FCC PART 15, SUBPART B and C
TEST REPORT

for

FREEDOM FLOW II

Model: WUS1

Prepared for

DYNALLOY, INC.
1562 REYNOLDS AVE.
IRVINE, CA 92614

Prepared by:_ _

KENNETH LEE

Approved by:_____

JAMES ROSS

COMPATIBLE ELECTRONICS INC.
114 OLINDA DRIVE
BREA, CALIFORNIA 92823
(714) 579-0500

DATE: OCTOBER 17, 2014

	REPORT	APPENDICES					TOTAL
	BODY	***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:	Freedom Flow II Model: WUS1 S/N: N/A
Product Description:	See Expository Statement.
Modifications:	The EUT was modified in order to comply with specifications. Please see the list of modifications in Appendix B.
Customer:	Dynalloy, Inc. 1562 Reynolds Ave. Irvine, CA 92614
Test Dates:	October 9 and 16, 2014
Test Specifications:	Emissions requirements CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.231
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 – 4.3392 GHz (Transmitter and Digital portion)	The EUT complies with the **Class B** limits of CFR Title 47, Part 15 Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, section 15.205, 15.209 and 15.231
2	Conducted RF Emissions, 150 kHz to 30 MHz	This test was not performed because the EUT operates on battery power and does not connect to the AC mains.
3	-20 dB Bandwidth of the Fundamental	The EUT complies with the limits of CFR Title 47, Part 15, Subpart C, section 15.231 [c].

1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the Freedom Flow II, Model: WUS1. 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 B** specification limits defined by CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.231.

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

Dynalloy, Inc.

Megan Monson	Product Manager

Compatible Electronics Inc.

Kyle Fujimoto	Test Engineer
Kenneth Lee	Test Technician
James Ross	Test Engineer

2.4 Date Test Sample was Received

The test sample was received on October 9, 2014.

2.5 Disposition of the Test Sample

The test sample has not been returned to Dynalloy, Inc. as of the date of this test report.

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

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
EN 50147-2: 1997	Anechoic chambers. Alternative test site suitability with respect to site attenuation
CISPR 22: 2008	Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - Emissions

The Freedom Flow II, Model: WUS1 (EUT) is a remote control that is powered by a lithium 3 VDC battery.

The EUT was tested for emissions while in the X, Y and Z axis. The EUT was continuously transmitting.

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

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
FREEDOM FLOW II	DYNALLOY, INC.	WUS1	N/A	2ADD7DYN380601CODEV

5.2 Emissions Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CAL. CYCLE
GENERAL TEST EQUIPMENT USED IN LAB D					
Computer	Hewlett Packard	p6716f	MXX1030PX0	N/A	N/A
LCD Monitor	Hewlett Packard	52031a	3CQ046N3MG	N/A	N/A
EMI Receiver, 20 Hz – 26.5 GHz	Agilent Technologies	N9038A	MY51100115	March 6, 2014	2 Year
RF RADIATED EMISSIONS TEST EQUIPMENT					
CombiLog Antenna	Com-Power	AC-220	61060	May 20, 2014	1 Year
Preamplifier	Com-Power	PA-118	181656	January 13, 2014	1 Year
Loop Antenna	Com-Power	AL-130	17089	January 29, 2013	2 Year
Horn Antenna	Com-Power	AH-118	071175	February 26, 2014	2 Year
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A
System Controller	Sunol Sciences Corporation	SC110V	112213-1	N/A	N/A
Turntable	Sunol Sciences Corporation	2011VS	N/A	N/A	N/A
Antenna-Mast	Sunol Sciences Corporation	TWR95-4	112213-3	N/A	N/A

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 not grounded.

7. TEST PROCEDURES

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

The EMI Receiver was used as the measuring meter. A built-in, internal preamplifier was used to increase the sensitivity of the instrument. The EMI Receiver was initially used with the Analyzer mode feature activated. In this mode, the EMI receiver can then record the actual frequency to be measured. This final reading is then taken accurately in the EMI Receiver mode, which takes into account the cable loss, amplifier gain and antenna factors, so that a true reading is compared to the true limit. A quasi-peak reading was taken only for those readings, which are marked accordingly on the data sheets.

For frequencies above 1 GHz, the readings were averaged by a "duty cycle correction factor", derived from 20 log (dwell time / 100 ms). This duty cycle correction factor was then subtracted from the peak reading.

The EMI test chamber of Compatible Electronics, Inc. was used for radiated emissions testing. This test site is set up according to ANSI C63.4, EN 50147-2 and CISPR 22. 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 measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
10 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 1 GHz	120 kHz	CombiLog Antenna

The EUT was tested at a 3 meter test distance. The six highest emissions are listed in Table 1.0.

7.1.2 RF Emissions Test Results

Table 1.0 RADIATED EMISSION RESULTS
Freedom Flow II, Model: WUS1

Frequency MHz	Average Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
867.84 (H) (X-Axis)	58.72	60.82	-2.10
867.84 (V) (Y-Axis)	58.14	60.82	-2.68
4339.2 (V) (Z-Axis)	50.72	54.00	-3.28
4339.2 (V) (X-Axis)	50.51	54.00	-3.49
433.92 (V) (Y-Axis)	77.31	80.82	-3.51
433.92 (H) (X-Axis)	77.11	80.82	-3.71

Notes:

(H) Horizontal
(V) Vertical
* The complete emissions data is given in Appendix E of this report.

