FCC PART 15, SUBPART B and C
TEST REPORT

for

CONCEAL SYSTEM

MODEL: USS-AMCONCEALED

Prepared for

UNIVERSAL SURVEILLANCE SYSTEMS, LLC
11172 ELM AVENUE
RANCHO CUCAMONGA, CALFORNIA 91730

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DATE: AUGUST 18, 2015

	REPORT BODY	APPENDICES					TOTAL
		A	***B***	***C***	***D***	***E***	
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GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced without the written permission of Compatible Electronics, unless done so in full.

This report must not be used to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the federal government.

Device Tested:	Conceal System Model: USS-AMCONCEALED S/N: N/A
Product Description:	See Expository Statement.
Modifications:	The EUT was not modified during the testing.
Customer:	Universal Surveillance Systems, LLC 11172 Elm Avenue Rancho Cucamonga, California, 91730
Test Date:	August 17, 2015
Test Specifications:	Emissions requirements CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, and 15.209.
Test Procedure:	ANSI C63.4
Test Deviations:	The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Spurious Radiated RF Emissions, 10 kHz – 1,000 MHz (Transmitter and Digital portion)	Complies with the **Class A** limits of **CFR** Title 47, Part 15, Subpart B; and Subpart C, Sections 15.205 and 15.209.
2	Conducted RF Emissions, 150 kHz to 30 MHz	Complies with the **Class A** limits of **CFR** Title 47, Part 15, Subpart B; and Subpart C Section 15.207.

1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the Conceal System, Model: USS-AMCONCEALED. The emissions measurements were performed according to the measurement procedure described in ANSI C63.4. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the **Class A** specification limits defined by CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, and 15.209.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

The emissions tests described herein were performed at the test facility of Compatible Electronics, 114 Olinda Drive, Brea, California 92823.

2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

2.3 Cognizant Personnel

Universal Surveillance Systems, LLC

Marc Trincale	Product Manager

Compatible Electronics Inc.

Kyle Fujimoto	Test Engineer
James Ross	Test Engineer

2.4 Date Test Sample was Received

The test sample was received on August 17, 2015.

2.5 Disposition of the Test Sample

The test sample was returned to Universal Surveillance Systems, LLC on August 17, 2015.

2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
HP	Hewlett Packard
ITE	Information Technology Equipment
CML	Corrected Meter Limit
LISN	Line Impedance Stabilization Network
N/A	Not Applicable
BLE	Bluetooth Low Energy
USB	Universal Serial Bus

3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this emissions Test Report.

SPEC	TITLE
FCC Title 47, Part 15 Subpart C	FCC Rules - Radio frequency devices (including digital devices) – Intentional Radiators
FCC Title 47, Part 15 Subpart B	FCC Rules - Radio frequency devices (including digital devices) – Unintentional Radiators
ANSI C63.4 2009	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - Emissions

The Conceal System, Model: USS-AMCONCEALED (EUT) was connected to the antenna and power supply via its upper loop and lower loop; and power ports, respectively.

The EUT was continuously transmitting at 58 kHz. The Comm port is only used for diagnostic purposes to setup the system prior to normal operation.

This specific system will never use the Red-C, Grey-C, Buzzer, Light-A, and Relay ports.

The final radiated data as well as the conducted data for the EUT as was taken in the mode described above. Please see Appendix E for the data sheets.

4.1.1 Cable Construction and Termination

Cable 1 This is a 2-meter unshielded cable connecting the EUT to the power supply. The cable has an RJ-45 connector at each end. The cable was bundled to a length of 1-meter.

Cable 2 This is a 1.5-meter unshielded cable connecting the EUT's lower loop port to the antenna. The cable has a 5-pin terminal block at the EUT end and is hard wired into the antenna.

Cable 3 This is a 1.5-meter unshielded cable connecting the EUT's upper loop port to the antenna. The cable has a 5-pin terminal block at the EUT end and is hard wired into the antenna.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
CONCEAL SYSTEM (EUT)	UNIVERSAL SURVEILLANCE SYSTEMS, LLC	USS-AMCONCEALED	N/A	X2TUSS-CONCEALED

5.2 Emissions Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CAL. CYCLE
RF RADIATED EMISSIONS TEST EQUIPMENT					
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	3638A08768	May 27, 2015	1 Year
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	2648A15285	May 27, 2015	1 Year
Quasi-Peak Adapter	Hewlett Packard	85650A	2430A00424	May 27, 2015	1 Year
Monitor	Hewlett Packard	D5258A	TW74500641	N/A	N/A
Computer	Hewlett Packard	4530	US91912319	N/A	N/A
CombiLog Antenna	Com-Power	AC-220	61060	May 20, 2014	2 Year
Loop Antenna	Com-Power	AL-130	17089	February 6, 2015	2 Year
Preamplifier	Com-Power	PA-103	1582	December 29, 2014	1 Year
Turntable	Com-Power	TT-100	N/A	N/A	N/A
Antenna Mast	Com-Power	AM-100	N/A	N/A	N/A
Compatible Electronics Radiated Test	Compatible Electronics	2011	N/A	N/A	N/A
Compatible Electronics Emissions Program	Compatible Electronics	3.0	N/A	N/A	N/A
LISN	Com-Power	LI-215	12082	June 9, 2015	1 Year
LISN	Com-Power	LI-215	12090	June 9, 2015	1 Year
Transient Limiter	Com-Power	252A910	1	October 10, 2014	1 Year

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1 of this report for emissions test location.

6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

The EUT was grounded to earth ground via the safey ground of the AC power cable.

7. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

7.1 RF Emissions

7.1.1 Radiated Emissions (Spurious and Harmonics) Test – Lab A

The spectrum analyzer was used as a measuring meter. The spectrum analyzer was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the spectrum analyzer records the highest measured reading over all the sweeps.

A quasi-peak reading was taken only for those readings, which are marked accordingly on the data sheets.

The measurement bandwidth and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
10 kHz to 150 kHz	200 Hz	Loop Antenna
150 kHz to 30 MHz	9 kHz	Loop Antenna
30 MHz to 1000 MHz	120 kHz	CombiLog Antenna

The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to ANSI C63.4. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength). The loop antenna was also rotated in the horizontal and vertical axis in order to ensure accurate results.

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT (except for the fundamental) was tested at a 10-meter test distance to obtain the final test data.

Radiated Emissions (Spurious and Harmonics) Test – Lab A (con't)

For the fundamental the EUT was tested at both a 10-meter test distance and a 15-meter test distance to obtain "P".

P is the roll-off multiplier used to determine the correct spec limit at 10 meters based on the following formula: [(P*20) Log (spec test distance / actual test distance)] + spec limit

P itself is determined by the following formula:
P = [Level (at 10 Meters) – Level (at 15 Meters)] / 20 Log (15 Meters / 10 Meters)

The final qualification data sheets are located in Appendix E.

Test Results:

The EUT complies with the **Class A (digital portion)** limits of CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 15, Subpart C, sections 15.205, and 15.209 (transmitter portion) for radiated emissions.

