wyle laboratories

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TEST REPORT

47 CFR PART 15, SUBPART B INTENTIONAL RADIATOR TESTING OF THE MID-SOUTH ELECTRONICS ALLCLEAR® SPRAYER REMOTE CONTROLLER

for

Mid-South Electronics
2620 East Megan Boulevard
Gadsden, AL 35903

(sd)

STATE OF ALABAMA
COUNTY OF MADISON }

Robert D. Hardy, Department Manager, being duly sworn, deposes and says: The information contained in this report is the result of complete and carefully conducted testing and is to the best of his knowledge true and correct in all respects.

Robert Hardy

SUBSCRIBED and sworn to before me this 10th day of feb 20 09

Sandra A. Daniel
Notary Public in and for the State of Alabama at Large

My Commission expires June 5, 2011

Wyle shall have no liability for damages of any kind to person or property, including special or consequential damages, resulting from Wyle's providing the services covered by this report.

PREPARED BY: Jimmy Smith 2-10-09
Jimmy Smith, Project Engineer Date

APPROVED BY: James E. Feller 2/10/09
James E. Feller, NCT, Senior Project Engineer Date

WYLE Q. A.: Brenda Mease 2/10/09
For Raul F. Terceno, Q. A. Manager Date

ACCREDITED

CERT. # 845.01

TABLE OF CONTENTS

ATTACHMENTS

1.0 EXECUTIVE SUMMARY

1.1 EUT Description

The Mid-South Electronics ALLCLEAR® Pesticide Sprayer Remote Controller (Key FOB), hereinafter referred to as the Equipment Under Test (EUT), further identified in Table 1-1 and pictured in Figure 1, was subjected to an Electromagnetic Compatibility Test Program to demonstrate compliance with the applicable requirements of 47 CFR Part 15. The test program included the test standard and tests indicated in Table 1-2. The test procedures and results are documented in detail in the indicated section of this report. The Key FOB is used to control the On/Off function of the ALLCLEAR® Insect Repellant Sprayer.

Table 1-1 EUT Identification

Item	Part No.	Serial No.	Quantity
Remote Controller	KEY FOB	56410-001*	1

* Serial Number assigned by Wyle Laboratories

Figure 1
KEY FOB

1.2 Test Description

The tests described herein were performed at the Wyle Laboratories' Open Air Test Site 2 (OATS-2) located on the Intergraph Complex in Huntsville, AL on January 20 and February 5, 2009. The OATS-2 is fully described in reports provided to the Federal Communication Commission (FCC) (FCC Reference 98597). The site was tested and complies with the requirements of ANSI C63.4-2003.

Table 1-2 Test Matrix

Test Standard	Test	Class	Report Section	Results
47 CFR, FCC Part 15	Radiated Emissions	B	RE	Compliant

1.3 Support Equipment

None

1.4 EUT Configuration

The EUT was configured for testing in a typical user configuration.

1.5 Modifications

There were no modifications required to achieve compliance.

1.6 Quality Assurance

All work performed on this program was in accordance with Wyle Laboratories' Quality Assurance Program and Wyle Laboratories' Quality Program Manual, which conforms to the applicable portions of International Standard Organization (ISO) Guide 17025.

The Wyle Laboratories, Huntsville Facility, Quality Management System is registered in compliance with the ISO-9001 International Quality Standard. Registration has been completed by Quality Management Institute (QMI), a Division of Canadian Standards Association (CSA).

Wyle Laboratories is accredited (Certificate No. 845.01) by the American Association for Laboratory Accreditation (A2LA), and the results documented in this test report have been determined in accordance with Wyle's scope of accreditation unless otherwise stated in the report.

1.7 Instrumentation

All instrumentation, measuring, and test equipment used in the performance of this test program were calibrated in accordance with Wyle Laboratories' Quality Assurance Program, which complies with the requirements of ANSI/NCSL Z540-1, ISO 10012-1, and Military Specification MIL-STD-45662A. Standards used in performing all calibrations are traceable to the National Institute of Standards and Technology (NIST) by report number and date. When no national standards exist, the standards are traceable to international standards, or the basis for calibration is otherwise documented.

1.8 References

- Mid-South Electronics Purchase Order No. 8007871
- Wyle Laboratories' Quotation No. 545/047798/DB
- ANSI C63.4-2003, "Methods of Measurement of Radio Noise From Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz"
- Code of Federal Regulations (CFR) Title 47, Part 15, "Radio Frequency Devices" February, 2006
- ANSI/NCSL Z540-1, "Calibration Laboratories and Measuring and Test Equipment, General Requirements"
- ISO 10012-1, "Quality Assurance Requirements for Measuring Equipment"
- MIL-STD-45662A, "Calibration System Requirements"
- Wyle Laboratories' Quality Assurance Program, Revision 2

2.0 ELECTROMAGNETIC INTERFERENCE – RADIATED EMISSIONS

2.1 Test Requirements

The radiated disturbances (emissions) from the EUT shall not exceed the Class B limit specified in CFR 47 Part 15.231 at a distance of 3 meters.

2.2 Field Strength Calculations

The field strength emissions are calculated by adding the Antenna Factor and the Cable Factor and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation is as follows:

$$FS = RA + AF + CF - AG + DC$$

where: *FS* = Field Strength
RA = Received Amplitude
AF = Antenna Factor
CF = Cable Attenuation Factor
AG = Amplifier Gain
DC = Distance Correction

2.3 EUT Operating Condition

The EUT was placed in an active state in a typical use configuration. Radiated emissions were measured in the following modes:

1. Remote Controller (KEY FOB)
    - Active (Battery Powered)

2.4 Test Setup

The EUT and test equipment were configured in accordance with guidelines specified in CFR 47, Part 15 and ANSI C63.4-2003, "American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical Equipment in the Range of 9 kHz to 40 GHz." Figure 2-1 is a typical test set-up diagram and Figure 2-2 is the actual test setup used to ensure compliance with the subject standard.

