FCC PART 15, SUBPART B and C
TEST REPORT

for

WIRELESS VALVE CONTROLLER

MODEL: WVC-01

Prepared for

ONSITE PRO
28896 MOUNTAIN VIEW
TRABUCO CANYON, CA 92679

Prepared by:_____

EUGENE ADAMS

Approved by:_____

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DATE: JANUARY 2, 2009

	REPORT BODY	APPENDICES					TOTAL
		A	***B***	***C***	***D***	***E***	
PAGES	16	2	2	2	13	15	**50**

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1	Conducted Emissions Test Setup
2	Plot Map And Layout of Radiated Test Site – 3 Meters

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 endorsement by NVLAP, NIST or any other agency of the U.S. Government.

Device Tested:	WIRELESS VALVE CONTROLLER P/N: WVC-01 S/N: N/A
Product Description:	See Expository Statement
Modifications:	The EUT was not modified in order to meet the specifications.
Manufacturer:	Onsite PRO 28896 Mountain View Trabuco Canyon, CA 92679
Test Dates:	November 24, 2008 and December 11 and 15 2008.
Test Specifications:	EMI requirements CFR Title 47, Part 15 Subpart B; and Subpart C, Sections 15.205, 15.209 and 15.249
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	Conducted RF Emissions, 150 kHz – 30 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and Subpart C section 15.207.
2	Radiated RF Emissions, 10 kHz – 9150 MHz (Transmitter Portion)	Complies with the limits of CFR Title 47, Part 15, Subpart C, section 15.205, 15.209, and 15.249.
3	Radiated RF Emissions, 10 kHz – 9150 MHz (Digital Portion)	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B.
4	Receiver Portion, 30MHz – 9150 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B.

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Wireless Valve Controller, Model: WVC-01. The EMI 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 for the digital portion; and the limits defined in Subpart C, sections 15.205, 15.207, 15.209, and 15.249 for the transmitter portion.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

The EMI tests described herein were performed at the test facility of Compatible Electronics, 19121 El Toro Rd, Silverado, CA 92676.

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

Onsite PRO

Scott Walter Owner

Compatible Electronics, Inc.

Eugene Adams Test Technician

2.4 Date Test Sample was Received

The test sample was received on November 24, 2008.

2.5 Disposition of the Test Sample

The sample has not yet been returned to Onsite PRO.

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

3. APPLICABLE DOCUMENTS

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

SPEC	TITLE
CFR Title 47, Part 15	FCC Rules – Radio frequency devices (including digital devices)
ANSI C63.4 2003	American National Standard for 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 - EMI

Setup and operation of the equipment under test.

Specifics of the EUT and Peripherals Tested

The WIRELESS VALVE CONTROLLER, Model: WVC-01 (EUT) was connected to a electronic valve. The EUT's antenna is a PCB style antenna and is on the PCB itself and used FSK modulation. The EUT was tested in three orthogonal axis. The EUT was continuously transmitting and/or receiving.

The final radiated data was taken in the both transmitting and receiving modes. Please see Appendix E for the data sheets.

4.1.1 Cable Construction and Termination

Cable 1 This is a .5-meter unshielded cable connecting the EUT to the electronic valve. The cable has a custom connector at the EUT end and hardwired into the electronic valve.

Cable 2 & 3 This is a 1-meter unshielded cable connecting the EUT. The cable has a custom connector at the EUT end and was left unterminated.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIALNUMBER	FCC ID
WIRELESS VALVE CONTROLLER (EUT)	ONSITE PRO	WVC-01	N/A	**WW8FS-CONTROL**
ELECTRONIC VALVE	ONSITE PRO	NONE	NONE	**NONE**

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE DATE
GENERAL TEST EQUIPMENT USED FOR ALL RF EMISSIONS TESTS					
Analyzer Spectrum - Quasi-Peak Adapter	Hewlett Packard	85650A	2811A01081	5/31/08	5/31/09
Analyzer Spectrum – Display Section	Hewlett Packard	85662A	2848A18214	5/31/08	5/31/09
Analyzer Spectrum – RF Section	Hewlett Packard	8566B	2747A04875	5/31/08	5/31/09
RF RADIATED EMISSIONS TEST EQUIPMENT					
Radiated Emissions Data Capture Program	Compatible Electronics	2.0	N/A	N/A	N/A
Antenna, Biconical	Com Power	AB-900	15228	1/24/08	1/24/09
Antenna, Log Periodic	Com Power	AL-100	16016	1/11/08	1/11/09
Preamplifier	Com Power	PA-103	161206	11/28/08	11/28/09
Loop Antenna	Com Power	AL-130	17089	8/12/08	8/12/09
Antenna ,Horn	Com-Power	AH-118	1319	8/08/08	8/08/10
Preamplifier	Com Power	PA-122	181923	1/23/08	1/23/09
Antenna Mast	Com Power	AM-400	N/A	N/A	N/A
RF CONDUCTED EMISSIONS TEST EQUIPMENT					
LISN EUT Side	Com Power	LI-115	241043	8/06/08	8/06/09
LISN Accessory Side	Com Power	LI-215	12073	8/06/08	8/06/09
Transient Limiter	Com Power	Hz-560	N/A	2/06/08	2/06/09

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1 of this report for EMI 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

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 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.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 15, Subpart C, section 15.207.

7.1.2 Radiated Emissions (Spurious and Harmonics) Test

The spectrum analyzer was used as a measuring meter. A preamplifier was used to increase the sensitivity of the instrument. 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. The quasi-peak reading was taken only for those readings which are marked accordingly on the data sheets. The following antennas and measurement bandwidths were used as specified in the following table.

The frequencies above 1 GHz were averaged manually by narrowing the video filter down to 10 Hz and putting the sweep time on AUTO on the spectrum analyzer to keep the amplitude reading calibrated.

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

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
9 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna
300 MHz to 1 GHz	120 kHz	Log Periodic Antenna
1 GHz to 10 GHz	1 MHz	Horn 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 gunsight method was used when measuring with the horn antenna in order to ensure accurate results. The loop antenna was also rotated in the horizontal and vertical axis in order to ensure accurate results.

7.1.3 Radiated Emissions (Spurious and Harmonics) Test (Continued)

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 was tested at a 3 meter test distance to obtain the final test data. The final qualification data sheets are located in Appendix E.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 15, Subpart C, sections 15.205, 15.209, and 15.249.

8. CONCLUSIONS

The Wireless Valve Controller, Model: WVC-01 meets all of the **Class B** specification limits defined in CFR Title 47, Part 15, Subpart B for the digital and receiver portion; and the limits defined in Subpart C, sections 15.205, 15.207, 15.209, and 15.249 for the transmitter portion.

APPENDIX A

LABORATORY RECOGNITIONS

LABORATORY ACCREDITATIONS AND RECOGNITIONS

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

For US, Canada, Australia/New Zealand, Taiwan and the European Union, Compatible Electronics is currently accredited by NVLAP to ISO/IEC 17025 an ISO 9002 equivalent. Please follow the link to the NIST site for each of our facilities NVLAP certificate and scope of accreditation.

