FCC PART 15, SUBPART B and C
TEST REPORT

for

INDOOR MANAGER

MODEL: D-9700

Prepared for

GATEKEEPER SYSTEMS, INC.
8 STUDEBAKER
IRVINE, CALIFORNIA 92618

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DATE: SEPTEMBER 2, 2008

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

Device Tested:	Indoor Manager Model: D-9700 S/N: N/A
Product Description:	See Expository Statement.
Modifications:	The EUT was not modified during the testing.
Manufacturer:	Gatekeeper Systems, Inc. 8 Studebaker Irvine, California 92618
Test Dates:	July 9, 10, 11, and 15, 2008
Test Specifications:	EMI requirements CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.247
Test Procedure:	ANSI C63.4
Test Deviations:	The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz – 30 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 15, Subpart C, section 15.207
2	Spurious Radiated RF Emissions, 10 kHz - 25000 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 15, Subpart C, section 15.247(d)
3	Fundamental and Emissions produced by the intentional radiator in non-restricted bands, 10 kHz – 40 GHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(d)
4	Emissions produced by the intentional radiator in restricted bands, 10 kHz – 40 GHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.205, 15.209(a), and section 15.247 (d)
5	6 dB Bandwidth	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(a)(2)
6	Peak Power Output	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(b)(3)
7	RF Conducted Antenna Test	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(d)
8	Peak Power Spectral Density Conducted from the Intentional Radiator to the Antenna	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (e)

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Indoor Manager, Model: D-9700. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B for the digital and receiver portion; and the limits defined in Subpart C, sections 15.205, 15.209, and 15.247 for the transmitter portion.

This test report covers the data radio, which was tested under section 15.247. For the announce radio, please see the Compatible Electronics test report number: **B80716D1.**

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

Gatekeeper Systems, Inc.

Mike James Principal Engineer

Compatible Electronics, Inc.

Kyle Fujimoto Test Engineer
James Ross Test Engineer

2.4 Date Test Sample was Received

The test sample was received on July 9, 2008.

2.5 Disposition of the Test Sample

The sample was returned to Gatekeeper Systems, Inc. on July 15, 2008.

2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
HP	Hewlett Packard
ITE	Information Technology Equipment
CML	Corrected Meter Limit
LISN	Line Impedance Stabilization Network

3. APPLICABLE DOCUMENTS

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

SPEC	TITLE
CFR Title 47, Part 15	FCC Rules – Radio frequency devices (including digital devices)
ANSI C63.4 2003	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Combinations of the EUT

The EUT can be configured in the following combinations:

COMBINATION	PORT 1	PORT 2	PORT 5	PORT 6
1	DIPOLE	--	--	DIPOLE
2	PATCH	--	--	DIPOLE
3	PATCH	--	--	PATCH
4	PATCH	DIPOLE	--	DIPOLE
5	PATCH	DIPOLE	--	PATCH
6	PATCH	PATCH	--	DIPOLE
7	PATCH	PATCH	--	PATCH
8	--	DIPOLE	--	DIPOLE
9	--	PATCH	--	DIPOLE
10	PATCH	DIPOLE	DIPOLE	PATCH
11	PATCH	DIPOLE	DIPOLE	PATCH
12	PATCH	PATCH	DIPOLE	PATCH
13	PATCH	PATCH	PATCH	PATCH

1. Port #1 and #2 are for the Announce Radio and Port #5 and Port #6 are for the Data Radio
2. Only the 12 dBi patch antenna was tested because this was the highest gain antenna of this type.
3. The data for Port #1 and #2 are in the Compatible Electronics, Inc. test report number **B80716D1,** this test report covers the Data Radio (Port #5 and Port #6).
4. For the Direct Measurements – Port #6 was used for the final testing only. Port #5 was also checked to insure that the emissions were not higher from that port and also verified that the power output was similar to antenna port #6. .
5. It was determined that configurations #1, #11, and #13 were the worst case configurations for the EUT.
6. Port #6 was tested for Band Edges, harmonics, and spurious emissions using the patch antenna with configurations #11 and #13. The final data was taken with configuration #13, as this was the configuration with the highest gain.
7. Port #1 was tested for Band Edges, harmonics, and spurious emissions using the dipole antenna with configuration #1.

