FCC PART 15, SUBPART B and SUBPART E
TEST REPORT

for

EmulationEngine

MODEL: RCX-11ABG3

Prepared for

COMMUNICATION MACHINERY CORPORATION
402 EAST GUTIERREZ STREET
SANTA BARBARA, CALIFORNIA 93105

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DATE: APRIL 2, 2004

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GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced without the written permission of Compatible Electronics, unless done so in full.

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

Device Tested:	EmulationEngine Model: RCX-11ABG3 S/N: N/A
Product Description:	See Expository Statement.
Modifications:	The EUT was not modified during the testing.
Manufacturer:	Communication Machinery Corporation 402 East Gutierrez Street Santa Barbara, California 93105
Test Dates:	March 17, 26, and 31, 2004
Test Specifications:	EMI requirements Limits: CFR Title 47, Part 15, Subpart B, **Class A**; and CFR Title 47, Part 15, Subpart E
Test Procedure:	ANSI C63.4: 2001
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 limits of CFR Title 47, Part 15, Subpart E
2	Spurious Radiated RF Emissions, 30 MHz – 1000 MHz	Complies with the **Class A** limits of CFR Title 47, Part 15, Subpart B and the limits of CFR Title 47, Part 15, Subpart E
3	Spurious Radiated RF Emissions, 10 kHz – 30 MHz and 1000 MHz – 40000 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart E
4	Fundamental and Emissions produced by the intentional radiator in non-restricted bands, 10 kHz – 40 GHz	Complies with the limits of CFR Title 47, Part 15, Subpart E
5	Emissions produced by the intentional radiator in restricted bands, 10 kHz – 40 GHz	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart E
6	Emission Bandwidth – 26 dB for UNII devices	Complies with the requirements of CFR Title 47, Part 15, Subpart E, section 15.403 [c]
8	Peak Power for UNII devices	Complies with the requirements of CFR Title 47, Part 15, Subpart E, section 15.407 (a)(1) and (a)(2)
9	Peak Power Spectral Density for UNII devices	Complies with the requirements of CFR Title 47, Part 15, Subpart E, section 15.407 (a)(1) and (a)(2)
10	Peak Excursion for UNII devices	Complies with the requirements of CFR Title 47, Part 15, Subpart E, section 15.407 (a)(6)

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the EmulationEngine Model: RCX-11ABG3. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4: 2001. 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 E.

Note: For the unintentional radiator portion of the test for radiated emissions from 30 MHz to 1000 MHz, the EUT was within the **Class A** specification limits defined in CFR Title 47, Part 15, Subpart B.

Note: The 5.15–5.25 GHz and 5.25–5.35 GHz bands are applicable to this report; other bands of operation (2.4 and 5.8 GHz) are documented in the Compatible Electronics, Inc. report number **B40331D1**.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

The EMI tests of the testing described herein were performed at the test facility of Compatible Electronics at the following locations

1) 114 Olinda Drive, Brea, California 92823
2) 102 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

Communication Machinery Corporation

Omar Tarzi	Senior Test Engineer

Compatible Electronics, Inc.

Kyle Fujimoto	Test Engineer
Scott McCutchan	Lab Manager

2.4 Date Test Sample was Received

The test sample was received on March 15, 2004.

2.5 Disposition of the Test Sample

The sample was returned to Communication Machinery Corporation on March 31, 2004.

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 E	FCC Rules - Radio frequency devices (including digital devices) – Unlicensed National Information Infrastructure Devices
ANSI C63.4 2001	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

For the digital portion of the test - The EmulationEngine Model: RCX-11ABG3 (EUT) was connected to an AC Adapter and Ethernet Hub #1 via its power and Ethernet port, respectively. The EUT was transmitting and receiving Ethernet data through 64 virtual stations.

The 64 virtual stations were set up as follows: The Smartbits Data Generator Port #1, EUT, and a laptop for command and control were connected to Ethernet Hub #1. The laptop was also directly connected to the Smartbits Data Generator through another Ethernet port on the Smartbits Data Generator. The Smartbits Data Generator Port #2 and the Linksys Access Point were connected to Ethernet Hub #2. All pieces of equipment were plugged into the AC public mains via AC adapters except for the Smartbits Data Generator, which plugged directly into the AC public mains.

