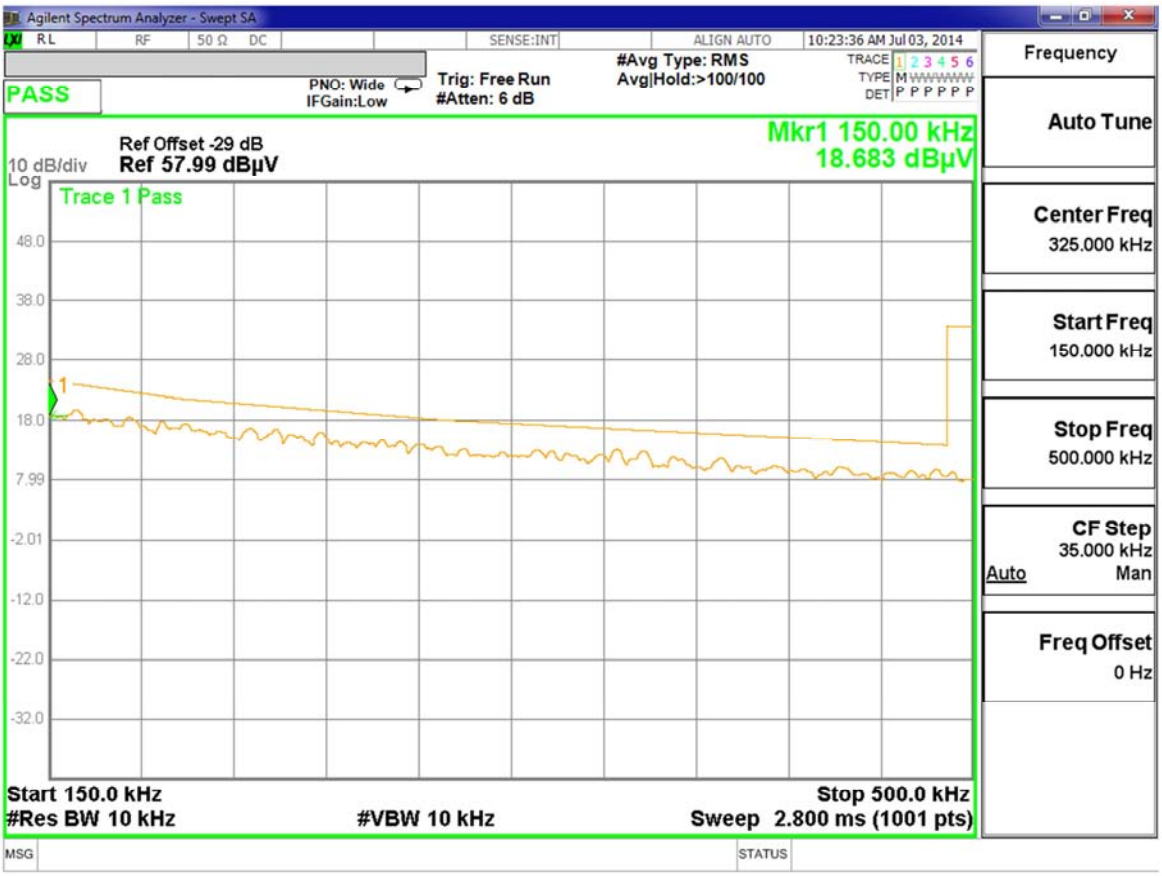
150 KHz – 500 KHz



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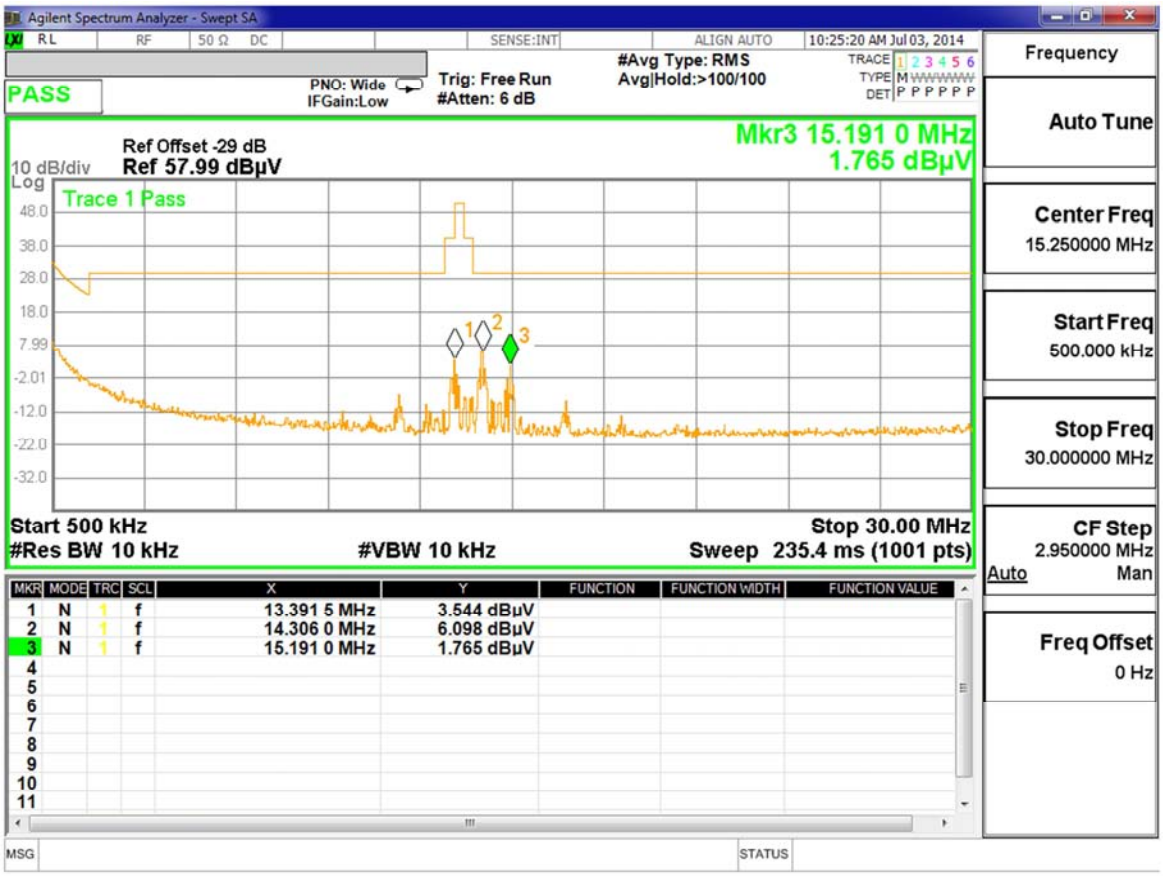
500 KHz – 30 MHz



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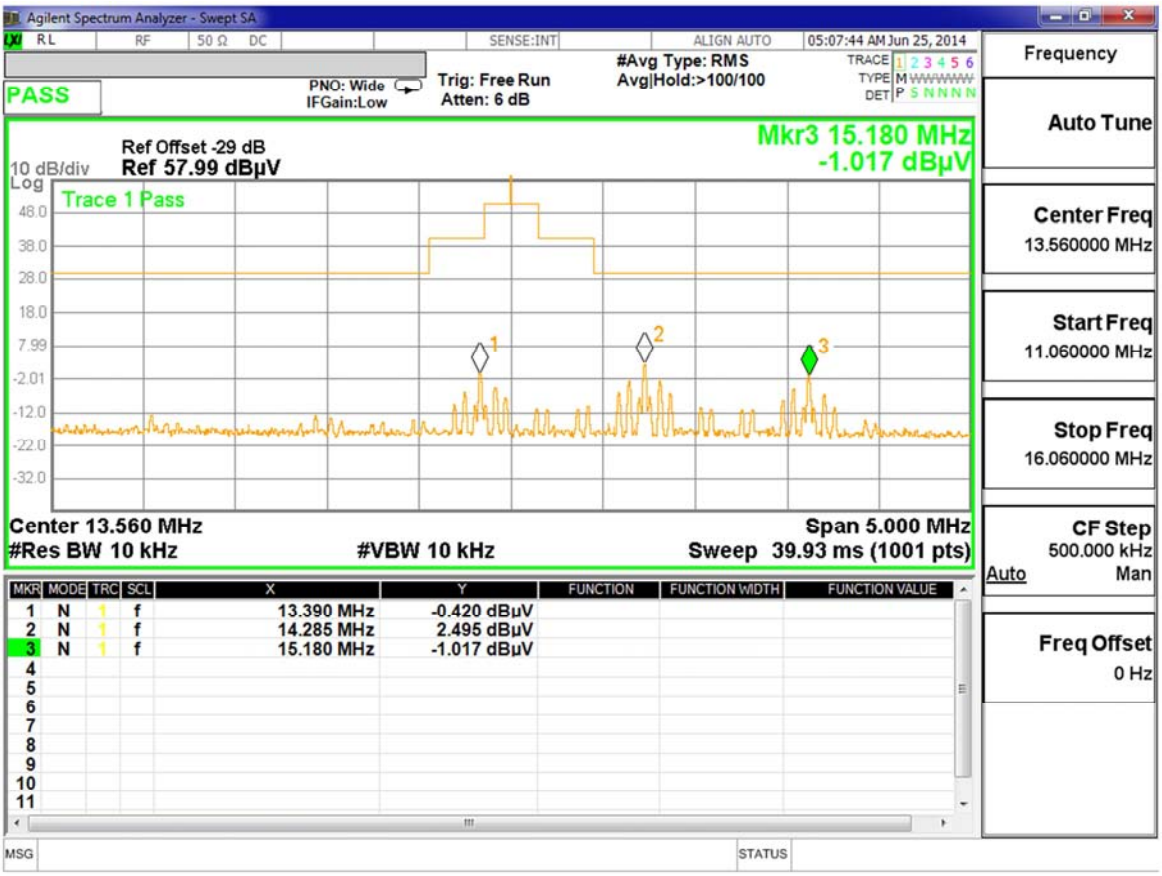
TYPE A, 424 Kbps, ANTENNA FACE OFF