4.2 Description of Test Configuration - EMI

Setup and operation of the equipment under test.

Specifics of the EUT and Peripherals Tested

Configuration #13: The Indoor Manager, Model: D-9700 (EUT) was connected to four panel type antennas via antenna port #1, antenna port #2, antenna port #5 (left data radio), and antenna port #6 (right data radio). Also, a loopback cable was connected from pin #2 of terminal block #2 to pin #4 of terminal block #2. The EUT was also continuously transmitting or receiving, depending on the test performed.

Configuration #11: The Indoor Manager, Model: D-9700 (EUT) was connected to two panel type antennas via antenna port #1 and antenna port #6 (right data radio). Two dipole antennas were directly connected to antenna port #2 and antenna port #5 (left data radio). Also, a loopback cable was connected from pin #2 of terminal block #2 to pin #4 of terminal block #2. The EUT was also continuously transmitting or receiving, depending on the test performed.

Configuration #1: The Indoor Manager, Model: D-9700 (EUT) was directly connected to two dipole antennas via antenna port #1 and antenna port #6 (right data radio). Also, a loopback cable was connected from pin #2 of terminal block #2 to pin #4 of terminal block #2. The EUT was also continuously transmitting or receiving, depending on the test performed.

Note: For all configurations – Antenna port #3, which is a PCB trace inside the EUT will never be used. Also, antenna port #4 (the middle SMA connector on the EUT) is not connected and will not be used.

Two panel type antennas will be used for the certification. The one with the highest gain (12 dBi) was used for the testing.

The EUT was also controlled by a laptop via a serial port inside the EUT. The laptop sent commands to the EUT via a serial cable so that the EUT could be placed in the low, middle, and high channels. The EUT was also continuously transmitting or receiving, depending on the test performed. The serial port will not be connected during normal operation, as it is for diagnostics (i.e. troubleshooting the EUT) purposes only.

For this test report, the EUT was investigated for the data radio (antenna ports #5 and #6). For the announce radio (antenna ports #1 and #2), please see Compatible Electronics report number: **B80716D1.**

It was determined that antenna port #6 was worst case and all of the data was taken with that port. Antenna port #5 was spot checked to insure that the emissions were not higher from that port and also verified that the power output was similar to antenna port #6.

The final radiated data was taken in the modes above. Please see Appendix E for the data sheets.

4.2.1 Cable Construction and Termination

Configuration #13

Cable 1 This is a 1.2-meter braid shielded cable connecting the EUT to cable #2. The cable has an SMA connector at the EUT end and a metallic 'N' connector at the cable #2 end. The cable was bundled with cable #2 to a length of 1 meter. The shield of the cable was grounded to the chassis via the connectors.

Cable 2 This is a 30-centimeter braid shielded cable connecting the panel antenna #1 to cable #1. The cable has a metallic 'N' connector at the cable #1 end and is hard wired into the panel type antenna. The cable was bundled with cable #1 to a length of 1 meter. The shield of the cable was grounded to the chassis via the connector.

Cable 3 This is a 1.2-meter braid shielded cable connecting the EUT to cable #4. The cable has an SMA connector at the EUT end and a metallic 'N' connector at the cable #4 end. The cable was bundled with cable #4 to a length of 1 meter. The shield of the cable was grounded to the chassis via the connectors.

Cable 4 This is a 30-centimeter braid shielded cable connecting the panel antenna #2 to cable #3. The cable has a metallic 'N' connector at the cable #3 end and is hard wired into the panel type antenna. The cable was bundled with cable #3 to a length of 1 meter. The shield of the cable was grounded to the chassis via the connector.

Cable 5 This is a 1.2-meter braid shielded cable connecting the EUT to cable #6. The cable has an SMA connector at the EUT end and a metallic 'N' connector at the cable #6 end. The cable was bundled with cable #6 to a length of 1 meter. The shield of the cable was grounded to the chassis via the connectors.