Silverado/Lake Forest Division: http://ts.nist.gov/ts/htdocs/210/214/scopes/2005270.htm
Brea Division: http://ts.nist.gov/ts/htdocs/210/214/scopes/2005280.htm
Agoura Division: http://ts.nist.gov/ts/htdocs/210/214/scopes/2000630.htm

Compatible Electronics has been accredited by ANSI and appointed by the FCC to serve as a Telecommunications Certification Body (TCB). Compatible Electronics ANSI TCB listing can be found at: http://www.ansi.org/public/ca/ansi_cp.html

Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for EMC under the US/EU Mutual Recognition Agreement (MRA). Compatible Electronics NIST US/EU CAB listing can be found at: http://ts.nist.gov/ts/htdocs/210/gsig/emc-cabs-mar02.pdf

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). Compatible Electronics NIST US/APEC CAB listing can be found at: http://ts.nist.gov/ts/htdocs/210/gsig/apec/bsmi-cabs-may02.pdf

World Wide Market Access with Nemko

Compatible Electronics has been validated by NEMKO against ISO/IEC 17025 under the NEMKO EMC Laboratory Authorization (ELA) program to all EN standards required by the European Union (EU) EMC Directive 89/336/EEC. Please follow the link to the Compatible Electronics' web site for each of our facilities NEMKO ELA certificate and scope of accreditation. http://www.celectronics.com/certs.htm

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

Compatible Electronics VCCI listing can be found at:
http://www.vcci.or.jp/vcci_e/member/tekigo/setsubi_index_id.html

Just type "Compatible Electronics" into the Keyword search box.

Compatible Electronics FCC listing can be found at:
https://gullfoss2.fcc.gov/prod/oet/index_ie.html

Just type "Compatible Electronics" into the Test Firms search box.

Industry Canada Industrie Canada

Compatible Electronics IC listing can be found at:
http://spectrum.ic.gc.ca/~cert/labs/oats_lab_c_e.html

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

No modifications were made to the EUT.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

WIRELESS VALVE CONTROLLER
Model: WVC-01
S/N: N/A

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

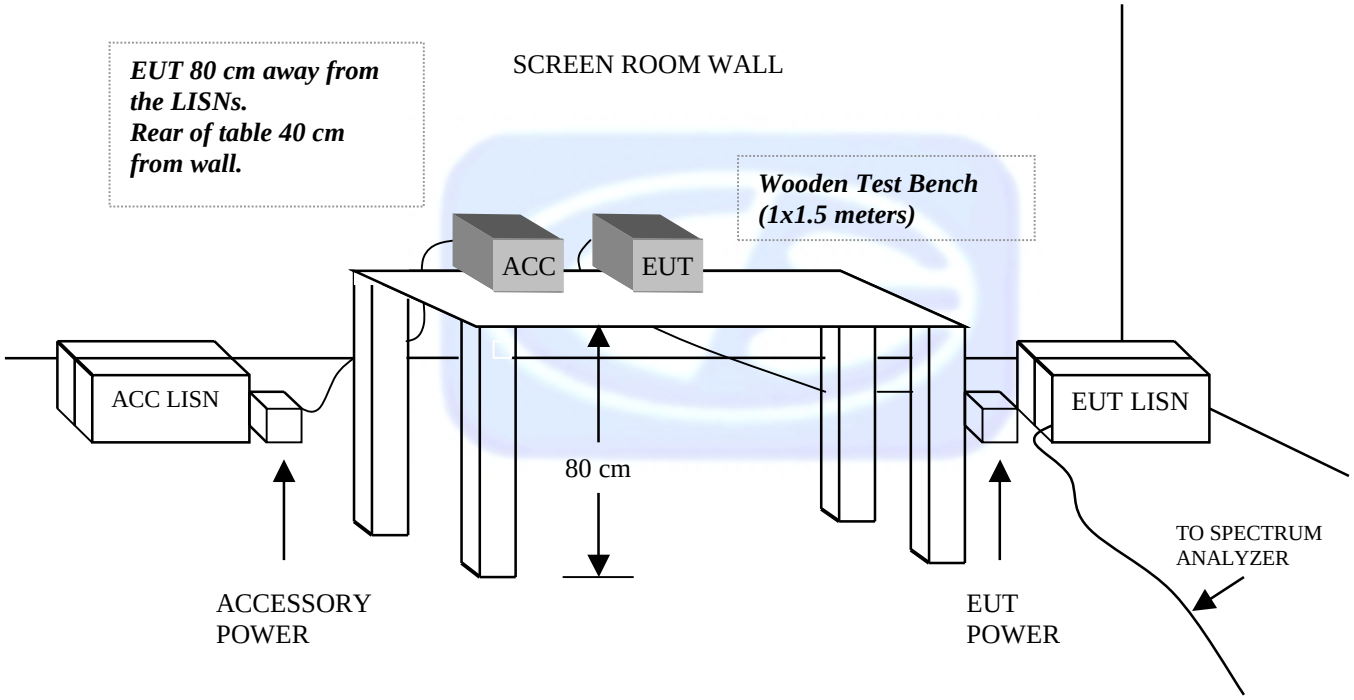
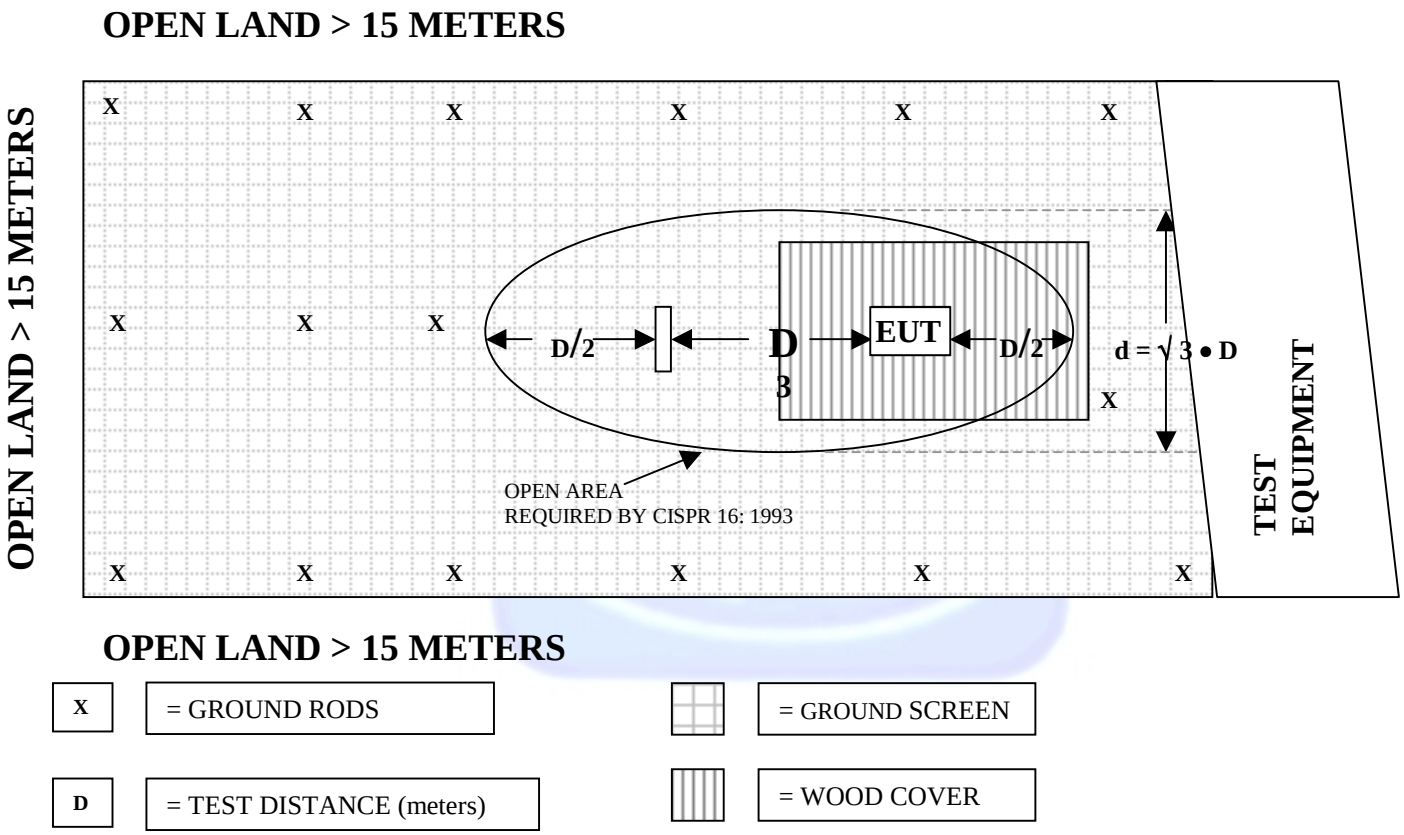


