FCC PART 15, SUBPART B and C
TEST REPORT

for

NETWORK RADIO

MODEL: SR7100

Prepared for

NAVCOM TECHNOLOGY, INC.
123 WEST TORRANCE BLVD., SUITE 101
REDONDO BEACH, CALIFORNIA 90277

Prepared by: _____

KYLE FUJIMOTO

Approved by: _____

MICHAEL CHRISTENSEN

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

DATE: NOVEMBER 22, 2002

	REPORT	APPENDICES					TOTAL
	BODY	*A*	*B*	*C*	*D*	*E*	
PAGES	20	2	2	2	15	71	**112**

TABLE OF CONTENTS

LIST OF APPENDICES

APPENDIX	TITLE
A	Laboratory Recognitions
B	Modifications to the EUT
C	Additional Models Covered Under This Report
D	Diagrams, Charts, and Photos • Test Setup Diagrams • Radiated Emissions Photos • Antenna and Effective Gain Factors
E	Data Sheets

LIST OF FIGURES

FIGURE	TITLE
1	Conducted Emissions Test Setup
2	Plot Map And Layout of Test Site

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 or any other agency of the U.S. Government.

Device Tested:	Network Radio Model: SR7100 S/N: N/A
Product Description:	See Expository Statement.
Modifications:	The EUT was not modified during the testing.
Manufacturer:	NavCom Technology, Inc. 123 West Torrance Blvd., Suite 101 Redondo Beach, California 90277
Test Dates:	November 15, 18, 19, and 22, 2002; and February 13, 2003
Test Specifications:	EMI requirements CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.247
Test Procedure:	ANSI C63.4: 1992
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, section 15.207
2	Spurious Radiated RF Emissions of the Transmitter Portion, 10 kHz – 25000 MHz	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247(c)
3	Spurious Radiated RF Emissions of the Digital Portion, 10 kHz – 25000 MHz	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247(c)
4	Fundamental and Emissions produced by the intentional radiator in non-restricted bands, 10 kHz – 25 GHz	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247(c)
5	Emissions produced by the intentional radiator in restricted bands, 10 kHz – 25 GHz	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.205 and 15.209(a)
6	6 dB Bandwidth	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (a)(2)
7	Maximum Peak Output Power	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (b)(1)
8	RF Antenna Conducted	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (c)
9	Peak Power Spectral Density	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (d)

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Network Radio Model: SR7100. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4: 1992. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the Class B specification limits defined by CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.247.

Note: For the unintentional radiator portion of the test, the EUT was within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

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

2.2 Traceability Statement

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

2.3 Cognizant Personnel

NavCom Technology, Inc.

Michael H. Mikasa Senior RF Engineer

Compatible Electronics, Inc.

Kyle Fujimoto Test Engineer
Michael Christensen Test Engineer

2.4 Date Test Sample was Received

The test sample was received on November 15, 2002.

2.5 Disposition of the Test Sample

The sample was returned to NavCom Technology, Inc. as of November 22, 2002.

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
FCC Title 47, Part 15 Subpart C	FCC Rules - Radio frequency devices (including digital devices) – Intentional Radiators
ANSI C63.4 1992	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz
FCC Title 47, Part 15 Subpart B	FCC Rules - Radio frequency devices (including digital devices) – Unintentional Radiators

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 Network Radio Model: SR7100 (EUT) was connected to a port expansion box, antenna, and a Dell laptop computer via its asynchronous, antenna, and ethernet ports, respectively. The port expansion box was also connected to the AC Adapter, Dell laptop computer, and Compaq laptop computer via its power, com 1, and com 2 ports, respectively.

Operation of the EUT during the testing

For the intentional radiator portion of the test - The EUT used a program that locked one channel at a time so that the low, middle, and high channels could be tested.

For the unintentional radiator and conducted emission portion of the test - The EUT used a program that allowed the EUT to function with normal transmission on a continuous basis.

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

4.1.1 Cable Construction and Termination

Cable 1 This is a 2 meter braid shielded cable connecting the long antenna to the EUT. It has a metallic SMA connector at the EUT end and is hard wired into the long antenna. The cable was bundled to a length of 1 meter. The shield of the cable was grounded to the chassis via the connector.