Cable 6 This is a 30-centimeter braid shielded cable connecting the panel antenna #3 to cable #5. The cable has a metallic 'N' connector at the cable #5 end and is hard wired into the panel type antenna. The cable was bundled with cable #5 to a length of 1 meter. The shield of the cable was grounded to the chassis via the connector.

Cable 7 This is a 1.2-meter braid shielded cable connecting the EUT to cable #8. The cable has an SMA connector at the EUT end and a metallic 'N' connector at the cable #8 end. The cable was bundled with cable #8 to a length of 1 meter. The shield of the cable was grounded to the chassis via the connectors.

Cable 8 This is a 30-centimeter braid shielded cable connecting the panel antenna #4 to cable #7. The cable has a metallic 'N' connector at the cable #7 end and is hard wired into the panel type antenna. The cable was bundled with cable #7 to a length of 1 meter. The shield of the cable was grounded to the chassis via the connector.

4.2.2 Cable Construction and Termination (continued)

Cable 9 **(For diagnostics only when changing the channel on the EUT)** This is a 2-meter braid and foil shielded cable connecting the EUT to the laptop. The cable has a metallic D-9 pin connector at each end. The shield of the cable was grounded to the chassis via the connector.

Cable 10 This is a 2-meter unshielded cable connecting pin #2 of terminal block #2 of the EUT to pin #4 of terminal block #2 of the EUT. The cable is hard wired at each end. The cable was bundled to a length of 1 meter.

Configuration #11: The cable setup is the same for cables #1 through #2 and cables #7 through #10. Cables #3 through #4 have been removed and replaced by a dipole antenna that directly connects to the antenna port #2. Cables #5 through #6 have been removed and replaced by a dipole antenna that directly connects to antenna port #5.

Configuration #1: Only cables #9 and #10 are the same. Cables #1 through #8 have been removed because all of the antennas ports are now terminated via dipole antennas that directly connect to the antenna ports.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
INDOOR MANAGER (EUT)	GATEKEEPER SYSTEMS, INC.	D-9700	N/A	**SOX-D9700**
LAPTOP	DELL	D505	N/A	DoC
DIPOLE ANTENNA #1	NEARSON	P/N: S151AM-2450S	N/A	N/A
DIPOLE ANTENNA #2	NEARSON	P/N: S151AM-2450S	N/A	N/A
DIPOLE ANTENNA #3	NEARSON	P/N: S151AM-2450S	N/A	N/A
DIPOLE ANTENNA #4	NEARSON	P/N: S151AM-2450S	N/A	N/A
PANEL TYPE ANTENNA #1	CUSHCRAFT	P/N: S2401240P12NF	N/A	N/A
PANEL TYPE ANTENNA #2	CUSHCRAFT	P/N: S2401240P12NF	N/A	N/A
PANEL TYPE ANTENNA #3	CUSHCRAFT	P/N: S2401240P12NF	N/A	N/A
PANEL TYPE ANTENNA #4	CUSHCRAFT	P/N: S2401240P12NF	N/A	N/A

*Also to be certified with the EUT will be the Cushcraft P/N: S2408P12 antenna. The P/N: SP2408P12 antenna is the same type of antenna as the Cushcraft P/N: S2401240P12NF except the P/N: SP2408P12 is only 8 dBi instead of 12 dBi (P/N: S2401240PNF).

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE DATE
GENERAL TEST EQUIPMENT USED FOR ALL RF EMISSIONS TESTS					
Computer	Hewlett Packard	4530	US91912319	N/A	N/A
Monitor	Hewlett Packard	D5258A	TW74500641	N/A	N/A
RF RADIATED EMISSIONS TEST EQUIPMENT					
EMI Receiver	Rohde & Schwarz	ESIB40	100172	November 27, 2006	Nov. 27, 2008
Biconical Antenna	Com Power	AB-900	15227	February 28, 2008	Feb. 28, 2009
Log Periodic Antenna	Com Power	AL-100	16252	June 27, 2008	June 27, 2009
Preamplifier	Com-Power	PA-103	1582	January 11, 2008	Jan. 11, 2009
Loop Antenna	Com Power	AL-130	17089	September 24, 2007	Sept. 24, 2009
Horn Antenna	Com Power	AH-118	10073	July 17, 2006	July 17, 2008
Microwave Preamplifier	Com Power	PA-122	181921	March 3, 2008	March 3, 2009
Horn Antenna	Com Power	AH826	71957	December 12, 2007	Dec. 12, 2009
Microwave Preamplifier	Com Power	PA-840	711013	March 3, 2008	March 3, 2009
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A
Antenna Mast	EMCO	2070	N/A	N/A	N/A
Multi-Device Controller	EMCO	2090	9609-1176	N/A	N/A