13.56 MHz



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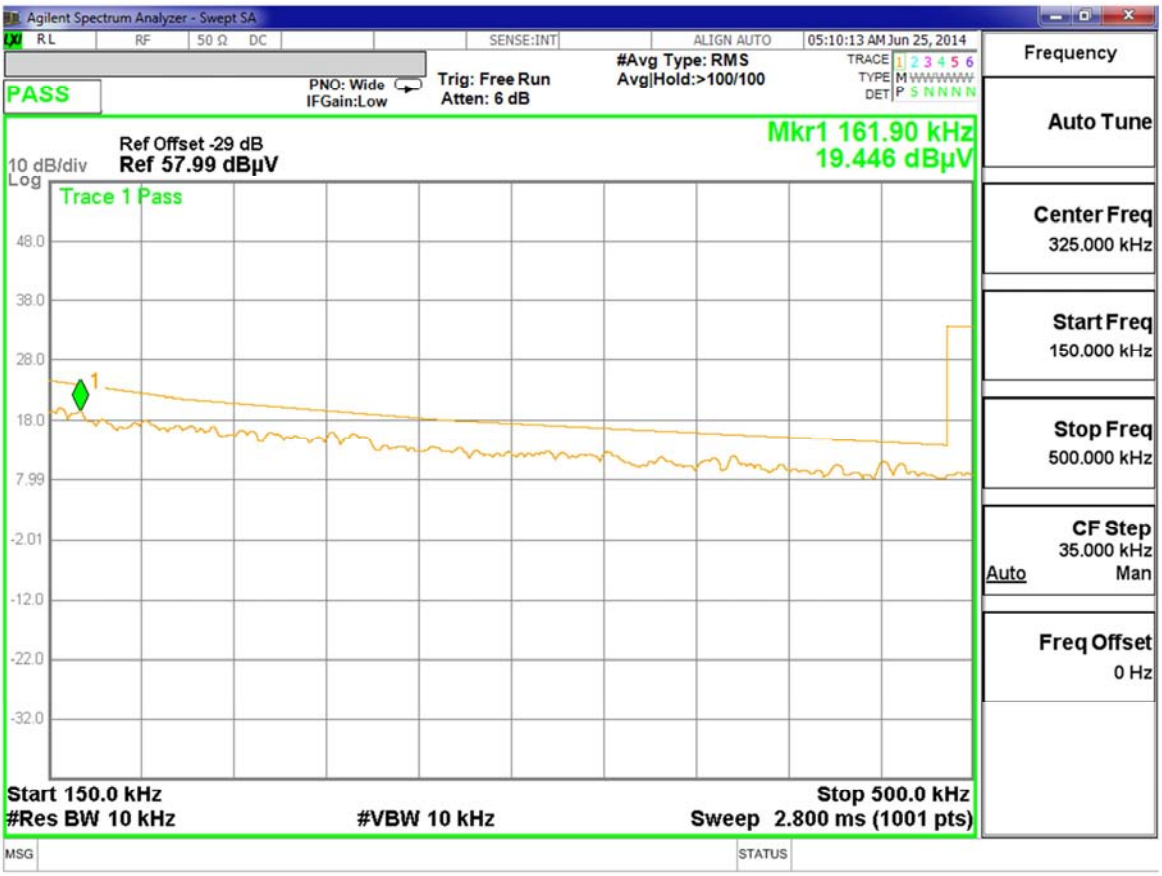
150 KHz – 500 KHz



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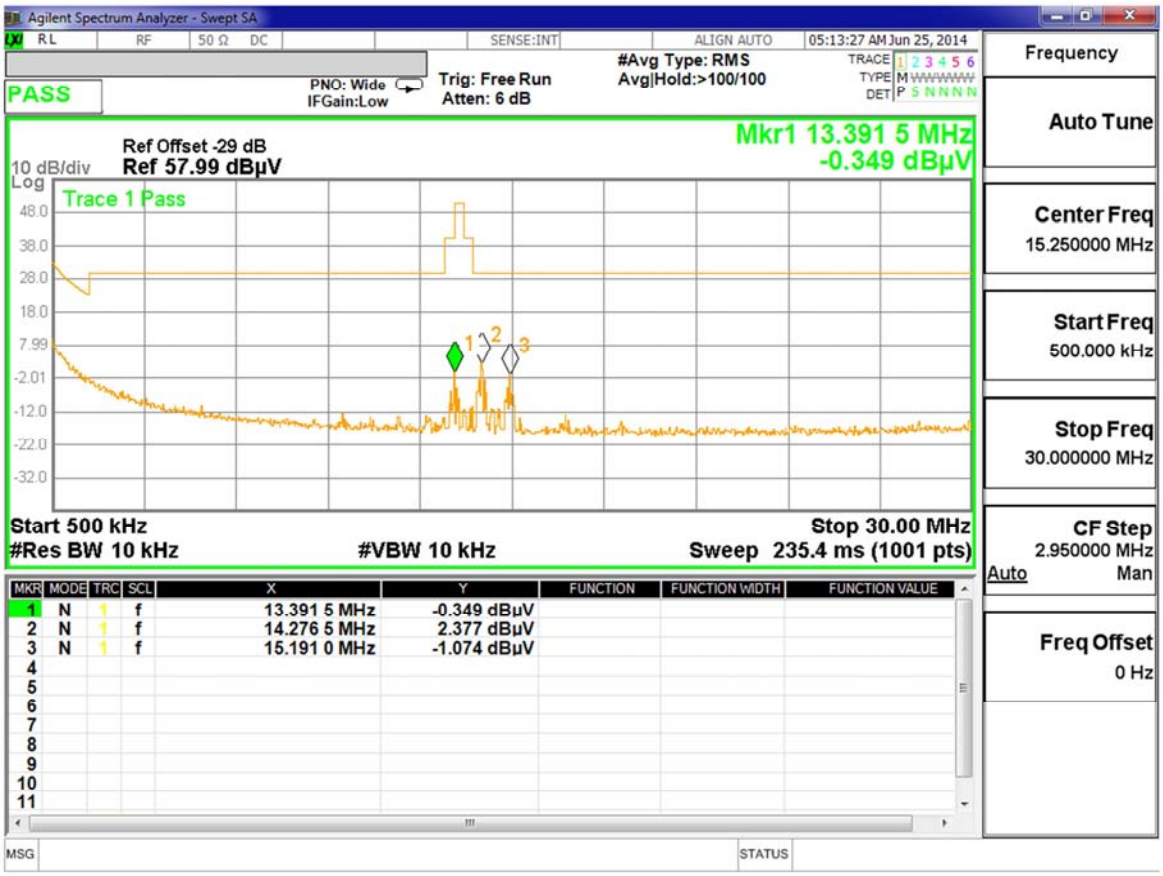
500 KHz – 30 MHz



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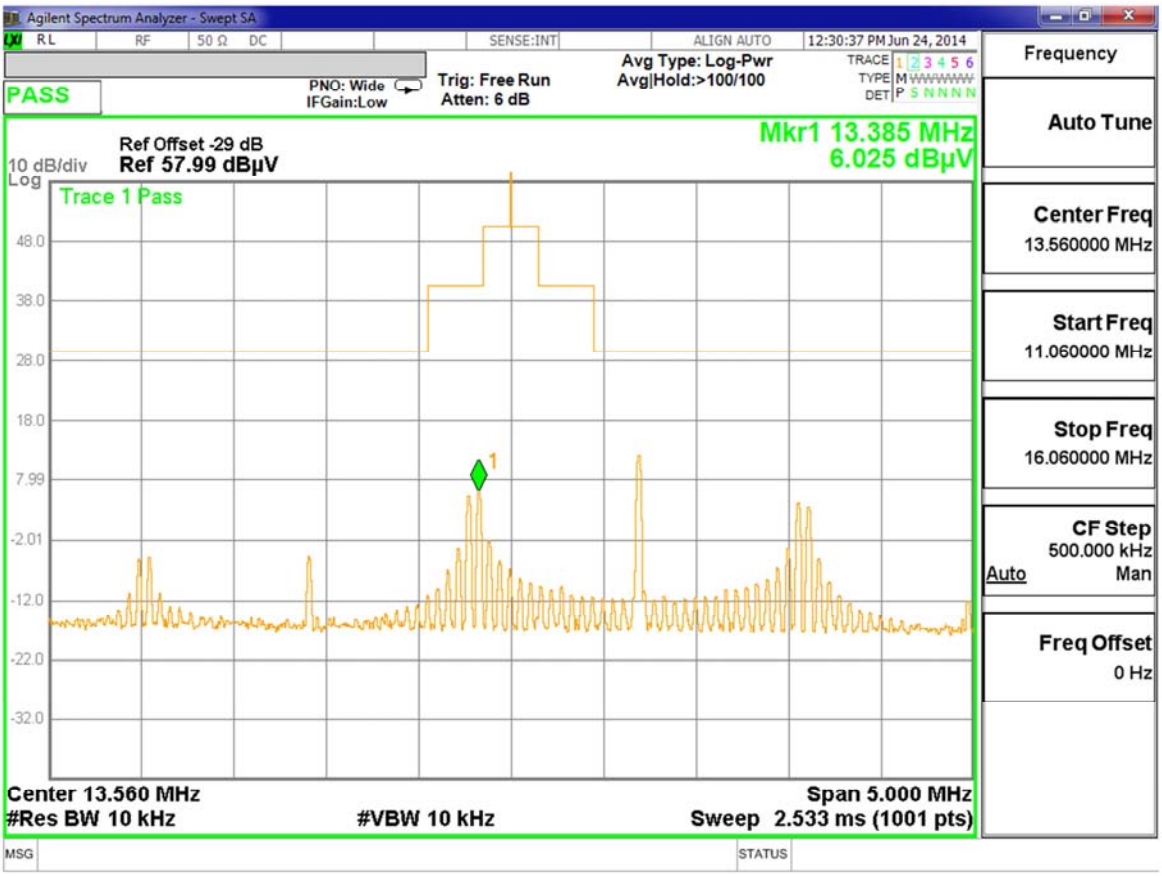
8.1.2. TPYE B FUNDAMENTAL AND SPURIOUS EMISSIONS (0.15 – 30 MHz)