7.1.3 Bandwidth of the Fundamental

The -20 dB bandwidth was checked to see that it was within 0.25% of the fundamental frequency for the EUT. Plots of the -20 dB bandwidth are located in Appendix E.

Test Results:

The EUT complies with the limits CFR Title 47, Part 15, Subpart C, section 15.231[c].

8. CONCLUSIONS

The Freedom Flow II, Model: WUS1, as tested, are within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.231.

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

Industry Canada Industrie Canada

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 15.231 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.

The resistor marked as R6 on the schematic was changed to a 470 ohm value.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

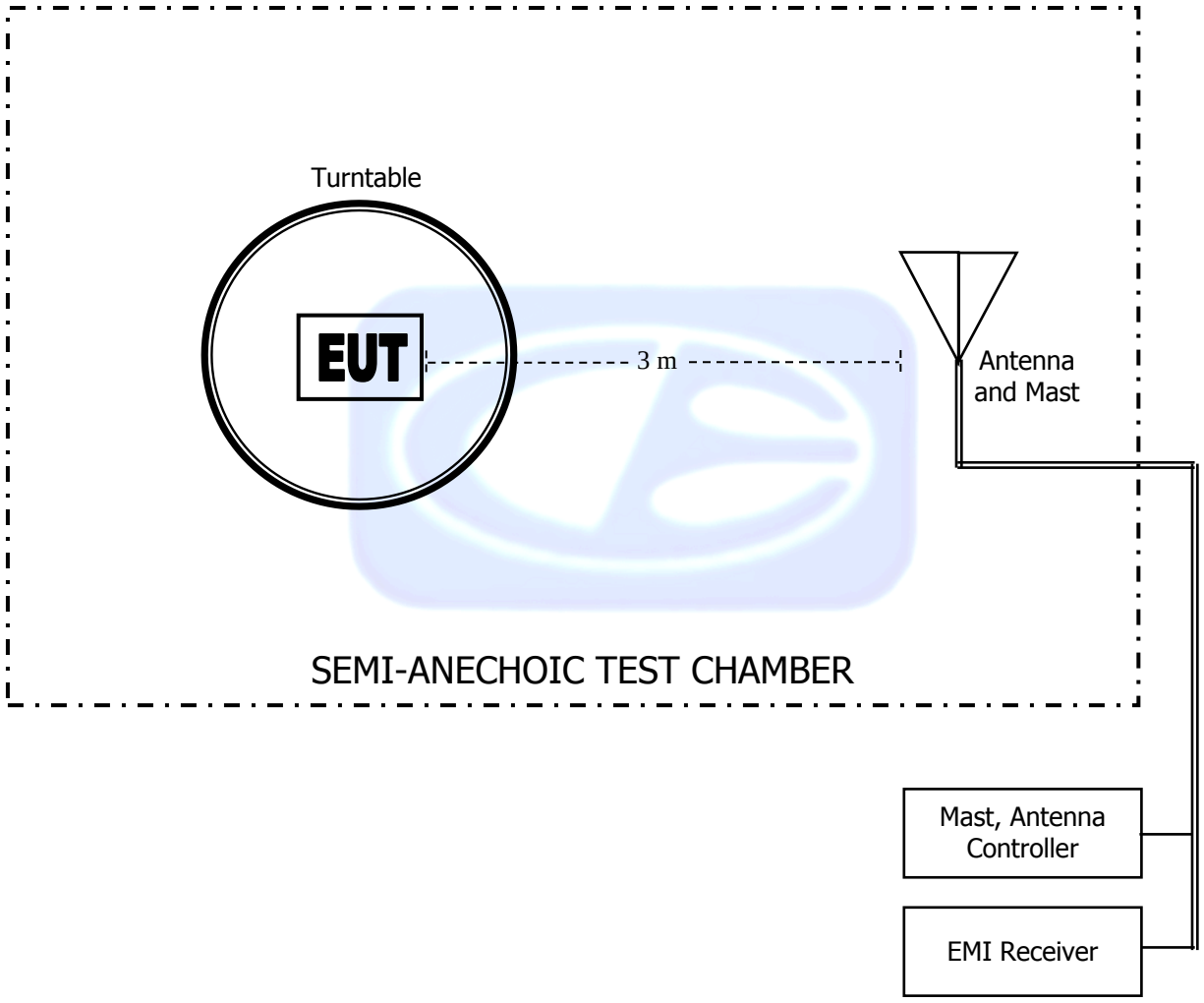
Freedom Flow II
Model: WUS1
S/N: N/A

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS AND CHARTS

FIGURE 1: LAYOUT OF THE SEMI-ANECHOIC TEST CHAMBER



COM-POWER AL-130

LOOP ANTENNA

S/N: 17089

CALIBRATION DATE: JANUARY 29, 2013

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-42.5	9
0.01	-42.3	9.2
0.02	-42.1	9.4
0.03	-41.4	10.1
0.04	-41.8	9.7
0.05	-42.4	9.1
0.06	-42.3	9.2
0.07	-42.5	9
0.08	-42.4	9.1
0.09	-42.5	9
0.1	-42.5	9
0.2	-42.7	8.8
0.3	-42.6	8.9
0.4	-42.5	9
0.5	-42.7	8.8
0.6	-42.7	8.8
0.7	-42.5	9
0.8	-42.3	9.2
0.9	-42.2	9.3
1	-42.2	9.3
2	-41.8	9.7
3	-41.7	9.8
4	-41.7	9.8
5	-41.5	10
6	-41.6	9.9
7	-41.4	10.1
8	-41	10.5
9	-40.8	10.7
10	-41.3	10.2
15	-41.4	10.1
20	-41.2	10.3
25	-42.6	8.9
30	-41.7	9.8