7.1.3 Conducted Emissions Test

The spectrum analyzer was used as a measuring meter. The data was collected with the spectrum analyzer in the peak detect mode with the "Max Hold" feature activated. The quasi-peak was used only where indicated in the data sheets. A transient limiter was used for the protection of the spectrum analyzer input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the spectrum analyzer. The output of the second LISN was terminated by a 50-ohm termination. The effective measurement bandwidth used for this test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding, and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI C63.4. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The conducted emissions from the EUT were maximized for operating mode as well as cable placement. The final data was collected under program control by the Compatible Electronics software in several overlapping sweeps by running the spectrum analyzer at a minimum scan rate of 10 seconds per octave. The final qualification data is located in Appendix E.

The EUT was tested at 120 VAC. The six highest emissions are listed in Table 1.0.

Note: Due to the fact the transmitter portion limits for conducted emissions (**FCC 15.207)** have a lower limit than the digital portion limits for conducted emissions (**Class A**), the data was taken with the lower limits (**FCC 15.207**).

Test Results:

The EUT complies with the **Class A (digital portion)** limits of CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 15, Subpart C, section 15.207 **(transmitter portion)** for conducted emissions.

7.1.4 RF Emissions Test Results

Table 1.0 RADIATED EMISSION RESULTS
Conceal System, Model: USS-AMCONCEALED

Frequency MHz	QP Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
83.092 (V)	35.74 (QP)	39.10	-3.36
36.989 (H)	34.37	39.10	-4.73
85.040 (V)	34.36 (QP)	39.10	-4.74
0.174705 (H)	76.54 (Average)	81.84	-5.303
73.069 (V)	33.28 (QP)	39.10	-5.82
61.732 (V)	32.25 (QP)	39.10	-6.85

Table 2.0 CONDUCTED EMISSION RESULTS
Conceal System, Model: USS-AMCONCEALED

Frequency MHz	Average Corrected Reading* dBuV	Average Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
5.715 (WL)	46.35	50.00	-3.65
3.294 (BL)	41.05	46.00	-4.95
3.075 (BL)	40.85	46.00	-5.15
3.175 (BL)	40.55	46.00	-5.45
5.567 (BL)	44.35	50.00	-5.65
0.634 (BL)	39.64	46.00	-6.36

Notes:

(H) Horizontal
(V) Vertical
(BL) Black Lead
(WL) White Lead
(QP) Quasi Peak
* The complete emissions data is given in Appendix E of this report.

8. CONCLUSIONS

The Conceal System, Model: USS-AMCONCEALED, as tested, meets all of the **Class A** specification limits defined in CFR Title 47, Part 15, Subpart B for the digital portion; and the limits defined in Subpart C, sections 15.205, 15.207, and 15.209 for the transmitter portion.

APPENDIX A

LABORATORY ACCREDITATIONS AND RECOGNITIONS

LABORATORY ACCREDITATIONS AND RECOGNITIONS

NVLAP LAB CODES 200063-0, 200528-0, 200527-0

For US, Canada, Australia/New Zealand, Japan, Taiwan, Korea, and the European Union, Compatible Electronics is currently accredited by NVLAP to ISO/IEC 17025. Please follow the link to the NIST/NVLAP site for each of our facilities' NVLAP certificate and scope of accreditation

NVLAP listing links

Agoura Division / **Brea Division** / **Silverado/Lake Forest Division**

.Quote from ISO-ILAC-IAF Communiqué on 17025:

"A laboratory's fulfilment of the requirements of ISO/IEC 17025:2005 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025:2005 (Section 4) are written in language relevant to laboratory operations and meet the principles of ISO 9001:2008 Quality Management Systems — Requirements."

ANSI listing CETCB

Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for EMC under the US/EU Mutual Recognition Agreement (MRA).
US/EU MRA list NIST MRA site

Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for Taiwan/BSMI under the US/APEC (Asia-Pacific Economic Cooperation) Mutual Recognition Agreement (MRA).
APEC MRA list NIST MRA site

We are also listed for IT products by the following country/agency:

VCCI Support member: Please visit http://www.vcci.jp/vcci_e/

FCC Listing, from FCC OET site
FCC test lab search https://fjallfoss.fcc.gov/oetcf/eas/reports/TestFirmSearch.cfm

Compatible Electronics IC listing can be found at:
http://www.ic.gc.ca/eic/site/ic1.nsf/eng/home

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC Subpart B and FCC 15.209 specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

No modifications were made to the EUT during the testing.

APPENDIX C

ADDITIONAL MODELS

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST	Conceal System Model: USS-AMCONCEALED S/N: N/A