Cable 2 This is a 4 foot unshielded cable connecting the AC Adapter to the port expansion box. It has a 5 pin DIN connector at the port expansion box end and is hard wired into the AC Adapter. The cable has a molded ferrite at the AC Adapter end.

Cable 3 This is a 1 ½ foot braid and foil shield cable connecting the port expansion box to the EUT. It has a 4 pin Deutsch connector at each end. The shield of the cable was left unterminated at both ends.

Cable 4 This is a 15 foot braid and foil shielded cable connecting the EUT to the Dell laptop computer. It has a 4 pin Deutsch connector at the EUT end. The shield of the cable was left unterminated at both ends.

Cable 5 This is a 15 foot unshielded cable connecting the port expansion box to the Dell laptop computer. It has an RJ-45 connector at each end.

Cable 6 This is a 15 foot unshielded cable connecting the port expansion box to the Compaq laptop computer. It has an RJ-45 at the port expansion end and a D-9 metallic pin connector at the serial end.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
NETWORK RADIO (EUT)	NAVCOM TECHNOLOGY, INC.	SR7100	N/A	**QRL-SR7100**
SWITCHING POWER SUPPLY	GPC	SPU45-203	50002949	**N/A**
BASE STATION ANTENNA	COMTELCO	BS2400XL6	N/A	**N/A**
STUB ANTENNA	MOBILE MARK COMMUNICATOINS	PSTG0-2400HS	N/A	**N/A**
LAPTOP	DELL	PP01X	8LVJV01	**DoC**
LAPTOP	COMPAQ	ARMADA 3500	N/A	**DoC**

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
Radiate Emissions Data Capture Program	Compatible Electronics	2.0	N/A	N/A	N/A
Emissions Program	Compatible Electronics, Inc.	2.3 (SR19)	N/A	N/A	N/A
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	3638A08768	June 21, 2002	June 21, 2003
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	3701A22262	June 21, 2002	June 21, 2003
Spectrum Analyzer – Quasi-Peak Adapter	Hewlett Packard	85650A	2811A01363	June 21, 2002	June 21, 2003
Preamplifier	Com Power	PA-102	1202	Sept. 18, 2002	Sept. 18, 2003
Biconical Antenna	Com Power	AB-900	15011	July 15, 2002	July 15, 2003
Log Periodic Antenna	Com Power	AL-100	01117	Oct. 4, 2002	Oct. 4, 2003
RF Attenuator	Weinschel Corp.	2	BJ6394	July 30, 2002	July 30, 2003
LISN	Com-Power	LI-215	12090	Nov. 18, 2002	Nov. 18, 2003
LISN	Com-Power	LI-215	12076	Nov. 18, 2002	Nov. 18, 2003
Loop Antenna	Com-Power	AL-130	17070	June 19, 2002	June 19, 2003
Horn Antenna	Com-Power	AH-118	10073	Jan. 21, 2002	Jan. 21, 2003
Microwave Preamplifier	Com-Power	PA-122	25195	Jan. 7, 2002	Jan. 7, 2003
Amplifier	Hewlett Packard	11975A	2403A00202	Mar. 14, 2002	Mar. 14, 2003
Harmonic Mixer	Hewlett Packard	11970K	3003A05460	Mar. 14, 2002	Mar. 14, 2003
Power Meter	Hewlett Packard	436A	22236A15362	May 25, 2002	May 25, 2003
Power Sensor	Hewlett Packard	80401A	1830892	May 25, 2002	May 25, 2003
Microwave Preamplifier	Com-Power	PA-840	711013	Mar. 6, 2002	Mar. 6, 2003
Horn Antenna	Antenna Research	MWH-1826/B	1011	Nov. 3, 2001	Nov. 3, 2003

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. CHARACTERISTICS OF THE TRANSMITTER

7.1 Transmitter Power

Transmit power is herein defined as the power delivered to a 50 Ohm load at the RF output of the EUT.

Please see the data sheet located in Appendix E. The data sheet will be after the "Peak Output Power" cover page.