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 AH-118

HORN ANTENNA

S/N: 071175

CALIBRATION DATE: FEBRUARY 26, 2014

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	24.23	10.0	38.43
1.5	25.84	10.5	40.19
2.0	28.14	11.0	40.49
2.5	29.51	11.5	41.39
3.0	31.20	12.0	42.02
3.5	32.17	12.5	43.30
4.0	31.40	13.0	42.77
4.5	31.86	13.5	40.18
5.0	34.82	14.0	42.59
5.5	34.38	14.5	41.74
6.0	36.31	15.0	41.84
6.5	34.81	15.5	38.48
7.0	37.48	16.0	39.52
7.5	36.98	16.5	37.85
8.0	36.66	17.0	41.33
8.5	38.47	17.5	44.96
9.0	37.22	18.0	48.50
9.5	37.86		

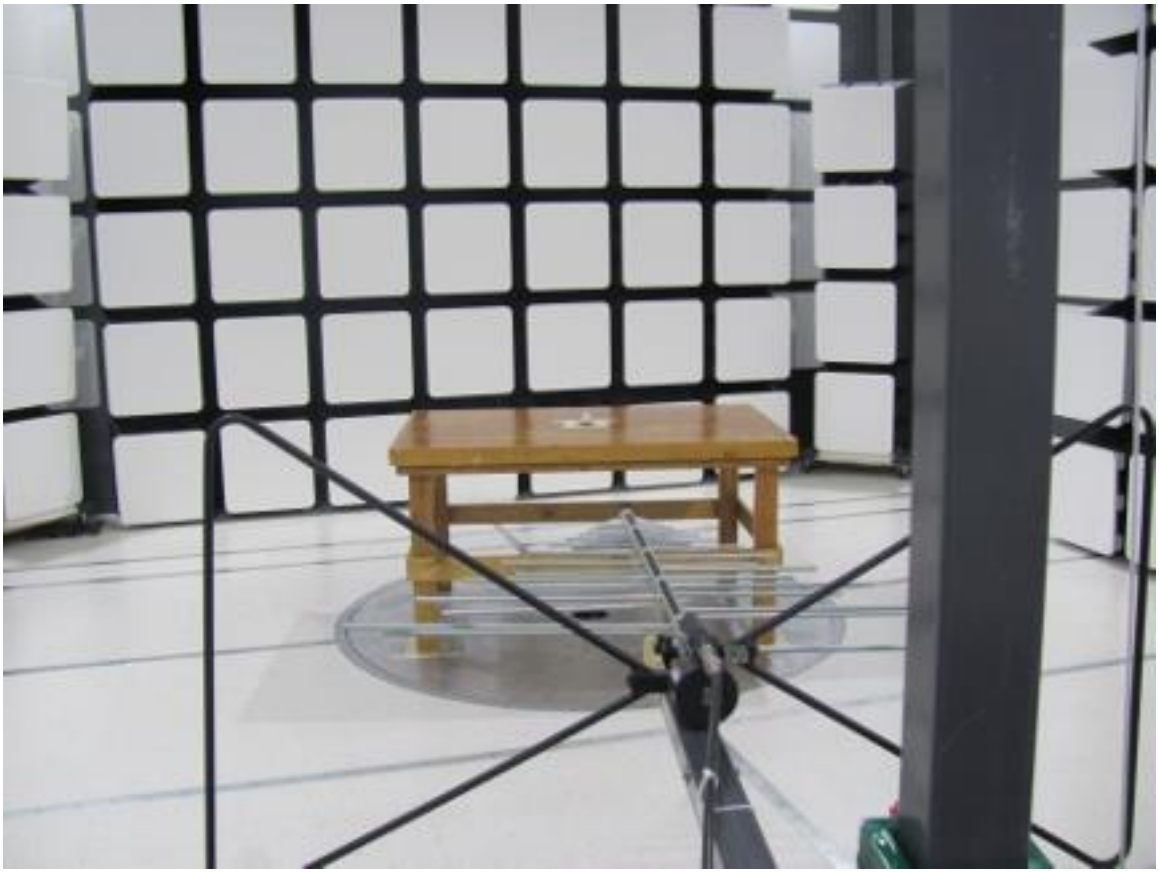
COM-POWER PA-118

PREAMPLIFIER

S/N: 181656

CALIBRATION DATE: JANUARY 13, 2014