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED TEST SITE – 3 METERS



COM-POWER AB-900

LAB J - BICONICAL ANTENNA

S/N: 15228

CALIBRATION DATE: JANUARY 24, 2008

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30.0	10.1	120.0	12.9
35.0	10.2	125.0	13.1
40.0	12.7	140.0	12.4
45.0	13.0	150.0	11.9
50.0	12.7	160.0	13.3
60.0	11.8	175.0	14.6
70.0	9.0	180.0	15.5
80.0	6.4	200.0	16.9
90.0	8.2	250.0	15.6
100.0	10.8	300.0	19.1

COM-POWER AL-100

LAB J - LOG PERIODIC ANTENNA

S/N: 16016

CALIBRATION DATE: JANUARY 11, 2008

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	13.4	350	15.0
400	14.9	450	14.9
500	16.8	550	16.5
600	17.9	650	17.8
700	19.4	750	22.6
800	23.2	850	22.9
900	22.6	950	24.0
1000	23.8	-	-

COM-POWER AH-118

LAB J - HORN ANTENNA

S/N: 1319

CALIBRATION DATE: AUGUST 08, 2008

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
1000	22.8	10000	35.9
1500	24.2	10500	37.7
2000	26.8	11000	37.0
2500	26.1	11500	39.9
3000	28.1	12000	38.1
3500	27.7	12500	38.4
4000	28.2	13000	37.5
4500	29.4	13500	39. 0
5000	30.4	14000	40.3
5500	31.2	14500	40.0
6000	30.7	15000	39.6
6500	32.4	15500	38.1
7000	33.8	16000	37.3
7500	35.1	16500	38.4
8000	35.4	17000	39.4
8500	35.1	17500	41.4
9000	37.1	18000	43.1
9500	35.6		

COM-POWER PA-103

LAB J - PREAMPLIFIER

S/N: 161206

CALIBRATION DATE: NOVEMBER 26, 2008

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	29.9	300	30.5
40	30.5	350	30.0
50	30.5	400	30.3
60	30.3	450	30.2
70	29.5	500	29.5
80	27.0	550	29.7
90	25.0	600	29.5
100	28.0	650	29.4
125	29.2	700	28.4
150	30.0	750	28.3
175	30.5	800	26.1
200	30.5	850	29.0
225	30.6	900	28.9
250	30.3	950	30.3
275	30.3	1000	29.3

COM-POWER PA-122

LAB J – HI-FREQUENCY PREAMPLIFIER

S/N: 181923

CALIBRATION DATE: JANUARY 23, 2008

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
1000	35.9	8000	33.3
1500	35.5	8500	35.0
2000	34.9	9000	35.6
2500	35.1	9500	34.7
3000	35.0	10000	34.0
3500	34.7	11000	32.3
4000	35.4	12000	33.9
4500	34.7	13000	34.9
5000	35.0	14000	33.7
5500	34.7	15000	33.7
6000	34.4	16000	33.3
6500	34.4	17000	34.5
7500	33.9	18000	32.6

COM-POWER AL-130

LOOP ANTENNA

S/N: 17089

CALIBRATION DATE: SEPTEMBER 29, 2008

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-41.57	9.93
0.01	-42.06	9.44
0.02	-42.43	9.07
0.05	-42.50	9.00
0.07	-42.10	9.40
0.1	-42.03	9.47
0.2	-44.50	7.00
0.3	-41.93	9.57
0.5	-41.90	9.60
0.7	-41.73	9.77
1	-41.23	10.27
2	-40.90	10.60
3	-41.20	10.30
4	-41.30	10.20
5	-40.70	10.80
10	-41.10	10.40
15	-42.17	9.33
20	-42.00	9.50
25	-42.20	9.30
30	-43.10	8.40

FRONT VIEW

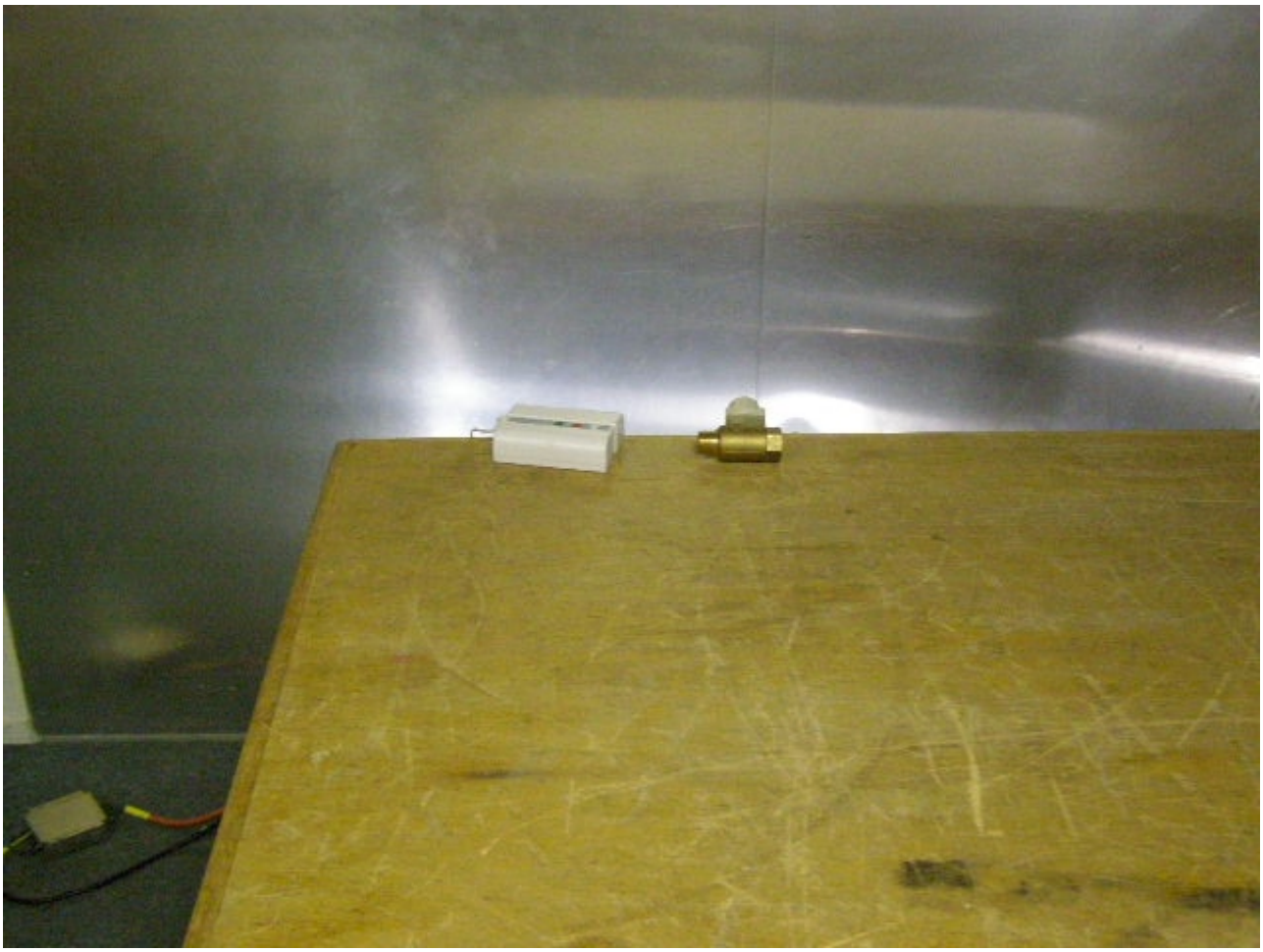
ONSITE PRO
WIRELESS VALVE CONTROLLER
MODEL: WVC-01
FCC SUBPART B AND C – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