2.4 Test Setup (continued)

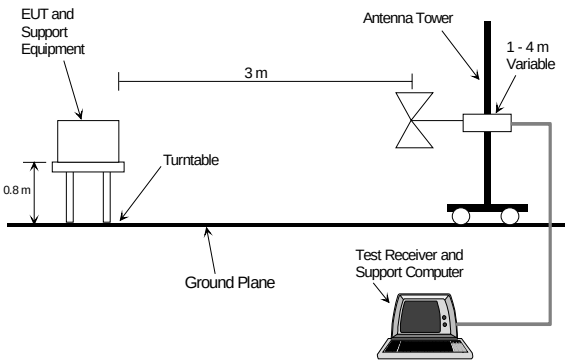


Figure 2-1
Typical Diagram of Radiated Emissions Test Setup

Figure 2-2
Radiated Emissions Test Set-up

2.5 Test Procedure

1. The EUT was placed on a non-metallic table 0.8 meters above the reference ground plane at the Open-Area Test Site described in the Executive Summary.

2. The EUT was placed 3 meters away from the interference-receiving antenna, which was mounted on a variable-height antenna tower.

3. The EUT was maximized to locate the worst case configuration. The table was rotated from 0 to 360 degrees and the antenna height was varied from one (1) to four (4) meters to identify the maximum reading.

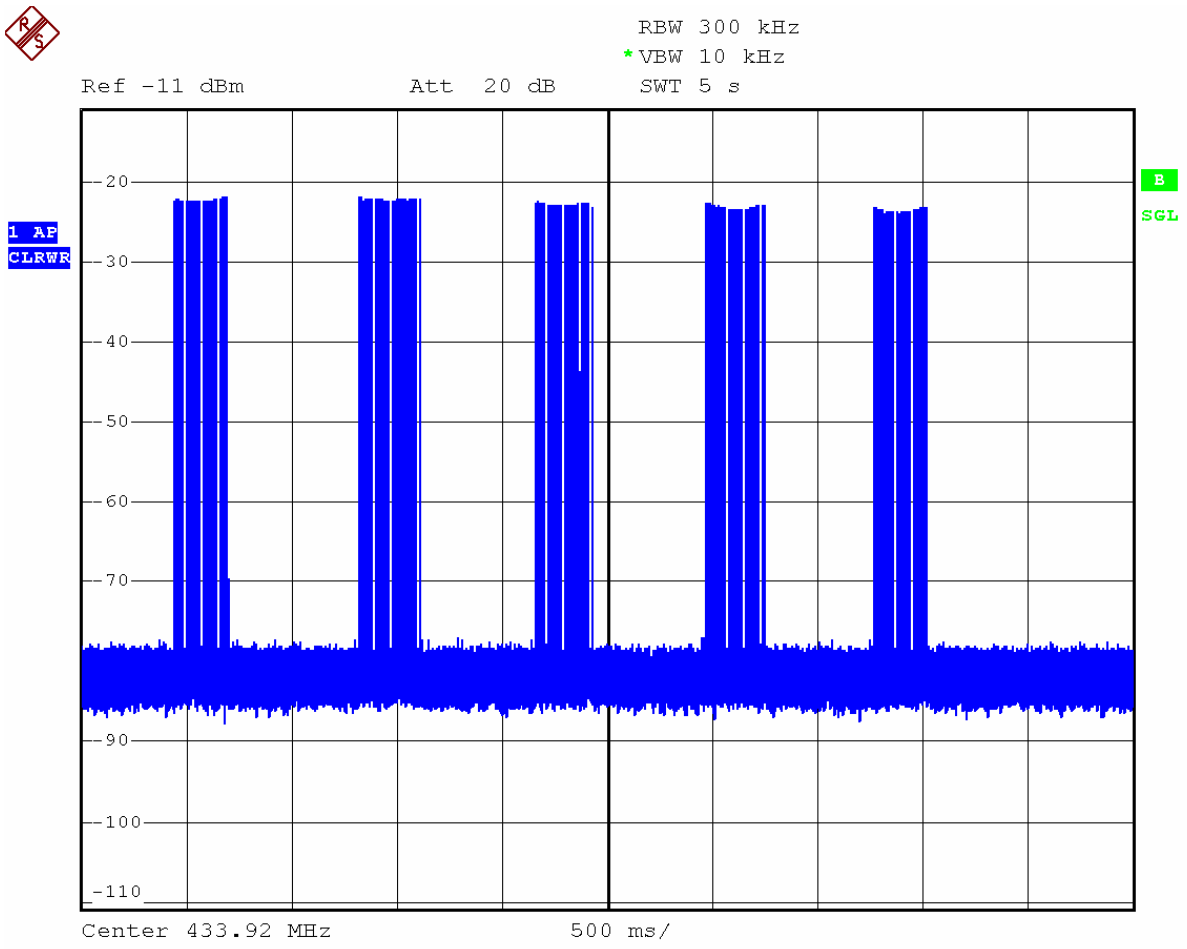
2.6 Test Results

The EUT operated at the fundamental frequency of 433.92 MHz. Measurements were performed to indicate compliance with the specific requirements of "Periodic Operation" as required in CFR 47 Part 15.231 and indicated in Table 2-3.