7.2 Antenna Gain

The antenna gain is 5.5 dBi for the base station antenna and unity gain for the stub antenna.

8. TEST PROCEDURES

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

8.1 RF Emissions

8.1.1 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 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: 1992. 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 conducted emissions 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 the limits of CFR Title 47, Part 15, Subpart C, Section 15.207 for conducted emissions.

8.1.2 Radiated Emissions (Spurious and Harmonics) Test

The spectrum analyzer was used as a measuring meter along with the quasi-peak adapter. Amplifiers were used to increase the sensitivity of the instrument. The Com Power Preamplifier Model: PA-102 was used for frequencies from 30 MHz to 1 GHz, and the Com-Power Microwave Preamplifier Model: PA-122 was used for frequencies above 1 GHz. 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 adapter was used only for those readings which are marked accordingly on the data sheets.

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.

After the readings above 1 GHz were average manually, any reading still over the spec limit further adjusted by a “duty cycle correction factor”, derived from 20 log (dwell time / 100 ms). The duty cycle was 50%.

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

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
10 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna
300 MHz to 1 GHz	120 kHz	Log Periodic Antenna
1 GHz to 25 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: 1992. 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 by the Radiated Emission Manual Test software. 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.

Radiated Emissions (Spurious and Harmonics) Test (con't)

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 from 10 kHz to 30 MHz and from 1 GHz to 25 GHz to obtain final test data. From 30 MHz to 1000 MHz, the EUT was tested at a 10 meter test distance.

For the 22 GHz – 25 GHz span, the Hewlett Packard 11970K Harmonic Mixer and the Hewlett Packard 11975A Amplifier were used to allow the spectrum analyzer to scan up to 25 GHz.

8.2 6 dB Bandwidth for Direct Sequence Systems

The 6 dB Bandwidth was taken using the spectrum analyzer. The bandwidth was measured using a direct connection from the RF out on the RF board. The resolution bandwidth was 100 kHz, and the video bandwidth 300 kHz. The spectrum analyzer was offset 30.2 dB to account for external attenuation and cable loss between the EUT and the spectrum analyzer.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.209 (a)(2). The bandwidth is at least 500 kHz. Please see the data sheets located in Appendix D.

8.3 Peak Output Power

The peak output power was taken using the Hewlett Packard 436A Power Meter and the Hewlett Packard 8482H Power Sensor. The low, middle, and high channels were taken.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.209 (b)(1). The maximum peak output power is less than 1 watt.

8.4 Spectral Density Output

The spectral density output was using the spectrum analyzer. The spectral density output power was measured using a direct connection from the RF out on the RF board into the input of the analyzer. The resolution bandwidth was 3 kHz, and the video bandwidth 10 kHz. The highest 4.5 MHz of the signal was used as the frequency span with the sweep rate being 1 second for every 3 kHz of span. The spectrum analyzer was offset 30.2 dB to account for external attenuation and cable loss between the EUT and the spectrum analyzer.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.209 (d). The spectral density output does not exceed 8 dBm in any 3 kHz band.

8.5 RF Antenna Conducted Test

The RF antenna conducted test was taken using the spectrum analyzer. The RF antenna conducted test was measured using a direct connection from the RF out on the RF board into the input of the analyzer. The resolution bandwidth was 100 kHz, and the video bandwidth was set greater than the resolution bandwidth. The spans were wide enough to include all the harmonics and emissions that were produced by the intentional radiator. The spectrum analyzer was offset 30.2 dB to account for external attenuation and cable loss between the EUT and the spectrum analyzer.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.209 (c). The RF power that is produced by the intentional radiator is at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of desired power.

8.6 RF Band Edges

The RF band edges were taken at the beginning of the restricted bands nearest the band edges of the 2.4 GHz ISM spectrum using the spectrum analyzer at 3 meters. Please see section 8.1.2 for on how radiated emission testing is performed.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (c). The emissions at the band edges at 2390 MHz and 2483.5 MHz meet the limits of section 15.209.

9. CONCLUSIONS

The Network Radio meets all of the specification limits defined in FCC Title 47, Part 15, Subpart C, sections 15.205, 15.207, 15.209, and 15.247.