ONSITE PRO
WIRELESS VALVE CONTROLLER
MODEL: WVC-01
FCC SUBPART B AND C – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

ONSITE PRO
WIRELESS VALVE CONTROLLER
MODEL: WVC-01
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

ONSITE PRO
WIRELESS VALVE CONTROLLER
MODEL: WVC-01
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
Customer : Scott Walter
Manufacturer : Onsite Products
Eut name : Wireless valve controller
Model : WVC-01
Serial # :
Specification : FCC Pt. 15 Section 15.249
Distance correction factor (20 * log(test/spec)) : 0.00
Test Mode : Test Range: 30-1000MHz
Test Engineer: Eugene Adams

Page : 1/1
Date : 12/01/2008
Time : 09:40:16 AM
Lab : J
Test Distance : 3.00 Meters

Pol	Freq MHz	Reading dBuV	Cable loss dB	Antenna factor dB	Amplifier gain dB	Corr'd rdg = R dBuV/m	Limit = L dBuV/m	Delta R-L dB
V	935.076	40.80	6.67	23.59	31.75	39.30	46.00	-6.70
V	944.901	41.20	6.82	23.86	31.85	40.03	46.00	-5.97
V	955.064	37.30	6.85	23.98	31.83	36.30	46.00	-9.70
V	964.901	39.30	6.75	23.94	31.69	38.30	54.00	-15.70
V	975.054	37.00	6.65	23.90	31.54	36.00	54.00	-18.00
V	985.088	38.30	6.55	23.86	31.41	37.30	54.00	-16.70
V	924.950	38.20	6.50	23.31	31.65	36.36	94.00	-57.64
H	924.916	39.20	6.50	23.31	31.65	37.36	94.00	-56.64
H	934.944	41.40	6.66	23.59	31.75	39.90	46.00	-6.10
H	945.064	41.40	6.82	23.87	31.85	40.24	46.00	-5.76
H	955.050	38.60	6.85	23.98	31.83	37.60	46.00	-8.40
H	964.912	38.70	6.75	23.94	31.69	37.70	54.00	-16.30
H	974.925	35.90	6.65	23.90	31.55	34.90	54.00	-19.10
H	985.110	37.10	6.55	23.86	31.40	36.10	54.00	-17.90

Test Location : Compatible Electronics
Customer : Scott Walter
Manufacturer : Onsite Products
Eut name : Wireless valve controller
Model : WVC-01
Serial # :
Specification : FCC Pt. 15 Section 15.249
Distance correction factor (20 * log(test/spec)) : 0.00
Test Mode : Test Range: 30-1000MHz
Test Engineer: Eugene Adams
Transmit Mode

Page : 1/1
Date : 12/01/2008
Time : 01:58:13 PM
Lab : J
Test Distance : 3.00 Meters

Pol	Freq MHz	Reading dBuV	Cable loss dB	Antenna factor dB	Amplifier gain dB	Corr'd rdg = R dBuV/m	Limit = L dBuV/m	Delta R-L dB
V	914.902	85.00	6.34	23.03	31.55	82.82	94.00	-11.18
V	915.052	82.40	6.35	23.03	31.55	80.22	94.00	-13.78

Test Location : Compatible Electronics **Page** : 1/1
Customer : Scott Walter **Date** : 11/24/2008
Manufacturer : Floodstop **Time** : 04:32:10 PM
Eut name : Wireless valve controller **Lab** : J
Model : WVC-01 **Test Distance** : 3.00 Meters
Serial # :
Specification : FCC Pt. 15 Section 15.249
Distance correction factor (20 * log(test/spec)) : 0.00
Test Mode :
Test Engineer: Eugene Adams