TYPE B, 424 Kbps, ANTENNA FACE ON

13.56 MHz



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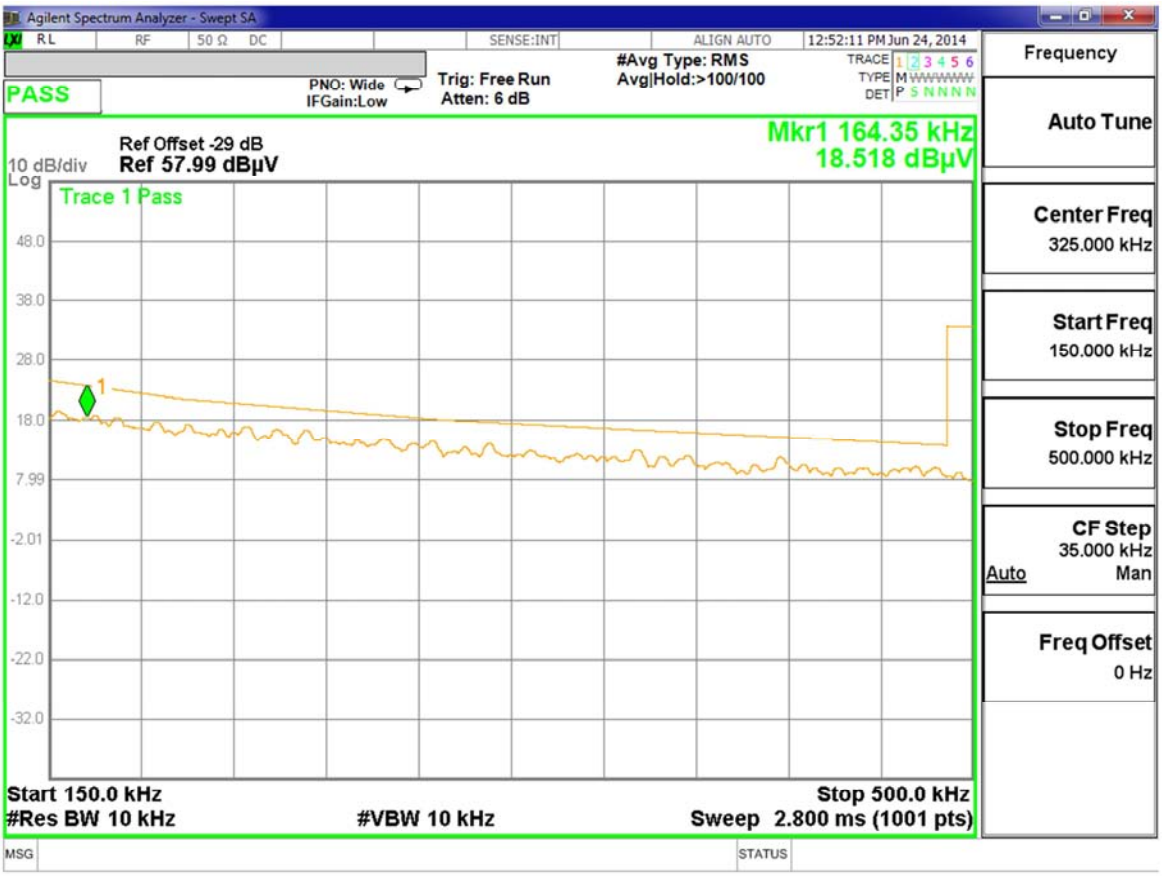
150 KHz – 500 KHz



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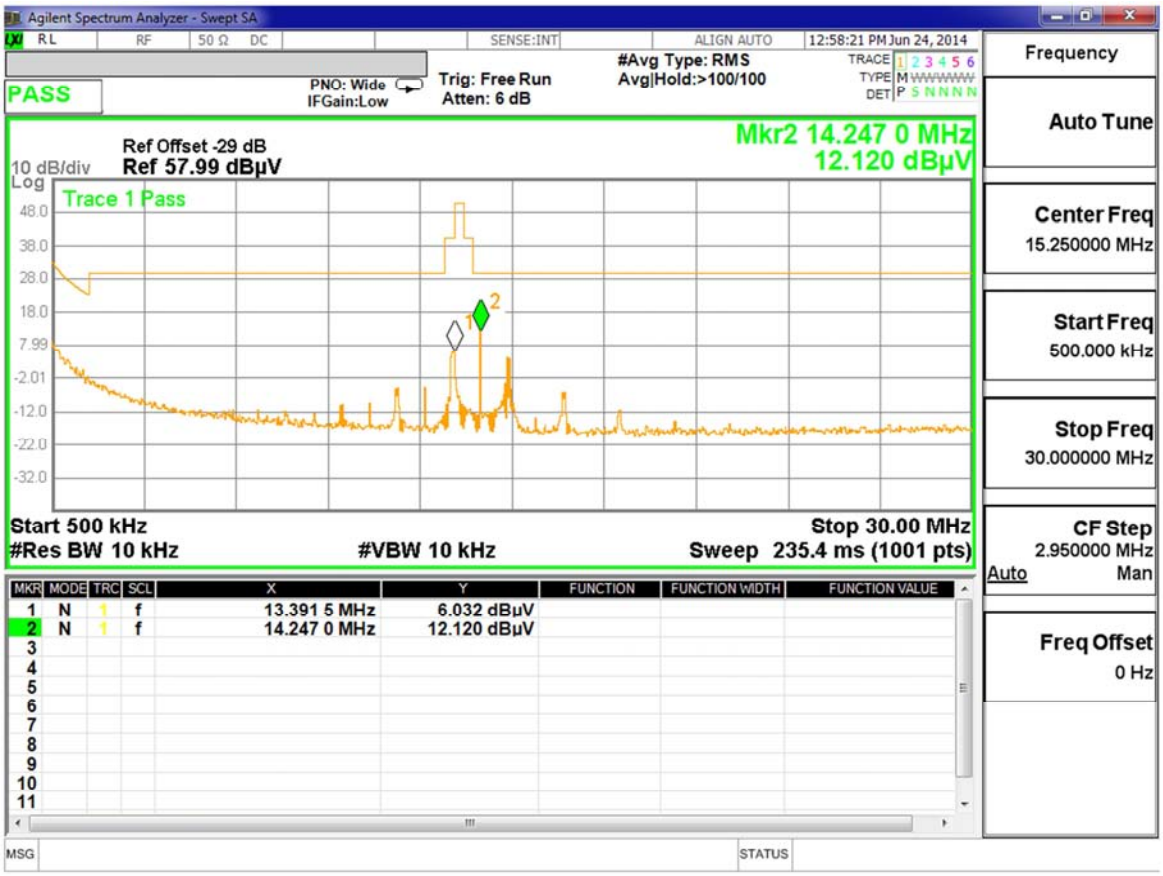
500 KHz – 30 MHz



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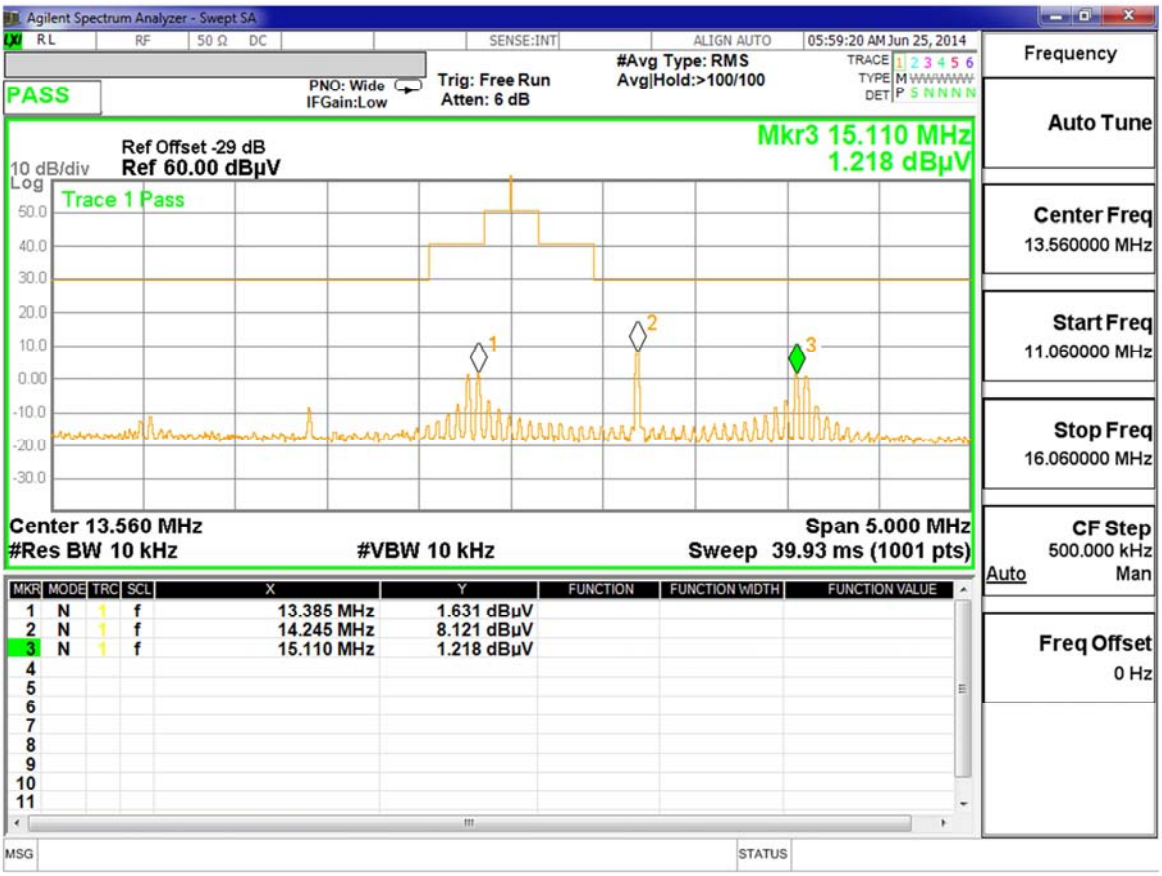
TYPE B, 424 Kbps, ANTENNA FACE OFF