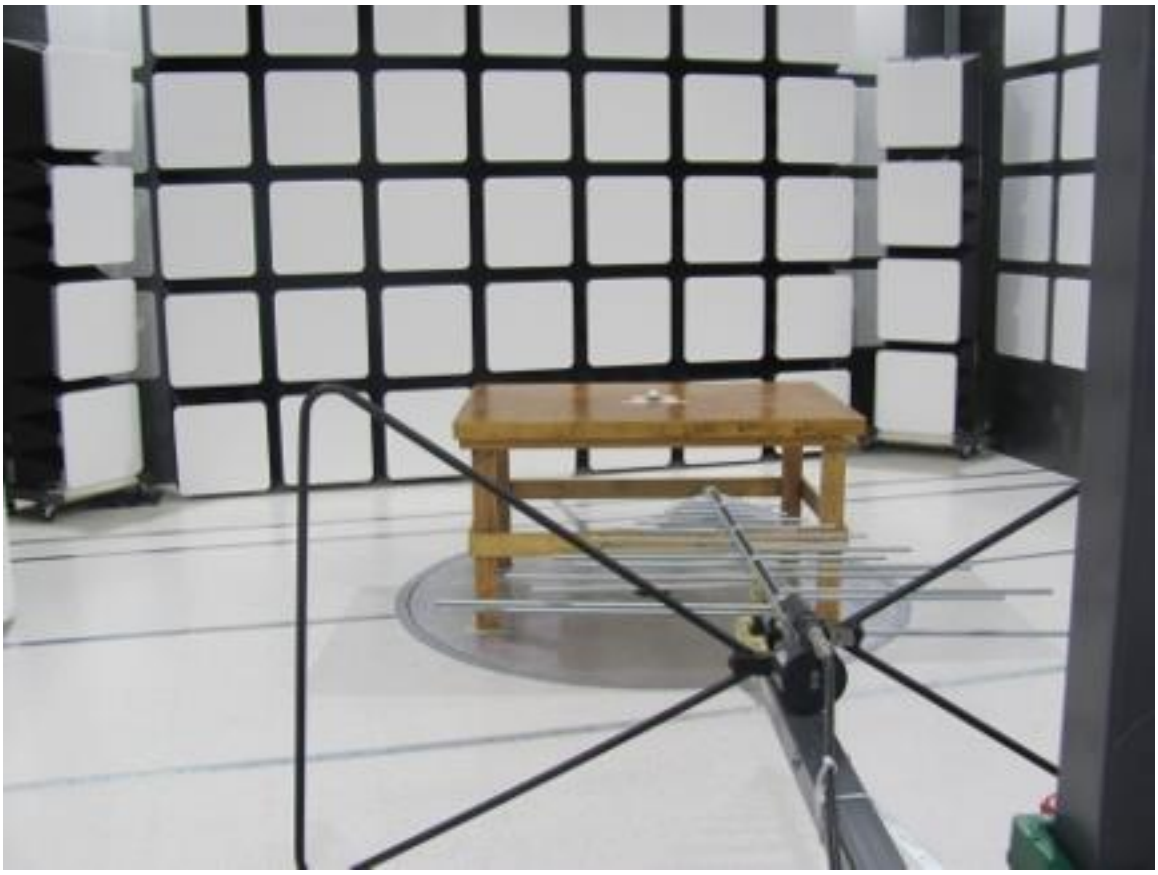
FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	24.90	6.0	25.40
1.1	25.30	6.5	25.20
1.2	26.00	7.0	24.40
1.3	26.20	7.5	24.00
1.4	26.30	8.0	23.90
1.5	26.40	8.5	24.50
1.6	26.50	9.0	25.20
1.7	26.60	9.5	24.80
1.8	26.50	10.0	24.90
1.9	26.60	11.0	25.40
2.0	26.70	12.0	24.50
2.5	26.90	13.0	24.30
3.0	27.00	14.0	25.20
3.5	27.10	15.0	25.90
4.0	26.60	16.0	25.60
4.5	26.10	17.0	23.70
5.0	26.40	18.0	25.80
5.5	25.80		



FRONT VIEW

DYNALLOY, INC.
FREEDOM FLOW II
Model: WUS1
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

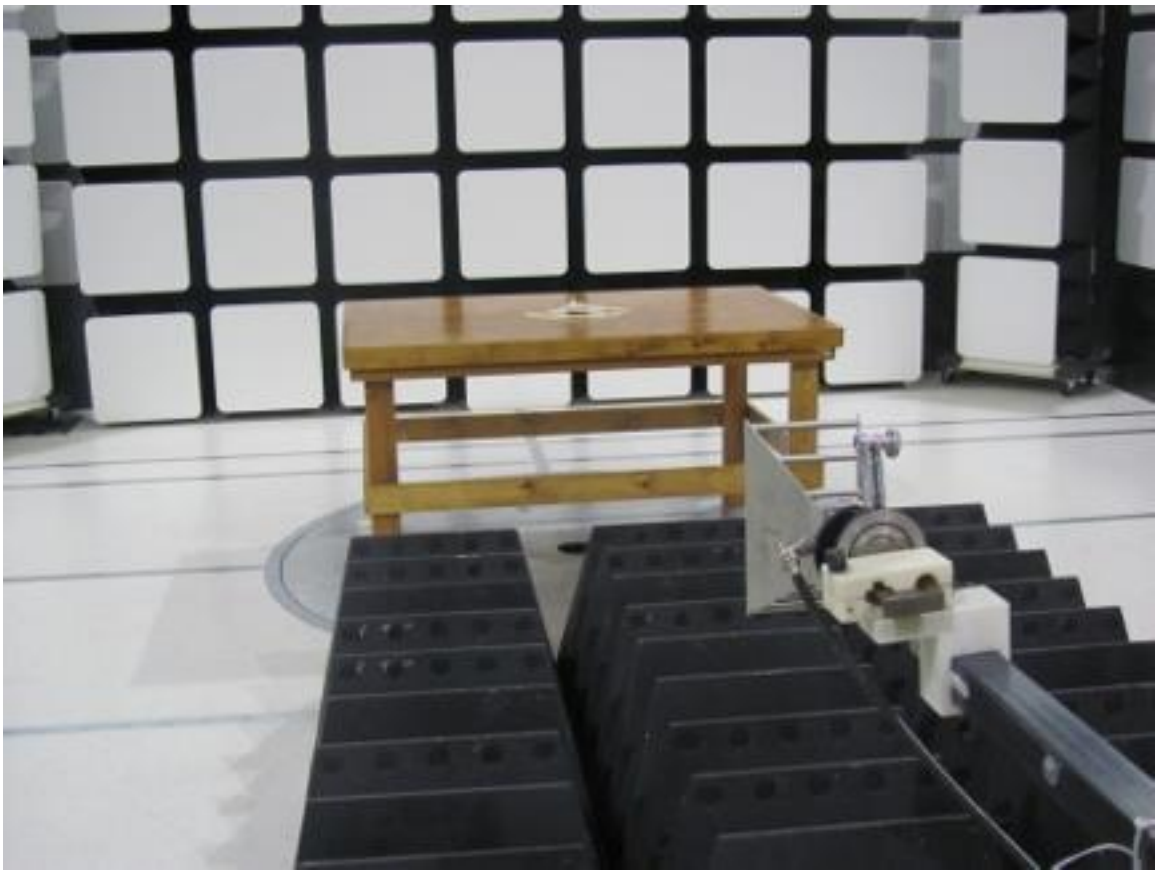
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