Note: The Smartbits Data Generator, Ethernet Hub #1, Ethernet Hub #2, laptop, and Linksys Access Point were all located inside the building, approximately 50 feet away from the test site.

For the intentional radiator portion of the test - The EmulationEngine Model: RCX-11ABG3 (EUT) was set up as mentioned above for the digital portion of the test. The laptop was also used to program the access point so that the EUT could switch channels and data rates.

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 50 foot unshielded cable connecting the EUT to Ethernet Hub #1. It has an RJ-45 connector at each end.

Cable 2 This is a 10 foot unshielded cable connecting Ethernet Hub #1 to the Smartbits Data Generator. It has an RJ-45 connector at each end.

Cable 3 This is a 6 foot unshielded cable connecting Ethernet Hub #1 to the laptop. It has an RJ-45 connector at each end.

Cable 4 This is a 10 foot unshielded cable connecting the laptop to the Smartbits Data Generator. It has an RJ-45 connector at each end.

Cable 5 This is a 6 foot unshielded cable connecting the Smartbits Data Generator to Ethernet Hub #2. It has an RJ-45 connector at each end.

Cable 6 This is a 6 foot unshielded cable connecting Ethernet Hub #2 to the access point. It has an RJ-45 connector at each end.

Cable 7 This is a 6 foot unshielded cable connecting the EUT to the AC Adapter. It has a 1/8 inch power connector at the EUT end and is hard wired into the AC Adapter.

Cable 8 This is a 6 foot unshielded cable connecting the access point to the AC Adapter. It has a 1/8 inch power connector at the access point end and is hard wired into the AC Adapter.

Cable 9 This is a 6 foot unshielded cable connecting Ethernet Hub #2 to the AC Adapter. It has a 1/8 inch power connector at the Ethernet Hub #2 end and is hard wired into the AC Adapter.

Cable 10 This is a 6 foot unshielded cable connecting Ethernet Hub #1 to the AC Adapter. It has a 1/8 inch power connector at the Ethernet Hub #1 end and is hard wired into the AC Adapter.

Cable 11 This is a 6 foot unshielded cable connecting the laptop to the AC Adapter. It has a 1/8 inch power connector at the laptop end and is hard wired into the AC Adapter.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
EmulationEngine (EUT)	COMMUNICATION MACHINERY CORPORATION	RCX-EE11ABG3	N/A	**RCX-EE11ABG3**
AC ADAPTER (EUT)	N/A	AM-121000	N/A	**N/A**
LINKSYS ACCESS POINT	LINKSYS	WAP51AB	MCG102B03982	**PKW-WAP51AB**
AC ADAPTER FOR LINKSYS ACCESS POINT	LINKSYS	MS15-050250-A1D	N/A	**N/A**
SMARTBITS DATA GENERATOR	SPIRENT COMMUNICATIONS	SMB-0200	2992	**N/A**
ETHERNET HUB #1	N/A	N/A	N/A	**N/A**
ETHERNET HUB #2	LINKSYS	NH1005.V2	N/A	**N/A**
AC ADAPTER FOR HUB #1	RADIO SHACK	Catalog #: 273-1764	N/A	**N/A**
AC ADAPTER FOR HUB #2	LINKSYS	AD 7.5/7	N/A	**N/A**
LAPTOP	COMPAQ	U98.003.C.00	N/A	**N/A**

5.2 EMI Test Equipment for Brea Facility – Part 1

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
Radiated Emissions Manual Test – Radiated	Compatible Electronics	N/A	N/A	N/A	N/A
Conducted Emissions Test Program	Compatible Electronics	N/A	N/A	N/A	N/A
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	3638A08768	June 25, 2003	June 25, 2003
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	3701A22262	June 25, 2003	June 25, 2003
Quasi-Peak Adapter	Hewlett Packard	85650A	2811A01363	June 24, 2003	June 24, 2003
Preamplifier	Com Power	PA-102	1017	January 6, 2004	Jan. 6, 2005
Biconical Antenna	Com Power	AB-100	1548	October 8, 2003	Oct. 8, 2004
Log Periodic Antenna	Com Power	AL-100	16089	October 8, 2003	Oct. 8, 2004
Computer	Hewlett Packard	D5251A 888	US74458128	N/A	N/A
Monitor	Hewlett Packard	D5258A	DK74889705	N/A	N/A
LISN	Com Power	LI-215	12078	November 22,2003	Nov. 22, 2004
LISN	Com Power	LI-215	12082	November 22,2003	Nov. 22, 2004
RF Attenuator	Weinschel Corporation	2	BJ6396	August 7, 2003	Aug. 7, 2004