13.56 MHz



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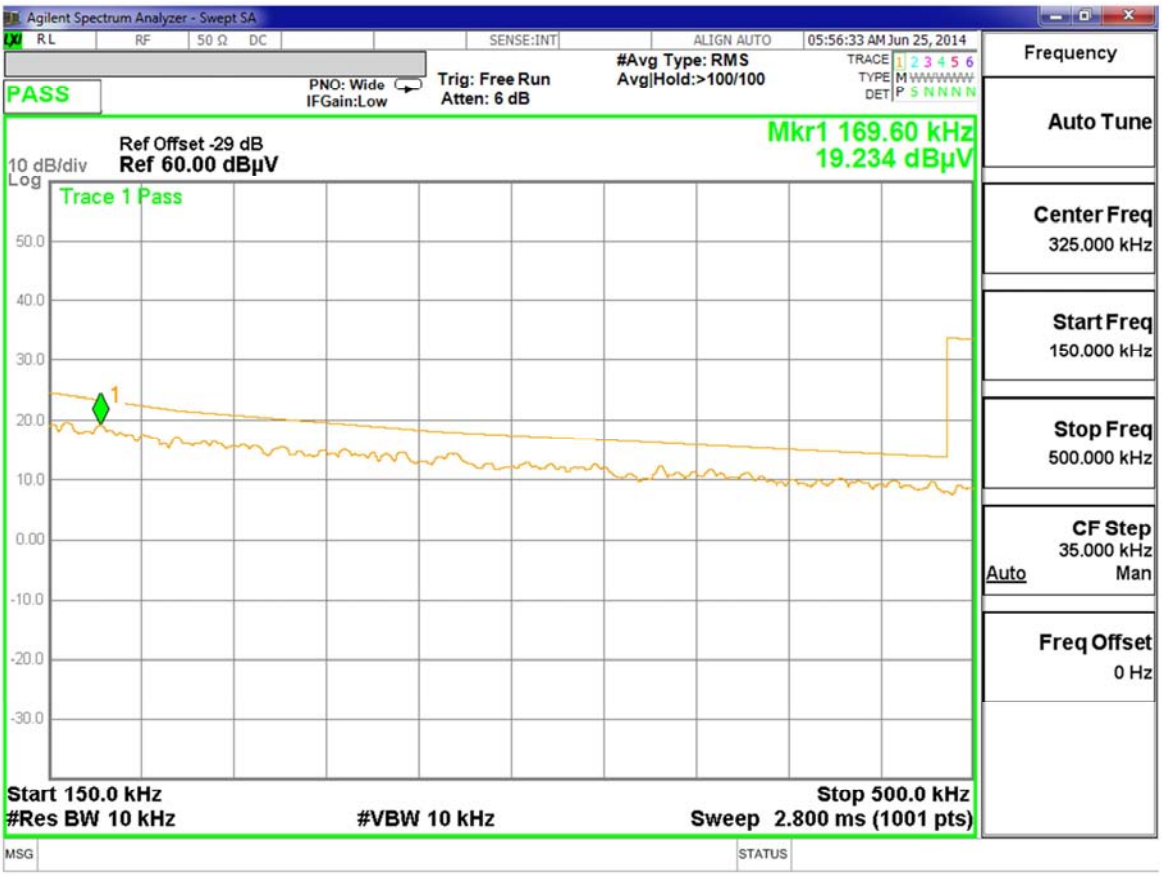
150 KHz – 500 KHz



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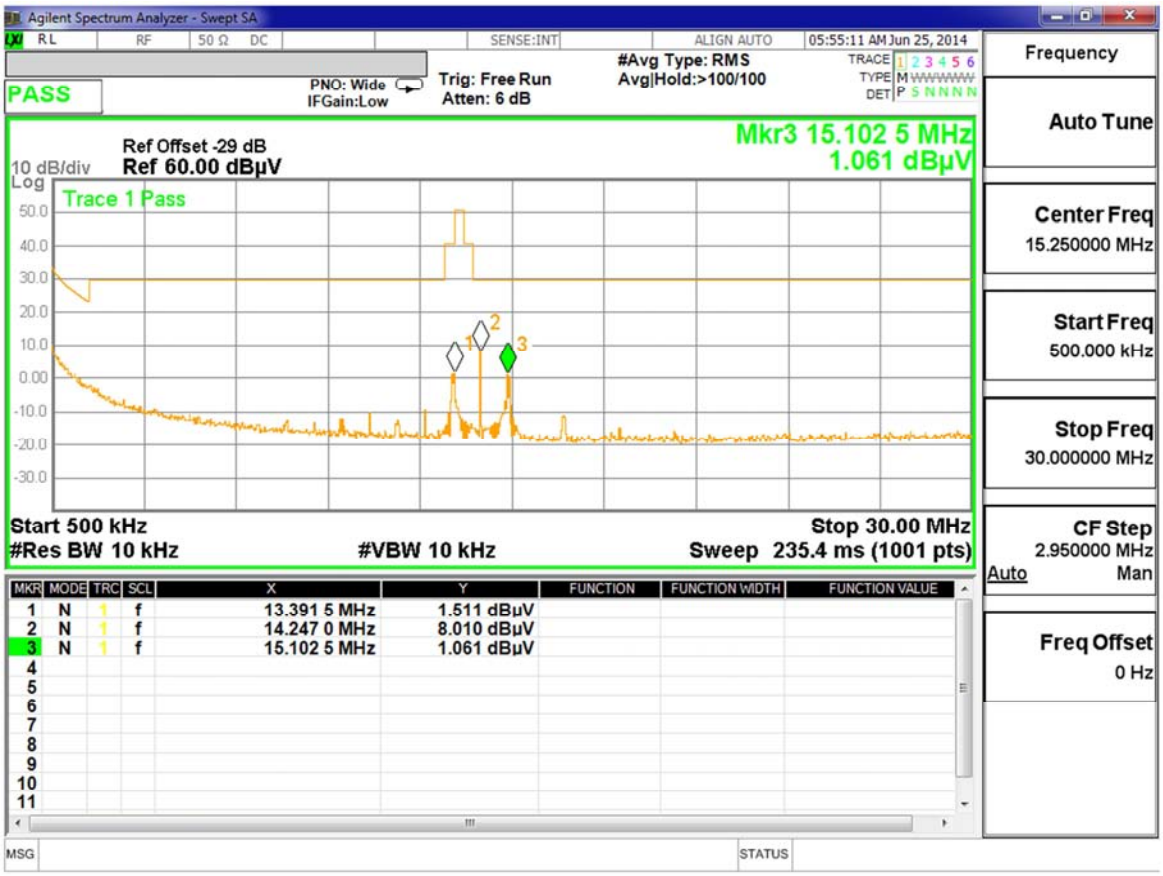
500 KHz – 30 MHz



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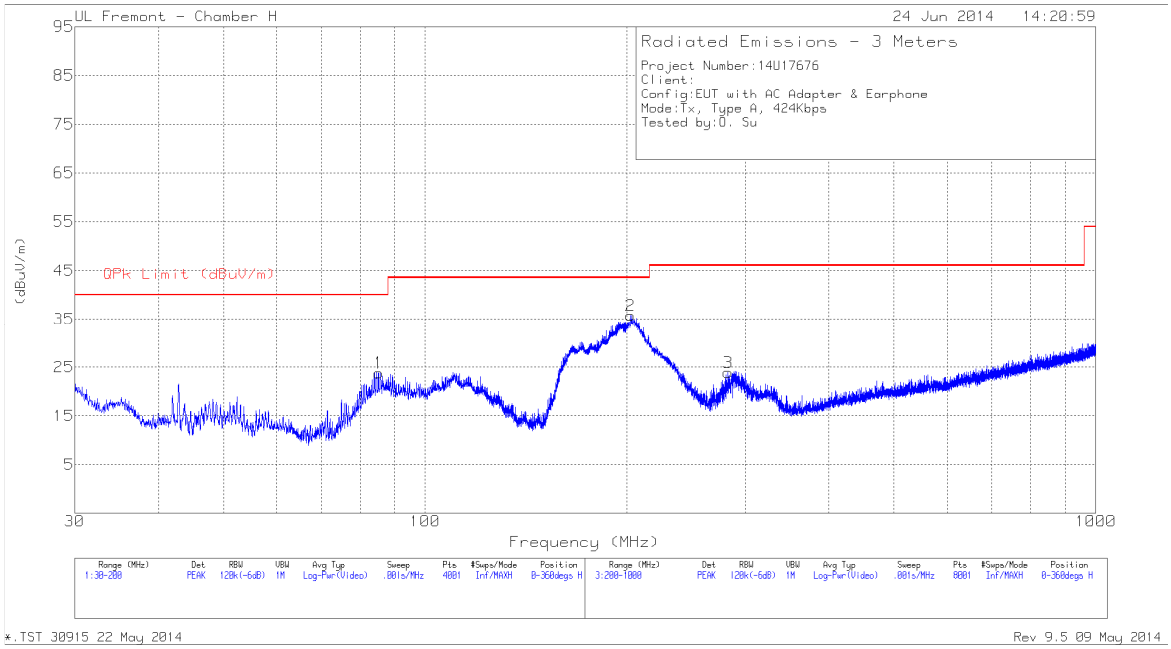
8.1.3. TYPE A TX SPURIOUS EMISSION 30 TO 1000 MHz

TYPE A, 424 Kbps

HORIZONTAL PLOT



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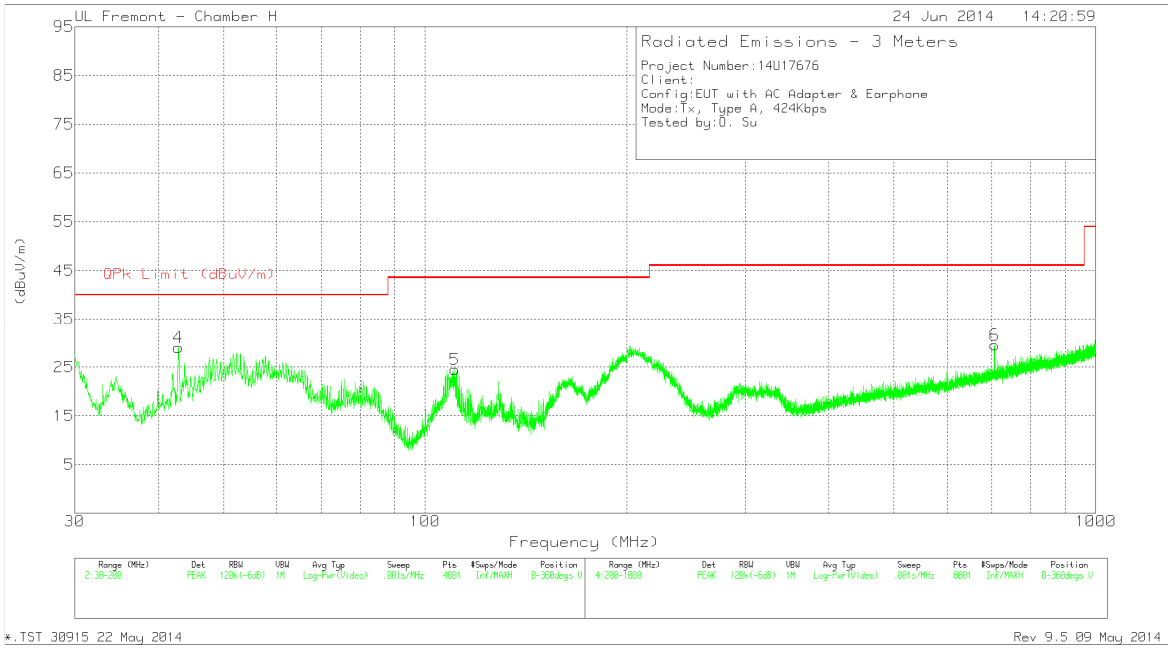
VERTICAL PLOT