DYNALLOY, INC.
FREEDOM FLOW II
Model: WUS1
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

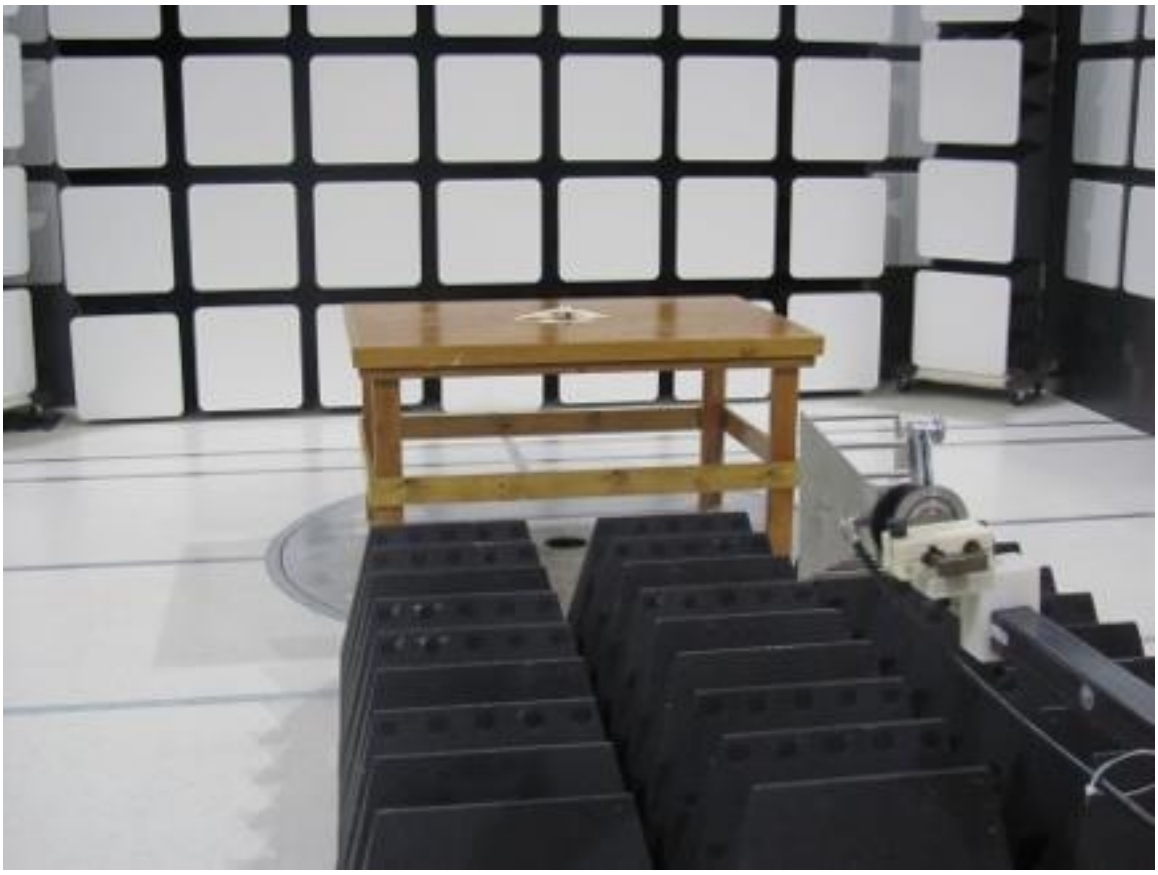
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

DYNALLOY, INC.
FREEDOM FLOW II
Model: WUS1
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

DYNALLOY, INC.
FREEDOM FLOW II
Model: WUS1
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