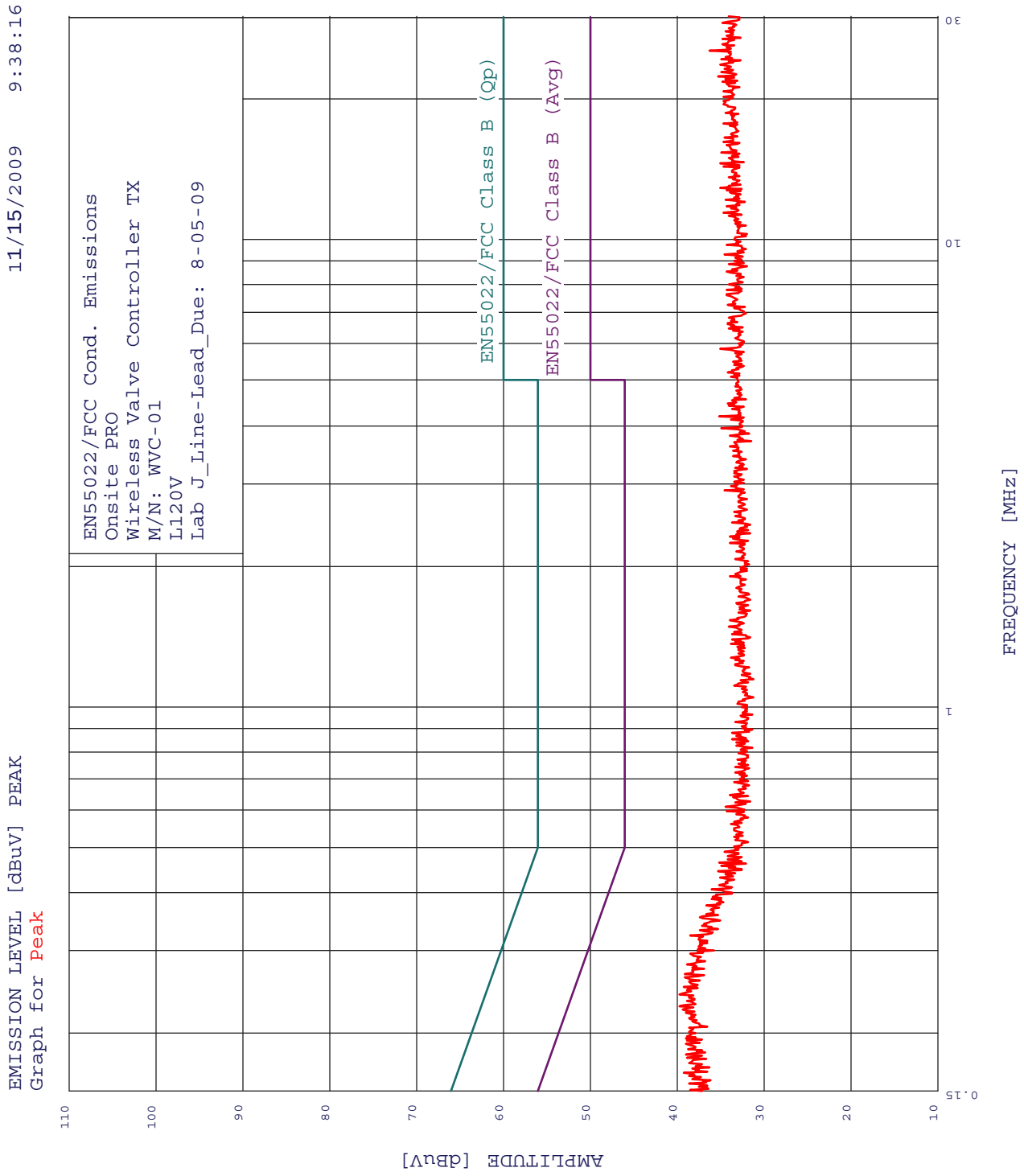
Pol	Freq MHz	Reading dBuV	Cable loss dB	Antenna factor dB	Amplifier gain dB	Corr'd rdg = R dBuV/m	Limit = L dBuV/m	Delta R-L dB
V	1829.694	51.30	6.40	23.80	31.00	50.50	54.00	-3.50
V	1829.789	44.96	6.40	23.80	31.00	44.16	54.00	-9.84
V	2745.360	46.10	6.40	23.80	31.00	45.30	54.00	-8.70
V	3660.024	43.00	6.40	23.80	31.00	42.20	54.00	-11.80
V	4575.452	42.90	6.40	23.80	31.00	42.10	54.00	-11.90
V	5489.608	43.10	6.40	23.80	31.00	42.30	54.00	-11.70
V	6404.856	46.60	6.40	23.80	31.00	45.80	54.00	-8.20
V	7319.834	46.10	6.40	23.80	31.00	45.30	54.00	-8.70
V	8234.514	45.70	6.40	23.80	31.00	44.90	54.00	-9.10
V	9150.208	45.50	6.40	23.80	31.00	44.70	54.00	-9.30
H	1829.664	48.60	6.40	23.80	31.00	47.80	54.00	-6.20
H	2745.126	45.20	6.40	23.80	31.00	44.40	54.00	-9.60
H	3659.674	43.80	6.40	23.80	31.00	43.00	54.00	-11.00
H	4575.098	43.30	6.40	23.80	31.00	42.50	54.00	-11.50
H	5489.788	43.20	6.40	23.80	31.00	42.40	54.00	-11.60
H	6404.842	45.60	6.40	23.80	31.00	44.80	54.00	-9.20
H	7320.262	46.40	6.40	23.80	31.00	45.60	54.00	-8.40
H	8234.626	45.60	6.40	23.80	31.00	44.80	54.00	-9.20
H	9150.244	46.20	6.40	23.80	31.00	45.40	54.00	-8.60

Test Location : Compatible Electronics **Page** : 1/1
Customer : Scott Walter **Date** : 12/01/2008
Manufacturer : Onsite Products **Time** : 02:16:18 PM
Eut name : Wireless valve controller **Lab** : J
Model : WVC-01 **Test Distance** : 3.00 Meters
Serial # :
Specification : FCC Pt. 15 B
Distance correction factor (20 * log(test/spec)) : 0.00
Test Mode : Test Range: 30-1000MHz
Test Engineer: Eugene Adams
Receive Mode

Pol	Freq MHz	Reading dBuV	Cable loss dB	Antenna factor dB	Amplifier gain dB	Corr'd rdg = R dBuV/m	Limit = L dBuV/m	Delta R-L dB
V	924.936	38.40	6.50	23.31	31.65	36.56	46.00	-9.44
V	935.063	41.00	6.67	23.59	31.75	39.50	46.00	-6.50
V	945.092	41.80	6.82	23.87	31.85	40.64	46.00	-5.36
V	954.946	37.30	6.85	23.98	31.83	36.30	46.00	-9.70
V	965.050	39.00	6.75	23.94	31.69	38.00	54.00	-16.00
V	975.088	36.80	6.65	23.90	31.54	35.80	54.00	-18.20
V	985.054	38.70	6.55	23.86	31.41	37.70	54.00	-16.30
H	924.926	43.10	6.50	23.31	31.65	41.26	46.00	-4.74
H	934.929	45.00	6.66	23.59	31.75	43.50	46.00	-2.50
H	934.931Qp	41.51	6.66	23.59	31.75	40.01	46.00	-5.99
H	944.908	44.60	6.82	23.86	31.85	43.43	46.00	-2.57
H	944.908Qp	41.44	6.82	23.86	31.85	40.27	46.00	-5.73
H	955.092	40.30	6.85	23.98	31.83	39.30	46.00	-6.70
H	965.056	40.20	6.75	23.94	31.69	39.20	54.00	-14.80
H	975.092	37.20	6.65	23.90	31.54	36.20	54.00	-17.80
H	985.108	38.60	6.55	23.86	31.40	37.60	54.00	-16.40

CONDUCTED EMISSIONS

DATA SHEETS


EMISSION LEVEL [dBuV] PEAK
Graph for Peak
11/15/2009 9:38:16
EN55022/FCC Cond. Emissions
Onsite PRO
Wireless Valve Controller TX
M/N: WVC-01
L120V
Lab J_Line-Lead_Due: 8-05-09
EN55022/FCC Class B (Qp)
EN55022/FCC Class B (Avg)
AMPLITUDE [dBuV]
110
100
90
80
70
60
50
40
30
20
10
0.15
1
10
30
FREQUENCY [MHz]

EN55022/FCC Cond. Emissions 11/15/2009 9:38:16
Onsite PRO
Wireless Valve Controller TX
M/N: WVC-01
L120V
Lab J_Line-Lead_Due: 8-05-09
TEST ENGINEER : Eugene Adams