5.3 EMI Test Equipment for Brea Facility – Part 2

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION CYCLE
RF CONDUCTED EMISSIONS TEST EQUIPMENT					
LISN	Com Power	LI-215	12078	September 21, 2007	Sept. 21, 2008
LISN	Com Power	LI-215	12082	September 21, 2007	Sept. 21, 2008
Transient Limiter	Com Power	252A910	1	September 19, 2007	Sept. 19, 2008
POWER MEASUREMENT TEST EQUIPMENT					
RF Peak Power Meter / Analyzer	Boonton Electronics Corp.	4500A-01-30	1282	June 30, 2008	June 30, 2009
Peak Power Sensor	Boonton Electronics Corp.	57318	3723	June 25, 2008	June 25, 2009

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 grounded to earth ground via the safety ground of the AC power cord.

7. CHARACTERISTICS OF THE TRANSMITTER

7.1 Channel Number and Frequencies

Please see the theory of operation exhibit for the list of channels and frequencies.

7.2 Antenna Gain

The antenna gain of the dipole antenna is 5 dBi.
The antenna gain of the panel type antenna is 12 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. 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 EMI Receiver 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 Models: PA-122 and PA-840 were used for frequencies above 1 GHz. The EMI Receiver was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the EMI Receiver records the highest measured reading over all the sweeps.

The frequencies above 1 GHz were averaged manually by narrowing the video filter down to 2 kHz (VBW > 1/T, with T = 861.723447 uS) and putting the sweep time on AUTO on the EMI Receiver to keep the amplitude reading calibrated.

Also, where indicated on the data sheets, an additional duty cycle correction factor of 20 Log (Duty Cycle %) was applied to the manually averaged reading mentioned above.

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

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
9 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna
300 MHz to 1 GHz	120 kHz	Log Periodic Antenna
1 GHz to 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. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength). The gunsight method was used when measuring with the horn antenna in order to ensure accurate results. The loop antenna was also rotated in the horizontal and vertical axis in order to ensure accurate results.

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

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT was tested at a 3 meter test distance to obtain the final test data. The final qualification data sheets are located in Appendix E.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 15, Subpart C, sections 15.205, 15.209, and 15.247.

8.2 6 dB Bandwidth

The 6 dB bandwidth was measured using the EMI Receiver. The resolution bandwidth was 100 kHz and the video bandwidth was 300 kHz.

Test Results:

This test complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (a)(2).

8.3 Peak Output Power

The Peak Output Power was taken using the power meter and power sensor. The EUT was directly connected to the power sensor, which was directly connected to the power meter. The Peak Output Power was then taken.

Test Results:

This test complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (b)(3).

8.5 RF Antenna Conducted Test

The RF antenna conducted test was taken using the EMI Receiver. The RF antenna conducted test was measured using a direct connection from the RF out on the EUT into the input of the analyzer. The resolution bandwidth was 100 kHz, and the video bandwidth 300 kHz. The spans were wide enough to include all the harmonics and emissions that were produced by the intentional radiator.

Test Results:

This test complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (d).

8.6 RF Band Edges

The RF band edges were taken at the edges of the ISM spectrum (2400 MHz when the EUT was on the low channel and 2483.5 MHz when the EUT was on the high channel) using the EMI Receiver. A preamplifier was used to boost the signal level, with the plots being taken at a 3 meter test distance. The frequencies below 2390 MHz and above 2483.5 MHz were also averaged manually by narrowing the video filter down to 10 kHz and putting the sweep time on AUTO on the spectrum analyzer to keep the amplitude reading calibrated.

The data radio was programmed so that the channel separation between the announce radio and data radio was at the minimum separation possible. This was to verify that the side bands of the data radio did not significantly add to the announce radio at the band edges.