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS AND CHARTS

FIGURE 1: PLOT MAP AND LAYOUT OF RADIATED SITE

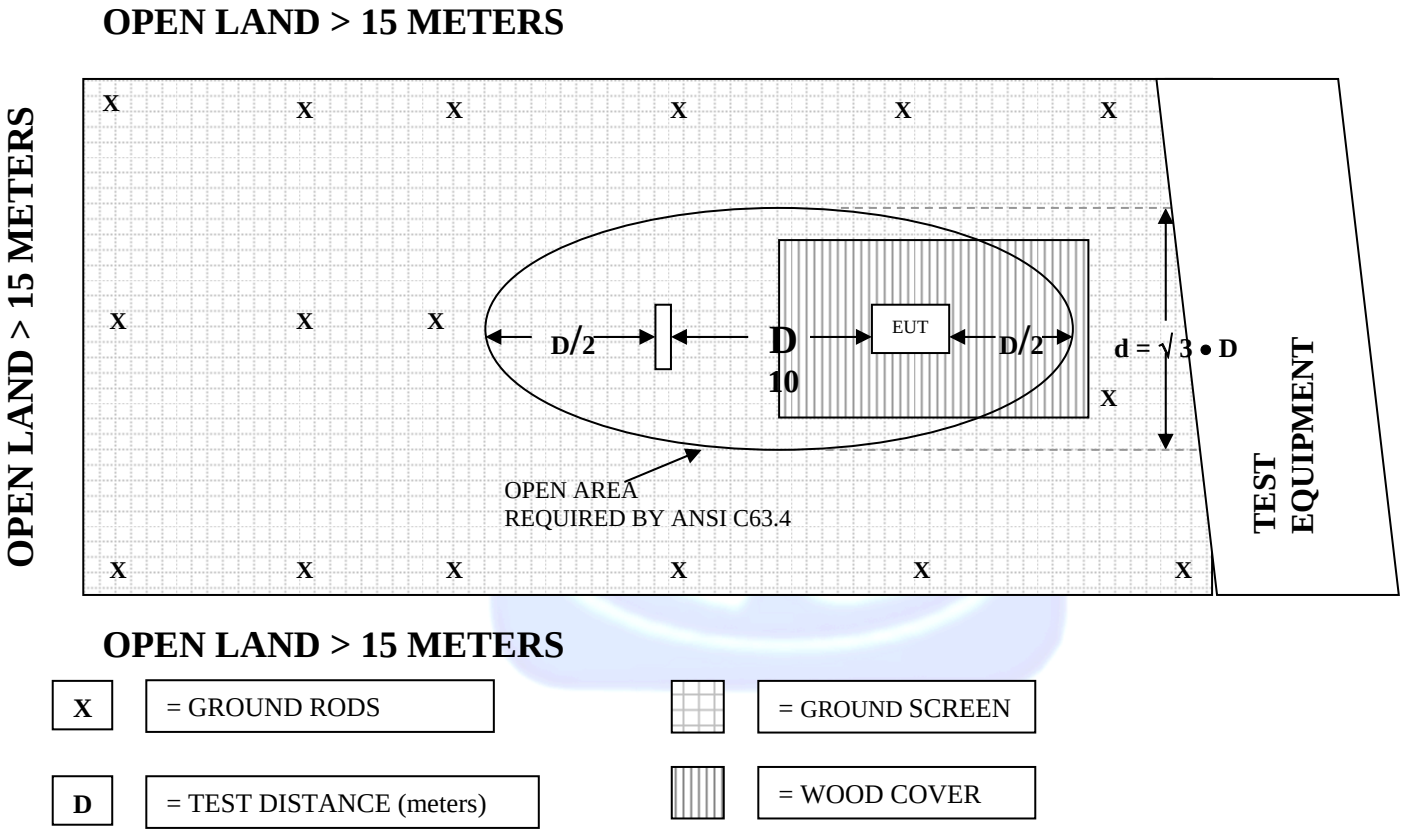
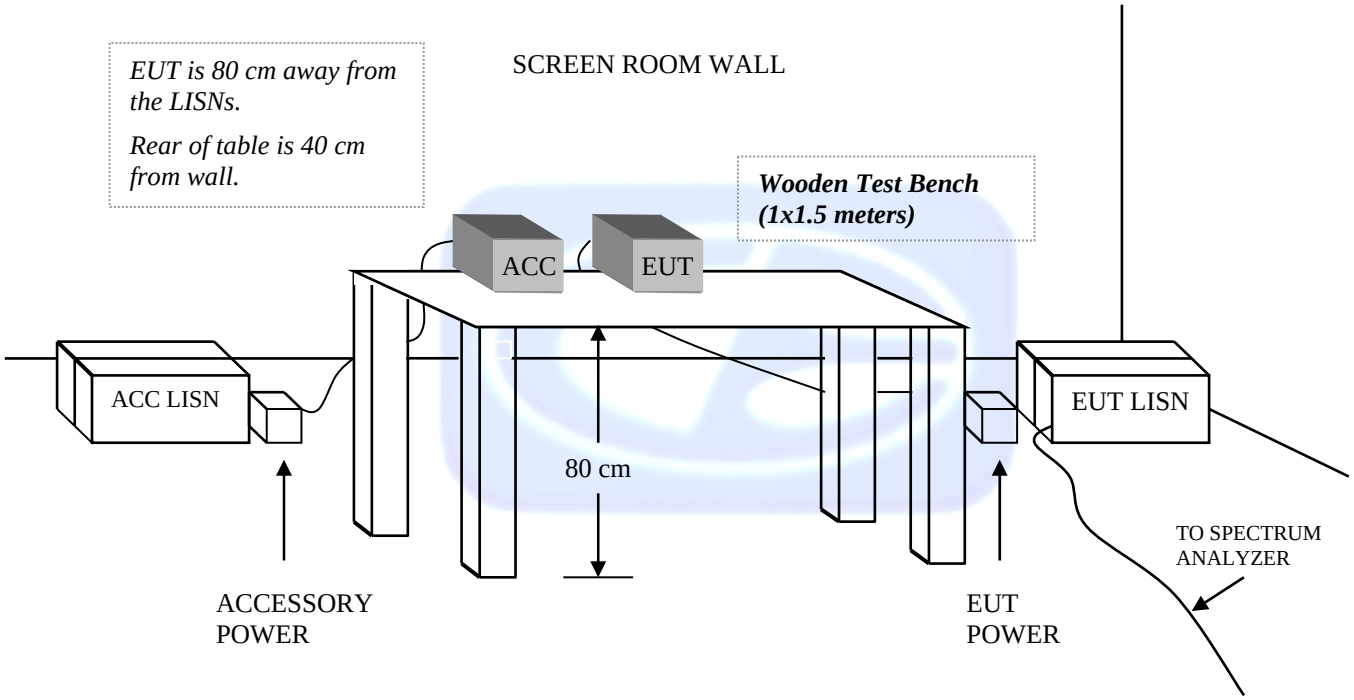


FIGURE 2: CONDUCTED EMISSIONS TEST SETUP



COM-POWER AL-130

LOOP ANTENNA

S/N: 17089

CALIBRATION DATE: FEBRUARY 6, 2015

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-33.18	18.32
0.01	-34.10	17.40
0.02	-38.65	12.85
0.03	-39.28	12.22
0.04	-40.09	11.41
0.05	-40.85	10.65
0.06	-40.88	10.62
0.07	-41.07	10.43
0.08	-41.04	10.46
0.09	-41.19	10.31
0.1	-41.20	10.30
0.2	-41.52	9.98
0.3	-41.53	9.97
0.4	-41.42	10.08
0.5	-41.53	9.97
0.6	-41.53	9.97
0.7	-41.43	10.07
0.8	-41.23	10.27
0.9	-41.13	10.37
1	-41.14	10.36
2	-40.80	10.70
3	-40.66	10.84
4	-40.61	10.89
5	-40.33	11.17
6	-40.53	10.97
7	-40.47	11.03
8	-40.48	11.02
9	-39.93	11.57
10	-39.81	11.69
15	-43.35	8.15
20	-39.16	12.34
25	-40.24	11.26
30	-43.18	8.32

COM-POWER AC-220

COMBILOG ANTENNA

S/N: 61060

CALIBRATION DATE: MAY 20, 2014

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	23.40	200	14.40
35	23.70	250	16.40
40	24.20	300	17.90
45	22.60	350	15.60
50	22.10	400	19.90
60	17.90	450	20.40
70	12.70	500	21.60
80	11.60	550	21.50
90	12.20	600	22.30
100	13.20	650	23.50
120	15.70	700	23.70
125	15.80	750	25.90
140	13.60	800	25.90
150	16.90	850	26.40
160	14.20	900	27.00
175	14.90	950	27.70
180	15.00	1000	27.50