FCC 15.231
Dynalloy, Inc.
Freedom Flow II - Transmitter
Model: WUS1

Date: 10/09/2014
Lab: D
Tested By: Kyle Fujimoto

48.54% Duty Cycle
X-Axis - Vertical

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (cm)	Table Angle (deg)	Comments
433.92	73.50	V	100.82	-27.32	Peak	255.43	5.00	
433.92	67.23	V	80.82	-13.59	Avg	255.43	5.00	
867.84	56.50	V	80.82	-24.32	Peak	159.19	230.25	
867.84	50.23	V	60.82	-10.59	Avg	159.19	230.25	
1301.76	45.32	V	74.00	-28.68	Peak	143.67	196.75	
1301.76	39.05	V	54.00	-14.95	Avg	143.67	196.75	
1735.68	44.33	V	80.82	-36.49	Peak	207.31	0.00	
1735.68	38.06	V	60.82	-22.76	Avg	207.31	0.00	
2169.6	50.59	V	80.82	-30.23	Peak	223.43	271.25	
2169.6	44.32	V	60.82	-16.50	Avg	223.43	271.25	
2603.52	50.90	V	80.82	-29.92	Peak	400.00	46.25	
2603.52	44.63	V	60.82	-16.19	Avg	400.00	46.25	
3037.44	53.82	V	80.82	-27.00	Peak	271.43	328.25	
3037.44	47.55	V	60.82	-13.27	Avg	271.43	328.25	
3471.36	55.25	V	80.82	-25.57	Peak	303.25	147.75	
3471.36	48.98	V	60.82	-11.84	Avg	303.25	147.75	
3905.28	53.88	V	74.00	-20.12	Peak	303.25	147.75	
3905.28	47.61	V	54.00	-6.39	Avg	303.25	147.75	
4339.2	56.78	V	74.00	-17.22	Peak	303.25	147.75	
4339.2	50.51	V	54.00	-3.49	Avg	303.25	147.75	

FCC 15.231
Dynalloy, Inc.
Freedom Flow II - Transmitter
Model: WUS1

Date: 10/09/2014
Lab: D
Tested By: Kyle Fujimoto

48.54% Duty Cycle
X-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (cm)	Table Angle (deg)	Comments
433.92	83.38	H	100.82	-17.44	Peak	159.15	230.25	
433.92	77.11	H	80.82	-3.71	Avg	159.15	230.25	
867.84	64.99	H	80.82	-15.83	Peak	175.01	271.00	
867.84	58.72	H	60.82	-2.10	Avg	175.01	271.00	
1301.76	51.25	H	74.00	-22.75	Peak	111.13	260.75	
1301.76	44.98	H	54.00	-9.02	Avg	111.13	260.75	
1735.68	44.48	H	80.82	-36.34	Peak	175.13	248.75	
1735.68	38.21	H	60.82	-22.61	Avg	175.13	248.75	
2169.6	48.73	H	80.82	-32.09	Peak	239.37	288.25	
2169.6	42.46	H	60.82	-18.36	Avg	239.37	288.25	
2603.52	50.24	H	80.82	-30.58	Peak	223.37	163.75	
2603.52	43.97	H	60.82	-16.85	Avg	223.37	163.75	
3037.44	55.07	H	80.82	-25.75	Peak	303.43	223.25	
3037.44	48.80	H	60.82	-12.02	Avg	303.43	223.25	
3471.36	54.95	H	80.82	-25.87	Peak	400.00	4.25	
3471.36	48.68	H	60.82	-12.14	Avg	400.00	4.25	
3905.28	53.18	H	74.00	-20.82	Peak	175.49	63.00	
3905.28	46.91	H	54.00	-7.09	Avg	175.49	63.00	
4339.2	55.23	H	74.00	-18.77	Peak	127.37	128.25	
4339.2	48.96	H	54.00	-5.04	Avg	127.37	128.25	

FCC 15.231
Dynalloy, Inc.
Freedom Flow II - Transmitter
Model: WUS1

Date: 10/09/2014
Lab: D
Tested By: Kyle Fujimoto

48.54% Duty Cycle
Y-Axis - Vertical

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (cm)	Table Angle (deg)	Comments
433.92	83.58	V	100.82	-17.24	Peak	111.31	116.50	
433.92	77.31	V	80.82	-3.51	Avg	111.31	116.50	
867.84	64.41	V	80.82	-16.41	Peak	111.37	116.50	
867.84	58.14	V	60.82	-2.68	Avg	111.37	116.50	
1301.76	48.21	V	74.00	-25.79	Peak	271.91	130.50	
1301.76	41.94	V	54.00	-12.06	Avg	271.91	130.50	
1735.68	45.11	V	80.82	-35.71	Peak	303.85	53.75	
1735.68	38.84	V	60.82	-21.98	Avg	303.85	53.75	
2169.6	48.96	V	80.82	-31.86	Peak	143.01	204.00	
2169.6	42.69	V	60.82	-18.13	Avg	143.01	204.00	
2603.52	51.09	V	80.82	-29.73	Peak	319.67	179.25	
2603.52	44.82	V	60.82	-16.00	Avg	319.67	179.25	
3037.44	54.78	V	80.82	-26.04	Peak	127.43	162.00	
3037.44	48.51	V	60.82	-12.31	Avg	127.43	162.00	
3471.36	54.73	V	80.82	-26.09	Peak	111.49	301.50	
3471.36	48.46	V	60.82	-12.36	Avg	111.49	301.50	
3905.28	53.34	V	74.00	-20.66	Peak	233.37	4.00	
3905.28	47.07	V	54.00	-6.93	Avg	233.37	4.00	
4339.2	54.83	V	74.00	-19.17	Peak	238.95	219.00	
4339.2	48.56	V	54.00	-5.44	Avg	238.95	219.00	