Table 2-3 EUT Test Results

Requirement Section CFR 47 Part 15.231	Parameter	Compliant Non-compliant	Supporting Data Section of Report
15.231(a)(1)	Manually Operated Transmitter	Compliant	Sheet A-2
15.231(b)(1, 2, 3)	Field Strength	Compliant	Sheets A-3 to A-7
15.231(c)	Bandwidth	Compliant	Sheet A-8

RADIATED EMISSIONS DATA SHEET(S)



Date: 5.FEB.2009 22:04:45

Plot A1-1

Manually Operated Transmitter
(CFR 47 15.231(a)(1) Deactivation within Five-seconds)

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Customer: Mid South Electronics
Specification: FCC Class B Radiated

Work Order #:	T56410	Date:	Tue Jan-20-2009
Test Type:	Radiated Scan	Time:	1:43:18 PM
Equipment:	Mosquito Sprayer	Sequence:	5
Manufacturer:	Mid-South Electronics	Tested By:	Brian Coppock
Model:	Allclear	Reviewed By	
S/N:	T56410-001		

Equipment Under Test (* = EUT):

Function	Manufacturer	Model#	S/N
*Mosquito Sprayer	Mid-South Electronics	Allclear	T56410-001

Support Devices:

Function	Manufacturer	Model#	S/N
None			

Test Conditions / Notes:

Remote Controller

Transducer Legend:

T1=Wyle #114415 3M Vert	T2=Cable 90-195-610-01-04-001

Measurement Data: Readings listed by frequency. Test Distance: 3 meters

#	Freq MHz	Rdng dBµV	T1	T2			Dist	Corr dBµV/m	Spec dBµV/m			Polar	Type	Margin
1	431.190	25.6	+15.6	+3.0			+0.0	44.2	46.0			Verti	Peak	**-1.8**
2	431.202	24.9	+15.6	+3.0			+0.0	43.5	46.0			Verti	Peak	**-2.5**
3	431.297	26.4	+15.6	+3.0			+0.0	45.0	46.0			Verti	Peak	**-1.0**
4	431.364	25.1	+15.6	+3.0			+0.0	43.7	46.0			Verti	Peak	**-2.3**
5	431.369	25.4	+15.6	+3.0			+0.0	44.0	46.0			Verti	Peak	**-2.0**
6	431.457	26.0	+15.6	+3.0			+0.0	44.6	46.0			Verti	Peak	**-1.4**
7	431.536	25.0	+15.6	+3.0			+0.0	43.6	46.0			Verti	Peak	**-2.4**
8	431.596	26.0	+15.6	+3.0			+0.0	44.6	46.0			Verti	Peak	**-1.4**
9	431.638	25.2	+15.6	+3.0			+0.0	43.8	46.0			Verti	Peak	**-2.2**
10	431.861	25.0	+15.6	+3.0			+0.0	43.6	46.0			Verti	Peak	**-2.4**
11	431.898	25.8	+15.7	+3.0			+0.0	44.5	46.0			Verti	Peak	**-1.5**
12	431.912	26.6	+15.7	+3.0			+0.0	45.3	46.0			Verti	Peak	**-0.7**
13	431.923	26.8	+15.7	+3.0			+0.0	45.5	46.0			Verti	Peak	**-0.5**
14	431.930	25.7	+15.7	+3.0			+0.0	44.4	46.0			Verti	Peak	**-1.6**
15	431.949	26.8	+15.7	+3.0			+0.0	45.5	46.0			Verti	Peak	**-0.5**
16	431.965	28.0	+15.7	+3.0			+0.0	46.7	46.0			Verti	Peak	**+0.7**
17	431.991	25.1	+15.7	+3.0			+0.0	43.8	46.0			Verti	Peak	**-2.2**
18	431.995	25.5	+15.7	+3.0			+0.0	44.2	46.0			Verti	Peak	**-1.8**
19	432.016	27.5	+15.7	+3.0			+0.0	46.2	46.0			Verti	Peak	**+0.2**
20	432.039	28.8	+15.7	+3.0			+0.0	47.5	46.0			Verti	Peak	**+1.5**
21	432.046	27.2	+15.7	+3.0			+0.0	45.9	46.0			Verti	Peak	**-0.1**
22	432.056	28.3	+15.7	+3.0			+0.0	47.0	46.0			Verti	Peak	**+1.0**
23	432.060	31.2	+15.7	+3.0			+0.0	49.9	46.0			Verti	Peak	**+3.9**
24	432.093	30.6	+15.7	+3.0			+0.0	49.3	46.0			Verti	Peak	**+3.3**
25	432.097	26.8	+15.7	+3.0			+0.0	45.5	46.0			Verti	Peak	**-0.5**
26	432.116	31.7	+15.7	+3.0			+0.0	50.4	46.0			Verti	Peak	**+4.4**
27	432.123	30.1	+15.7	+3.0			+0.0	48.8	46.0			Verti	Peak	**+2.8**
28	432.130	30.8	+15.7	+3.0			+0.0	49.5	46.0			Verti	Peak	**+3.5**
29	432.137	29.3	+15.7	+3.0			+0.0	48.0	46.0			Verti	Peak	**+2.0**
30	432.172	32.9	+15.7	+3.0			+0.0	51.6	46.0			Verti	Peak	**+5.6**
31	432.179	31.7	+15.7	+3.0			+0.0	50.4	46.0			Verti	Peak	**+4.4**
32	432.199	32.5	+15.7	+3.0			+0.0	51.2	46.0			Verti	Peak	**+5.2**
33	432.206	32.8	+15.7	+3.0			+0.0	51.5	46.0			Verti	Peak	**+5.5**
34	432.223	33.9	+15.7	+3.0			+0.0	52.6	46.0			Verti	Peak	**+6.6**
35	432.243	33.6	+15.7	+3.0			+0.0	52.3	46.0			Verti	Peak	**+6.3**
36	432.264	33.3	+15.7	+3.0			+0.0	52.0	46.0			Verti	Peak	**+6.0**
37	432.269	32.8	+15.7	+3.0			+0.0	51.5	46.0			Verti	Peak	**+5.5**
38	432.286	33.4	+15.7	+3.0			+0.0	52.1	46.0			Verti	Peak	**+6.1**