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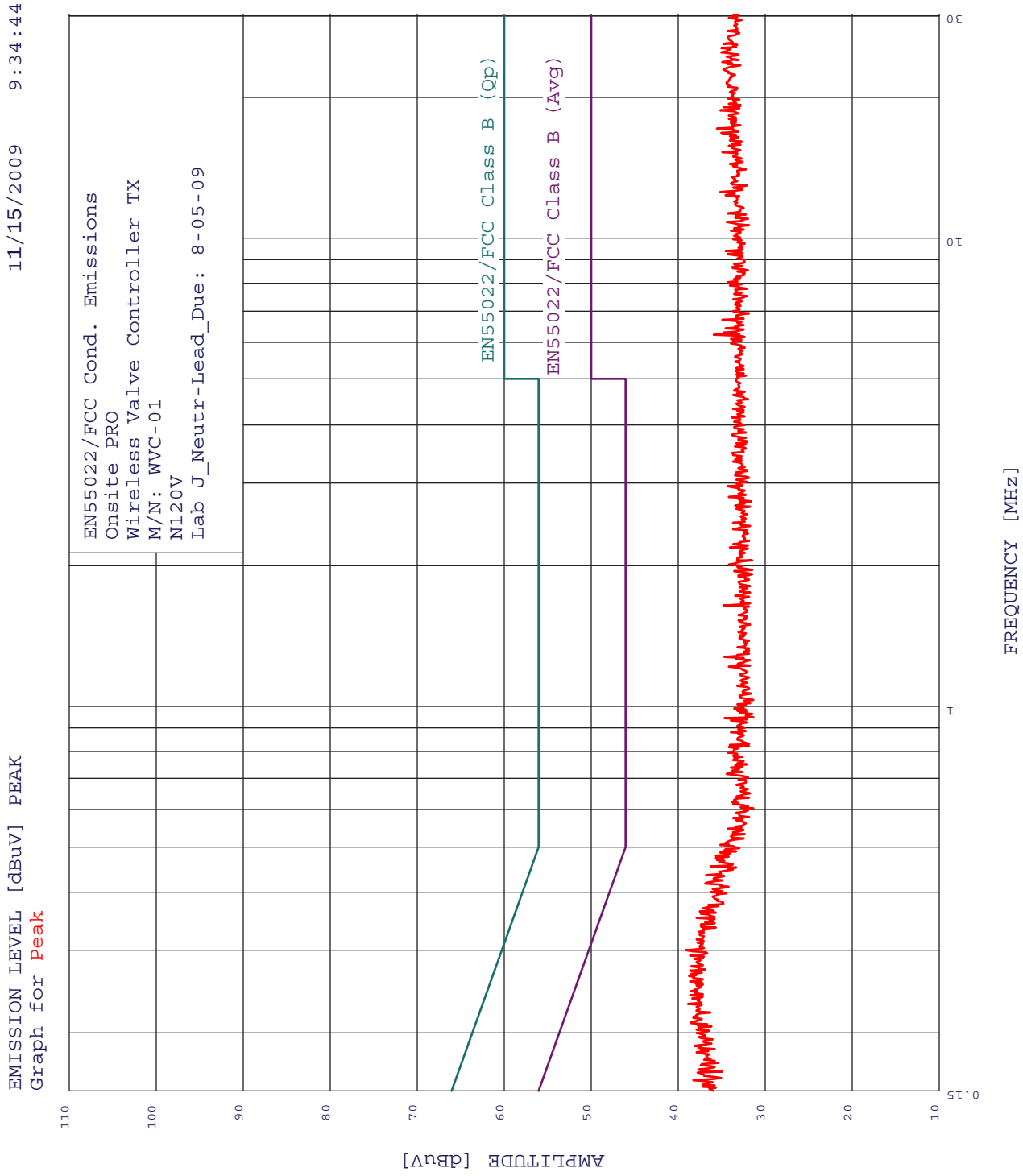
50 highest peaks above -50.00 dB of EN55022/FCC Class B (Avg) limit line
Peak criteria : 0.10 dB, Curve : Peak

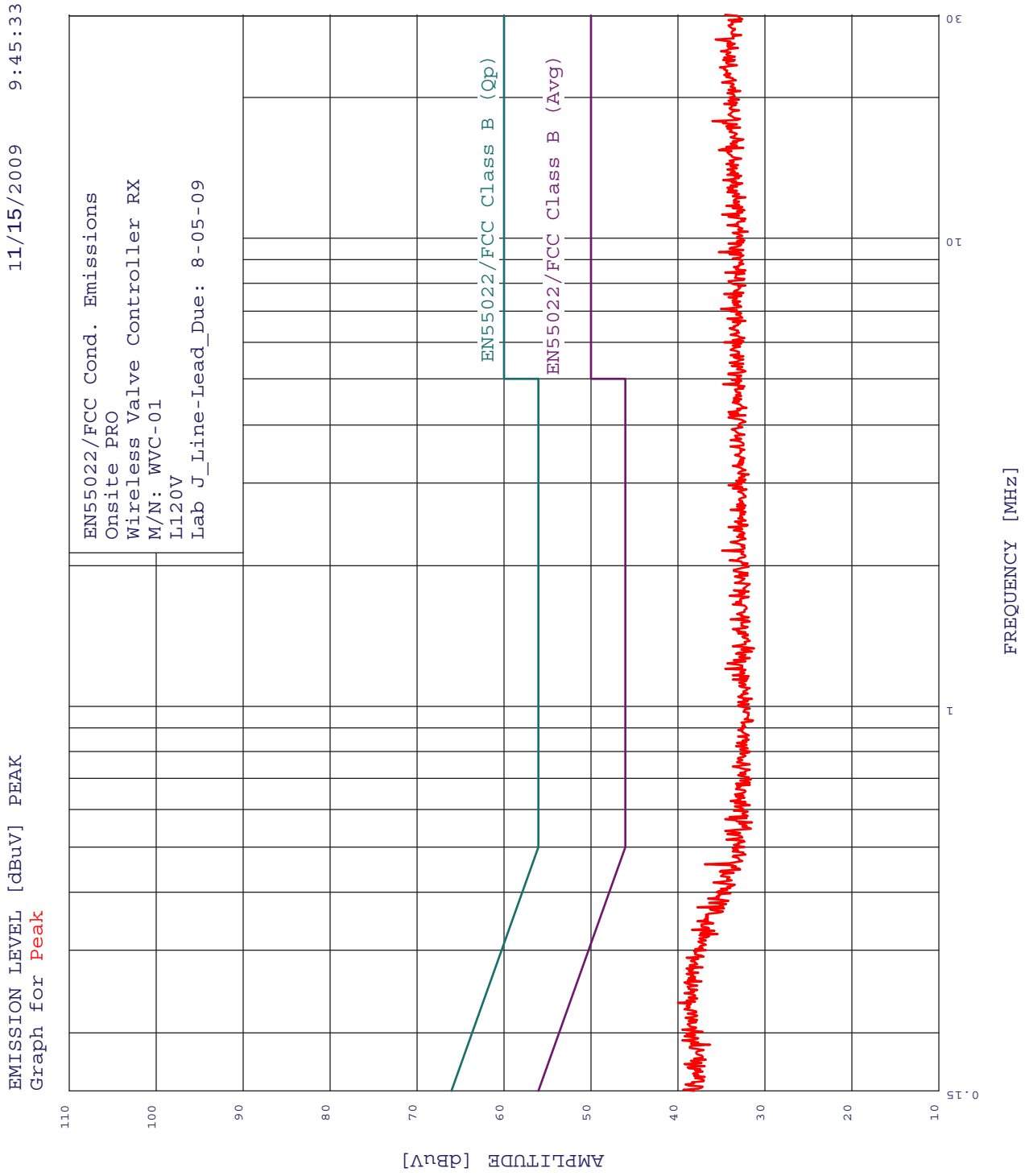
Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	4.182	35.16	46.00	-10.84
2	0.324	38.51	49.62	-11.11
3	3.945	34.83	46.00	-11.17
4	0.354	37.38	48.87	-11.48
5	2.900	34.49	46.00	-11.51
6	0.464	35.09	46.62	-11.53
7	0.611	34.34	46.00	-11.66
8	0.406	36.03	47.72	-11.69
9	0.489	34.47	46.18	-11.72
10	0.375	36.66	48.38	-11.72
11	0.598	34.24	46.00	-11.76
12	0.445	35.20	46.98	-11.77
13	0.457	34.89	46.76	-11.86
14	4.456	34.10	46.00	-11.90
15	0.296	38.44	50.36	-11.93
16	0.280	38.85	50.81	-11.96
17	0.332	37.40	49.39	-11.99
18	4.408	33.99	46.00	-12.01
19	1.488	33.97	46.00	-12.03
20	3.605	33.95	46.00	-12.05
21	2.238	33.94	46.00	-12.06
22	0.387	36.05	48.12	-12.07
23	3.800	33.89	46.00	-12.11
24	1.536	33.88	46.00	-12.12
25	0.339	37.10	49.22	-12.13
26	1.899	33.86	46.00	-12.14
27	2.310	33.86	46.00	-12.14
28	0.267	39.06	51.20	-12.14
29	0.360	36.58	48.73	-12.16
30	0.648	33.83	46.00	-12.17
31	0.479	34.18	46.36	-12.18
32	0.391	35.84	48.03	-12.19
33	0.431	35.01	47.24	-12.23
34	4.114	33.75	46.00	-12.25
35	0.561	33.75	46.00	-12.25
36	1.367	33.74	46.00	-12.26
37	0.263	39.06	51.33	-12.27
38	1.276	33.72	46.00	-12.28
39	2.963	33.70	46.00	-12.30
40	0.471	34.18	46.49	-12.31
41	0.881	33.68	46.00	-12.32
42	1.434	33.66	46.00	-12.34
43	0.343	36.79	49.13	-12.34
44	1.397	33.65	46.00	-12.35
45	0.242	39.67	52.04	-12.37
46	0.317	37.42	49.79	-12.38
47	4.528	33.61	46.00	-12.39
48	0.367	36.17	48.56	-12.39
49	2.475	33.59	46.00	-12.41
50	0.853	33.59	46.00	-12.41