FCC 15.231
Dynalloy, Inc.
Freedom Flow II - Transmitter
Model: WUS1

Date: 10/09/2014
Lab: D
Tested By: Kyle Fujimoto

48.54% Duty Cycle
Y-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (cm)	Table Angle (deg)	Comments
433.92	67.77	H	100.82	-33.05	Peak	223.25	197.50	
433.92	61.50	H	80.82	-19.32	Avg	223.25	197.50	
867.84	53.36	H	80.82	-27.46	Peak	175.19	179.50	
867.84	47.09	H	60.82	-13.73	Avg	175.19	179.50	
1301.76	42.51	H	74.00	-31.49	Peak	384.20	173.00	
1301.76	36.24	H	54.00	-17.76	Avg	384.20	173.00	
1735.68	45.06	H	80.82	-35.76	Peak	319.73	143.50	
1735.68	38.79	H	60.82	-22.03	Avg	319.73	143.50	
2169.6	47.79	H	80.82	-33.03	Peak	223.43	292.50	
2169.6	41.52	H	60.82	-19.30	Avg	223.43	292.50	
2603.52	50.08	H	80.82	-30.74	Peak	335.79	113.00	
2603.52	43.81	H	60.82	-17.01	Avg	335.79	113.00	
3037.44	54.80	H	80.82	-26.02	Peak	400.00	64.00	
3037.44	48.53	H	60.82	-12.29	Avg	400.00	64.00	
3471.36	55.56	H	80.82	-25.26	Peak	383.91	324.75	
3471.36	49.29	H	60.82	-11.53	Avg	383.91	324.75	
3905.28	53.65	H	74.00	-20.35	Peak	319.37	155.50	
3905.28	47.38	H	54.00	-6.62	Avg	319.37	155.50	
4339.2	53.41	H	74.00	-20.59	Peak	127.43	352.25	
4339.2	47.14	H	54.00	-6.86	Avg	127.43	325.25	

FCC 15.231
Dynalloy, Inc.
Freedom Flow II - Transmitter
Model: WUS1

Date: 10/09/2014
Lab: D
Tested By: Kyle Fujimoto

48.54% Duty Cycle
Z-Axis - Vertical

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (cm)	Table Angle (deg)	Comments
433.92	74.74	V	100.82	-26.08	Peak	143.19	217.00	
433.92	68.47	V	80.82	-12.35	Avg	143.19	217.00	
867.84	54.66	V	80.82	-26.16	Peak	159.13	293.75	
867.84	48.39	V	60.82	-12.43	Avg	159.13	293.75	
1301.76	43.69	V	74.00	-30.31	Peak	207.85	220.50	
1301.76	37.42	V	54.00	-16.58	Avg	207.85	220.50	
1735.68	44.62	V	80.82	-36.20	Peak	222.95	150.50	
1735.68	38.35	V	60.82	-22.47	Avg	222.95	150.50	
2169.6	49.83	V	80.82	-30.99	Peak	159.43	130.50	
2169.6	43.56	V	60.82	-17.26	Avg	159.43	130.50	
2603.52	50.89	V	80.82	-29.93	Peak	287.67	342.50	
2603.52	44.62	V	60.82	-16.20	Avg	287.67	342.50	
3037.44	55.31	V	80.82	-25.51	Peak	367.67	22.00	
3037.44	49.04	V	60.82	-11.78	Avg	367.67	22.00	
3471.36	54.94	V	80.82	-25.88	Peak	335.61	360.00	
3471.36	48.67	V	60.82	-12.15	Avg	335.61	360.00	
3905.28	53.18	V	74.00	-20.82	Peak	255.37	49.25	
3905.28	46.91	V	54.00	-7.09	Avg	255.37	49.25	
4339.2	56.99	V	74.00	-17.01	Peak	383.97	358.75	
4339.2	50.72	V	54.00	-3.28	Avg	383.97	358.75	

FCC 15.231
Dynalloy, Inc.
Freedom Flow II - Transmitter
Model: WUS1

Date: 10/09/2014
Lab: D
Tested By: Kyle Fujimoto

48.54% Duty Cycle
Z-Axis - Horizontal

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (cm)	Table Angle (deg)	Comments
433.92	81.90	H	100.82	-18.92	Peak	207.13	88.75	
433.92	75.63	H	80.82	-5.19	Avg	207.13	88.75	
867.84	62.45	H	80.82	-18.37	Peak	143.19	270.00	
867.84	56.18	H	60.82	-4.64	Avg	143.19	270.00	
1301.76	50.46	H	74.00	-23.54	Peak	112.74	81.25	
1301.76	44.19	H	54.00	-9.81	Avg	112.74	81.25	
1735.68	45.95	H	80.82	-34.87	Peak	400.00	205.75	
1735.68	39.68	H	60.82	-21.14	Avg	400.00	205.75	
2169.6	48.39	H	80.82	-32.43	Peak	111.25	188.25	
2169.6	42.12	H	60.82	-18.70	Avg	111.25	188.25	
2603.52	51.87	H	80.82	-28.95	Peak	159.49	311.50	
2603.52	45.60	H	60.82	-15.22	Avg	159.49	311.50	
3037.44	53.32	H	80.82	-27.50	Peak	207.67	38.50	
3037.44	47.05	H	60.82	-13.77	Avg	207.67	38.50	
3471.36	55.84	H	80.82	-24.98	Peak	223.37	125.50	
3471.36	49.57	H	60.82	-11.25	Avg	223.37	125.50	
3905.28	53.03	H	74.00	-20.97	Peak	271.91	355.75	
3905.28	46.76	H	54.00	-7.24	Avg	271.91	355.75	
4339.2	56.53	H	74.00	-17.47	Peak	239.49	55.50	
4339.2	50.26	H	54.00	-3.74	Avg	239.49	55.50	