The worst case band edge was with the EUT in X-Axis with Configuration #13. Antenna port #6 was the worst case for both band edges.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). The emissions at the band edges at 2400 MHz and 2483.5 MHz meet the limits of section 15.209. Please see the data sheets located in Appendix E.

8.7 Spectral Density Test

The spectral density output was measured using the EMI Receiver. The spectral density output was measured using a direct connection from the RF out on the EUT into the input of the EMI Receiver. The resolution bandwidth was 3 kHz, and the video bandwidth was 10 kHz. The highest 1.5 MHz of the signal was used as the frequency span with the sweep rate being 1 second for every 3 kHz of span.

Test Results:

This test complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (e).

9. CONCLUSIONS

The Indoor Manager, Model: D-9700 meets all of the **Class B** specification limits defined in CFR Title 47, Part 15, Subpart B for the digital portion; and the limits defined in Subpart C, sections 15.205, 15.209, and 15.247 for the transmitter portion.

Note: This test report covers the announce radio only for the EUT. For the data radio, please see Compatible Electronics test report number: **B80716D1**.

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

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC 15.247 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

Indoor Manager
Model: D-9700
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

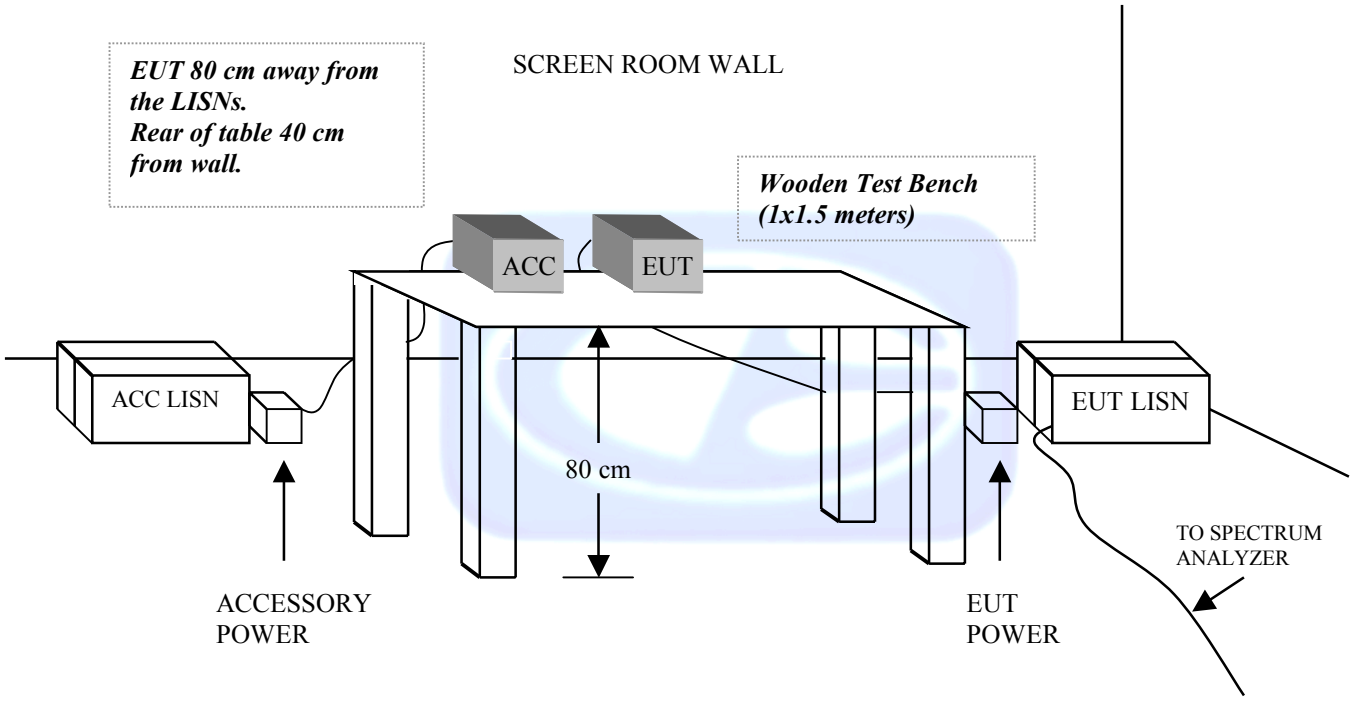
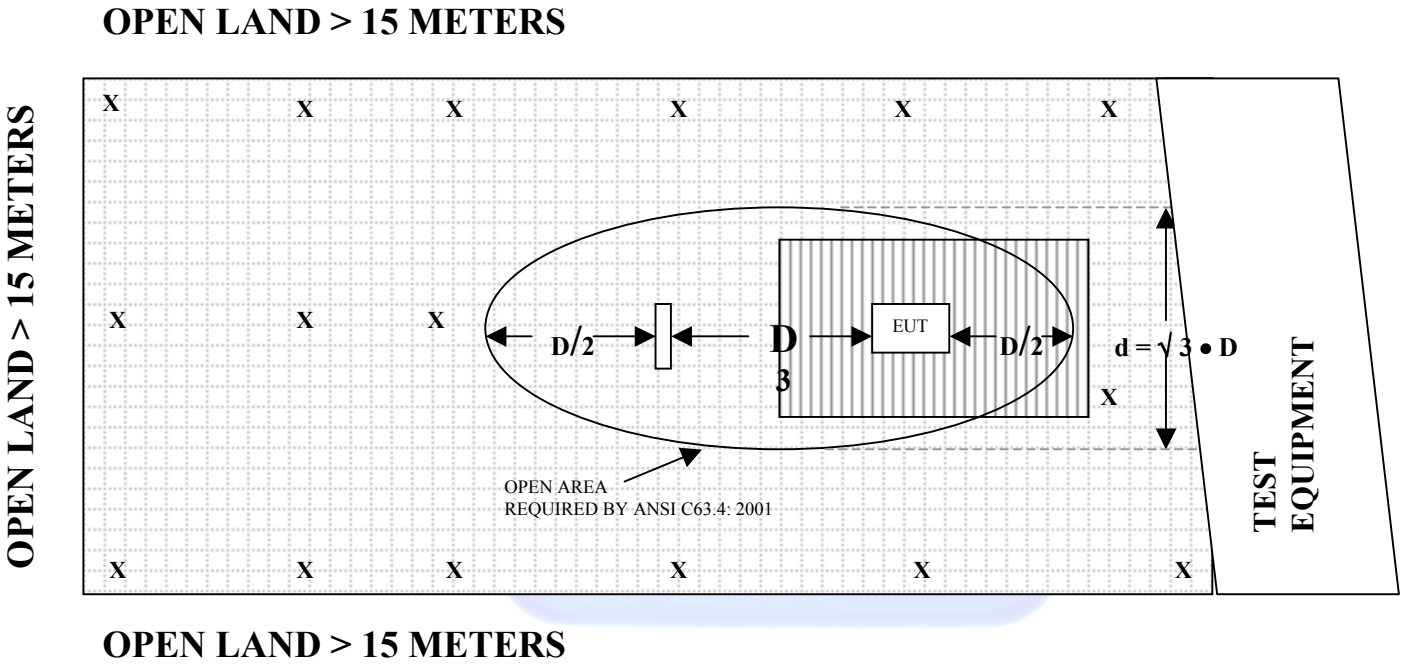


FIGURE 2: PLOT MAP AND LAYOUT OF 3 METER RADIATED SITE



COM-POWER AB-900

BICONICAL ANTENNA

S/N: 15227

CALIBRATION DATE: FEBRUARY 28, 2008

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	12.3	100	10.6
35	9.4	120	13.6
40	9.0	140	11.8
45	9.9	160	12.3
50	11.3	180	15.7
60	9.4	200	16.8
70	7.4	250	14.5
80	6.2	275	18.7
90	6.8	300	21.4

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16252

CALIBRATION DATE: JUNE 27, 2008

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	13.5	700	19.3
400	14.8	800	21.3
500	16.7	900	22.0
600	18.8	1000	22.8