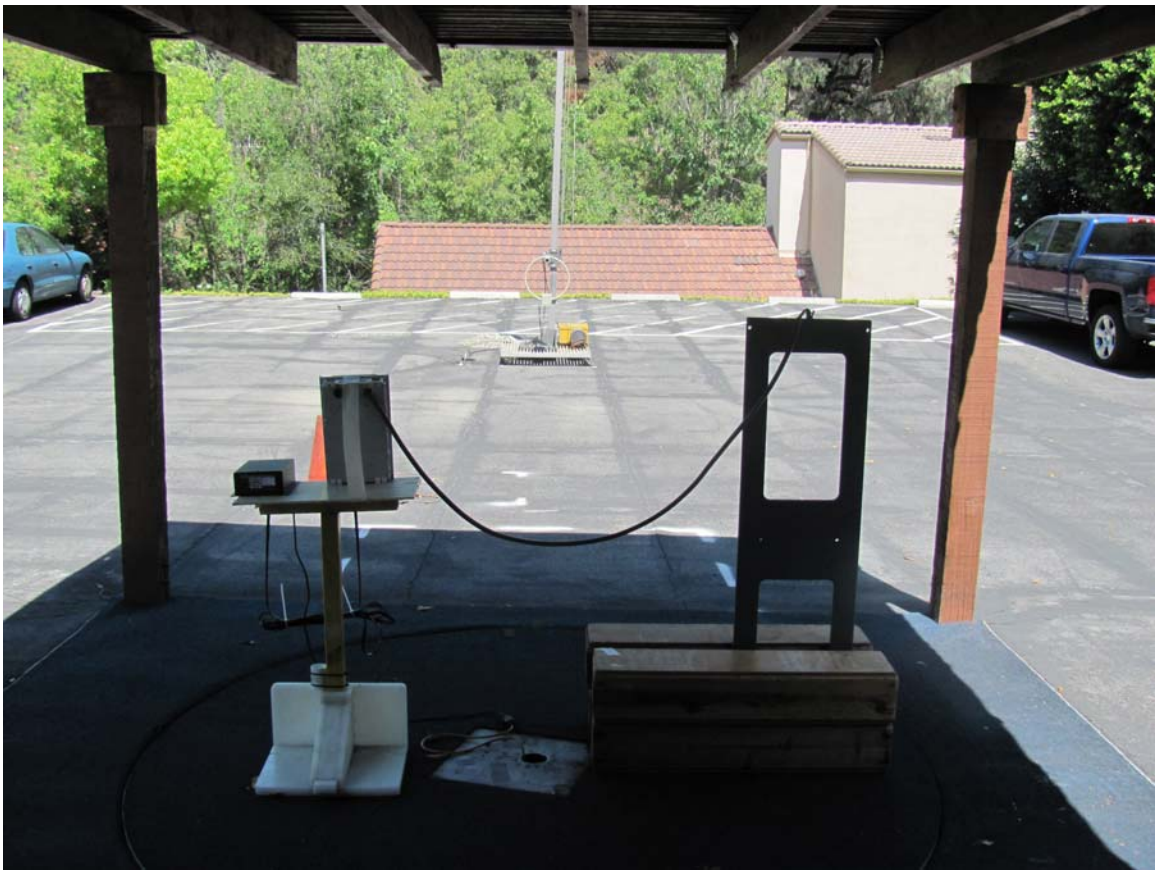
COM-POWER PA-103

PREAMPLIFIER

S/N: 1582

CALIBRATION DATE: DECEMBER 29, 2014

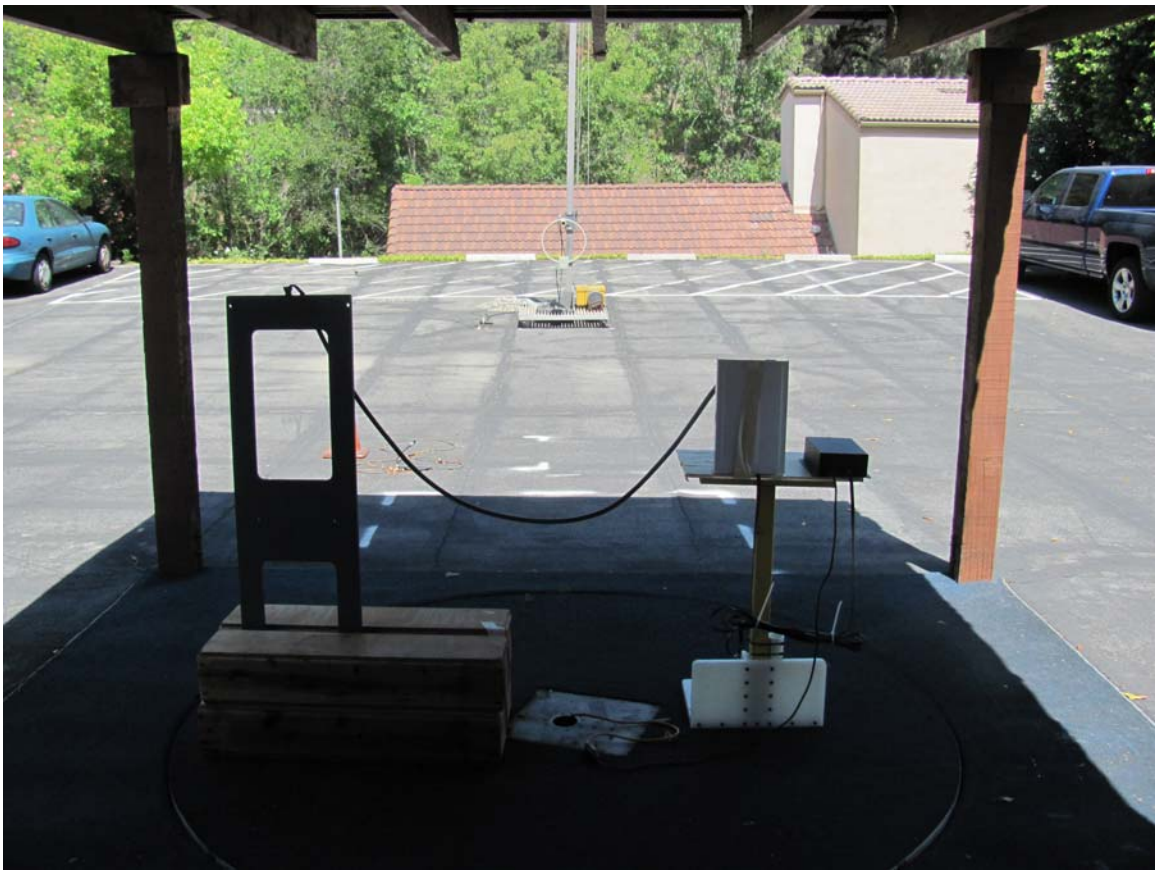
FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	32.60	300	32.10
40	32.60	350	31.90
50	32.50	400	31.60
60	32.40	450	31.60
70	32.40	500	31.50
80	32.40	550	31.50
90	32.30	600	31.50
100	32.20	650	31.50
125	32.20	700	31.30
150	32.30	750	31.30
175	32.30	800	31.30
200	32.10	850	31.00
225	32.20	900	31.00
250	32.10	950	31.20
275	32.10	1000	30.80



FRONT VIEW

UNIVERSAL SURVEILLANCE SYSTEMS, LLC
CONCEAL SYSTEM
MODEL: USS-AMCONCEALED
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 30 MHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

UNIVERSAL SURVEILLANCE SYSTEMS, LLC
CONCEAL SYSTEM
MODEL: USS-AMCONCEALED
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 30 MHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

UNIVERSAL SURVEILLANCE SYSTEMS, LLC
CONCEAL SYSTEM
MODEL: USS-AMCONCEALED
FCC SUBPART B AND C – RADIATED EMISSIONS – 30 MHz to 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