EMISSION LEVEL [dBuV] PEAK
Graph for Peak
11/15/2009 9:34:44
EN55022/FCC Cond. Emissions
Onsite PRO
Wireless Valve Controller TX
M/N: WVC-01
N120V
Lab J_Neutr-Lead_Due: 8-05-09
EN55022/FCC Class B (Qp)
EN55022/FCC Class B (Avg)
AMPLITUDE [dBuV]
110
100
90
80
70
60
50
40
30
20
10
0.15
1
10
30
FREQUENCY [MHz]

EN55022/FCC Cond. Emissions 11/15/2009 9:34:44
Onsite PRO
Wireless Valve Controller TX
M/N: WVC-01
N120V
Lab J_Neutr-Lead_Due: 8-05-09
TEST ENGINEER : Eugene Adams

50 highest peaks above -50.00 dB of EN55022/FCC Class B (Avg) limit line
Peak criteria : 0.10 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.435	36.71	47.15	-10.44
2	0.454	36.20	46.80	-10.61
3	0.417	36.82	47.50	-10.68
4	0.479	35.68	46.36	-10.68
5	0.505	35.16	46.00	-10.84
6	0.474	35.58	46.45	-10.87
7	0.352	37.88	48.91	-11.03
8	0.469	35.48	46.53	-11.05
9	0.486	35.17	46.23	-11.06
10	0.300	39.13	50.23	-11.10
11	0.363	37.47	48.65	-11.18
12	1.646	34.71	46.00	-11.29
13	0.944	34.67	46.00	-11.33
14	0.464	35.29	46.62	-11.33
15	0.360	37.38	48.73	-11.36
16	1.276	34.62	46.00	-11.38
17	0.426	35.92	47.33	-11.41
18	0.369	37.07	48.52	-11.45
19	0.492	34.67	46.14	-11.47
20	0.510	34.46	46.00	-11.54
21	0.716	34.42	46.00	-11.58
22	0.400	36.24	47.86	-11.62
23	2.948	34.30	46.00	-11.70
24	0.796	34.30	46.00	-11.70
25	0.442	35.30	47.02	-11.71
26	0.547	34.25	46.00	-11.75
27	0.341	37.39	49.18	-11.78
28	0.406	35.93	47.72	-11.79
29	2.796	34.17	46.00	-11.83
30	0.329	37.61	49.48	-11.88
31	1.217	34.11	46.00	-11.89
32	0.818	34.10	46.00	-11.90
33	0.293	38.54	50.45	-11.91
34	2.002	34.09	46.00	-11.91
35	0.375	36.46	48.38	-11.92
36	0.338	37.30	49.26	-11.97
37	2.179	34.03	46.00	-11.97
38	0.317	37.82	49.79	-11.98
39	0.826	33.99	46.00	-12.01
40	0.739	33.91	46.00	-12.09
41	0.391	35.94	48.03	-12.09
42	0.324	37.51	49.62	-12.11
43	0.881	33.88	46.00	-12.12
44	0.934	33.87	46.00	-12.13
45	0.527	33.85	46.00	-12.15
46	3.474	33.82	46.00	-12.18
47	0.312	37.72	49.92	-12.20
48	3.800	33.79	46.00	-12.21
49	4.137	33.76	46.00	-12.24
50	0.624	33.74	46.00	-12.26


EMISSION LEVEL [dBuV] PEAK
Graph for Peak
11/15/2009 9:45:33
EN55022/FCC Cond. Emissions
Onsite PRO
Wireless Valve Controller RX
M/N: WVC-01
L120V
Lab J_Line-Lead_Due: 8-05-09
EN55022/FCC Class B (Qp)
EN55022/FCC Class B (Avg)
AMPLITUDE [dBuV]
110
100
90
80
70
60
50
40
30
20
10
0.15
1
10
30
FREQUENCY [MHz]

EN55022/FCC Cond. Emissions 11/15/2009 9:45:33
Onsite PRO
Wireless Valve Controller RX
M/N: WVC-01
L120V
Lab J_Line-Lead_Due: 8-05-09
TEST ENGINEER : Eugene Adams