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HORIZONTAL DATA AND VERTICAL DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	SS JB3 SN A051314-1	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 110.7075	39.04	PK	15.5	-30	24.54	43.52	-18.98	0-360	100	V
3	* 282.9	36.17	PK	16.3	-28.6	23.87	46.02	-22.15	0-360	100	H
4	42.835	44.74	PK	15.1	-30.8	29.04	40	-10.96	0-360	100	V
1	85.2075	43.93	PK	10.2	-30.3	23.83	40	-16.17	0-360	300	H
2	202.3	49.55	PK	15.5	-29.3	35.75	43.52	-7.77	0-360	200	H
6	706.4	32.95	PK	23.3	-26.7	29.55	46.02	-16.47	0-360	300	V

PK - Peak detector

FCC Part 15 Subpart B Class B 30-1000MHz.TST 30915 22 May 2014

Rev 9.5 09 May 2014

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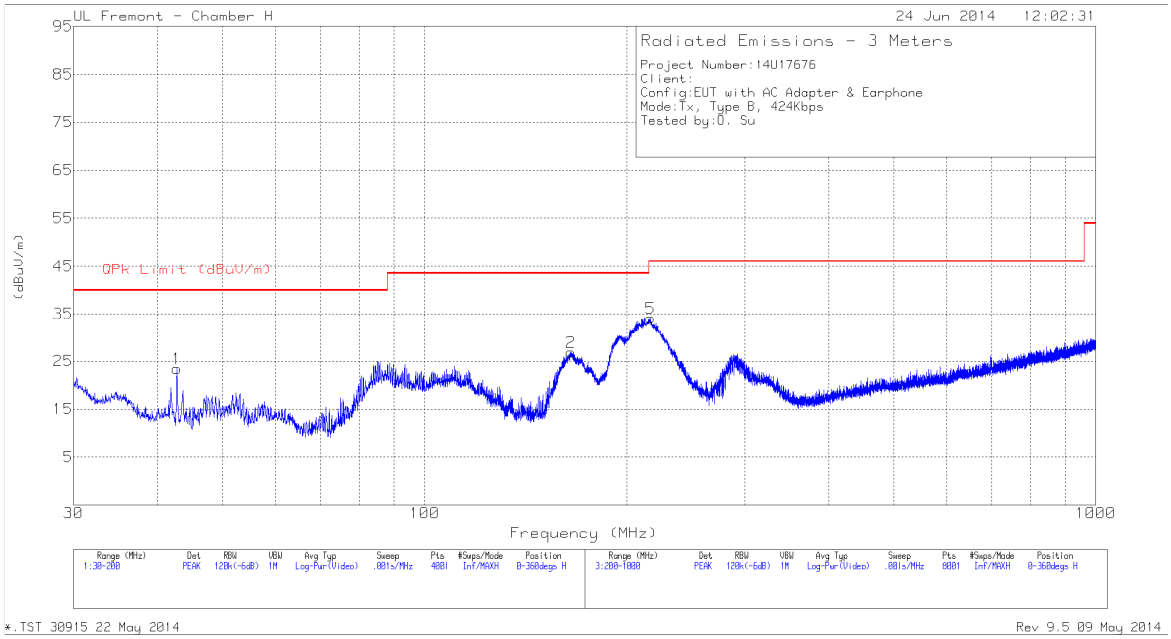
8.1.4. TYPE B TX SPURIOUS EMISSION 30 TO 1000 MHz

TYPE B, 424 Kbps

HORIZONTAL PLOT



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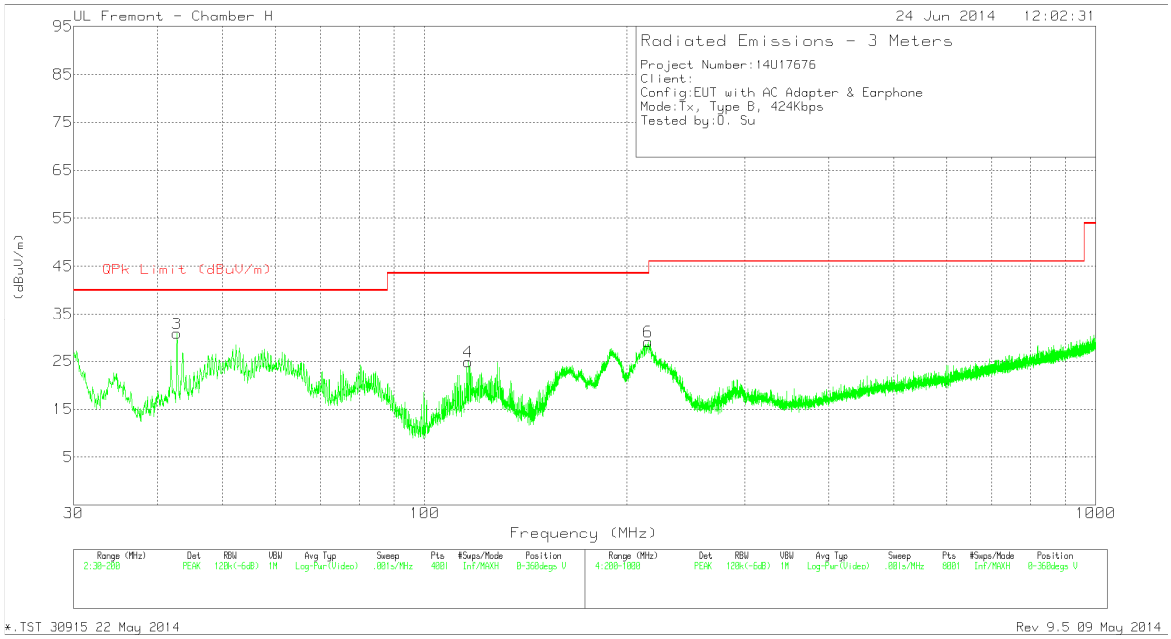
VERTICAL PLOT



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HORIZONTAL AND VERTICAL DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	SS JB3 SN A051314-1	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 165.2775	41.44	PK	15	-29.6	26.84	43.52	-16.68	0-360	200	H
4	* 116.105	38.64	PK	16.2	-30	24.84	43.52	-18.68	0-360	100	V
1	42.75	39.1	PK	15.1	-30.8	23.4	40	-16.6	0-360	400	H
3	42.7925	46.52	PK	15.1	-30.8	30.82	40	-9.18	0-360	100	V
6	215.3	44.05	PK	14.1	-29.1	29.05	43.52	-14.47	0-360	100	V
5	217.2	49.26	PK	13.9	-29.1	34.06	46.02	-11.96	0-360	100	H

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

PK - Peak detector

*.TST 30915 22 May 2014

Rev 9.5 09 May 2014

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9. AC MAINS LINE CONDUCTED EMISSIONS

9.1. LIMITS AND PROCEDURE

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 C63.4, 2009

RESULTS

No non-compliance noted:

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9.2. TYPE A, 424 KBPS

9.2.1. WITHOUT DUMMY LOAD

6 WORST EMISSIONS

Line-L1 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
1	.771	37.33	PK	.3	0	37.63	56	-18.37	-	-
2	.771	10.02	Av	.3	0	10.32	-	-	46	-35.68
3	13.3935	42.05	PK	.2	.2	42.45	60	-17.55	-	-
4	13.3935	37.27	Av	.2	.2	37.67	-	-	50	-12.33
5	13.56	52.49	PK	.2	.2	52.89	60	-7.11	-	-
6	13.56	47.79	Av	.2	.2	48.19	-	-	50	-1.81
7	14.2845	45.08	PK	.2	.2	45.48	60	-14.52	-	-
8	14.2845	40.59	Av	.2	.2	40.99	-	-	50	-9.01
9	15.18	41.09	PK	.3	.2	41.59	60	-18.41	-	-
10	15.18	36.17	Av	.3	.2	36.67	-	-	50	-13.33

Line-L2 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2 (dB)	LC Cables 2&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
11	.771	36.97	PK	.3	0	37.27	56	-18.73	-	-
12	.771	5.27	Av	.3	0	5.57	-	-	46	-40.43
13	13.3935	41.09	PK	.3	.2	41.59	60	-18.41	-	-
14	13.3935	35.88	Av	.3	.2	36.38	-	-	50	-13.62
15	13.56	52.01	PK	.3	.2	52.51	60	-7.49	-	-
16	13.56	46.18	Av	.3	.2	46.68	-	-	50	-3.32
17	14.2845	44.33	PK	.3	.2	44.83	60	-15.17	-	-
18	14.2845	39.25	Av	.3	.2	39.75	-	-	50	-10.25
19	15.18	40.08	PK	.3	.2	40.58	60	-19.42	-	-
20	15.18	34.7	Av	.3	.2	35.2	-	-	50	-14.8

PK - Peak detector, Av - average detection

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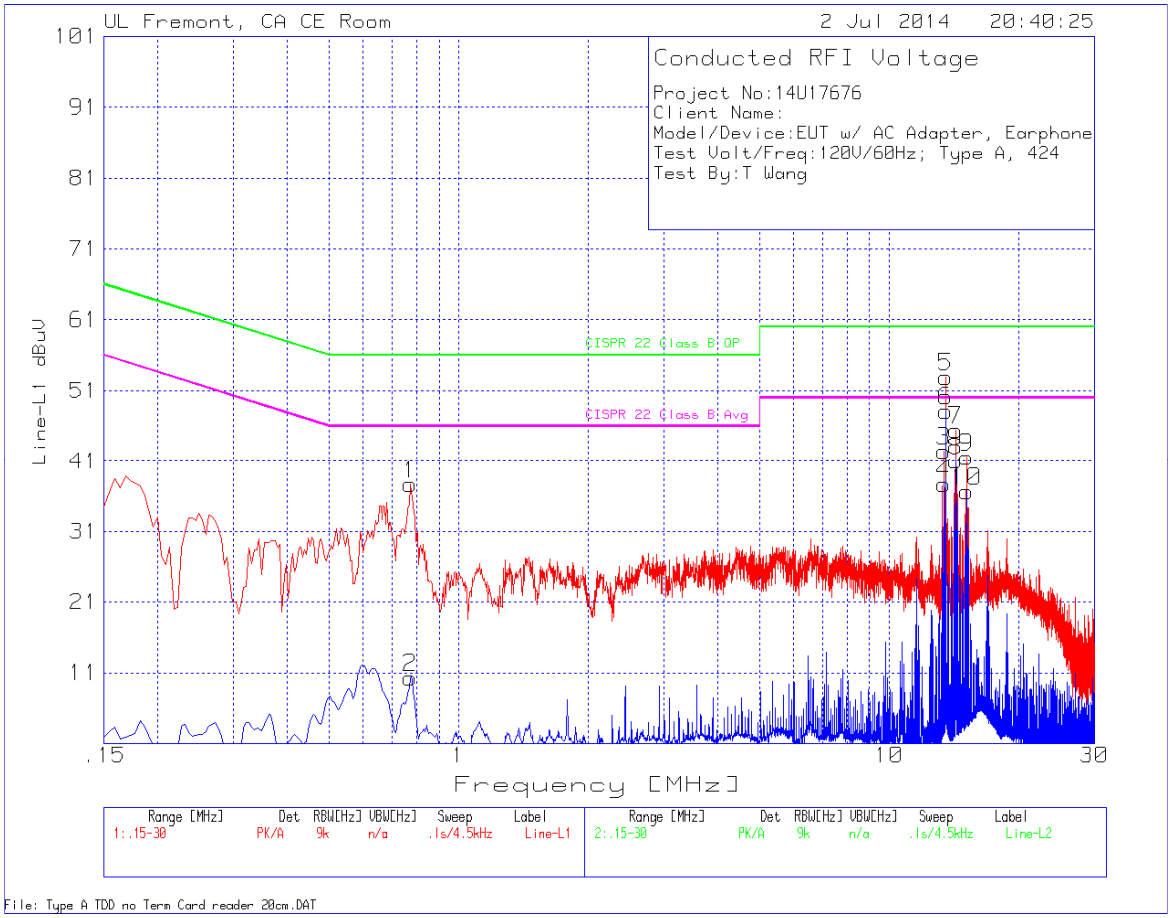
LINE 1 RESULTS



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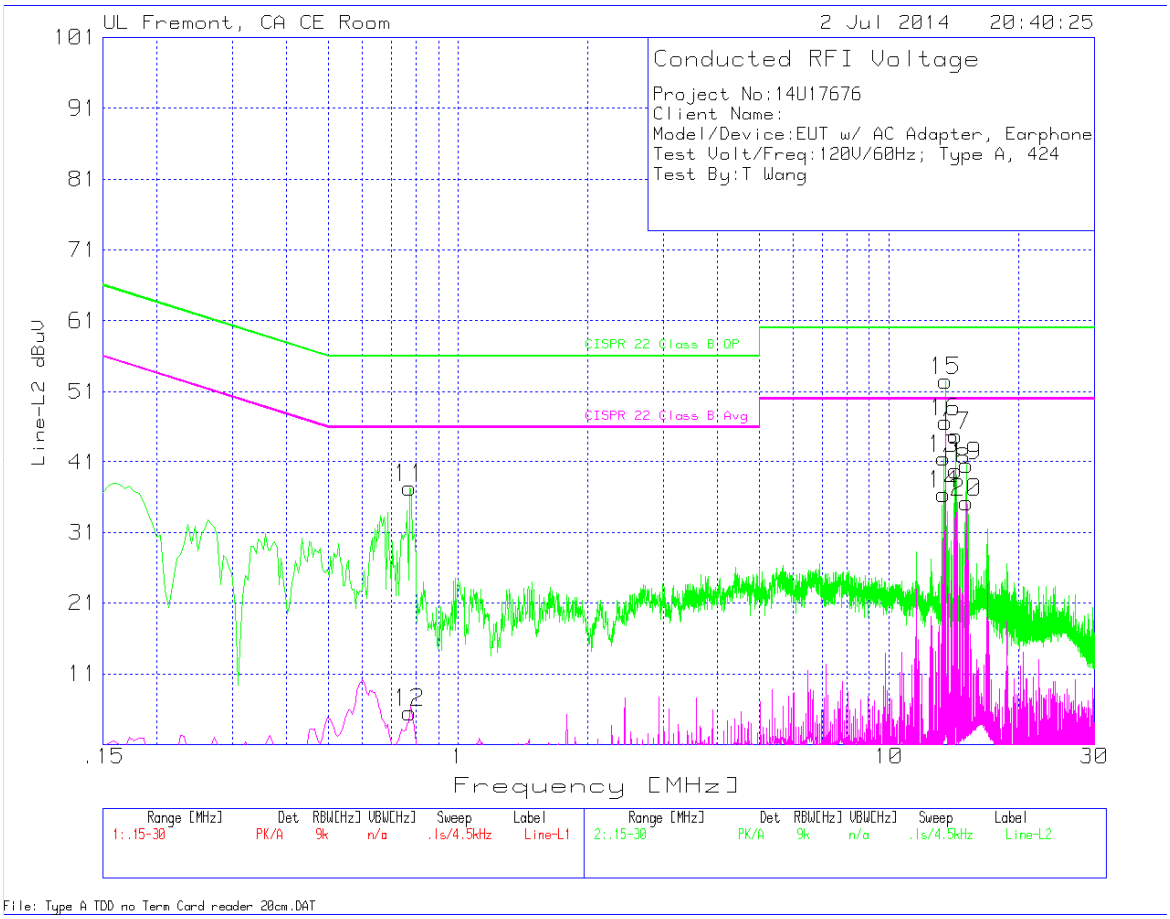
LINE 2 RESULTS



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9.2.2. WITH DUMMY LOAD

6 WORST EMISSIONS

Line-L1 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
1	.7665	45.67	PK	.3	0	45.97	56	-10.03	-	-
2	.7665	33.7	Av	.3	0	34	-	-	46	-12
3	13.3845	42.79	PK	.2	.2	43.19	60	-16.81	-	-
4	13.3845	36.53	Av	.2	.2	36.93	-	-	50	-13.07
5	14.28	44.68	PK	.2	.2	45.08	60	-14.92	-	-
6	14.28	39.14	Av	.2	.2	39.54	-	-	50	-10.46

Line-L2 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2 (dB)	LC Cables 2&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
7	.762	43.84	PK	.3	0	44.14	56	-11.86	-	-
8	.762	27.67	Av	.3	0	27.97	-	-	46	-18.03
9	13.38	40.04	PK	.3	.2	40.54	60	-19.46	-	-
10	13.38	34.88	Av	.3	.2	35.38	-	-	50	-14.62
11	14.2755	43.55	PK	.3	.2	44.05	60	-15.95	-	-
12	14.2755	38.37	Av	.3	.2	38.87	-	-	50	-11.13

PK - Peak detector, Av - average detection

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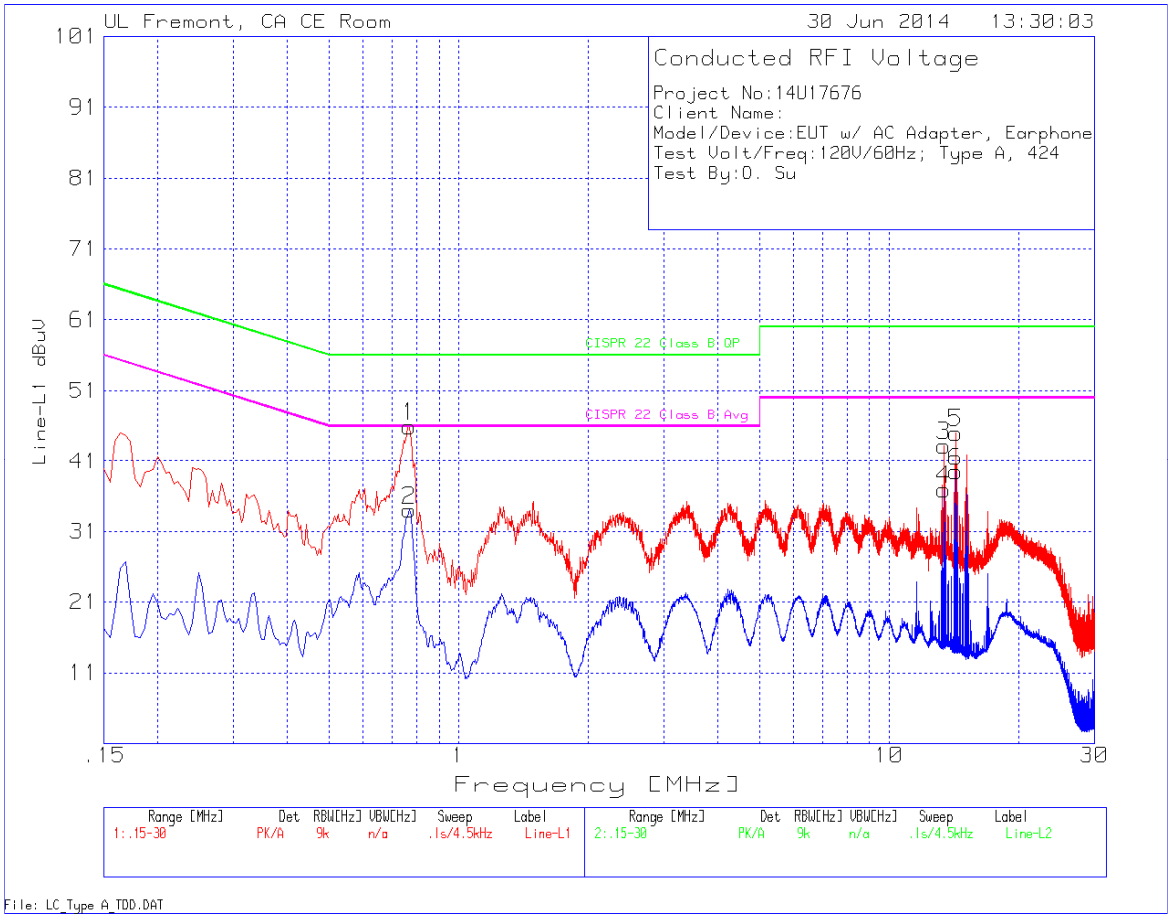
LINE 1 RESULTS