Note: For the unintentional radiator portion of the test, the EUT was within the **Class B** specification limits defined in CFR Title 47, Part 15, Subpart B.

APPENDIX A

LABORATORY RECOGNITIONS

LABORATORY RECOGNITIONS

Compatible Electronics has the following agency accreditations:

National Voluntary Laboratory Accreditation Program - Lab Code: 200528-0

Voluntary Control Council for Interference - Registration Numbers: R-983, C-1026, R-984 and C-1027

Bureau of Standards and Metrology Inspection - Reference Number: SL2-IN-E-1031

Conformity Assessment Body for the EMC Directive Under the US/EU MRA Appointed by NIST

Compatible Electronics is recognized or on file with the following agencies:

Federal Communications Commission

Industry Canada

Radio-Frequency Technologies (Competent Body)

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC 15.231 specifications.

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

No modifications were made to the EUT during the testing.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

Network Radio
Model: SR7100
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

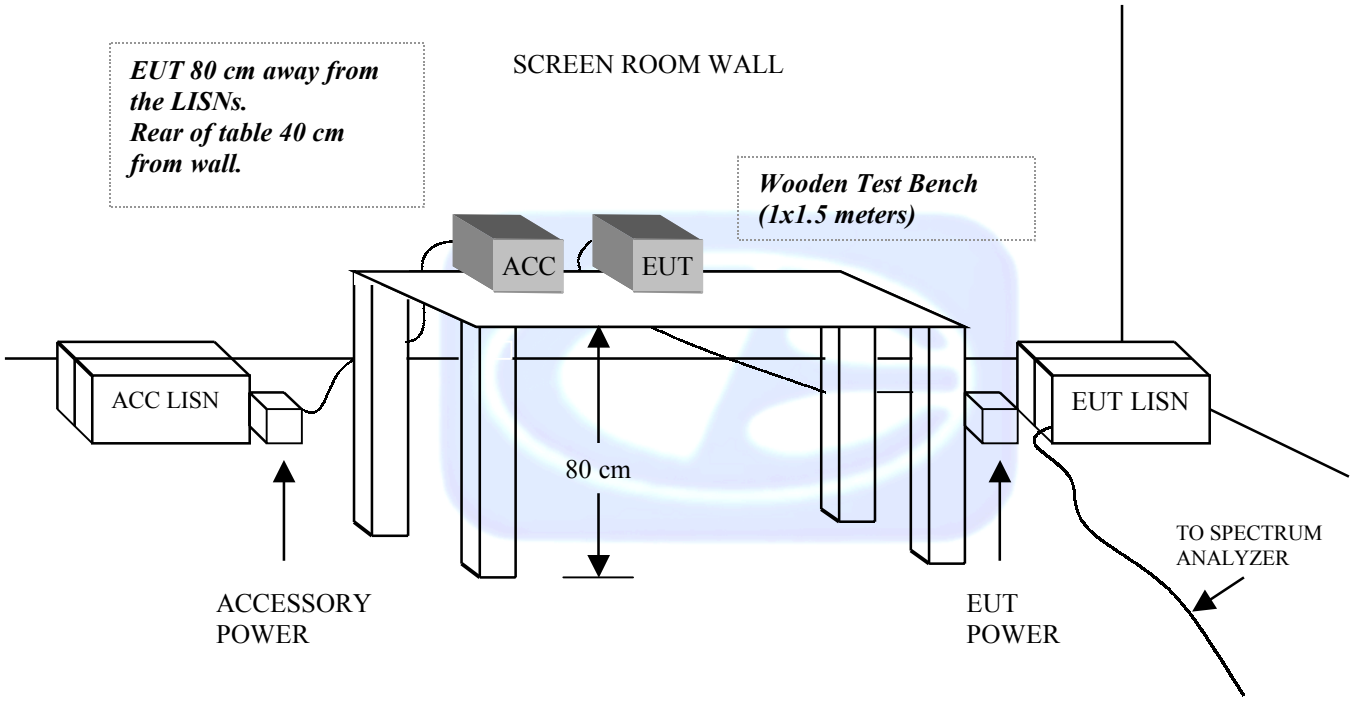
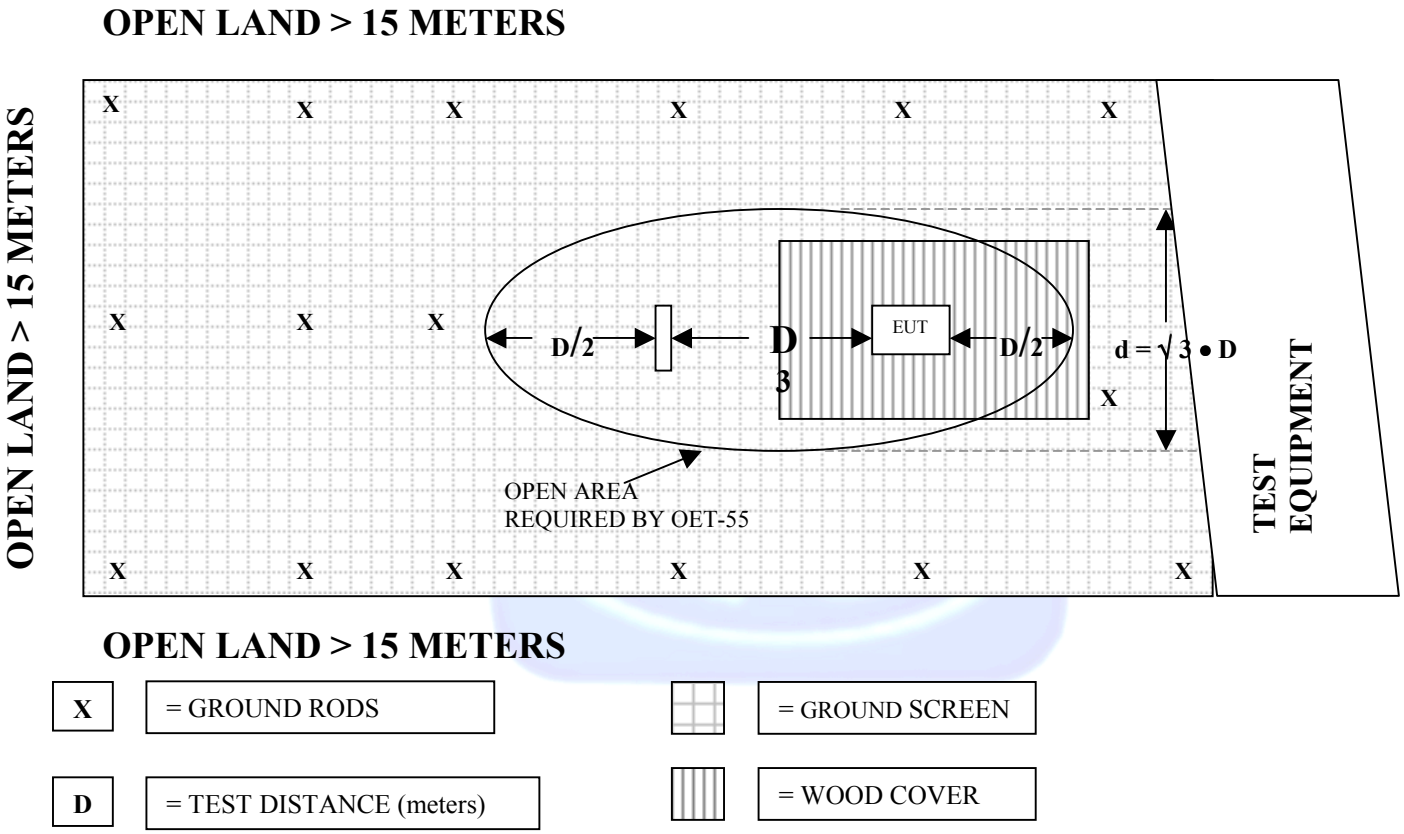