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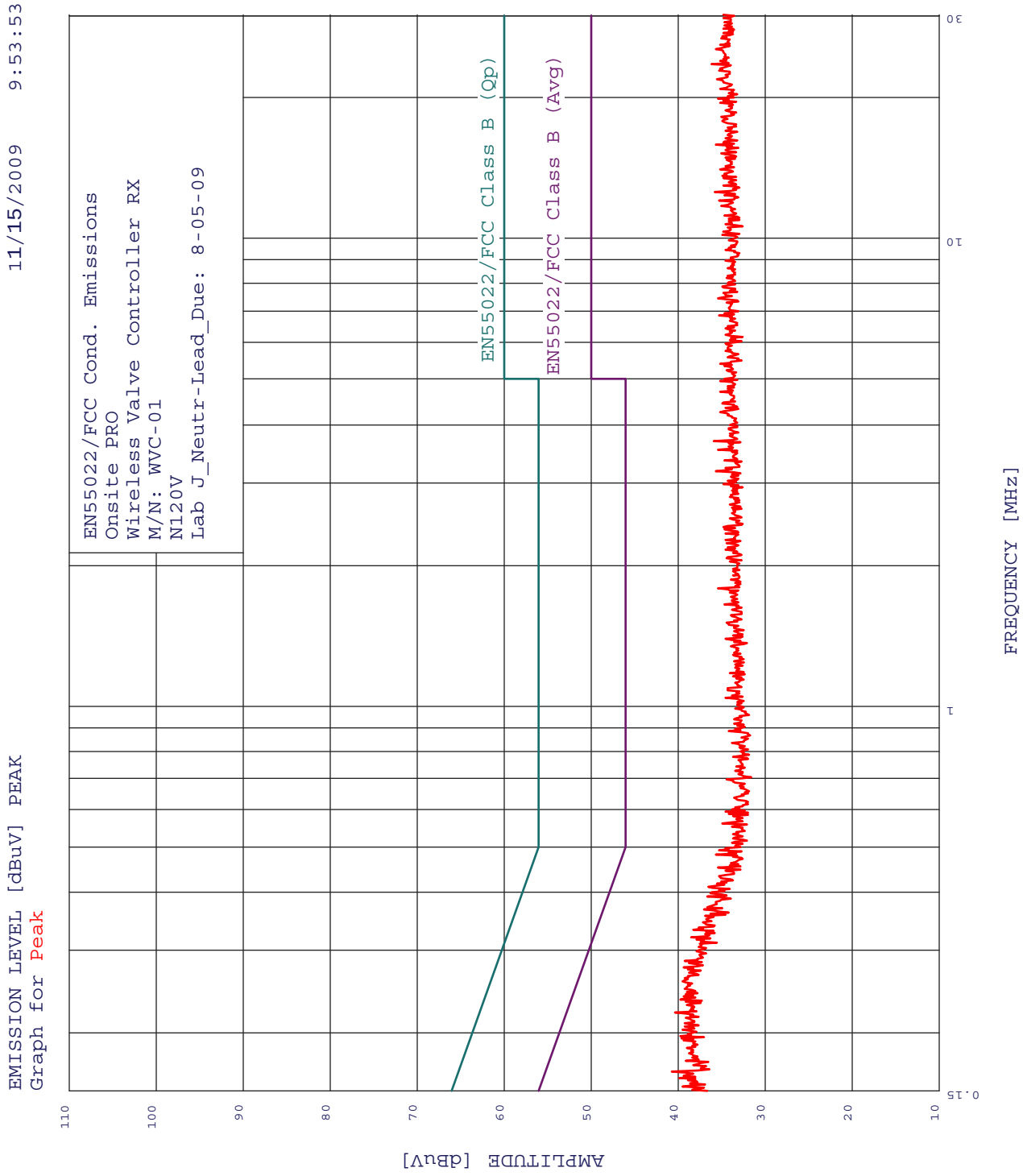
50 highest peaks above -50.00 dB of EN55022/FCC Class B (Avg) limit line
Peak criteria : 0.10 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.459	36.89	46.71	-9.82
2	0.371	37.76	48.47	-10.71
3	2.145	34.92	46.00	-11.08
4	0.332	38.30	49.39	-11.09
5	4.877	34.75	46.00	-11.25
6	0.347	37.69	49.04	-11.36
7	0.541	34.55	46.00	-11.45
8	1.204	34.51	46.00	-11.49
9	0.573	34.45	46.00	-11.55
10	0.290	38.94	50.54	-11.60
11	0.419	35.82	47.46	-11.64
12	0.518	34.36	46.00	-11.64
13	0.387	36.45	48.12	-11.67
14	1.236	34.31	46.00	-11.69
15	0.532	34.25	46.00	-11.75
16	2.410	34.18	46.00	-11.82
17	4.249	34.17	46.00	-11.83
18	4.137	34.16	46.00	-11.84
19	2.963	34.10	46.00	-11.90
20	0.442	35.10	47.02	-11.91
21	4.204	34.07	46.00	-11.93
22	0.379	36.36	48.29	-11.94
23	0.580	34.04	46.00	-11.96
24	1.717	34.02	46.00	-11.98
25	2.044	34.00	46.00	-12.00
26	0.275	38.95	50.98	-12.03
27	2.238	33.94	46.00	-12.06
28	0.627	33.93	46.00	-12.07
29	0.338	37.20	49.26	-12.07
30	0.350	36.88	48.95	-12.07
31	0.358	36.68	48.78	-12.10
32	1.536	33.88	46.00	-12.12
33	3.702	33.87	46.00	-12.13
34	3.585	33.85	46.00	-12.15
35	2.624	33.83	46.00	-12.17
36	0.433	35.01	47.19	-12.18
37	0.354	36.68	48.87	-12.18
38	0.324	37.41	49.62	-12.21
39	0.327	37.31	49.53	-12.22
40	0.285	38.44	50.67	-12.23
41	4.980	33.76	46.00	-12.24
42	0.267	38.96	51.20	-12.24
43	0.299	38.03	50.28	-12.24
44	0.302	37.93	50.19	-12.26
45	0.313	37.62	49.88	-12.26
46	3.903	33.72	46.00	-12.28
47	0.367	36.27	48.56	-12.29
48	2.916	33.69	46.00	-12.31
49	1.142	33.69	46.00	-12.31
50	3.260	33.67	46.00	-12.33


11/15/2009 9:53:53
EMISSION LEVEL [dBuV] PEAK
Graph for Peak
EN55022/FCC Cond. Emissions
Onsite PRO
Wireless Valve Controller RX
M/N: WVC-01
N120V
Lab J_Neutr-Lead_Due: 8-05-09
EN55022/FCC Class B (Qp)
EN55022/FCC Class B (Avg)
AMPLITUDE [dBuV]
110
100
90
80
70
60
50
40
30
20
10
0.15
1
10
30
FREQUENCY [MHz]

EN55022/FCC Cond. Emissions 11/15/2009 9:53:53
Onsite PRO
Wireless Valve Controller RX
M/N: WVC-01
N120V
Lab J_Neutr-Lead_Due: 8-05-09
TEST ENGINEER : Eugene Adams

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50 highest peaks above -50.00 dB of EN55022/FCC Class B (Avg) limit line
Peak criteria : 0.10 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	3.683	35.84	46.00	-10.16
2	3.175	35.63	46.00	-10.37
3	3.529	35.41	46.00	-10.59
4	1.790	35.36	46.00	-10.64
5	0.481	35.60	46.32	-10.72
6	4.249	35.12	46.00	-10.88
7	4.954	35.10	46.00	-10.90
8	4.696	35.07	46.00	-10.93
9	0.492	35.19	46.14	-10.95
10	0.561	34.87	46.00	-11.13
11	4.432	34.84	46.00	-11.16
12	0.332	38.22	49.39	-11.18
13	0.411	36.45	47.63	-11.18
14	2.410	34.78	46.00	-11.22
15	0.320	38.43	49.71	-11.28
16	2.979	34.70	46.00	-11.30
17	2.384	34.68	46.00	-11.32
18	0.391	36.67	48.03	-11.37
19	1.654	34.63	46.00	-11.37
20	0.452	35.42	46.85	-11.43
21	3.346	34.57	46.00	-11.43
22	0.595	34.56	46.00	-11.44
23	3.226	34.55	46.00	-11.45
24	4.339	34.53	46.00	-11.47
25	2.156	34.53	46.00	-11.47
26	1.043	34.51	46.00	-11.49
27	0.285	39.16	50.67	-11.51
28	1.397	34.48	46.00	-11.52
29	2.334	34.47	46.00	-11.53
30	2.262	34.45	46.00	-11.55
31	0.497	34.48	46.05	-11.57
32	0.276	39.37	50.94	-11.57
33	0.367	36.99	48.56	-11.58
34	2.066	34.41	46.00	-11.59
35	1.512	34.40	46.00	-11.60
36	0.398	36.26	47.90	-11.64
37	2.226	34.35	46.00	-11.65
38	0.698	34.34	46.00	-11.66
39	1.094	34.32	46.00	-11.68
40	0.336	37.61	49.31	-11.69
41	3.027	34.31	46.00	-11.69
42	4.825	34.28	46.00	-11.72
43	4.774	34.28	46.00	-11.72
44	2.179	34.24	46.00	-11.76
45	3.924	34.18	46.00	-11.82
46	0.589	34.16	46.00	-11.84
47	3.644	34.13	46.00	-11.87
48	3.585	34.12	46.00	-11.88
49	0.371	36.58	48.47	-11.89
50	0.885	34.10	46.00	-11.90