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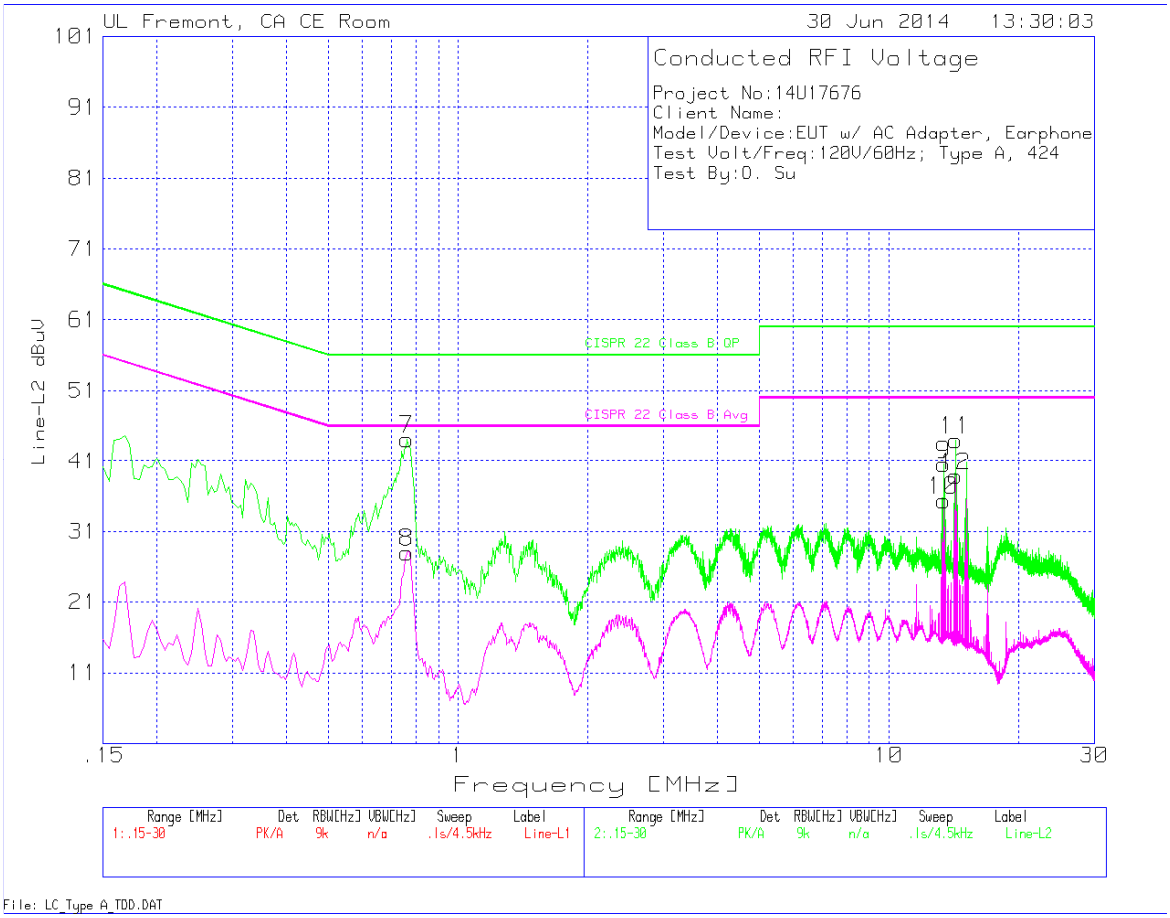
LINE 2 RESULTS



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9.3. TYPE B, 424 KBPS

9.3.1. WITHOUT DUMMY LOAD

6 WORST EMISSIONS

Line-L1 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
1	.7665	45.95	PK	.3	0	46.25	56	-9.75	-	-
2	.7665	33.79	Av	.3	0	34.09	-	-	46	-11.91
3	13.56	57.48	PK	.2	.2	57.88	60	-2.12	-	-
4	13.56	50.02	Av	.2	.2	50.42	-	-	50	.42
5	14.253	51.23	PK	.2	.2	51.63	60	-8.37	-	-
6	14.253	46.06	Av	.2	.2	46.46	-	-	50	-3.54

Line-L2 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2 (dB)	LC Cables 2&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
7	.7665	44.91	PK	.3	0	45.21	56	-10.79	-	-
8	.7665	27.94	Av	.3	0	28.24	-	-	46	-17.76
9	13.56	61.78	PK	.3	.2	62.28	60	2.28	-	-
10	13.56	56.5	Av	.3	.2	57	-	-	50	7
11	14.2575	50.82	PK	.3	.2	51.32	60	-8.68	-	-
12	14.2575	45.18	Av	.3	.2	45.68	-	-	50	-4.32

PK - Peak detector , Av - average detection

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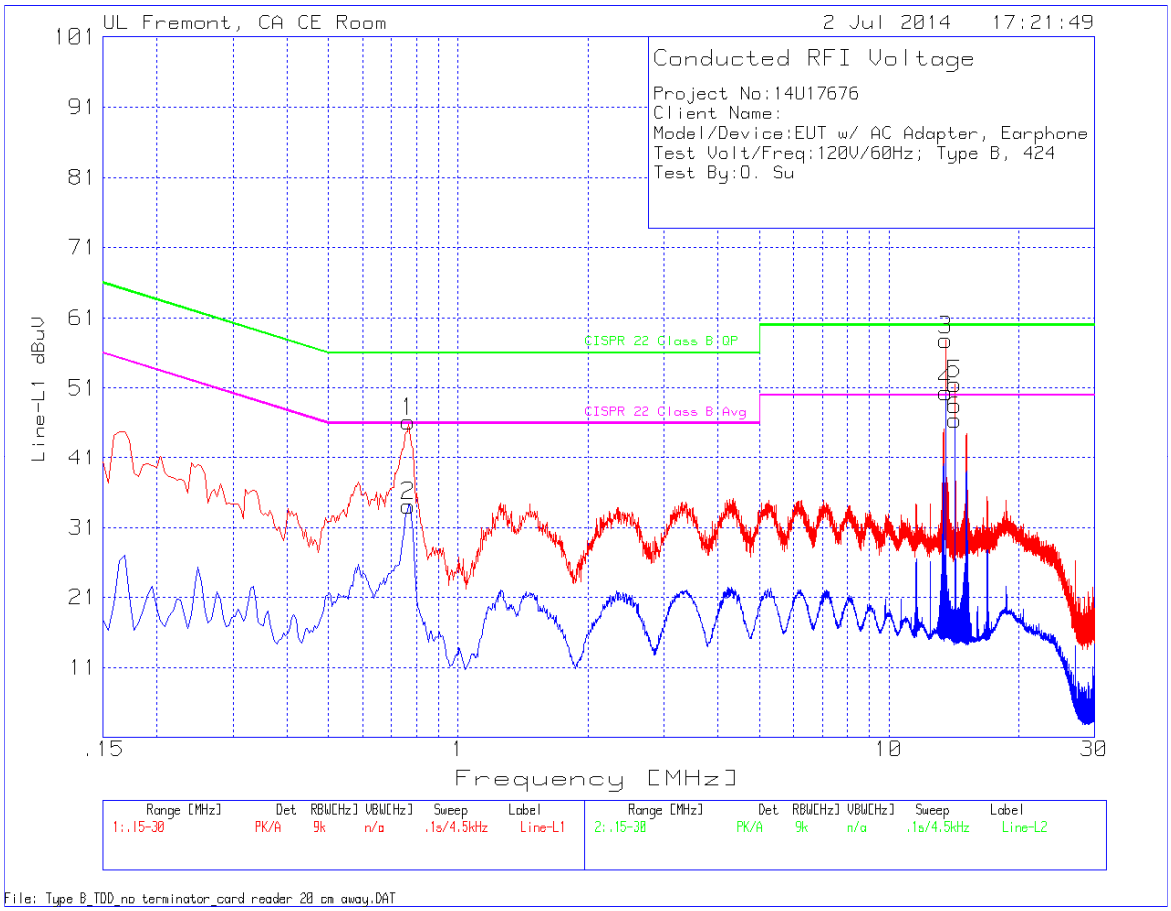
LINE 1 RESULTS



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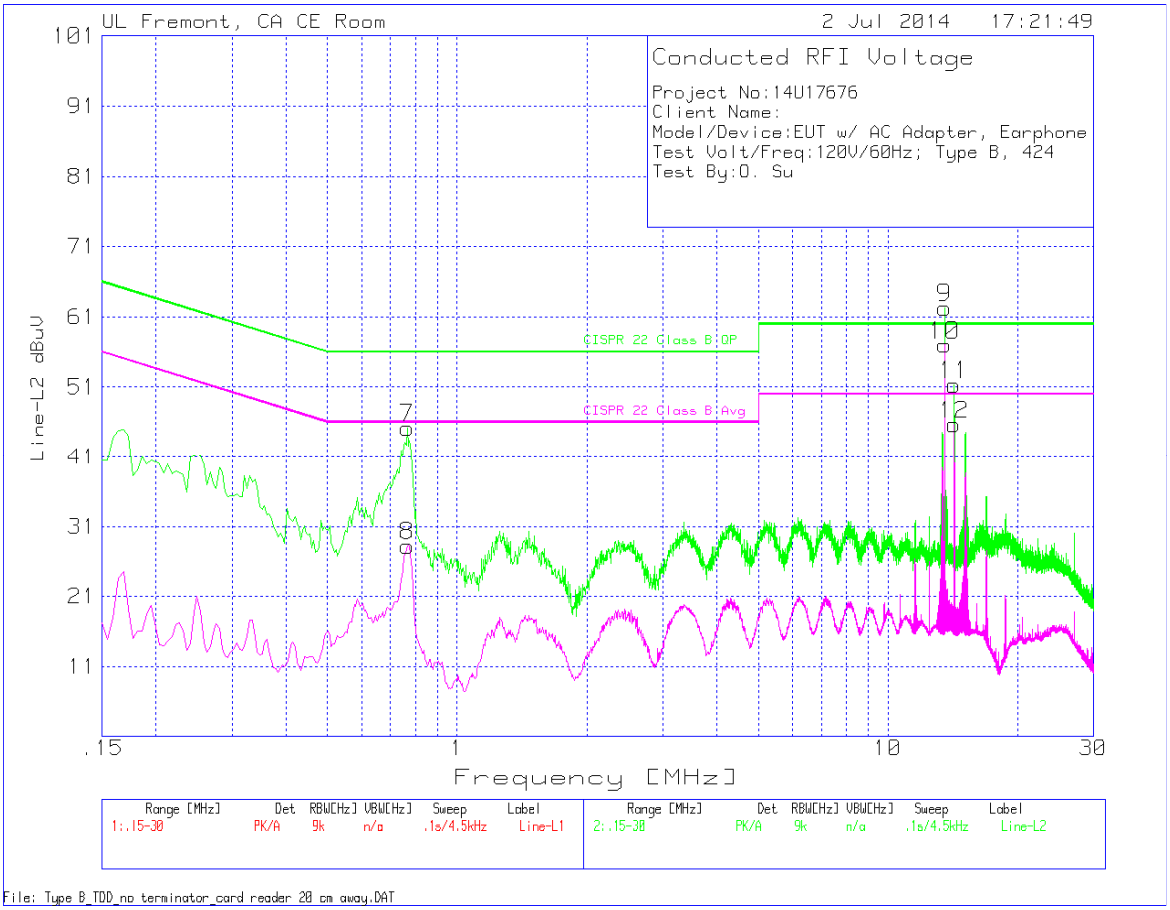
LINE 2 RESULTS