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#	Freq MHz	Rdng dBµV	T1	T2			Dist	Corr dBµV/m	Spec dBµV/m			Polar	Type	Margin
39	432.297	33.4	+15.7	+3.0			+0.0	52.1	46.0			Verti	Peak	**+6.1**
40	432.306	33.7	+15.7	+3.0			+0.0	52.4	46.0			Verti	Peak	**+6.4**
41	432.318	33.5	+15.7	+3.0			+0.0	52.2	46.0			Verti	Peak	**+6.2**
42	432.321	36.0	+15.7	+3.0			+0.0	54.7	46.0			Verti	Peak	**+8.7**
43	432.335	35.7	+15.7	+3.0			+0.0	54.4	46.0			Verti	Peak	**+8.4**
44	432.351	35.1	+15.7	+3.0			+0.0	53.8	46.0			Verti	Peak	**+7.8**
45	432.379	36.0	+15.7	+3.0			+0.0	54.7	46.0			Verti	Peak	**+8.7**
46	432.396	34.6	+15.7	+3.0			+0.0	53.3	46.0			Verti	Peak	**+7.3**
47	432.400	35.8	+15.7	+3.0			+0.0	54.5	46.0			Verti	Peak	**+8.5**
48	432.410	35.2	+15.7	+3.0			+0.0	53.9	46.0			Verti	Peak	**+7.9**
49	432.424	35.7	+15.7	+3.0			+0.0	54.4	46.0			Verti	Peak	**+8.4**
50	432.442	35.3	+15.7	+3.0			+0.0	54.0	46.0			Verti	Peak	**+8.0**
51	432.447	35.1	+15.7	+3.0			+0.0	53.8	46.0			Verti	Peak	**+7.8**
52	432.468	35.6	+15.7	+3.0			+0.0	54.3	46.0			Verti	Peak	**+8.3**
53	432.489	36.2	+15.7	+3.0			+0.0	54.9	46.0			Verti	Peak	**+8.9**
54	432.519	36.8	+15.7	+3.0			+0.0	55.5	46.0			Verti	Peak	**+9.5**
55	432.540	33.1	+15.7	+3.0			+0.0	51.8	46.0			Verti	Peak	**+5.8**
56	432.547	36.5	+15.7	+3.0			+0.0	55.2	46.0			Verti	Peak	**+9.2**
57	432.580	36.4	+15.7	+3.0			+0.0	55.1	46.0			Verti	Peak	**+9.1**
58	432.589	36.1	+15.7	+3.0			+0.0	54.8	46.0			Verti	Peak	**+8.8**
59	432.629	36.8	+15.7	+3.0			+0.0	55.5	46.0			Verti	Peak	**+9.5**
60	432.641	36.5	+15.7	+3.0			+0.0	55.2	46.0			Verti	Peak	**+9.2**
61	432.648	35.3	+15.7	+3.0			+0.0	54.0	46.0			Verti	Peak	**+8.0**
62	432.678	35.6	+15.7	+3.0			+0.0	54.3	46.0			Verti	Peak	**+8.3**
63	432.690	36.4	+15.7	+3.0			+0.0	55.1	46.0			Verti	Peak	**+9.1**
64	432.710	36.7	+15.7	+3.0			+0.0	55.4	46.0			Verti	Peak	**+9.4**
65	432.727	36.0	+15.7	+3.0			+0.0	54.7	46.0			Verti	Peak	**+8.7**
66	432.738	37.2	+15.7	+3.0			+0.0	55.9	46.0			Verti	Peak	**+9.9**
67	432.778	37.2	+15.7	+3.0			+0.0	55.9	46.0			Verti	Peak	**+9.9**
68	432.787	36.4	+15.7	+3.0			+0.0	55.1	46.0			Verti	Peak	**+9.1**
69	432.794	37.3	+15.7	+3.0			+0.0	56.0	46.0			Verti	Peak	**+10.0**
70	432.827	37.0	+15.7	+3.0			+0.0	55.7	46.0			Verti	Peak	**+9.7**
71	432.834	37.3	+15.7	+3.0			+0.0	56.0	46.0			Verti	Peak	**+10.0**
72	432.871	36.9	+15.7	+3.0			+0.0	55.6	46.0			Verti	Peak	**+9.6**
73	432.876	36.4	+15.7	+3.0			+0.0	55.1	46.0			Verti	Peak	**+9.1**
74	432.904	38.1	+15.7	+3.0			+0.0	56.8	46.0			Verti	Peak	**+10.8**
75	432.918	37.3	+15.7	+3.0			+0.0	56.0	46.0			Verti	Peak	**+10.0**
76	432.923	38.0	+15.7	+3.0			+0.0	56.7	46.0			Verti	Peak	**+10.7**
77	432.953	37.8	+15.7	+3.0			+0.0	56.5	46.0			Verti	Peak	**+10.5**
78	432.965	38.2	+15.7	+3.0			+0.0	56.9	46.0			Verti	Peak	**+10.9**
79	432.979	38.1	+15.7	+3.0			+0.0	56.8	46.0			Verti	Peak	**+10.8**
80	432.995	38.2	+15.7	+3.0			+0.0	56.9	46.0			Verti	Peak	**+10.9**
81	433.016	38.3	+15.7	+3.0			+0.0	57.0	46.0			Verti	Peak	**+11.0**
82	433.021	38.4	+15.7	+3.0			+0.0	57.1	46.0			Verti	Peak	**+11.1**
83	433.058	38.5	+15.7	+3.0			+0.0	57.2	46.0			Verti	Peak	**+11.2**
84	433.088	39.7	+15.7	+3.0			+0.0	58.4	46.0			Verti	Peak	**+12.4**
85	433.109	39.1	+15.7	+3.0			+0.0	57.8	46.0			Verti	Peak	**+11.8**
86	434.021	56.0	+15.8	+3.0			+0.0	74.8	46.0			Verti	Peak	**+28.8**
87	434.084	55.5	+15.8	+3.0			+0.0	74.3	46.0			Verti	Peak	**+28.3**
88	434.096	54.8	+15.8	+3.0			+0.0	73.6	46.0			Verti	Peak	**+27.6**
89	434.100	54.2	+15.8	+3.0			+0.0	73.0	46.0			Verti	Peak	**+27.0**
90	434.348	45.8	+15.8	+3.0			+0.0	64.6	46.0			Verti	Peak	**+18.6**
91	434.362	43.1	+15.8	+3.0			+0.0	61.9	46.0			Verti	Peak	**+15.9**
92	434.369	45.5	+15.8	+3.0			+0.0	64.3	46.0			Verti	Peak	**+18.3**
93	434.399	45.0	+15.9	+3.0			+0.0	63.9	46.0			Verti	Peak	**+17.9**
94	434.411	44.9	+15.9	+3.0			+0.0	63.8	46.0			Verti	Peak	**+17.8**
95	434.415	43.4	+15.9	+3.0			+0.0	62.3	46.0			Verti	Peak	**+16.3**
96	434.436	44.7	+15.9	+3.0			+0.0	63.6	46.0			Verti	Peak	**+17.6**
97	434.466	43.4	+15.9	+3.0			+0.0	62.3	46.0			Verti	Peak	**+16.3**
98	434.471	43.2	+15.9	+3.0			+0.0	62.1	46.0			Verti	Peak	**+16.1**
99	434.501	41.2	+15.9	+3.0			+0.0	60.1	46.0			Verti	Peak	**+14.1**
100	434.525	41.2	+15.9	+3.0			+0.0	60.1	46.0			Verti	Peak	**+14.1**
101	434.675	38.9	+15.9	+3.0			+0.0	57.8	46.0			Verti	Peak	**+11.8**

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#	Freq MHz	Rdng dBµV	T1	T2			Dist	Corr dBµV/m	Spec dBµV/m			Polar	Type	Margin
102	435.158	35.0	+15.9	+3.0			+0.0	53.9	46.0			Verti	Peak	+7.9
103	435.180	33.9	+15.9	+3.0			+0.0	52.8	46.0			Verti	Peak	+6.8
104	435.196	35.3	+15.9	+3.0			+0.0	54.2	46.0			Verti	Peak	+8.2
105	435.248	35.1	+15.9	+3.0			+0.0	54.0	46.0			Verti	Peak	+8.0
106	435.283	34.7	+15.9	+3.0			+0.0	53.6	46.0			Verti	Peak	+7.6
107	435.287	34.8	+15.9	+3.0			+0.0	53.7	46.0			Verti	Peak	+7.7
108	435.313	34.1	+15.9	+3.0			+0.0	53.0	46.0			Verti	Peak	+7.0
109	435.323	34.3	+15.9	+3.0			+0.0	53.2	46.0			Verti	Peak	+7.2
110	435.327	34.0	+15.9	+3.0			+0.0	52.9	46.0			Verti	Peak	+6.9
111	435.348	35.2	+15.9	+3.0			+0.0	54.1	46.0			Verti	Peak	+8.1
112	435.372	34.7	+15.9	+3.0			+0.0	53.6	46.0			Verti	Peak	+7.6
113	435.379	34.3	+15.9	+3.0			+0.0	53.2	46.0			Verti	Peak	+7.2
114	435.386	34.1	+15.9	+3.0			+0.0	53.0	46.0			Verti	Peak	+7.0
115	435.419	34.1	+15.9	+3.0			+0.0	53.0	46.0			Verti	Peak	+7.0
116	435.431	34.5	+15.9	+3.0			+0.0	53.4	46.0			Verti	Peak	+7.4
117	435.470	32.8	+15.9	+3.0			+0.0	51.7	46.0			Verti	Peak	+5.7
118	435.499	34.7	+15.9	+3.0			+0.0	53.6	46.0			Verti	Peak	+7.6
119	435.513	34.0	+15.9	+3.0			+0.0	52.9	46.0			Verti	Peak	+6.9
120	435.520	33.8	+15.9	+3.0			+0.0	52.7	46.0			Verti	Peak	+6.7
121	435.543	34.4	+15.9	+3.0			+0.0	53.3	46.0			Verti	Peak	+7.3
122	435.564	33.1	+15.9	+3.0			+0.0	52.0	46.0			Verti	Peak	+6.0
123	435.578	32.9	+15.9	+3.0			+0.0	51.8	46.0			Verti	Peak	+5.8
124	435.599	34.1	+15.9	+3.0			+0.0	53.0	46.0			Verti	Peak	+7.0
125	435.621	33.6	+15.9	+3.0			+0.0	52.5	46.0			Verti	Peak	+6.5
126	435.628	33.6	+15.9	+3.0			+0.0	52.5	46.0			Verti	Peak	+6.5
127	435.658	31.0	+15.9	+3.0			+0.0	49.9	46.0			Verti	Peak	+3.9
128	435.663	32.6	+15.9	+3.0			+0.0	51.5	46.0			Verti	Peak	+5.5
129	435.684	33.9	+15.9	+3.0			+0.0	52.8	46.0			Verti	Peak	+6.8
130	435.707	31.6	+15.9	+3.0			+0.0	50.5	46.0			Verti	Peak	+4.5
131	435.717	33.8	+15.9	+3.0			+0.0	52.7	46.0			Verti	Peak	+6.7
132	435.745	32.6	+15.9	+3.0			+0.0	51.5	46.0			Verti	Peak	+5.5
133	435.759	31.0	+15.9	+3.0			+0.0	49.9	46.0			Verti	Peak	+3.9
134	435.768	32.8	+15.9	+3.0			+0.0	51.7	46.0			Verti	Peak	+5.7
135	435.787	33.3	+15.9	+3.0			+0.0	52.2	46.0			Verti	Peak	+6.2
136	435.808	31.2	+15.9	+3.0			+0.0	50.1	46.0			Verti	Peak	+4.1
137	435.834	33.5	+15.9	+3.0			+0.0	52.4	46.0			Verti	Peak	+6.4
138	435.851	32.9	+15.9	+3.0			+0.0	51.8	46.0			Verti	Peak	+5.8
139	435.855	32.7	+15.9	+3.0			+0.0	51.6	46.0			Verti	Peak	+5.6
140	435.869	34.0	+15.9	+3.0			+0.0	52.9	46.0			Verti	Peak	+6.9
141	435.879	33.2	+15.9	+3.0			+0.0	52.1	46.0			Verti	Peak	+6.1
142	435.886	32.5	+15.9	+3.0			+0.0	51.4	46.0			Verti	Peak	+5.4
143	435.916	32.9	+15.9	+3.0			+0.0	51.8	46.0			Verti	Peak	+5.8
144	435.933	32.8	+15.9	+3.0			+0.0	51.7	46.0			Verti	Peak	+5.7
145	435.954	32.3	+15.9	+3.0			+0.0	51.2	46.0			Verti	Peak	+5.2
146	435.975	32.9	+15.9	+3.0			+0.0	51.8	46.0			Verti	Peak	+5.8
147	436.001	32.0	+15.9	+3.0			+0.0	50.9	46.0			Verti	Peak	+4.9
148	436.010	31.4	+15.9	+3.0			+0.0	50.3	46.0			Verti	Peak	+4.3
149	436.043	32.6	+15.9	+3.0			+0.0	51.5	46.0			Verti	Peak	+5.5
150	436.057	32.1	+15.9	+3.0			+0.0	51.0	46.0			Verti	Peak	+5.0
151	436.062	31.6	+15.9	+3.0			+0.0	50.5	46.0			Verti	Peak	+4.5
152	436.095	31.7	+15.9	+3.0			+0.0	50.6	46.0			Verti	Peak	+4.6
153	436.104	31.0	+15.9	+3.0			+0.0	49.9	46.0			Verti	Peak	+3.9
154	436.125	32.3	+15.9	+3.0			+0.0	51.2	46.0			Verti	Peak	+5.2
155	436.155	30.6	+15.9	+3.0			+0.0	49.5	46.0			Verti	Peak	+3.5
156	436.167	31.6	+15.9	+3.0			+0.0	50.5	46.0			Verti	Peak	+4.5
157	436.195	30.8	+15.9	+3.0			+0.0	49.7	46.0			Verti	Peak	+3.7
158	436.207	31.9	+15.9	+3.0			+0.0	50.8	46.0			Verti	Peak	+4.8
159	436.212	29.4	+15.9	+3.0			+0.0	48.3	46.0			Verti	Peak	+2.3
160	436.224	31.0	+15.9	+3.0			+0.0	49.9	46.0			Verti	Peak	+3.9
161	436.249	31.4	+16.0	+3.0			+0.0	50.4	46.0			Verti	Peak	+4.4
162	436.285	31.7	+16.0	+3.0			+0.0	50.7	46.0			Verti	Peak	+4.7
163	436.296	30.0	+16.0	+3.0			+0.0	49.0	46.0			Verti	Peak	+3.0
164	436.306	31.6	+16.0	+3.0			+0.0	50.6	46.0			Verti	Peak	+4.6

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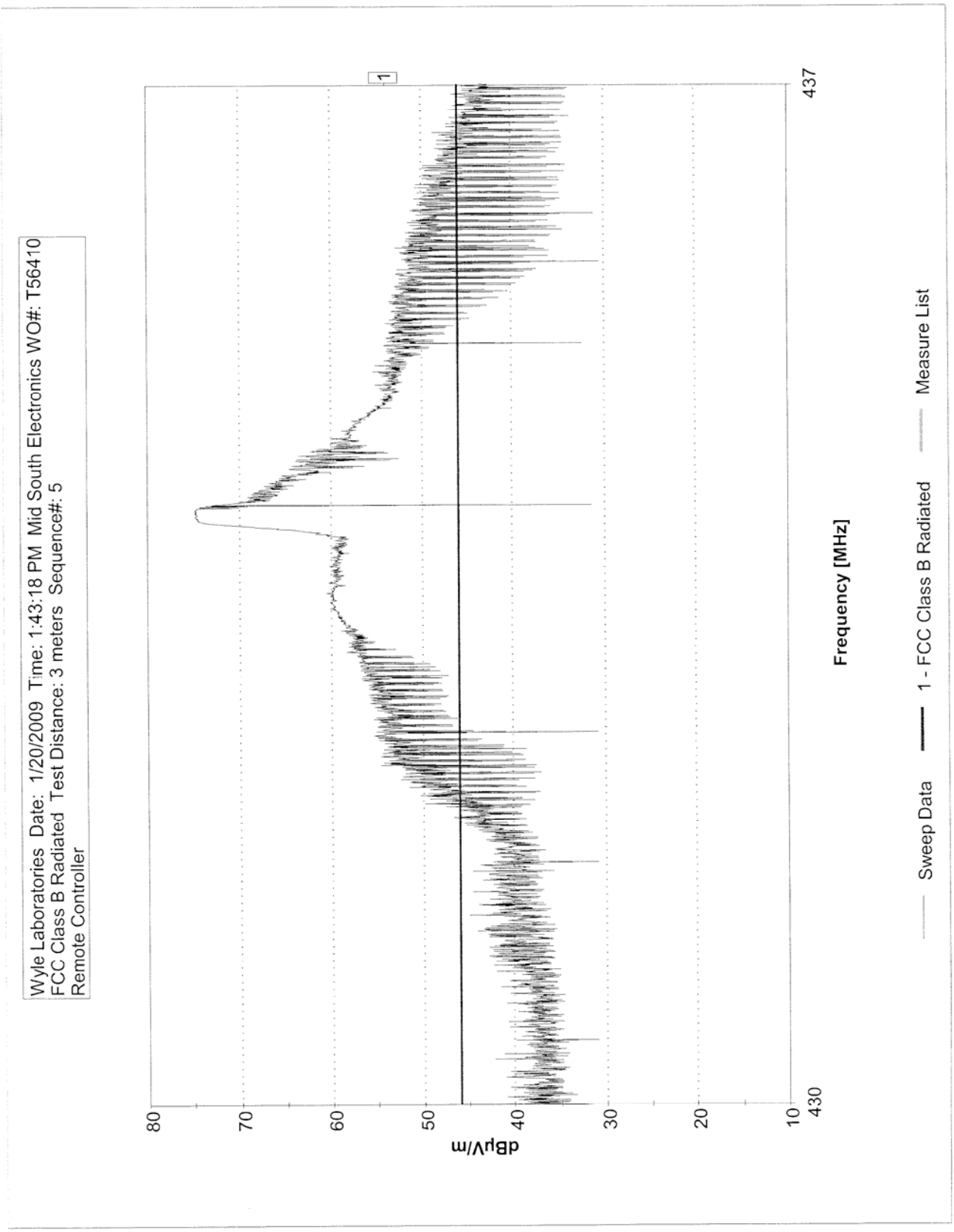
#	Freq MHz	Rdng dBµV	T1	T2			Dist	Corr dBµV/m	Spec dBµV/m			Polar	Type	Margin
165	436.338	30.3	+16.0	+3.0			+0.0	49.3	46.0			Verti	Peak	+3.3
166	436.348	30.9	+16.0	+3.0			+0.0	49.9	46.0			Verti	Peak	+3.9
167	436.369	30.9	+16.0	+3.0			+0.0	49.9	46.0			Verti	Peak	+3.9
168	436.395	28.1	+16.0	+3.0			+0.0	47.1	46.0			Verti	Peak	+1.1
169	436.421	30.9	+16.0	+3.0			+0.0	49.9	46.0			Verti	Peak	+3.9
170	436.435	30.8	+16.0	+3.0			+0.0	49.8	46.0			Verti	Peak	+3.8
171	436.477	29.4	+16.0	+3.0			+0.0	48.4	46.0			Verti	Peak	+2.4
172	436.489	29.1	+16.0	+3.0			+0.0	48.1	46.0			Verti	Peak	+2.1
173	436.503	29.1	+16.0	+3.0			+0.0	48.1	46.0			Verti	Peak	+2.1
174	436.531	28.5	+16.0	+3.0			+0.0	47.5	46.0			Verti	Peak	+1.5
175	436.552	29.4	+16.0	+3.0			+0.0	48.4	46.0			Verti	Peak	+2.4
176	436.566	28.0	+16.0	+3.0			+0.0	47.0	46.0			Verti	Peak	+1.0
177	436.582	29.2	+16.0	+3.0			+0.0	48.2	46.0			Verti	Peak	+2.2
178	436.589	27.7	+16.0	+3.0			+0.0	46.7	46.0			Verti	Peak	+0.7
179	436.608	29.2	+16.0	+3.0			+0.0	48.2	46.0			Verti	Peak	+2.2
180	436.629	28.2	+16.0	+3.0			+0.0	47.2	46.0			Verti	Peak	+1.2
181	436.646	29.0	+16.0	+3.0			+0.0	48.0	46.0			Verti	Peak	+2.0
182	436.662	29.7	+16.0	+3.0			+0.0	48.7	46.0			Verti	Peak	+2.7
183	436.676	27.6	+16.0	+3.0			+0.0	46.6	46.0			Verti	Peak	+0.6
184	436.688	26.9	+16.0	+3.0			+0.0	45.9	46.0			Verti	Peak	-0.1
185	436.702	28.2	+16.0	+3.0			+0.0	47.2	46.0			Verti	Peak	+1.2
186	436.730	27.4	+16.0	+3.0			+0.0	46.4	46.0			Verti	Peak	+0.4
187	436.765	27.8	+16.0	+3.0			+0.0	46.8	46.0			Verti	Peak	+0.8
188	436.770	26.8	+16.0	+3.0			+0.0	45.8	46.0			Verti	Peak	-0.2
189	436.780	26.3	+16.0	+3.0			+0.0	45.3	46.0			Verti	Peak	-0.7
190	436.784	27.2	+16.0	+3.0			+0.0	46.2	46.0			Verti	Peak	+0.2
191	436.822	28.0	+16.0	+3.0			+0.0	47.0	46.0			Verti	Peak	+1.0
192	436.826	26.1	+16.0	+3.0			+0.0	45.1	46.0			Verti	Peak	-0.9
193	436.852	27.5	+16.0	+3.0			+0.0	46.5	46.0			Verti	Peak	+0.5
194	436.873	26.0	+16.0	+3.0			+0.0	45.0	46.0			Verti	Peak	-1.0
195	436.911	27.1	+16.0	+3.0			+0.0	46.1	46.0			Verti	Peak	+0.1
196	436.918	26.1	+16.0	+3.0			+0.0	45.1	46.0			Verti	Peak	-0.9
197	436.932	27.6	+16.0	+3.0			+0.0	46.6	46.0			Verti	Peak	+0.6
198	436.958	26.4	+16.0	+3.0			+0.0	45.4	46.0			Verti	Peak	-0.6
199	436.972	26.4	+16.0	+3.0			+0.0	45.4	46.0			Verti	Peak	-0.6
200	436.988	26.4	+16.0	+3.0			+0.0	45.4	46.0			Verti	Peak	-0.6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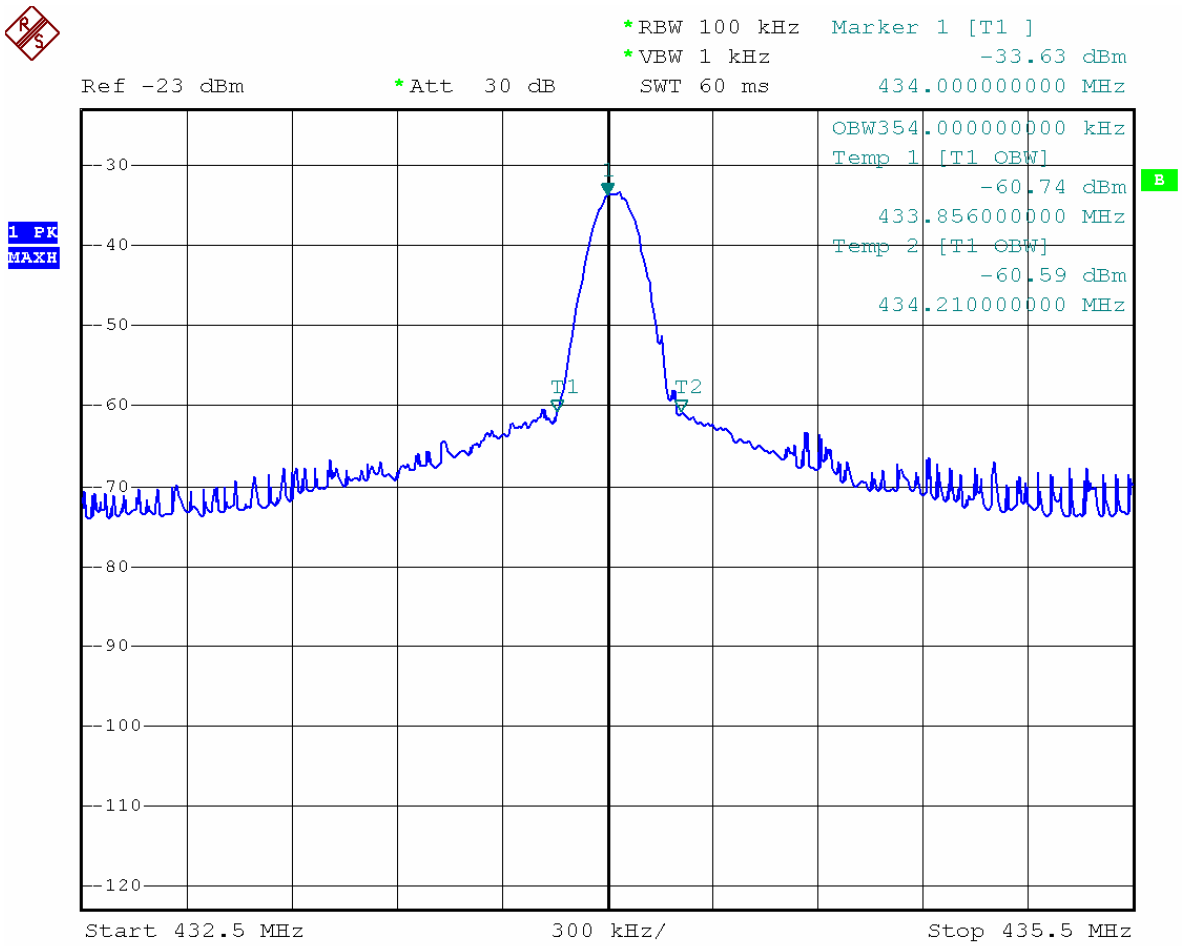
1
80
70
60
50
40
30
20
10
dBµV/m
430
437
Frequency [MHz]
Sweep Data
1 - FCC Class B Radiated
Measure List



Date: 5.FEB.2009 22:16:30

Plot A1-2

CFR 47 15.231(c) Bandwidth Requirement

INSTRUMENTATION EQUIPMENT SHEET(S)

wyle laboratories

INSTRUMENTATION EQUIPMENT SHEET

DATE: 1/9/2009 JOB NUMBER: T56410 TYPE OF TEST: FCC PART 15 EMISSIONS

TECHNICIAN: J SMITH CUSTOMER: MID-SOUTH ELECTRONICS TEST AREA: OATS 2

No.	Description	Manufacturer	Model	Serial #	WYLE #	RANGE	ACCURACY	Cal Date	Cal Due
1	ANTENNA	EMCO	EM-6917A-1	124116	114415	30MHZ - 3GHZ	SEE DATA	1/9/2008	1/9/2010
2	LISN	FISHER CC	FCC-LISN-50/250-16-	04001	110238	9kHz to 30MHz	±0.7dB±5%	4/7/2008	4/7/2009
3	POWER SUPPLY	MG	PS-10AD	114829	114829	20VDC	±5%	12/3/2008	6/3/2009
4	PRESELECTOR	HP	85685A	2648A00447	113853	20HZ-2GHZ	±2dB	2/1/2008	2/1/2009
5	Q-PEAK ADAPTER	HP	85650A	2811A01189	112109	BY PASS MODI	.3db	2/1/2008	2/1/2009
6	RF CABLE	STORM	90-195-610	01-04-001	110111	.001-40 GHz	±3 dB	3/21/2007	3/21/2010
7	SPEC ANAL	HP	8566B	3014A06704	117093	100HZ-22GHZ	CERT	2/1/2008	2/1/2009

This is to certify that the above instruments were calibrated using state-of-the-art techniques with standards whose calibration is traceable to the National Institute of Standards and Technology.

INSTRUMENTATION: 1-9-09 CHECKED & RECEIVED BY: 1/9/09

Q.A.: 11/19/09

WH-1029A,REV,APR'99

Page 1 of 1

wyle laboratories

INSTRUMENTATION EQUIPMENT SHEET

DATE: 2/5/2009 JOB NUMBER: T56410 TYPE OF TEST FCC PART 15

TECHNICIAN: BRIAN C0PPOCK CUSTOMER: MID-SOUTH TEST AREA: OATS2

No.	Description	Manufacturer	Model	Serial #	WYLE #	RANGE	ACCURACY	Cal Date	Cal Due
1	SPEC ANAL	ROHDE SCHWARZ	FSP30	100882	117804	MULTI	MFG	6/10/2008	6/10/2009

This is to certify that the above instruments were calibrated using state-of-the-art techniques with standards whose calibration is traceable to the National Institute of Standards and Technology.

INSTRUMENTATION: Brian Coppock 2/5/09 CHECKED & RECEIVED BY: 2-5-09

Q.A.: 2-6-09

WH-1029A,REV,APR'99

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