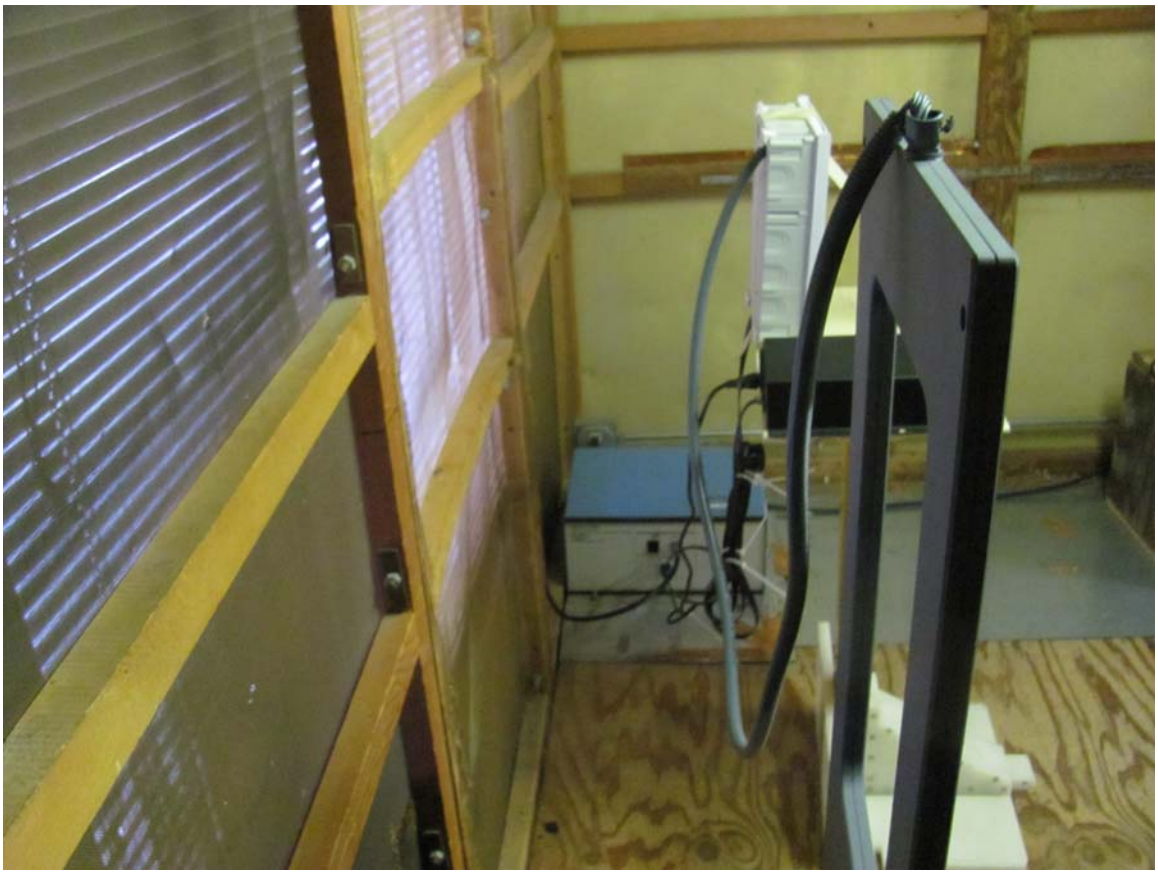
UNIVERSAL SURVEILLANCE SYSTEMS, LLC
CONCEAL SYSTEM
MODEL: USS-AMCONCEALED
FCC SUBPART B AND C – RADIATED EMISSIONS – 30 MHz to 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

UNIVERSAL SURVEILLANCE SYSTEMS, LLC
CONCEAL SYSTEM
MODEL: USS-AMCONCEALED
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

UNIVERSAL SURVEILLANCE SYSTEMS, LLC
CONCEAL SYSTEM
MODEL: USS-AMCONCEALED
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

Test Location : Compatible Electronics **Page:** 1/1
Customer : Universal Surveillance Systems **Date:** 08 / 17 / 2015
Manufacturer : Universal Surveillance Systems **Time:** 11:52:17 AM
Eut name : Conceal System **Lab:** A
Model : USS-AMCONEALED **Test Distance :** 10.00
Serial # : N/A
Specification : FCC A
Distance correction factor (20 * log(test/spec)) : 0.00
Test Mode : Test Type: Radiated Emissions Qual
Test Renge: 30 MHz to 1 GHz (Vertical and Horizontal)
Clocks: 20 MHz and 50 MHz
Tested By: Kyle Fujimoto

Pol	Freq MHz	Rdng dBuV	Cable loss dB	Ant factor dB	Amp gain dB	Cor'd rdg = R dBuV	Limit = L dBuV/m	Delta R-L dB
1H	36.989	42.30	0.77	23.90	32.60	34.37	39.10	-4.73
2H	61.598	34.80	1.12	17.07	32.40	20.59	39.10	-18.51
3V	61.732	53.80	1.12	17.00	32.40	39.52	39.10	0.42
4V	61.732Qp	46.53	1.12	17.00	32.40	32.25	39.10	-6.85
5H	63.392	42.90	1.13	16.14	32.40	27.77	39.10	-11.33
6H	72.935	33.50	1.26	12.38	32.40	14.74	39.10	-24.36
7V	73.050	57.50	1.26	12.36	32.40	38.73	39.10	-0.37
8V	73.069Qp	52.06	1.26	12.36	32.40	33.28	39.10	-5.82
9H	82.906	39.70	1.43	11.77	32.37	20.53	39.10	-18.57
10V	83.090	58.20	1.43	11.79	32.37	39.05	39.10	-0.05
11V	83.092Qp	54.89	1.43	11.79	32.37	35.74	39.10	-3.36
12V	85.039	57.00	1.45	11.90	32.35	38.00	39.10	-1.10
13V	85.040Qp	53.36	1.45	11.90	32.35	34.36	39.10	-4.74
14H	110.673	37.90	1.40	14.53	32.20	21.63	43.50	-21.87
15H	129.114	42.80	1.45	15.20	32.22	27.23	43.50	-16.27
16V	139.352	49.50	1.57	13.70	32.26	32.51	43.50	-10.99
17H	155.718	39.00	1.68	15.36	32.30	23.73	43.50	-19.77
18V	165.952	43.20	1.64	14.48	32.30	27.01	43.50	-16.49
19V	187.052	46.30	1.74	14.79	32.20	30.63	43.50	-12.87
20V	210.425	45.50	1.77	14.82	32.14	29.95	43.50	-13.55
21H	263.934	38.30	2.71	16.82	32.10	25.73	46.40	-20.67
22H	305.238	38.10	3.12	17.66	32.08	26.80	46.40	-19.60
23H	331.814	39.10	3.23	16.44	31.97	26.79	46.40	-19.61
24V	386.470	37.00	3.59	18.74	31.68	27.65	46.40	-18.75
25H	433.091	36.60	3.96	20.23	31.60	29.20	46.40	-17.20
26H	541.541	32.00	4.75	21.52	31.50	26.77	46.40	-19.63

FCC 15.209

Universal Surveillance Systems
Conceal System
Model: USS-AMCONCEALED

Date: 08/17/2015
Lab: A
Tested By: Kyle Fujimoto

Transmit Mode

Test Distance: 10 Meters (Except Where Noted in Comments)

Corrected Spec Limit at 10 Meters for Harmonics = [40 Log (spec test dist./actual test dist.)] + spec limit