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE



COM-POWER AB-900

BICONICAL ANTENNA

S/N: 15011

CALIBRATION DATE: JULY 15, 2002

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	11.30	120	14.10
35	10.40	125	13.20
40	11.80	140	12.20
45	13.10	150	12.00
50	12.30	160	13.50
60	1210	175	15.60
70	8.10	180	16.30
80	6.50	200	16.70
90	9.50	250	16.50
100	11.40	300	19.30

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 01117

CALIBRATION DATE: OCTOBER 4, 2002

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	13.80	700	19.50
350	15.40	750	20.70
400	15.80	800	22.00
450	16.00	850	21.90
500	17.20	900	22.50
550	17.00	950	23.40
600	18.40	1000	25.60

COM-POWER PA-102

PREAMPLIFIER

S/N: 1202

CALIBRATION DATE: SEPTEMBER 18, 2002

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	35.4	300	34.9
40	35.4	350	34.7
50	35.5	400	34.8
60	35.5	450	34.7
70	35.5	500	33.9
80	35.6	550	34.5
90	35.8	600	34.3
100	35.8	650	34.0
125	35.6	700	33.9
150	35.3	750	34.1
175	35.0	800	34.0
200	35.1	850	33.8
225	35.1	900	33.7
250	35.3	950	32.9
275	35.3	1000	33.8

COM-POWER PA-122

MICROWAVE PREAMPLIFIER

S/N: 25195

CALIBRATION DATE: JANUARY 2, 2003

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	33.3	6.0	32.2
1.1	33.2	6.5	32.2
1.2	33.4	7.0	31.8
1.3	32.8	7.5	32.1
1.4	32.4	8.0	32.7
1.5	32.7	8.5	31.5
1.6	32.1	9.0	30.3
1.7	32.4	9.5	30.0
1.8	32.3	10.0	31.9
1.9	32.6	11.0	29.9
2.0	33.4	12.0	24.7
2.5	31.2	13.0	32.0
3.0	31.2	14.0	30.7
3.5	32.0	15.0	30.1
4.0	31.3	16.0	29.2
4.5	31.2	17.0	28.9
5.0	33.3	18.0	28.7
5.5	34.0		
5.5	34.0		

ANTENNA RESEARCH DRG-118/A

HORN ANTENNA

S/N: 1053

CALIBRATION DATE: JANUARY 13, 2002

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	25.5	9.5	39.1
1.5	26.6	10.0	39.7
2.0	29.4	10.5	40.9
2.5	30.4	11.0	40.7
3.0	31.2	11.5	42.4
3.5	32.3	12.0	42.6
4.0	32.9	12.5	42.4
4.5	33.0	13.0	41.5
5.0	34.8	13.5	41.0
5.5	35.2	14.0	40.5
6.0	36.4	14.5	43.6
6.5	36.6	15.0	43.7
7.0	38.8	15.5	43.3
7.5	38.8	16.0	42.8
8.0	38.0	16.5	43.0
8.5	38.1	17.0	42.7
9.0	39.9	17.5	44.0
		18.0	41.8

COM-POWER AL-130

LOOP ANTENNA

S/N: 17070

CALIBRATION DATE: JUNE 19, 2002

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-40.4	11.1
0.01	-40.3	11.2
0.02	-41.2	10.3
0.05	-41.6	9.9
0.07	-41.4	10.1
0.1	-41.7	9.8
0.2	-44.0	7.5
0.3	-41.6	9.9
0.5	-41.3	10.2
0.7	-41.4	10.1
1	-40.9	10.6
2	-40.6	10.9
3	-40.5	11.0
4	-40.8	10.7
5	-40.2	11.3
10	-40.7	10.8
15	-41.4	10.1
20	-41.6	9.9
25	-41.7	9.8
30	-42.9	8.6

COM-POWER AH826

HORN ANTENNA

S/N: 0071957

CALIBRATION DATE: NOVEMBER 03, 2001

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	32.3	22.5	32.5
18.5	32.2	23.0	32.1
19.0	32.3	23.5	32.3
19.5	31.9	24.0	32.3
20.0	32.0	24.5	32.9
20.5	32.3	25.0	33.1
21.0	32.0	25.5	32.9
21.5	32.3	26.0	33.4
22.0	32.5	26.5	33.0