FCC 15.231 and FCC Class B

Dynalloy, Inc.
Freedom Flow II
Model: WUS1

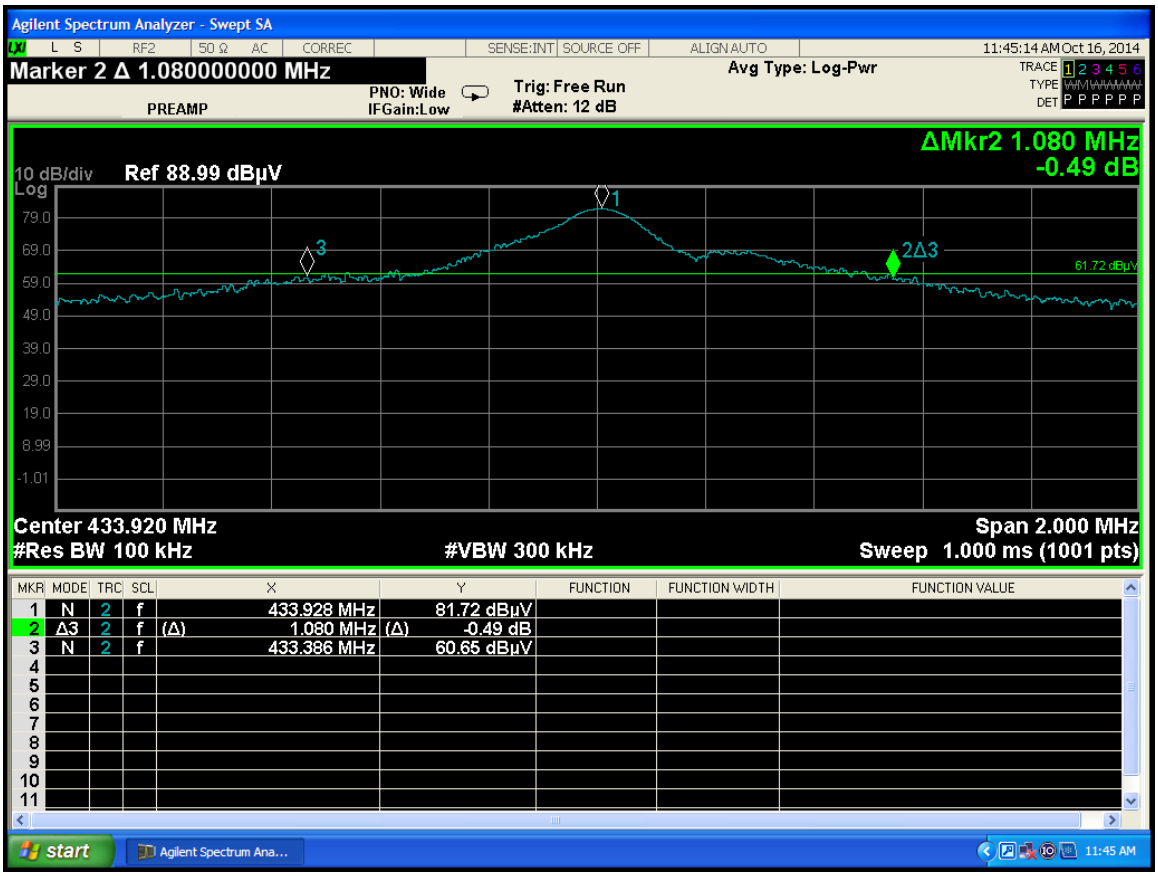
Date: 10/09/2014
Lab: D
Tested By: Kyle Fujimoto

Digital Portion and Non-Harmonic Emissions of the Transmitter
Vertical and Horizontal Polarization

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								No Emissions Detected
								from 10 kHz to 30 MHz
								for the Digital Portion
								for both the Vertical and
								Horizontal Polarizations.
								No Emissions Detected
								from 10 kHz to 30 MHz
								for the Non-Harmonic
								Emissions from the Tx for the
								EUT for both the Vertical and
								Horizontal Polarizations.
								No Emissions Detected
								from 30 MHz to 4.4 GHz
								for the Digital Portion
								for both the Vertical and
								Horizontal Polarizations.
								No Emissions Detected
								from 30 MHz to 4.4 GHz
								for the Non-Harmonic
								Emissions from the Tx for the
								EUT for both the Vertical and
								Horizontal Polarizations.
								Investigated in the
								X, Y, and Z-Axis

-20 dB BANDWIDTH

DATA SHEET



-20 dB of the Fundamental – 433.92 MHz