5.3 EMI Test Equipment for Brea Facility – Part 2

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
EMI Receiver	Rohde & Schwarz	ESIB40	100172	July 22, 2003	July 22, 2004
Horn Antenna	Antenna Research	DRG-118/A	1053	January 16, 2004	Jan. 16, 2005
Horn Antenna	Com Power	AH826	0071957	November 5, 2003	Nov. 5, 2004
Horn Antenna	Com Power	MWH-2640/B	1011	November 5, 2003	Nov. 5, 2004
Microwave Preamplifier	Com Power	PA-122	25195	August 19, 2003	Aug. 19, 2004
Microwave Preamplifier	Com Power	PA-840	711013	March 12, 2004	Mar. 12, 2005
Loop Antenna	Com Power	AB-100	25310	June 4, 2003	June 4, 2004

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 8.1 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 Antenna Gain

The 802.11a antenna has a gain of 0 dBi.

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 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: 2001. 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 limits of CFR Title 47, Part 15, Subpart E 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, the Com-Power Microwave Preamplifier Model: PA-122 was used for frequencies from 1 GHz to 18 GHz, and the Com Power Microwave Preamplifier Model: PA-840 was used for frequencies from 18 GHz to 40 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.

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 40 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: 2001. 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 to obtain the final data.

8.2 Emission Bandwidth – 26 dB for UNII Devices

The transmitter output is connected to the EMI Receiver. The RBW is set to 1% to 3% of the 26 dB bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled.

Test Results:

The EUT complies with the requirements of CFR Title 47, Part 15, Subpart E, section 15.403 [c].

8.3 Peak Power for UNII Devices

The EUT is directly connected to the EMI Receiver.

The test is performed in accordance with FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices – Part 15, Subpart E, August 2002.

Method #3 is used.

Test Results:

The EUT complies with the requirements of CFR Title 47, Part 15, Subpart E, section 15.407 (a)(1) and (a)(2).

8.4 Peak Power Spectral Density for UNII Devices

The EUT is directly connected to the EMI Receiver.

The test is performed in accordance with FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices – Part 15, Subpart E, August 2002. PPSD method #2 was used.

Test Results:

The EUT complies with the requirements of CFR Title 47, Part 15, Subpart E, section 15.407 (a)(1) and (a)(2).

8.5 Peak Excursion for UNII Devices

The EUT was directly connected to the EMI Receiver.

The test is performed in accordance with FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices – Part 15, Subpart E, August 2002. Since method #3 was used for the peak power measurements, method #3 is used for the second PPSD trace.

Test Results:

The EUT complies with the requirements of CFR Title 47, Part 15, Subpart E, section 15.407 (a)(1) and (a)(6).

8.6 RF Band Edges

The RF band edges were taken at the 5150 MHz and 5350 MHz. The readings taken were also 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. Data sheets are included in Appendix E, which compares the reading from the spectrum analyzer to the spec limit.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart E. The RF power at the band edges at 5150 MHz and 5350 MHz meet the limits of section FCC Title 47, Part 15, Subpart C, Section 15.209. Please see the data sheets located in Appendix E.

9. CONCLUSIONS

The EmulationEngine meets all of the specification limits defined in FCC Title 47, Part 15, Subpart B and Subpart E.

Note: For the unintentional radiator portion of the test for radiated emissions from 30 MHz to 1000 MHz, the EUT was within the **Class A** specification limits defined in CFR Title 47, Part 15, Subpart B.

Note: The 5.15–5.25 GHz and 5.25–5.35 GHz bands are applicable to this report; other bands of operation (2.4 and 5.8 GHz) are documented in the Compatible Electronics, Inc. report number **B40331D1**.

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 Subpart B and Subpart E 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

EmulationEngine
Model: RCX-EE11ABG3
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

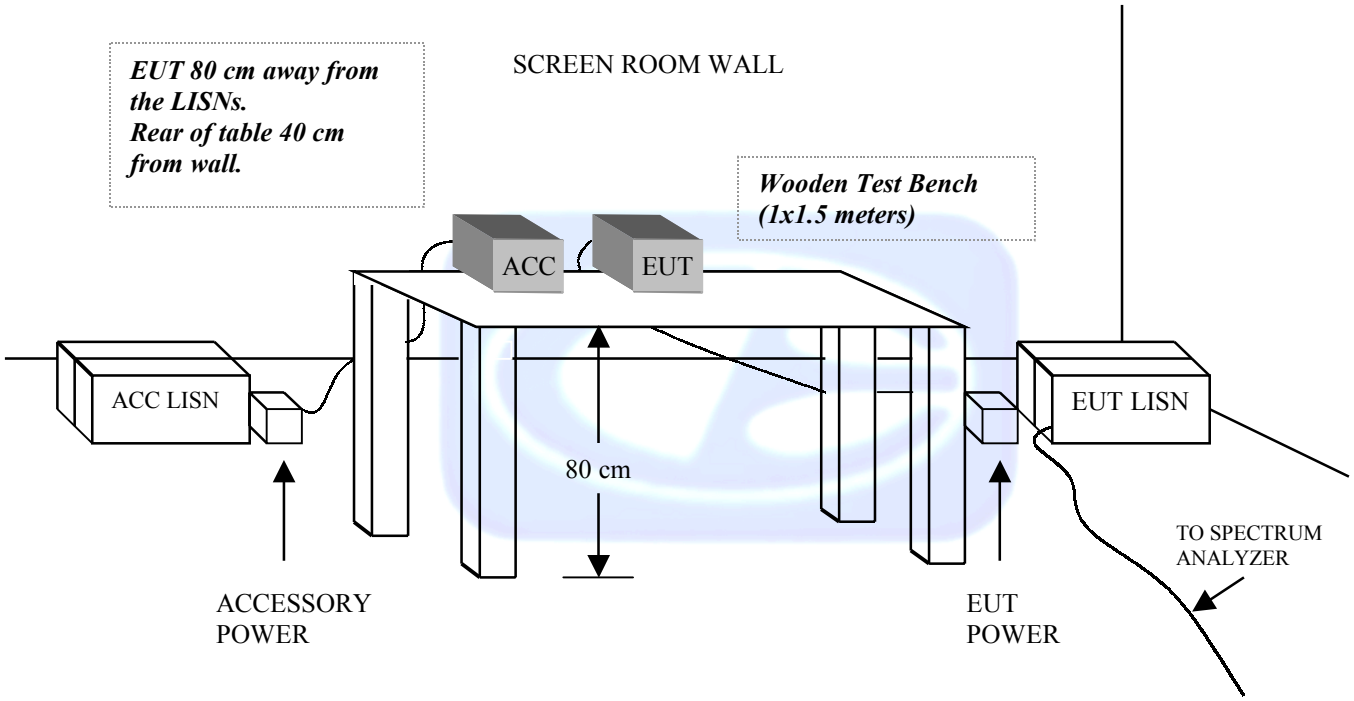
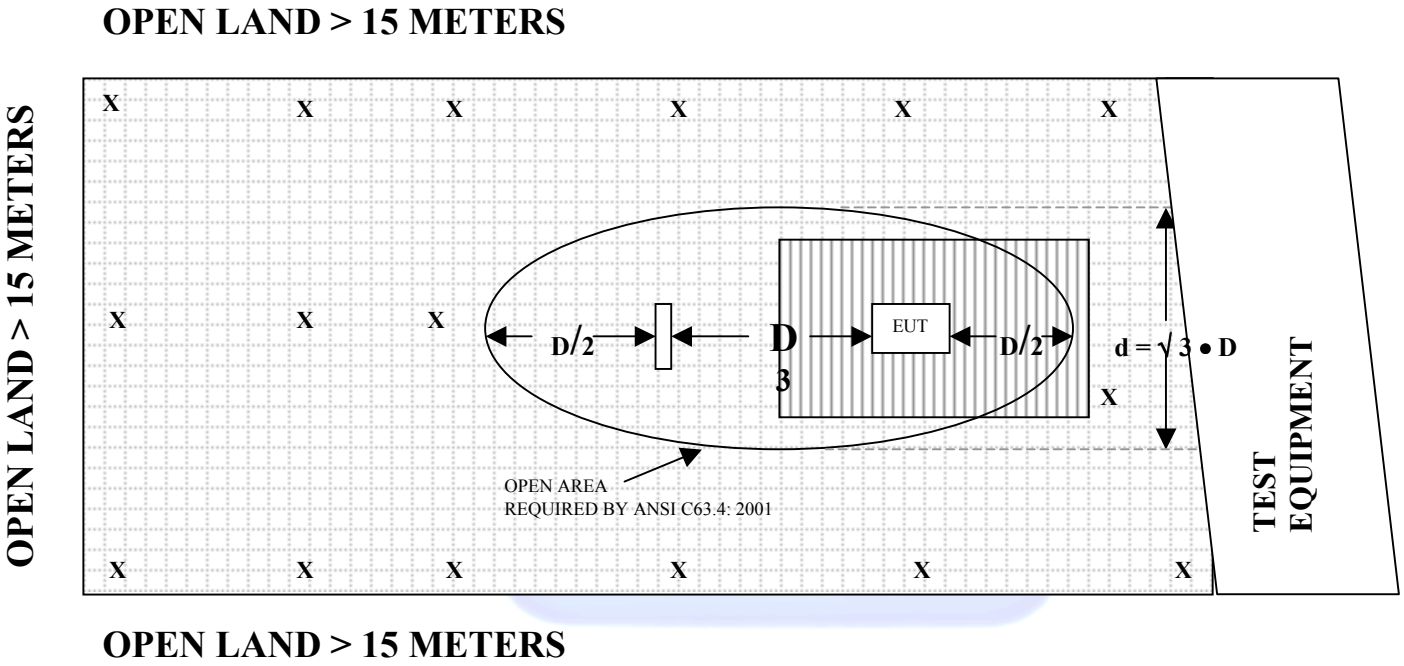


FIGURE 2: PLOT MAP AND LAYOUT OF 3 METER RADIATED SITE



COM-POWER AB-100

BICONICAL ANTENNA

S/N: 1548

CALIBRATION DATE: OCTOBER 8, 2003

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	13.1	120	9.9
35	12.9	125	11.4
40	14.6	140	12.0
45	12.8	150	13.0
50	12.9	160	13.9
60	9.3	175	14.2
70	8.2	180	14.3
80	8.0	200	14.9
90	8.1	250	16.6
100	8.8	300	19.7

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16089

CALIBRATION DATE: OCTOBER 8, 2003

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	12.8	700	20.0
400	14.4	800	21.2
500	16.0	900	20.8
600	17.7	1000	21.7

COM-POWER PA-102

PREAMPLIFIER

S/N: 1017

CALIBRATION DATE: JANUARY 6, 2004

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	37.8	300	37.6
40	37.5	350	37.5
50	37.7	400	37.5
60	37.5	450	37.0
70	37.5	500	37.1
80	37.5	550	37.3
90	37.5	600	37.1
100	37.5	650	37.4
125	37.8	700	37.1
150	37.5	750	37.1
175	37.5	800	36.8
200	37.6	850	36.2
225	37.6	900	36.7
250	37.5	950	36.2
275	37.6	1000	35.3

COM-POWER PA-122

MICROWAVE PREAMPLIFIER

S/N: 25195

CALIBRATION DATE: AUGUST 19, 2003

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	30.8	6.0	33.3
1.1	30.9	6.5	32.7
1.2	30.9	7.0	31.8
1.3	30.4	7.5	31.6
1.4	30.7	8.0	30.3
1.5	31.0	8.5	29.0
1.6	31.2	9.0	29.0
1.7	30.3	9.5	29.5
1.8	28.9	10.0	30.9
1.9	31.2	11.0	30.2
2.0	30.9	12.0	28.7
2.5	30.4	13.0	30.3
3.0	31.7	14.0	28.7
3.5	32.6	15.0	29.5
4.0	32.6	16.0	31.1
4.5	32.2	17.0	30.1
5.0	31.1	18.0	28.6
5.5	30.6		

COM-POWER PA-840

MICROWAVE PREAMPLIFIER

S/N: 711013

CALIBRATION DATE: MARCH 12, 2004

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	26.7	29.5	27.1
18.5	26.0	30.0	27.2
19.0	25.5	30.5	28.1
19.5	25.1	31.0	27.2
20.0	24.5	31.5	29.1
20.5	24.3	32.0	27.1
21.0	23.9	32.5	26.9
21.5	23.7	33.0	27.1
22.0	23.8	33.5	26.8
22.5	24.0	34.0	26.5
23.0	24.1	34.5	26.4
23.5	24.8	35.0	25.8
24.0	25.2	35.5	24.7
24.5	25.7	36.0	24.6
25.0	26.2	36.5	25.6
25.5	26.5	37.0	25.5
26.0	27.0	37.5	26.1
26.5	27.0	38.0	25.9
27.0	26.8	38.5	23.9
27.5	24.3	39.0	22.8
28.0	26.7	39.5	21.3
28.5	27.2	40.0	23.4
29.0	27.3		

ANTENNA RESEARCH DRG-118/A

HORN ANTENNA

S/N: 1053

CALIBRATION DATE: JANUARY 16, 2004

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	24.4	10.0	38.7
1.5	25.2	10.5	39.0
2.0	28.2	11.0	38.9
2.5	28.5	11.5	41.3
3.0	30.1	12.0	40.5
3.5	31.0	12.5	40.0
4.0	31.2	13.0	40.2
4.5	31.9	13.5	40.5
5.0	33.2	14.0	41.6
5.5	33.7	14.5	44.8
6.0	34.3	15.0	41.4
6.5	35.0	15.5	39.2
7.0	36.7	16.0	39.4
7.5	37.3	16.5	40.9
8.0	37.1	17.0	42.6
8.5	37.3	17.5	45.1
9.0	37.7	18.0	41.7
9.5	38.6		

COM-POWER AL-130

LOOP ANTENNA

S/N: 25310

CALIBRATION DATE: JUNE 4, 2003

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-41.2	10.3
0.01	-41.3	10.2
0.02	-42.3	9.2
0.05	-42.5	9.0
0.07	-42.3	9.2
0.1	-42.5	9.0
0.2	-44.6	6.9
0.3	-42.1	9.4
0.5	-42.4	9.1
0.7	-42.1	9.4
1	-41.5	10.0
2	-41.0	10.5
3	-41.3	10.2
4	-41.3	10.2
5	-40.9	10.6
10	-41.6	9.9
15	-42.1	9.4
20	-42.2	9.3
25	-42.7	8.8
30	-44.3	7.2

COM-POWER AH826

HORN ANTENNA

S/N: 0071957

CALIBRATION DATE: NOVEMBER 05, 2003

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	33.3	22.5	32.9
18.5	32.9	23.0	33.0
19.0	32.7	23.5	33.6
19.5	32.6	24.0	33.6
20.0	32.7	24.5	33.5
20.5	33.0	25.0	33.5
21.0	33.0	25.5	33.7
21.5	33.2	26.0	34.1
22.0	32.9	26.5	34.5

COM-POWER MWH-2640/B

HORN ANTENNA

S/N: 1011

CALIBRATION DATE: NOVEMBER 05, 2003

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
26.5	36.0	33.5	36.0
27.0	36.0	34.0	36.8
27.5	35.6	34.5	37.3
28.0	35.9	35.0	37.7
28.5	35.8	35.5	37.8
29.0	36.0	36.0	38.2
29.5	35.9	36.5	38.3
30.0	36.4	37.0	38.2
30.5	36.4	37.5	38.6
31.0	36.8	38.0	38.6
31.5	36.5	38.5	39.1
32.0	36.5	39.0	38.8
32.5	36.2	39.5	39.0
33.0	36.4	40.0	39.5

FRONT VIEW

COMMUNICATION MACHINERY CORPORATION
EmulationEngine
MODEL: RCX-EE11ABG3
FCC SUBPART B and E – RADIATED EMISSIONS – 03-17-04

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

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FCC SUBPART B – RADIATED EMISSIONS – 03-26-04

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