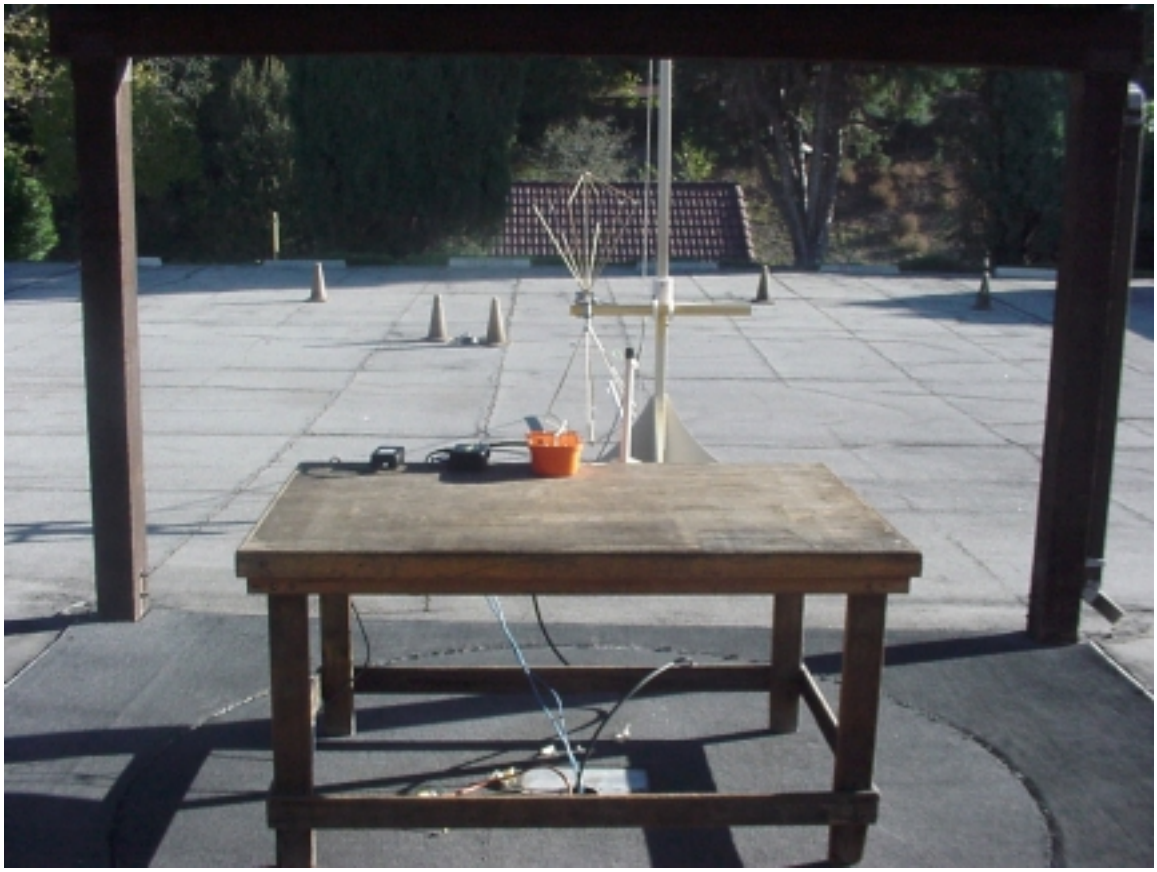
COM-POWER PA-840

MICROWAVE PREAMPLIFIER

S/N: 711013

CALIBRATION DATE: MARCH 06, 2002

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	26.4	30.0	27.6
19.0	25.4	31.0	27.3
20.0	24.5	32.0	26.9
21.0	23.9	33.0	26.7
22.0	24.0	34.0	27.0
23.0	24.4	35.0	25.9
24.0	25.2	36.0	25.5
25.0	26.1	37.0	26.2
26.0	26.6	38.0	25.6
27.0	27.2	39.0	23.4
28.0	27.4	40.0	24.3
29.0	27.5		