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9.3.2. WITH DUMMY LOAD

6 WORST EMISSIONS

Line-L1 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
1	.7665	46.6	PK	.3	0	46.9	56	-9.1	-	-
2	.7665	33.58	Av	.3	0	33.88	-	-	46	-12.12
3	14.2395	50.66	PK	.2	.2	51.06	60	-8.94	-	-
4	14.2395	45.83	Av	.2	.2	46.23	-	-	50	-3.77
5	15.1035	43.23	PK	.3	.2	43.73	60	-16.27	-	-
6	15.1035	37.38	Av	.3	.2	37.88	-	-	50	-12.12

Line-L2 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2 (dB)	LC Cables 2&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
7	.7665	44.73	PK	.3	0	45.03	56	-10.97	-	-
8	.7665	27.78	Av	.3	0	28.08	-	-	46	-17.92
9	14.235	50.06	PK	.3	.2	50.56	60	-9.44	-	-
10	14.235	45.3	Av	.3	.2	45.8	-	-	50	-4.2
11	15.099	42.18	PK	.3	.2	42.68	60	-17.32	-	-
12	15.099	36.71	Av	.3	.2	37.21	-	-	50	-12.79

PK - Peak detector, Av - average detection

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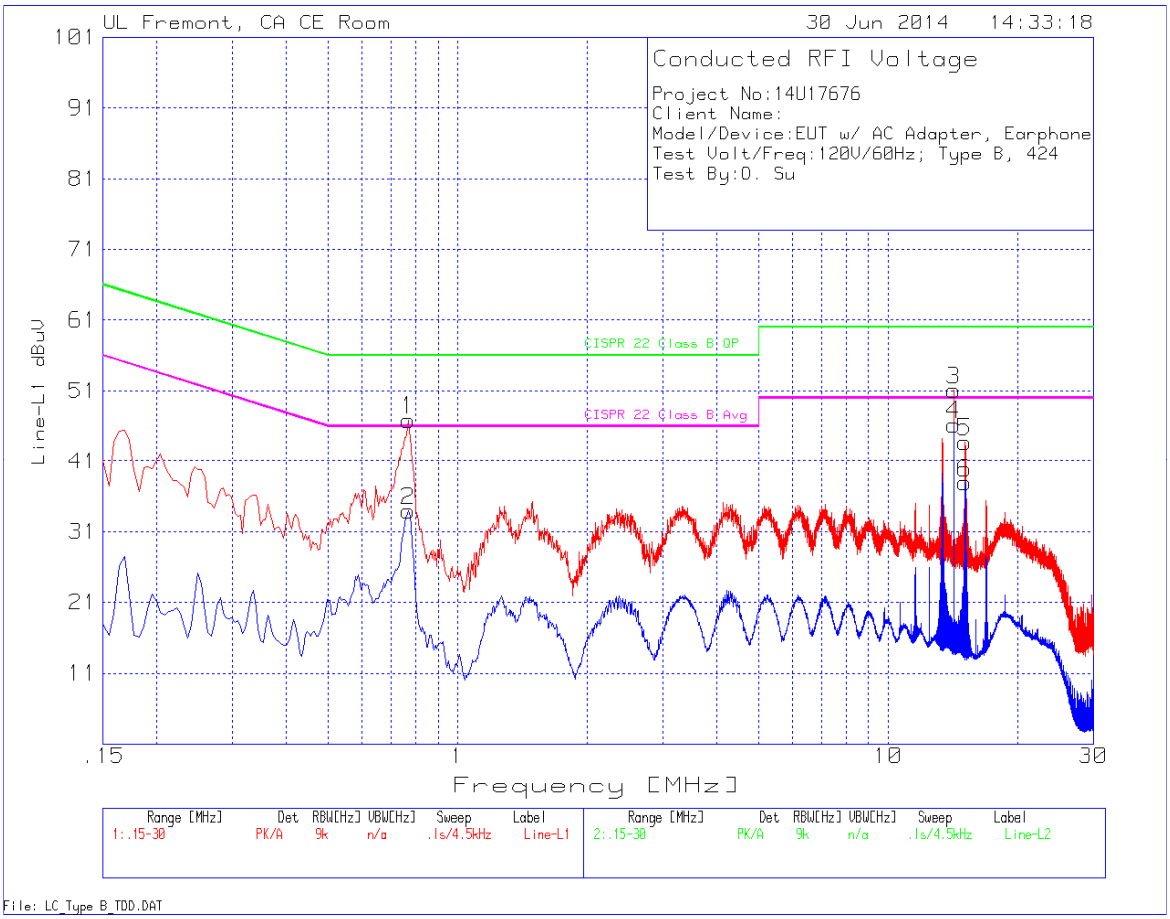
LINE 1 RESULTS



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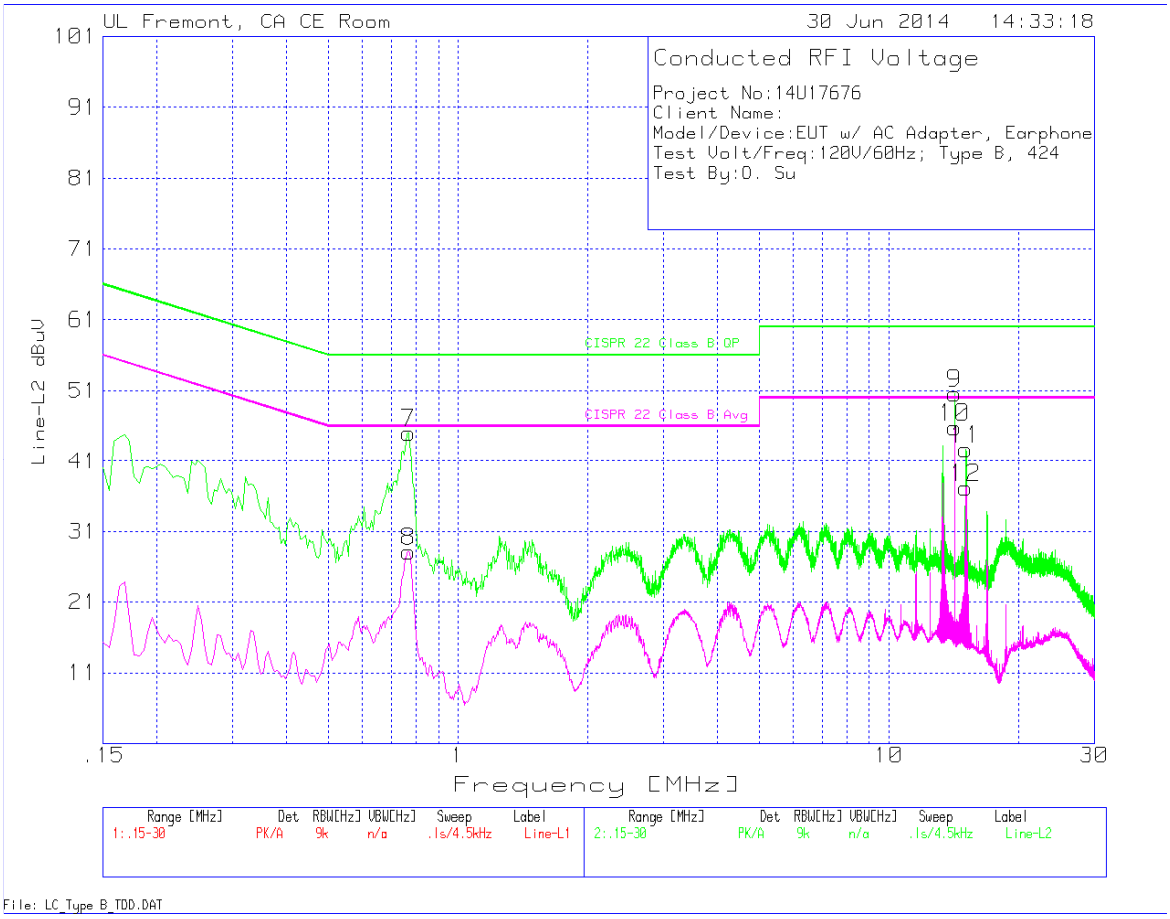
LINE 2 RESULTS



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10. 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 / TIA / EIA 603 Clause 2.3.1 and 2.3.2

RESULTS

No non-compliance noted.

TYPE A, 424 Kbps

Reference Frequency: EUT Channel 13.560 MHz @ 20ºC Limit: ± 100 ppm = 1.356 kHz				
Power Supply (Vdc)	**Environment Temperature (ºC)**	**Frequency Deviation Measureed with Time Elapse**		
		(MHz)	**Delta (ppm)**	**Limit (ppm)**
3.80	50	13.5602048	1.180	± 100
3.80	40	13.5602069	1.025	± 100
3.80	30	13.5602373	-1.217	± 100
3.80	***20***	***13.5602208***	***0.000***	***± 100***
3.80	10	13.5602473	-1.957	± 100
3.80	0	13.5602343	-0.996	± 100
3.80	-10	13.5602257	-0.361	± 100
3.80	-20	13.5602598	-2.876	± 100
3.40	20	13.5602110	0.723	± 100
4.30	20	13.5602147	0.450	± 100

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TYPE B, 424Kbps

Reference Frequency: EUT Channel 13.560 MHz @ 20ºC Limit: ± 100 ppm = 1.356 kHz				
Power Supply (Vdc)	**Environment Temperature (ºC)**	**Frequency Deviation Measureed with Time Elapse**		
		(MHz)	**Delta (ppm)**	**Limit (ppm)**
3.80	50	13.5602077	1.504	± 100
3.80	40	13.5602101	1.327	± 100
3.80	30	13.5602396	-0.848	± 100
3.80	***20***	***13.5602281***	***0.000***	***± 100***
3.80	10	13.5602144	1.010	± 100
3.80	0	13.5602412	-0.966	± 100
3.80	-10	13.5602550	-1.984	± 100
3.80	-20	13.5602574	-2.161	± 100
3.40	20	13.5602288	-0.052	± 100
4.30	20	13.5602287	-0.044	± 100

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