Corrected Spec Limit at 10 Meters for Fundamental = [(P*20) Log (spec test dist./actual test dist.)] + spec limit

Freq. (kHz)	Level (dBuV)	Pol (v/h)	Spec Limit (at 10 Meters)	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
58.235	114.1	H	--	--	Peak	1	90	Actual Reading @ 10m
58.235	102.8	H	--	--	Peak	1	90	Actual Reading @ 15m
58.235	114.1	H	127.09	-12.987	Peak	1	90	Actual Reading @ 10m
								Corrected using (P*20)
116.47	66.1	H	85.36	-19.265	Peak	1	90	
174.705	82	H	81.84	0.15703	Peak	1	90	
174.705	76.54	H	81.84	-5.303	Avg	1	90	
232.94	51.1	H	79.34	-28.244	Peak	1	90	
291.175	59.6	H	77.41	-17.806	Peak	1	90	
349.41	51.7	H	75.82	-24.122	Peak	1	90	
407.645	53.5	H	74.48	-20.983	Peak	1	90	
465.88	47.4	H	73.32	-25.924	Peak	1	90	
524.115	50.4	H	52.30	-1.9005	Peak	1	90	
524.115	44.14	H	52.30	-8.1605	QP	1	90	No Emissions Detected
								Above 582.35 kHz to
582.35	45.2	H	51.39	-6.1854	Peak	1	90	30 MHz

Distance Correction Factor for Fundamental = [(P*20) log (Test Distance / 300)]
Where P is the roll-off exponent. P is found as follows:
P = (Level (at 10 Meters) - Level (at 2nd Test Distance)) / 20 Log (2nd Test Distance / 10 Meters)
@ 15 Meters - P =((114.1-102.8) / 20 Log (15/10) = 3.20856358

FCC 15.209

Universal Surveillance Systems
Conceal System
Model: USS-AMCONCEALED

Date: 08/17/2015
Lab: A
Tested By: Kyle Fujimoto

Transmit Mode - Maximum Power - Both Antennas Transmitting (Worst Case)
Test Distance: 10 Meters (Except Where Noted in Comments)

Corrected Spec Limit at 10 Meters for Harmonics = [40 Log (spec test dist./actual test dist.)] + spec limit

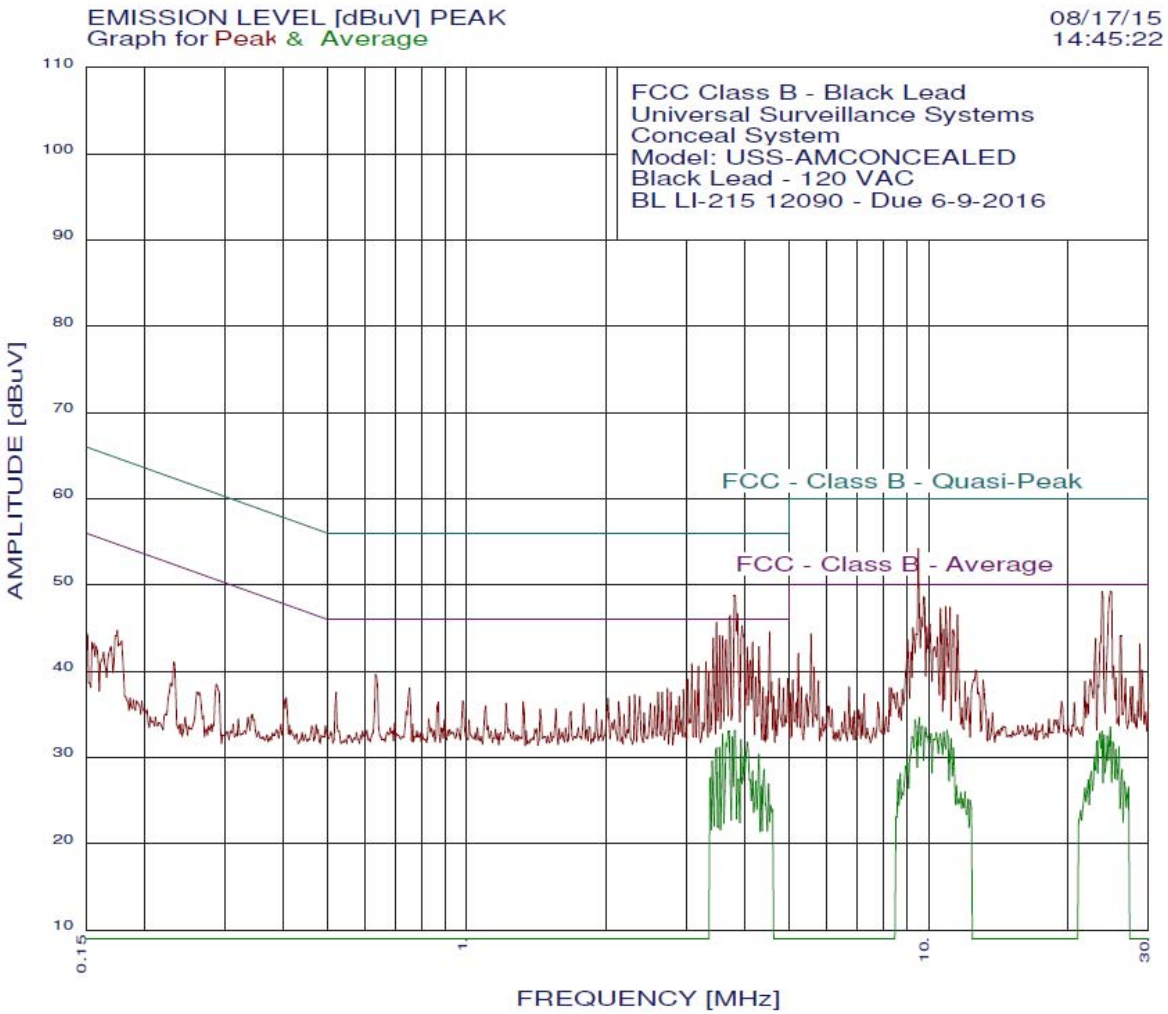
Corrected Spec Limit at 10 Meters for Fundamental = [(P*20) Log (spec test dist./actual test dist.)] + spec limit

Freq. (kHz)	Level (dBuV)	Pol (v/h)	Spec Limit (at 10 Meters)	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
58.235	122	V	--	--	Peak	1	180	Actual Reading @ 10m
58.235	110.2	V	--	--	Peak	1	180	Actual Reading @ 15m
58.235	122	V	131.28	-9.2824	Peak	1	180	Actual Reading @ 10m
								Corrected using (P*20)
116.47	65.9	V	85.36	-19.465	Peak	1	135	
174.705	75.3	V	81.84	-6.543	Peak	1	0	
232.94	61.5	V	79.34	-17.844	Peak	1	135	
291.175	74.8	V	77.41	-2.606	Peak	1	0	
291.175	70.25	V	77.41	-7.156	Avg	1	0	
349.41	63.6	V	75.82	-12.222	Peak	1	135	
407.645	68.8	V	74.48	-5.6834	Peak	1	155	
465.88	59.5	V	73.32	-13.824	Peak	1	175	
524.115	50.9	V	52.30	-1.4005	Peak	1	185	No Emissions Detected
524.115	44.36	V	52.30	-7.9405	QP	1	185	Above 582.35 kHz to
								30 MHz
582.35	47.9	V	51.39	-3.4854	Peak	1	195	

Distance Correction Factor for Fundamental = [(P*20) log (Test Distance / 300)]
Where P is the roll-off exponent. P is found as follows:
P = (Level (at 10 Meters) - Level (at 2nd Test Distance)) / 20 Log (2nd Test Distance / 10 Meters)
@ 15 Meters - P =((122-110.2) / 20 Log (15/10) = 3.3505354

CONDUCTED EMISSIONS

DATA SHEETS


EMISSION LEVEL [dBuV] PEAK
Graph for Peak & Average
08/17/15
14:45:22
FCC Class B - Black Lead
Universal Surveillance Systems
Conceal System
Model: USS-AMCONCEALED
Black Lead - 120 VAC
BL LI-215 12090 - Due 6-9-2016
FCC - Class B - Quasi-Peak
FCC - Class B - Average
AMPLITUDE [dBuV]
110
100
90
80
70
60
50
40
30
20
10
0.15
1
10.
30
FREQUENCY [MHz]

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08/17/15 14:45:22

FCC Class B - Black Lead
Universal Surveillance Systems
Conceal System
Model: USS-AMCONCEALED
Black Lead - 120 VAC
BL LI-215 12090 - Due 6-9-2016
Test Engineer : Kyle Fujimoto

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39 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	9.506	54.22	50.00	4.22**
2	3.800	48.74	46.00	2.74**
3	3.862	46.64	46.00	0.64**
4	3.722	46.44	46.00	0.44**
5	3.474	45.64	46.00	-0.36**
6	24.798	49.29	50.00	-0.71**
7	3.945	45.24	46.00	-0.76**
8	23.776	49.23	50.00	-0.77**
9	9.762	48.62	50.00	-1.38**
10	4.528	44.54	46.00	-1.46**
11	3.529	44.14	46.00	-1.86**
12	3.585	44.04	46.00	-1.96**
13	3.419	43.84	46.00	-2.16**
14	3.644	43.64	46.00	-2.36**
15	10.910	47.48	50.00	-2.52**
16	11.145	47.40	50.00	-2.60**
17	4.159	43.34	46.00	-2.66**
18	10.623	47.26	50.00	-2.74**
19	4.294	42.84	46.00	-3.16**
20	4.050	42.74	46.00	-3.26**
21	11.561	46.52	50.00	-3.48**
22	9.660	46.22	50.00	-3.78**
23	10.074	45.43	50.00	-4.57**
24	4.114	41.24	46.00	-4.76**
25	9.916	45.12	50.00	-4.88**
26	3.294	41.05	46.00	-4.95
27	9.256	45.01	50.00	-4.99**
28	10.792	44.88	50.00	-5.12**
29	3.075	40.85	46.00	-5.15
30	11.322	44.81	50.00	-5.19**
31	3.175	40.55	46.00	-5.45
32	5.567	44.35	50.00	-5.65
33	26.144	44.04	50.00	-5.96**
34	10.458	43.95	50.00	-6.05**
35	3.346	39.94	46.00	-6.06
36	23.022	43.79	50.00	-6.21**
37	0.634	39.64	46.00	-6.36
38	9.017	43.61	50.00	-6.39**
39	4.227	39.34	46.00	-6.66**

**Please See the Average Readings on the Next Page and on the Plot

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FCC Class B - Black Lead
Universal Surveillance Systems
Conceal System
Model: USS-AMCONCEALED
Black Lead - 120 VAC
BL LI-215 12090 - Due 6-9-2016
Test Engineer : Kyle Fujimoto

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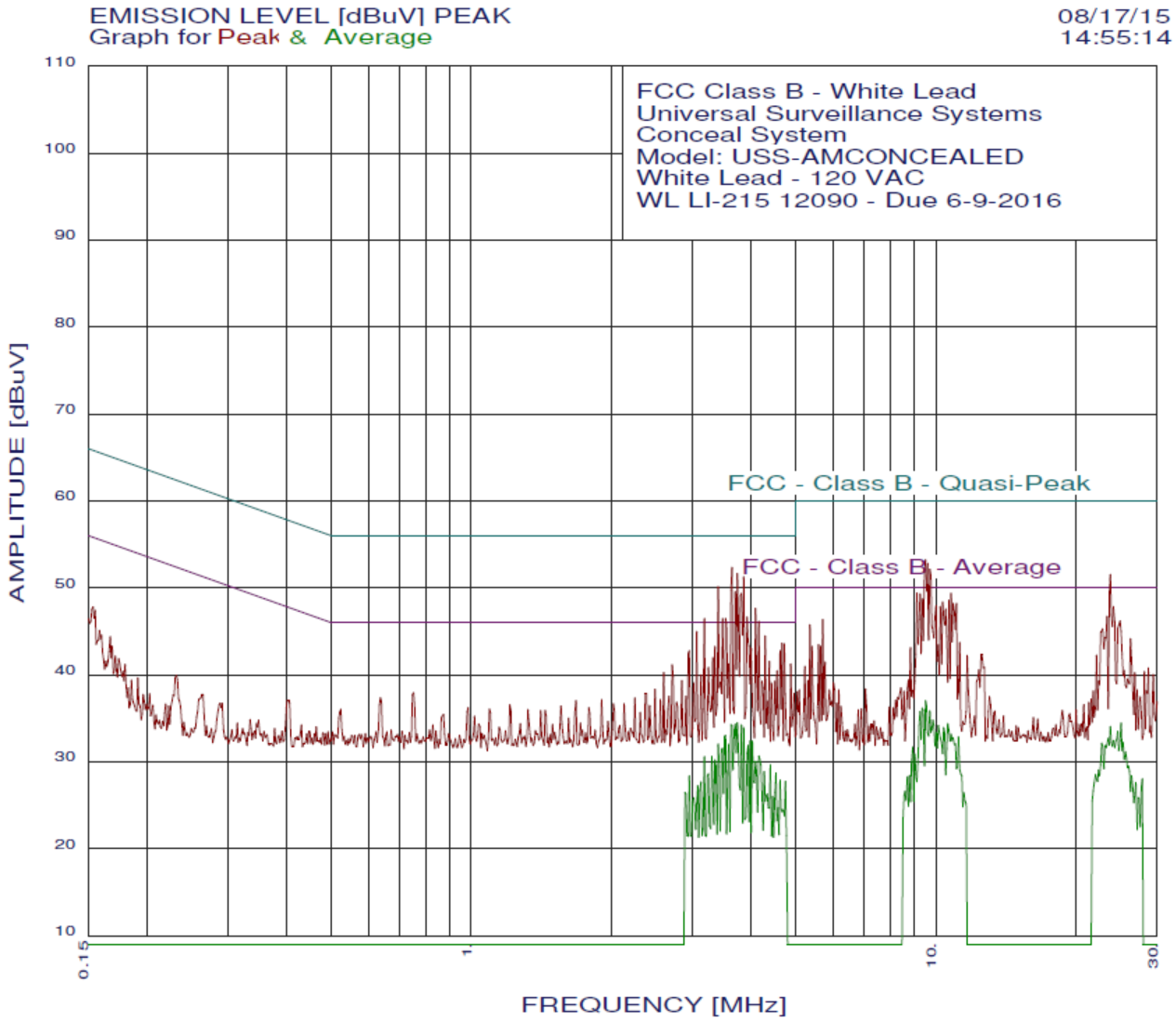
39 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 0.00 dB, Curve : Average