FRONT VIEW

NAVCOM TECHNOLOGY, INC.
NETWORK RADIO
MODEL: SR7100
FCC SUBPART B AND C - RADIATED EMISSIONS – 2-13-03

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

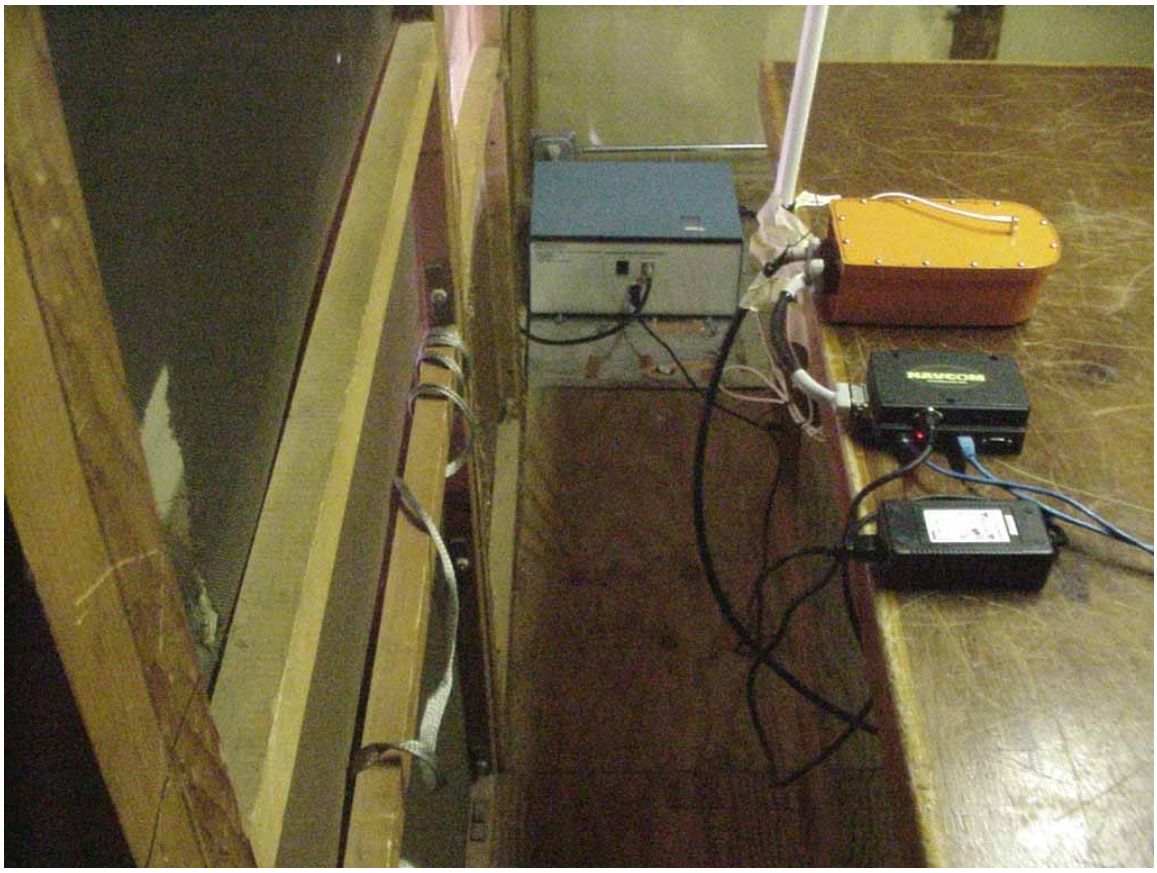
NAVCOM TECHNOLOGY, INC.
NETWORK RADIO
MODEL: SR7100
FCC SUBPART B AND C - RADIATED EMISSIONS – 2-13-03

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

NAVCOM TECHNOLOGY, INC.
NETWORK RADIO
MODEL: SR7100
FCC SUBPART B AND C - CONDUCTED EMISSIONS – 11-22-02

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

NAVCOM TECHNOLOGY, INC.
NETWORK RADIO
MODEL: SR7100
FCC SUBPART B AND C - CONDUCTED EMISSIONS – 11-22-02

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS