FCC PART 15 SUBPART B & C
TEST REPORT

for

INTELLIROUTER
FCC ID: TPZ-34000003-001
Model: 34000003-001-RA

Prepared for

VUE TECHNOLOGY, INC.
95 ENTERPRISE SUITE 320
ALISO VIEJO, CA 92656

Prepared by:_____

JOEY MADLANGBAYAN

Approved by:_____

JOHN ETHINGTON

COMPATIBLE ELECTRONICS INC.
19121 EL TORO ROAD
LAKE FOREST (SILVERADO), CALIFORNIA 92676
(949) 589-0700

DATE: NOVEMBER 28, 2005

	REPORT BODY	APPENDICES					TOTAL
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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 in any form unless done so in full with the written permission of Compatible Electronics.

This report must not be used to claim product endorsement by NVLAP, NIST, or any other agency of the U.S. Government or other governments.

Device Tested: IntelliRouter
Model: 34000003-001-RA
S/N: None

Product Description: This a 922MHz range transmitter system used for the purpose of measuring and recording VSWR (Voltage standing wave ratio) readings.

Modifications: The EUT was not modified during the testing.

Manufacturer: Vue Technology, Inc.
95 Enterprise Suite 320
Aliso Viejo, CA 92656

Test Dates: July 25, 26, & August 30, 2005

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: 2003

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 C Section 15.207.
2	Radiated RF Emissions, 10 kHz - 9220 MHz.	Complies with the limits of CFR 22 Title 47 Part 15 Subpart B (Class B devices) and Subpart C sections 15.205, 15.209 and 15.249.

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on IntelliRouter Model: 34000003-001-RA. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4: 2003. 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 Code of Federal Regulations Title 47, Part 15 Subpart B and Subpart C sections 15.205, 15.209 and 15.249.

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 Road, Lake Forest (Silverado), California 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

Vue Technology Incorporated

Steve Trivelpiece	Director of Hardware
Steve Raynesford	Hardware Engineer

Compatible Electronics Inc.

Joey Madlangbayan	Test Engineer
John Ethington	Senior Test Engineer

2.4 Date Test Sample was Received

The test sample was received on July 25, 2005.

2.5 Disposition of the Test Sample

The test sample remains at Compatible Electronics.

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
NVLAP	National Voluntary Laboratory Accreditation Program
CFR	Code of Federal Regulations
PCB	Printed Circuit Board
TX	Transmit
RX	Receive

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	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

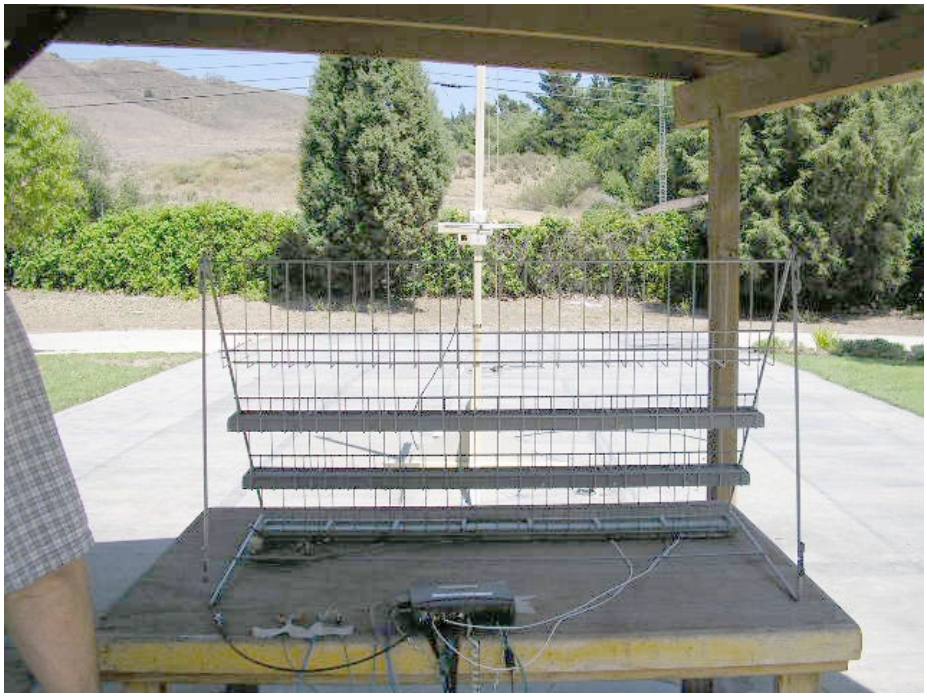
4.1 Description of Test Configuration - EMI

The IntelliRouter Model: 34000003-001-RA (EUT) was setup in a tabletop configuration. The EUT was connected to a series of antenna elements installed on a display rack and an RFID reader unit via the coax cables. The EUT was also connected to a remotely located network traffic generator/ performance analyzer via the Ethernet ports. The various auxiliary power and GPI/O ports of the EUT were either terminated with resistors or connected from one port to another. Throughout all the tests, the EUT was transmitting a CW signal from its internal generator to the antenna rack.

The AC mains voltage was varied from a nominal 102 volts to 138 volts AC resulting with no variation of amplitude or frequency.

It was determined that the emissions were at their highest level when the EUT was setup in the above configuration. The cables were moved to maximize the emissions. The final conducted as well as radiated data was taken in the above configuration. The cables were routed as shown in the photographs in Appendix D. Please see Appendix E for the test data.

4.1.1 Photograph Test Configuration - EMI



4.1.2 Cable Construction and Termination

Cable 1

This is a 30 meter foil shielded RS232 cable connected from the EUT to the accessory room not terminated. It has a DB9 connector at both ends.

Cable 2

This is a 1 meter unshielded cable connecting one of the EUT auxiliary power ports to a 100 ohm resistive load along with a copper heat sink. It has a 1/8 inch barrel connector at both ends.

Cable 3

This is a 1 meter unshielded cable connecting one of the EUT auxiliary power ports to another. It has a 1/8 inch barrel connector at both ends.

Cable 4 This is a 1 meter unshielded twisted pair Ethernet cable connecting the EUT to a 100/25 ohm resistive load network. There is an RJ45 connector at the EUT end and it is hardwired to the resistors at the other end.

Cables 5-8 These are 50 meter unshielded twisted pair Ethernet cables connecting the EUT to the traffic generator/ performance analyzer.

Cable 9 This is a 10 meter unshielded twisted pair Ethernet cable connecting the EUT to the remotely located IntelliSwitch.

Cable 10

This is a 2 meter unshielded cable coiled to a length of 1 meter connecting the EUT GPIO port to a 10 ohm resistive load. It has RJ9 connector at the EUT end and hardwired to the resistor.

Cable 11

This is a 1 meter unshielded cable connecting to one of the EUT auxiliary power ports to not terminated. There is a 1/8 inch barrel connector at both ends of the cable.

Cable 12

This is a 1 meter unshielded cable connecting two of the rear EUT auxiliary power ports to each other. There is a 1/8 inch barrel connector at both ends of the cable.

Cable 13

This is a 1 meter unshielded cable connecting two of the right side EUT auxiliary power ports to each other. It has 1/8 inch barrel connector at both ends.

Cables 14-15 These are 1 meter braid shielded coax cables connecting the EUT to a series of antenna elements on the display rack. The shield of the cables are grounded to the chassis via the connectors.

Cables 16 This is a 1 meter braid shielded coax cable connected to the EUT not terminated. There is a 1.0/2.3mm connector at the EUT end and a TNC connector at the other end. The shield of the cable was not grounded.

5 LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

#	EQUIPMENT TYPE	MANU-FACTURER	MODEL	SERIAL NUMBER	FCC ID
1	INTELLIROUTER (EUT)	VUE TECHNOLOGY, INC.	34000003-001-RA	NONE	TPZ-34000002-001
2	AC ADAPTER (EUT)	AULT	PW122	NONE	N/A
2	DVD DISPLAY RACK ANTENNA SYSTEM	VUE TECHNOLOGY, INC.	NONE	NONE	N/A

ACCESSORY EQUIPMENT REMOTELY LOCATED

4	TRAFFIC GENERATOR/ PERFORMANCE ANALYZER	IXIA	400T	035131V	N/A
5	MONITOR	SAMSUNG	710N	MJ17HCJY313955 W	N/A
6	KEYBOARD	KEYTRONIC	K280W	W0304197679	N/A
7	MOUSE	MICROSOFT	PN: X08-71118+	5915393-5	N/A
8	LAPTOP PC	TOSHIBA	5105-5501	72027926P	N/A
9	MOUSE	MICROSOFT	PN: X08-711118	56180-576-4957541-7 0441	N/A

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
Analyzer Spectrum – RF Section	Hewlett Packard	8566B	2637A03816	2/2/05	2/2/06
Analyzer Spectrum – Display Section	Hewlett Packard	85662A	2648A13730	2/2/05	2/2/06
Analyzer Spectrum - Quasi-Peak Adapter	Hewlett Packard	85650A	2430A00530	2/2/05	2/2/06
Antenna. Active Loop	Com Power	AL-130	17089	9/3/04	9/3/05
Antenna. Horn	Com-Power	AH-118	1319	5/14/04	5/14/06
Antenna. Biconical	Com Power	AB-100	14022	3/11/05	3/11/06
Antenna. Log Periodic	Com Power	AL-100	16016	4/4/05	4/4/06
Transient Limiter	Com Power	Hz-560	N/A	4/7/05	4/7/06
Computer Test Station	Hewlett Packard	Pavilion 4530	US91925466	N.C.R.	N/A
Generator Comb - Radiated	Com Power	CG-520	25164	N.C.R.	N/A
Hygrometer	Abbeon	HTAB169B	N/A	N.C.R.	N/A
Keyboard Test Station	Hewlett Packard	5183-7399	B91617825	N.C.R.	N/A
LISN EUT Side	Com Power	LI-215	12079	8/2/04	8/2/05
LISN Accessory Side	Com Power	LI-215	12073	8/2/04	8/2/05
Mast Antenna	Com Power	AM-400	N/A	N.C.R.	N/A
Monitor Test Station	Sony	CPD-100ES	7862A008	N.C.R.	N/A
Mouse Test Station	Hewlett Packard	M-S34	LZC911S8069	N.C.R.	N/A
Preamplifier	Com Power	PA-103	1541	1/22/05	1/22/06
Preamplifier	Com Power	PA-122	2120	3/3/05	3/3/06
Printer Test Station	Hewlett Packard	DeskJet 697C	US9341D07G	N.C.R.	N/A
AC Power Supply/Analyser	Agilent Technologies	6813B	US38390530	5/26/05	5/26/06

5.3 EMI Measurement and Control Software Information

LAB(S)	SOFTWARE TITLE	MANUFACTURER	VERSION
H & J	Compatible Electronics Data Capture Program	Compatible Electronics	3.1
H & J	Compatible Electronics Emissions Program	Compatible Electronics	2.3 (SR21)

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 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.

6.3 Facility Environmental Characteristics

When applicable refer to the data sheets in Appendix E for the relative humidity, air temperature, and barometric pressure.

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

Test Results:

The EUT complies with the Class B limits of CFR Title 47, Part 15 Subpart C Section 15.207.

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. A quasi-peak and/or average measurement was taken only where indicated in the data sheets. A 10 dB attenuation pad 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: 2003. 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 test 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.

7.1.2 Radiated Emissions Test

Test Results:

The EUT complies with the limits of CFR 22 Title 47 Part 15 Subpart B (Class B devices) and Subpart C sections 15.205, 15.209 and 15.249.

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. A quasi-peak and/or average measurement 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.

FREQUENCY RANGE (MHz)	TRANSDUCER	EFFECTIVE MEASUREMENT BANDWIDTH
0.09 to 30	Active Loop Antenna	9 kHz
30 to 299.999	Biconical Antenna	120 kHz
300 to 1000	Log Periodic Antenna	120 kHz
1000 to 91650	Horn Antenna	1 MHz

The final data was taken with a frequency span of 1 MHz, but the frequency span was reduced during the preliminary investigations as deemed necessary to distinguish between emissions from the EUT and any ambient signals. The frequencies above 1 GHz when needed 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 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: 2003. 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). To ensure accurate results, the gunsight method was used when measuring with the horn antenna and the Active Loop antenna was rotated in its vertical and horizontal axis.

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 final test data. The final qualification data is located in Appendix E.

8. TEST PROCEDURE DEVIATIONS

The test procedure was not deviated from during the testing.

9. CONCLUSIONS

The IntelliRouter Model: 34000003-001-RA meets all of the **Class B** specification limits defined in the Code of Federal Regulations Title 47, Part 15 Subpart B and Subpart C sections 15.107, 15.205, 15.209 and 15.249.

APPENDIX A

LABORATORY ACCREDITATIONS AND 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

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.

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 during the test.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

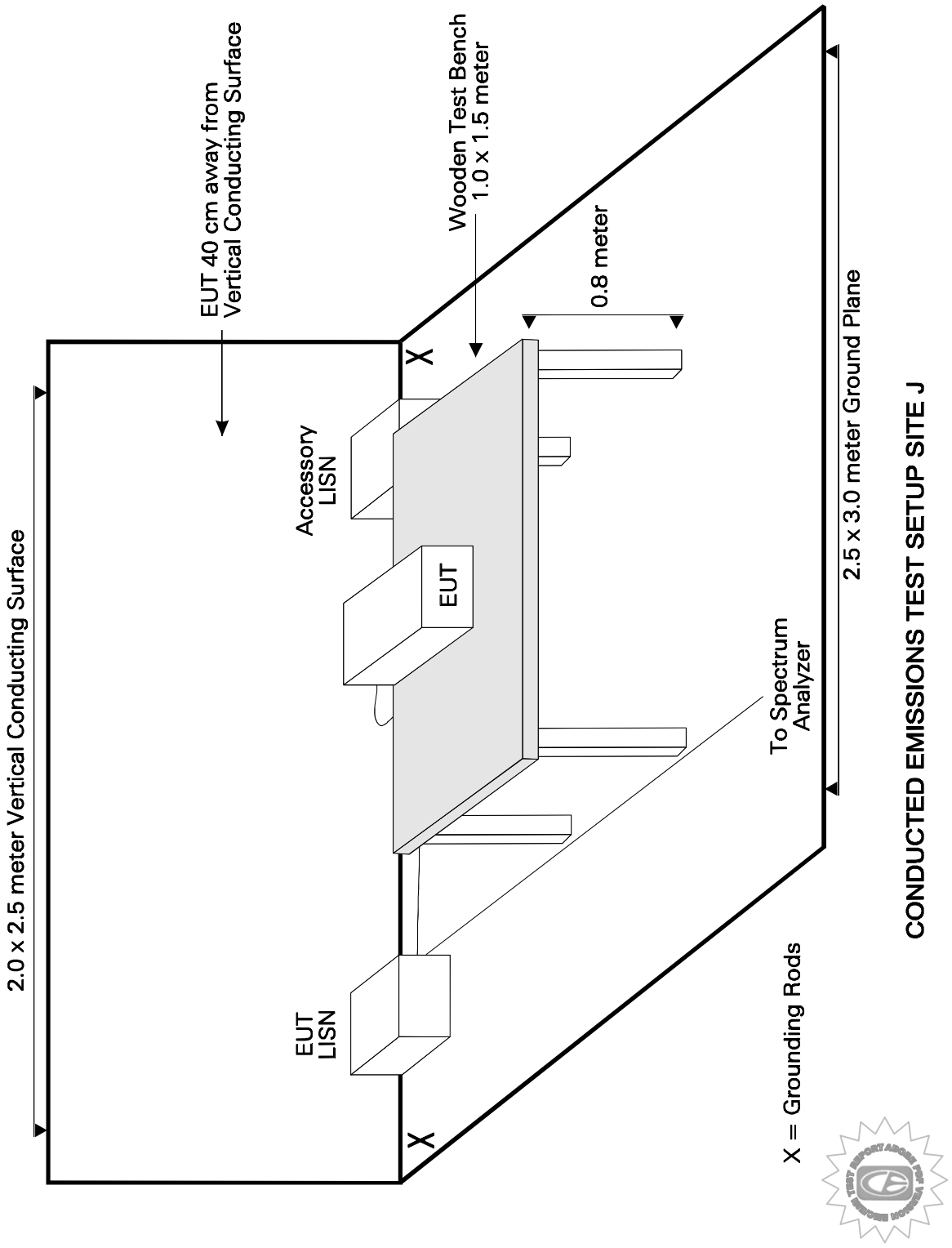
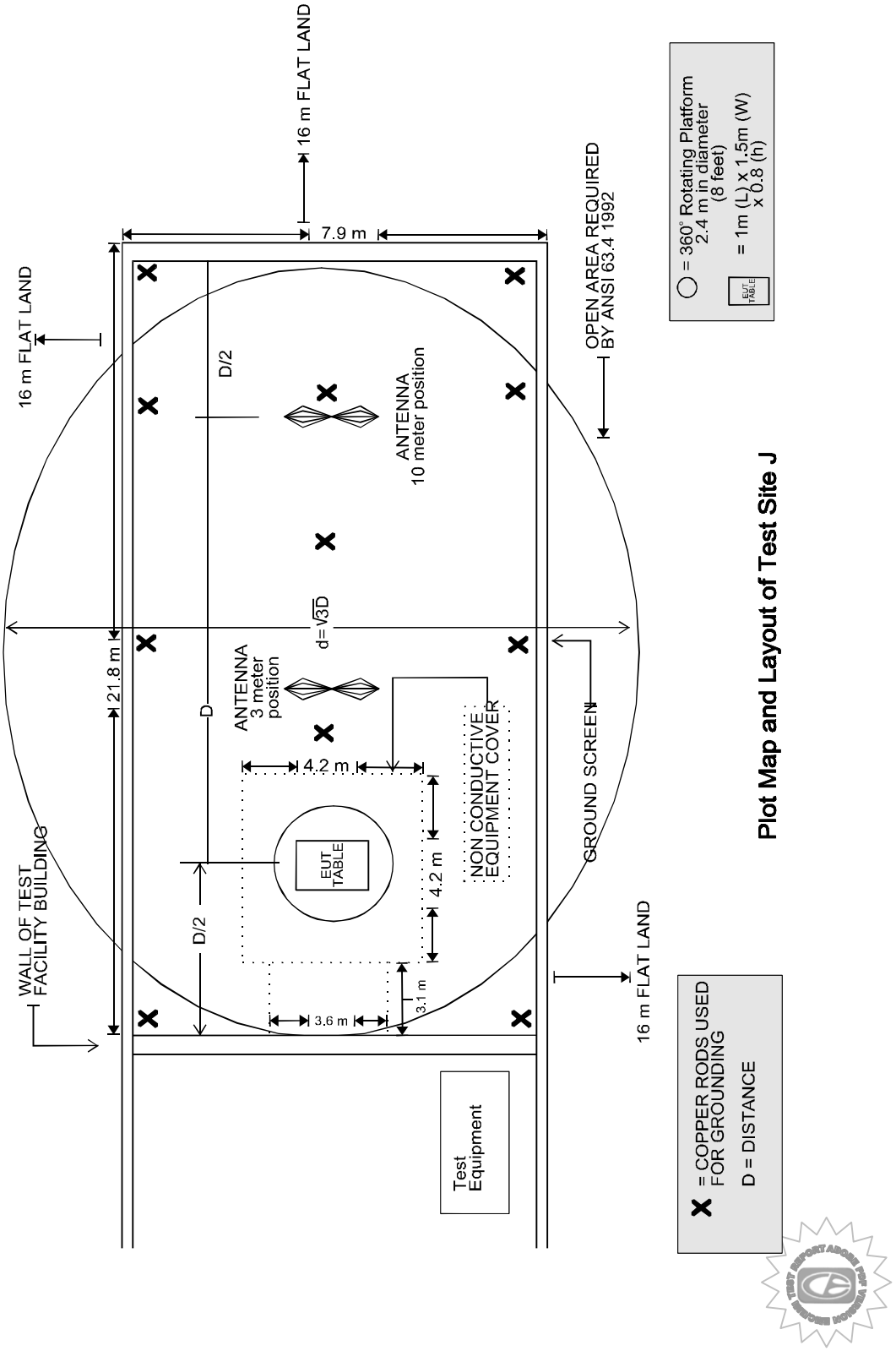


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE



COM-POWER AL-130

LAB J – LOOP ANTENNA (E-FIELD)

S/N: 17089

CALIBRATION DATE: SEPTEMBER 3, 2004

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
0.009	10.7	1.0	10.5
0.01	10.6	2.0	10.9
0.02	9.7	3.0	10.7
0.03	11.3	4.0	10.5
0.04	11.0	5.0	11.1
0.05	9.5	6.0	11.3
0.06	10.2	7.0	10.8
0.07	10.0	8.0	10.8
0.08	9.7	9.0	11.2
0.09	9.8	10.0	10.8
0.1	9.8	12.0	10.4
0.2	7.4	14.0	10.1
0.3	9.9	15.0	9.9
0.4	9.9	16.0	10.0
0.5	10.0	18.0	10.1
0.6	10.5	20.0	10.2
0.7	10.1	25.0	8.5
0.8	10.1	30.0	8.9
0.9	10.5	-	-

COM-POWER AB-100

LAB J - BICONICAL ANTENNA

S/N: 14022

CALIBRATION DATE: MARCH 11, 2005

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30.0	9.9	120.0	10.7
35.0	13.0	125.0	10.4
40.0	13.0	140.0	11.9
45.0	11.6	150.0	12.4
50.0	11.4	160.0	12.8
60.0	10.9	175.0	13.6
70.0	9.5	180.0	12.7
80.0	9.2	200.0	14.4
90.0	8.0	250.0	17.5
100.0	10.7	300.0	19.2

COM-POWER AL-100

LAB J - LOG PERIODIC ANTENNA

S/N: 16016

CALIBRATION DATE: APRIL 4, 2005

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	13.3	350	15.1
400	18.1	450	16.0
500	16.9	550	15.7
600	18.7	650	17.9
700	18.8	750	18.9
800	20.8	850	19.9
900	20.5	950	22.6
1000	24.1	-	-

COM-POWER AL-118

LAB J - HORN ANTENNA

S/N: 1319

CALIBRATION DATE: MAY 14, 2004

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
1000	24.74	10000	39.63
1500	25.39	10500	40.07
2000	27.90	11000	40.60
2500	28.44	11500	41.90
3000	30.01	12000	41.09
3500	30.61	12500	41.49
4000	30.72	13000	40.68
4500	31.22	13500	41.05
5000	33.03	14000	42.03
6000	33.84	14500	45.60
6500	34.70	15000	40.35
7000	36.51	15500	40.19
7500	37.61	16000	39.83
8000	37.63	16500	40.65
8500	38.12	17000	44.76
9000	38.33	17500	47.21
9500	39.54	18000	42.59

COM-POWER PA-103

LAB J - PREAMPLIFIER

S/N: 1541

CALIBRATION DATE: JANUARY 22, 2005

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	30.9	300	30.6
40	31.1	350	30.6
50	31.4	400	30.6
60	31.5	450	30.7
70	30.9	500	30.3
80	30.5	550	30.4
90	29.3	600	30.2
100	26.8	650	30.1
125	28.7	700	29.5
150	30.3	750	30.1
175	30.7	800	29.8
200	31.0	850	29.3
225	30.8	900	29.4
250	31.0	950	29.8
275	30.9	1000	29.3

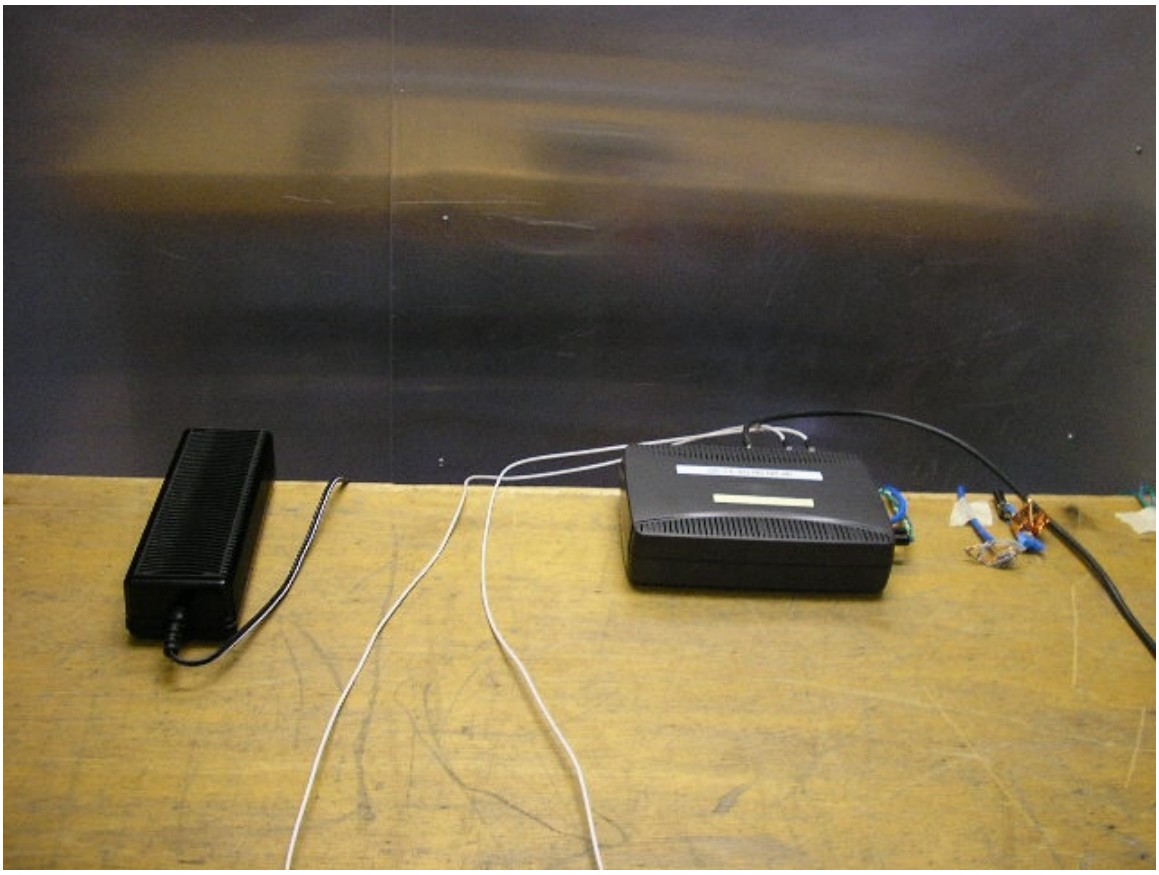
COM-POWER PA-122

LAB J – HI-FREQUENCY PREAMPLIFIER

S/N: 25196

CALIBRATION DATE: MARCH 3, 2005

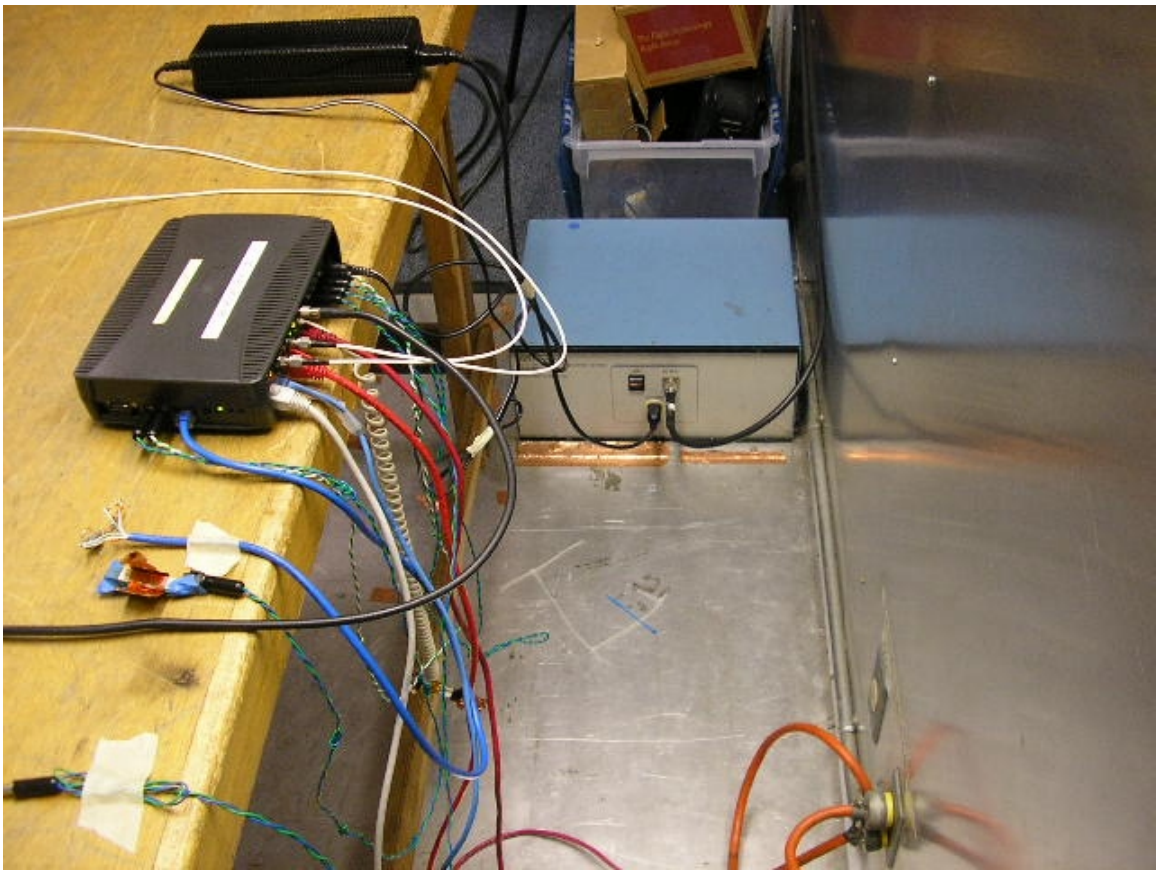
FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
1000	33.2	6000	27.7
1100	32.1	6500	28.1
1200	32.0	7000	28.4
1300	31.9	7500	28.4
1400	31.8	8000	28.2
1500	31.7	8500	28.2
1600	31.5	9000	28.7
1700	31.2	9500	27.9
1800	31.0	10000	27.3
1900	30.8	11000	27.2
2000	30.8	12000	29.3
2500	30.1	13000	28.7
3000	29.9	14000	28.8
3500	29.4	15000	29.1
4000	28.7	16000	27.6
4500	28.3	17000	25.7
5000	27.9	18000	24.3
5500	27.4		



FRONT VIEW

VUE TECHNOLOGY, INC.
INTELLIROUTER
Model: 34000003-001-RA
FCC SUBPART B & C - CONDUCTED EMISSIONS - 07-26-05

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

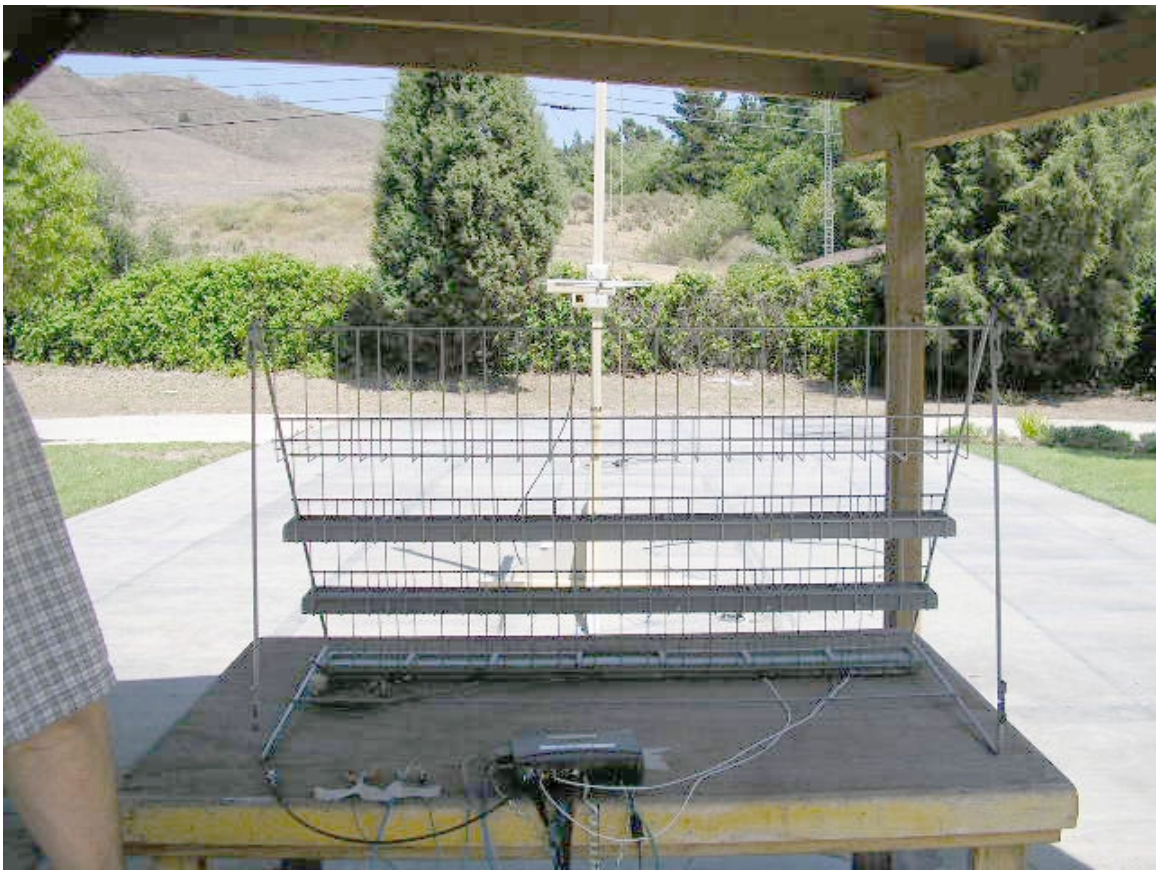
VUE TECHNOLOGY, INC.
INTELLIROUTER
Model: 34000003-001-RA
FCC SUBPART B & C - CONDUCTED EMISSIONS - 07-26-05

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

VUE TECHNOLOGY, INC.
INTELLIROUTER
Model: 34000003-001-RA
FCC SUBPART B & C - RADIATED EMISSIONS - 08-30-05

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

VUE TECHNOLOGY, INC.
INTELLIROUTER
Model: 34000003-001-RA
FCC SUBPART B & C - RADIATED EMISSIONS - 08-30-05

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

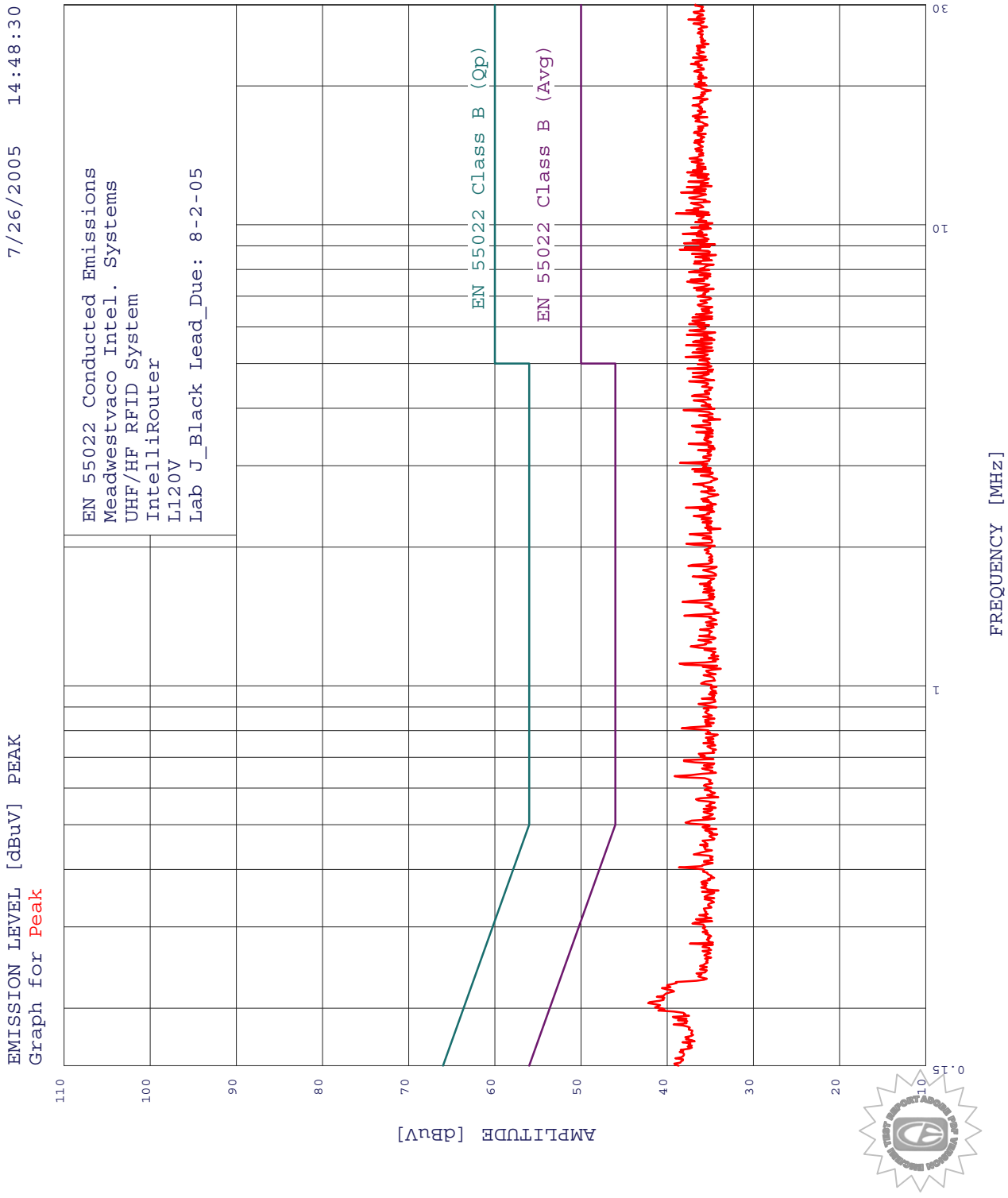
APPENDIX E

DATA SHEETS

Test Location : Compatible Electronics, Silverado
Customer : Steve Trivelpiece
Manufacturer : Vue Technology,Inc.
Eut name : IntelliRouter
Model : 34000003-001-RA
Serial # : 3antennas, 1switch
Specification : FCC Pt. 15 - Class B
Distance correction factor (20 * log(test/spec)) : 0.00
Test Mode : 3.68MHz, 100MHz, 125MHz
Test Eng:J. Madlangbayan
temp: 97degF humid: 55%
Qualification 9kHz-9280MHz

Page : 1/1
Date : 07/25/2005
Time : 01:04:18 PM
Lab : J
Test Distance : 3.00 Meters

Pol	Freq	Reading	Cable loss	Antenna factor	Amplifier gain	Corr'd rdg = R	Limit = L	Delta R-L
	MHz	dBuV	dB	dB	dB	dBuV/m	dBuV/m	dB
1V	50.088	50.30	0.70	9.90	31.40	29.50	40.00	-10.50
2V	75.081	47.90	1.00	7.27	30.69	25.48	40.00	-14.52
3V	100.087	54.80	1.20	10.80	26.81	40.00	43.50	-3.50
4V	125.075	53.40	1.40	12.80	28.71	38.89	43.50	-4.61
5V	150.089	49.70	1.50	12.50	30.30	33.40	43.50	-10.10
6V	200.127	57.20	1.80	17.00	31.00	45.00	43.50	1.50
7V	200.116Qp	55.18	1.80	17.00	31.00	42.98	43.50	-0.52
8V	250.122	52.00	2.10	16.32	31.00	39.42	46.00	-6.58
9V	100.089	57.80	1.20	10.80	26.81	43.00	43.50	-0.50
10V	100.090Qp	53.71	1.20	10.80	26.81	38.91	43.50	-4.59
11V	125.084	51.60	1.40	12.80	28.71	37.09	43.50	-6.41
12V	200.111	50.10	1.80	17.00	31.00	37.90	43.50	-5.60
9V-12V are all horizontal readings								
13H	250.094	51.50	2.10	16.31	31.00	38.91	46.00	-7.09
14V	300.080	47.60	2.30	13.30	30.60	32.60	46.00	-13.40
15V	350.070	48.30	2.50	15.10	30.60	35.30	46.00	-10.70
16V	450.107	42.00	3.10	16.00	30.70	30.40	46.00	-15.60
17V	500.120	51.90	3.40	16.90	30.30	41.90	46.00	-4.10
18V	600.116	45.90	3.60	18.70	30.20	38.00	46.00	-8.00
19V	625.116	51.10	3.75	18.29	30.15	43.00	46.00	-3.00
20V	700.119	42.80	3.90	18.80	29.50	36.00	46.00	-10.00
21V	750.095	48.90	4.20	18.90	30.10	41.90	46.00	-4.10
22H	300.089	50.80	2.30	13.30	30.60	35.80	46.00	-10.20
23H	425.119	44.10	2.96	17.01	30.65	33.42	46.00	-12.58
24H	500.086	55.50	3.40	16.90	30.30	45.50	46.00	-0.50
25H	500.086Qp	54.66	3.40	16.90	30.30	44.66	46.00	-1.34
26H	600.119	44.00	3.60	18.70	30.20	36.10	46.00	-9.90
27H	625.114	48.30	3.75	18.29	30.15	40.20	46.00	-5.80
28H	750.108	46.70	4.20	18.90	30.10	39.71	46.00	-6.29


7/26/2005 14:48:30
EMISSION LEVEL [dBuV] PEAK
Graph for Peak
EN 55022 Conducted Emissions
Meadwestvaco Intel. Systems
UHF/HF RFID System
IntelliRouter
L120V
Lab J_Black Lead_Due: 8-2-05
EN 55022 Class B (Qp)
EN 55022 Class B (Avg)
AMPLITUDE [dBuV]
FREQUENCY [MHz]
110
100
90
80
70
60
50
40
30
20
10
0.15
1
10
30

EN 55022 Conducted Emissions 7/26/2005 14:48:30
Meadwestvaco Intel. Systems
UHF/HF RFID System
IntelliRouter
L120V
Lab J_Black Lead_Due: 8-2-05
TEST ENGINEER : J. Madlangbayan

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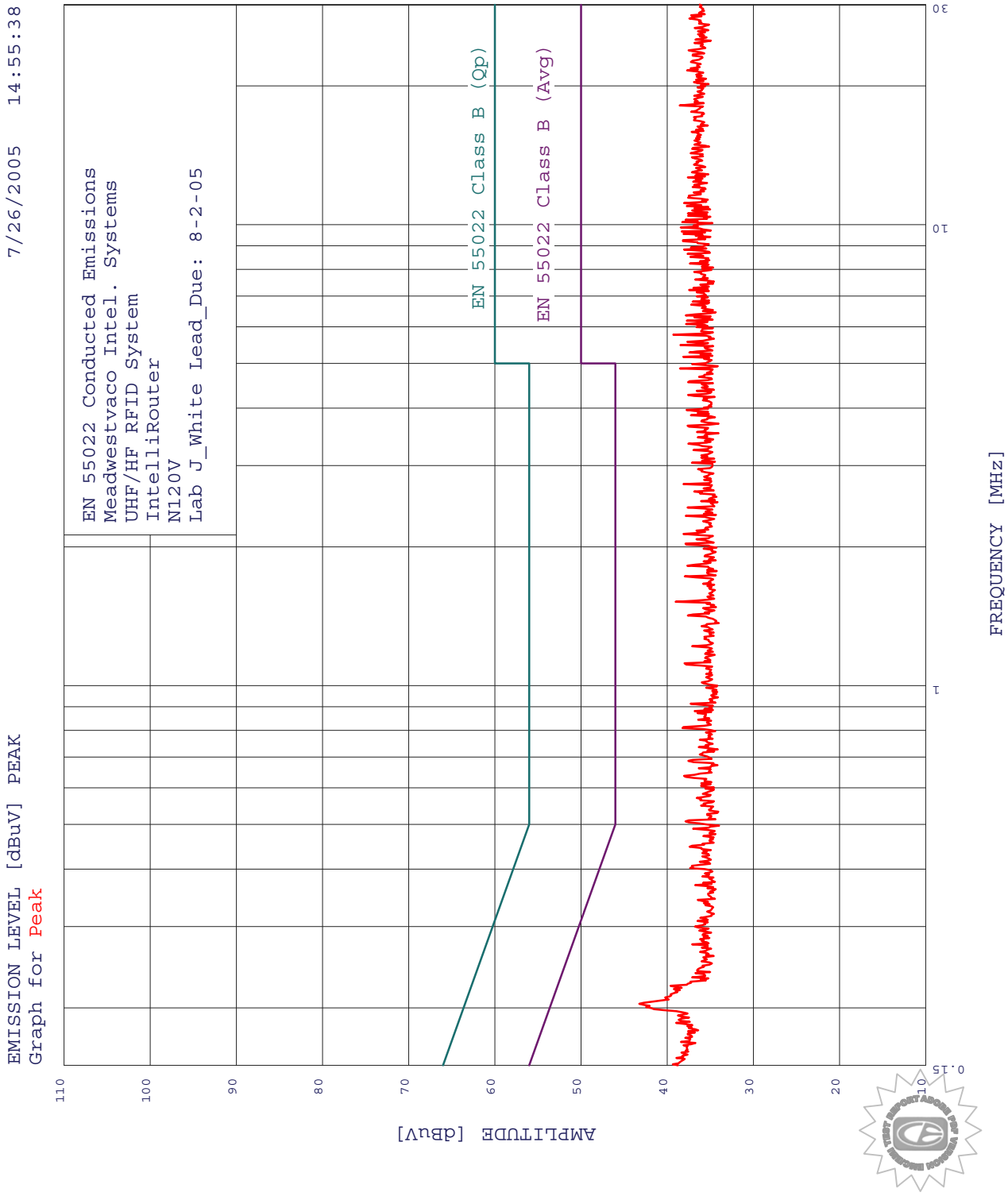
6 highest peaks above -50.00 dB of EN 55022 Class B (Avg) limit line
Peak criteria : 3.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.637	39.14	46.00	-6.86
2	1.118	38.56	46.00	-7.44
3	3.043	38.51	46.00	-7.49
4	0.809	38.30	46.00	-7.70
5	1.520	38.21	46.00	-7.79
6	3.966	38.11	46.00	-7.89


7/26/2005 14:55:38
EMISSION LEVEL [dBuV] PEAK
Graph for Peak
EN 55022 Conducted Emissions
Meadwestvaco Intel. Systems
UHF/HF RFID System
IntelliRouter
N120V
Lab J_White Lead_Due: 8-2-05
EN 55022 Class B (Qp)
EN 55022 Class B (Avg)
AMPLITUDE [dBuV]
FREQUENCY [MHz]
110
100
90
80
70
60
50
40
30
20
10
0.15
1
10
30

EN 55022 Conducted Emissions 7/26/2005 14:55:38
Meadwestvaco Intel. Systems
UHF/HF RFID System
IntelliRouter
N120V
Lab J_White Lead_Due: 8-2-05
TEST ENGINEER : J. Madlangbayan

6 highest peaks above -50.00 dB of EN 55022 Class B (Avg) limit line
Peak criteria : 3.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	1.520	39.02	46.00	-6.98
2	4.877	38.50	46.00	-7.50
3	0.809	38.20	46.00	-7.80
4	2.134	38.09	46.00	-7.91
5	2.736	38.09	46.00	-7.91
6	0.637	38.04	46.00	-7.96

RADIATED EMISSIONS (FCC SECTION 15.249 AND 15.205)

COMPANY	**Vue Technology, Inc.**	**DATE**	**8/30/2005**
EUT	**IntelliRouter**	**DUTY CYCLE**	**N/A %**
MODEL	**PN: 34000003-001**	**PEAK TO AVG**	**dB**
S/N	**None**	**TEST DIST.**	**3 Meters**
TEST ENGINEER	**Joey Madlangbayan**	**LAB**	**J**

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
922.0000	94.8	94.7 QP	H	1.0	0			21.4	4.9	29.6		0.0	**91.5**	**-2.5**	**94.0**	
922.0000	88.9	QP	V	1.0	0			21.4	4.9	29.6		0.0	**85.7**	**-8.3**	**94.0**	

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.249 AND 15.205)

COMPANY	**Vue Technology, Inc.**	**DATE**	**8/30/2005**
EUT	**IntelliRouter**	**DUTY CYCLE**	**N/A %**
MODEL	**PN: 34000003-001**	**PEAK TO AVG**	**N/A dB**
S/N	**None**	**TEST DIST.**	**3 Meters**
TEST ENGINEER	**Joey Madlangbayan**	**LAB**	**J**

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
1844.0000	49.1	A	H	4.0	180			29.5	1.6	30.9		0.0	**49.3**	**-4.7**	**54.0**	
1844.0000	49.2	A	V	3.0	270			29.5	1.6	30.9		0.0	**49.4**	**-4.6**	**54.0**	

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.249 AND 15.205)

COMPANY	**Vue Technology, Inc.**	**DATE**	**8/30/2005**
EUT	**IntelliRouter**	**DUTY CYCLE**	**N/A %**
MODEL	**PN: 34000003-001**	**PEAK TO AVG**	**N/A dB**
S/N	**None**	**TEST DIST.**	**3 Meters**
TEST ENGINEER	**Joey Madlangbayan**	**LAB**	**J**

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
2766.0000	47.1	44.4 A	H	3.0	180			30.3	2.0	30.0		0.0	**46.7**	**-7.3**	**54.0**	
2766.0000	48.5	46.3 A	V	3.0	180			30.3	2.0	30.0		0.0	**48.6**	**-5.4**	**54.0**	

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.249 AND 15.205)

COMPANY	**Vue Technology, Inc.**	**DATE**	**8/30/2005**
EUT	**IntelliRouter**	**DUTY CYCLE**	**N/A %**
MODEL	**PN: 34000003-001**	**PEAK TO AVG**	**N/A dB**
S/N	**None**	**TEST DIST.**	**3 Meters**
TEST ENGINEER	**Joey Madlangbayan**	**LAB**	**J**

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
3688.0000	41.8	A	H	3.0	180			30.9	2.5	29.1		0.0	**46.1**	**-7.9**	**54.0**	
3688.0000	45.3	A	V	3.0	180			30.9	2.5	29.1		0.0	**49.6**	**-4.4**	**54.0**	

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.249 AND 15.205)

COMPANY	**Vue Technology, Inc.**	**DATE**	**8/30/2005**
EUT	**IntelliRouter**	**DUTY CYCLE**	**N/A %**
MODEL	**PN: 34000003-001**	**PEAK TO AVG**	**N/A dB**
S/N	**None**	**TEST DIST.**	**3 Meters**
TEST ENGINEER	**Joey Madlangbayan**	**LAB**	**J**

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
4610.0000		A	H					32.9	2.5	28.2					**54.0**	**No emission found**
4610.0000		A	V					32.9	2.5	28.2					**54.0**	**No emission found**

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.249 AND 15.205)

COMPANY	**Vue Technology, Inc.**	**DATE**	**8/30/2005**
EUT	**IntelliRouter**	**DUTY CYCLE**	**N/A %**
MODEL	**PN: 34000003-001**	**PEAK TO AVG**	**N/A dB**
S/N	**None**	**TEST DIST.**	**3 Meters**
TEST ENGINEER	**Joey Madlangbayan**	**LAB**	**J**

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
5532.0000		A	H					34.3	2.8	27.4					**54.0**	**No emission found**
5532.0000		A	V					34.3	2.8	27.4					**54.0**	**No emission found**

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.249 AND 15.205)

COMPANY	**Vue Technology, Inc.**	**DATE**	**8/30/2005**
EUT	**IntelliRouter**	**DUTY CYCLE**	**N/A %**
MODEL	**PN: 34000003-001**	**PEAK TO AVG**	**N/A dB**
S/N	**None**	**TEST DIST.**	**3 Meters**
TEST ENGINEER	**Joey Madlangbayan**	**LAB**	**J**

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
6454.0000		A	H					38.9	3.1	28.1					**54.0**	**No emission found**
6454.0000		A	V					38.9	3.1	28.1					**54.0**	**No emission found**

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.249 AND 15.205)

COMPANY	**Vue Technology, Inc.**	**DATE**	**8/30/2005**
EUT	**IntelliRouter**	**DUTY CYCLE**	**N/A %**
MODEL	**PN: 34000003-001**	**PEAK TO AVG**	**N/A dB**
S/N	**None**	**TEST DIST.**	**3 Meters**
TEST ENGINEER	**Joey Madlangbayan**	**LAB**	**J**

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
7376.0000		A	H					38.2	3.5	28.3					**54.0**	**No emission found**
7376.0000		A	V					38.2	3.5	28.3					**54.0**	**No emission found**

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.249 AND 15.205)

COMPANY	**Vue Technology, Inc.**	**DATE**	**8/30/2005**
EUT	**IntelliRouter**	**DUTY CYCLE**	**N/A %**
MODEL	**PN: 34000003-001**	**PEAK TO AVG**	**N/A dB**
S/N	**None**	**TEST DIST.**	**3 Meters**
TEST ENGINEER	**Joey Madlangbayan**	**LAB**	**J**

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
8298.0000		A	H					39.3	3.9	28.2					**54.0**	**No emission found**
8298.0000		A	V					39.3	3.9	28.2					**54.0**	**No emission found**

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.249 AND 15.205)

COMPANY	**Vue Technology, Inc.**	**DATE**	**8/30/2005**
EUT	**IntelliRouter**	**DUTY CYCLE**	**N/A %**
MODEL	**PN: 34000003-001**	**PEAK TO AVG**	**N/A dB**
S/N	**None**	**TEST DIST.**	**3 Meters**
TEST ENGINEER	**Joey Madlangbayan**	**LAB**	**J**

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
9220.0000		A	H					38.7	4.3	28.3					**54.0**	**No emission found**
9220.0000		A	V					38.7	4.3	28.3					**54.0**	**No emission found**

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

** DELTA = SPEC LIMIT - CORRECTED READING