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	3.820	33.09	46.00	-12.91
2	3.683	32.97	46.00	-13.03
3	3.585	32.69	46.00	-13.31
4	3.761	32.41	46.00	-13.59
5	3.924	32.03	46.00	-13.97
6	4.050	31.75	46.00	-14.25
7	3.644	31.67	46.00	-14.33
8	3.529	31.17	46.00	-14.83
9	3.474	31.11	46.00	-14.89
10	9.557	34.61	50.00	-15.39
11	9.352	34.34	50.00	-15.66
12	4.294	30.34	46.00	-15.66
13	3.987	30.10	46.00	-15.90
14	3.401	29.61	46.00	-16.39
15	9.711	33.60	50.00	-16.40
16	24.798	33.52	50.00	-16.48
17	9.865	33.48	50.00	-16.52
18	10.968	33.15	50.00	-16.85
19	23.776	33.01	50.00	-16.99
20	10.792	32.96	50.00	-17.04
21	10.403	32.88	50.00	-17.12
22	23.524	32.79	50.00	-17.21
23	10.129	32.76	50.00	-17.24
24	10.623	32.74	50.00	-17.26
25	4.408	28.61	46.00	-17.39
26	24.027	32.57	50.00	-17.43
27	24.404	32.47	50.00	-17.53
28	4.159	28.44	46.00	-17.56
29	9.967	32.41	50.00	-17.59
30	9.208	32.40	50.00	-17.60
31	11.204	32.17	50.00	-17.83
32	23.148	31.93	50.00	-18.07
33	25.067	31.82	50.00	-18.18
34	3.365	27.61	46.00	-18.39
35	3.882	27.52	46.00	-18.48
36	4.227	27.24	46.00	-18.76
37	25.875	31.19	50.00	-18.81
38	11.322	31.09	50.00	-18.91
39	4.504	26.95	46.00	-19.05


EMISSION LEVEL [dBuV] PEAK
Graph for Peak & Average
08/17/15
14:55:14
FCC Class B - White Lead
Universal Surveillance Systems
Conceal System
Model: USS-AMCONCEALED
White Lead - 120 VAC
WL LI-215 12090 - Due 6-9-2016
FCC - Class B - Quasi-Peak
FCC - Class B - Average
AMPLITUDE [dBuV]
110
100
90
80
70
60
50
40
30
20
10
0.15
1
10.
30
FREQUENCY [MHz]

page 1/1

08/17/15 14:55:14

FCC Class B - White Lead
Universal Surveillance Systems
Conceal System
Model: USS-AMCONCEALED
White Lead - 120 VAC
WL LI-215 12090 - Due 6-9-2016
Test Engineer : Kyle Fujimoto

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39 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	3.644	52.35	46.00	6.35**
2	3.741	51.65	46.00	5.65**
3	3.862	51.25	46.00	5.25**
4	3.401	50.14	46.00	4.14**
5	3.702	49.55	46.00	3.55**
6	3.820	49.35	46.00	3.35**
7	9.506	53.22	50.00	3.22**
8	9.608	52.82	50.00	2.82**
9	9.711	52.12	50.00	2.12**
10	4.092	47.65	46.00	1.65**
11	23.776	51.53	50.00	1.53**
12	3.924	46.65	46.00	0.65**
13	3.529	46.45	46.00	0.45**
14	3.474	46.45	46.00	0.45**
15	3.175	46.44	46.00	0.44**
16	4.159	46.14	46.00	0.14**
17	9.112	49.41	50.00	-0.59**
18	10.792	49.37	50.00	-0.63**
19	9.256	49.31	50.00	-0.69**
20	3.059	44.94	46.00	-1.06**
21	9.352	48.72	50.00	-1.28**
22	10.678	48.56	50.00	-1.44**
23	4.294	44.44	46.00	-1.56**
24	10.348	48.35	50.00	-1.65**
25	11.086	48.19	50.00	-1.81**
26	10.910	48.18	50.00	-1.82**
27	10.019	47.93	50.00	-2.07**
28	24.152	47.85	50.00	-2.15**
29	10.238	47.84	50.00	-2.16**
30	4.672	43.64	46.00	-2.36**
31	10.513	47.56	50.00	-2.44**
32	4.722	43.54	46.00	-2.46**
33	3.346	43.24	46.00	-2.76**
34	4.008	43.05	46.00	-2.95**
35	2.948	42.74	46.00	-3.26**
36	4.624	42.74	46.00	-3.26**
37	23.399	46.71	50.00	-3.29**
38	5.715	46.35	50.00	-3.65
39	24.933	46.18	50.00	-3.82**

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FCC Class B - White Lead
Universal Surveillance Systems
Conceal System
Model: USS-AMCONCEALED
White Lead - 120 VAC
WL LI-215 12090 - Due 6-9-2016
Test Engineer : Kyle Fujimoto

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39 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 0.00 dB, Curve : Average

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	3.741	34.49	46.00	-11.51
2	3.702	34.31	46.00	-11.69
3	3.624	34.24	46.00	-11.76
4	3.820	34.22	46.00	-11.78
5	3.862	33.89	46.00	-12.11
6	9.506	37.03	50.00	-12.97
7	3.529	33.03	46.00	-12.97
8	3.987	32.39	46.00	-13.61
9	4.029	32.37	46.00	-13.63
10	9.352	36.17	50.00	-13.83
11	3.401	32.01	46.00	-13.99
12	3.585	31.99	46.00	-14.01
13	3.945	31.88	46.00	-14.12
14	9.711	35.84	50.00	-14.16
15	9.256	35.77	50.00	-14.23
16	3.474	31.56	46.00	-14.44
17	9.865	34.78	50.00	-15.22
18	4.159	30.67	46.00	-15.33
19	3.294	30.60	46.00	-15.40
20	3.175	30.57	46.00	-15.43
21	25.067	34.42	50.00	-15.58
22	10.623	34.37	50.00	-15.63
23	3.346	30.20	46.00	-15.80
24	10.129	34.16	50.00	-15.84
25	23.776	34.05	50.00	-15.95
26	4.092	30.04	46.00	-15.96
27	10.403	33.90	50.00	-16.10
28	4.408	29.64	46.00	-16.36
29	24.664	33.47	50.00	-16.53
30	10.019	33.37	50.00	-16.63
31	10.792	33.17	50.00	-16.83
32	4.272	28.85	46.00	-17.15
33	11.204	32.82	50.00	-17.18
34	10.910	32.76	50.00	-17.24
35	23.524	32.70	50.00	-17.30
36	4.528	28.69	46.00	-17.31
37	3.243	28.61	46.00	-17.39
38	24.152	32.42	50.00	-17.58
39	2.948	28.36	46.00	-17.64