COM-POWER PA-103

PREAMPLIFIER

S/N: 1582

CALIBRATION DATE: JANUARY 11, 2008

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	32.9	300	32.4
40	32.7	350	32.4
50	32.8	400	32.2
60	32.9	450	31.7
70	32.9	500	32.1
80	32.9	550	31.8
90	32.7	600	32.0
100	32.8	650	32.0
125	32.9	700	32.1
150	32.6	750	32.0
175	32.7	800	31.6
200	32.7	850	31.6
225	32.5	900	31.5
250	32.7	950	31.7
275	32.5	1000	31.3

COM-POWER PA-122

PREAMPLIFIER

S/N: 181921

CALIBRATION DATE: MARCH 3, 2008

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	36.32	10.0	35.47
1.5	35.40	10.5	35.05
2.0	34.77	11.0	34.16
2.5	35.07	11.5	33.75
3.0	34.86	12.0	34.65
3.5	34.48	12.5	34.41
4.0	34.30	13.0	35.36
4.5	33.96	13.5	35.30
5.0	34.06	14.0	35.87
5.5	34.54	14.5	36.44
6.0	35.90	15.0	36.24
6.5	36.85	15.5	35.92
7.0	36.55	16.0	35.53
7.5	35.31	16.5	35.29
8.0	33.57	17.0	34.96
8.5	33.36	17.5	34.02
9.0	35.01	18.0	33.39
9.5	35.97		

COM-POWER AH-118

DOUBLE RIDGE HORN ANTENNA

S/N: 10073

CALIBRATION DATE: JULY 17, 2006

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	25.331	10.0	42.391
1.5	27.507	10.5	39.194
2.0	31.581	11.0	38.504
2.5	30.906	11.5	40.724
3.0	30.276	12.0	41.079
3.5	30.396	12.5	41.014
4.0	30.881	13.0	41.201
4.5	32.77	13.5	42.335
5.0	34.067	14.0	43.248
5.5	33.914	14.5	45.639
6.0	34.028	15.0	43.197
6.5	35.779	15.5	41.751
7.0	38.347	16.0	42.462
7.5	39.096	16.5	41.908
8.0	39.377	17.0	40.277
8.5	38.646	17.5	48.117
9.0	37.438	18.0	54.113
9.5	38.403		

COM-POWER AL-130

LOOP ANTENNA

S/N: 17089

CALIBRATION DATE: SEPTEMBER 24, 2007

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-41.27	10.23
0.01	-41.96	9.54
0.02	-41.73	9.77
0.03	-40.46	11.04
0.04	-40.56	10.94
0.05	-42.00	9.50
0.06	-41.30	10.20
0.1	-41.43	10.07
0.2	-43.90	7.60
0.3	-41.43	10.07
0.4	-41.40	10.10
0.5	-41.40	10.10
0.6	-40.93	10.57
1	-40.83	10.67
2	-40.3	11.20
5	-40.2	11.30
8	-40.6	10.90
9	-40.1	11.40
10	-40.4	11.10
15	-41.67	9.83
20	-41.10	10.40
25	-42.8	8.70
30	-42.8	8.70

COM-POWER PA-840

MICROWAVE PREAMPLIFIER

S/N: 711013

CALIBRATION DATE: MARCH 3, 2008

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	27.49	29.5	26.44
18.5	28.46	30.0	26.95
19.0	28.98	30.5	26.42
19.5	28.46	31.0	27.11
20.0	28.23	31.5	27.27
20.5	27.44	32.0	26.76
21.0	26.91	32.5	24.49
21.5	26.65	33.0	23.19
22.0	26.50	33.5	22.57
22.5	27.15	34.0	22.11
23.0	27.36	34.5	23.52
23.5	27.08	35.0	24.86
24.0	26.36	35.5	25.52
24.5	24.95	36.0	25.81
25.0	26.83	36.5	22.08
25.5	27.00	37.0	23.31
26.0	27.58	37.5	26.91
26.5	26.02	38.0	25.89
27.0	24.20	38.5	24.75
27.5	23.64	39.0	25.77
28.0	26.39	39.5	25.83
28.5	26.66	40.0	27.62
29.0	26.40		

COM-POWER AH826

HORN ANTENNA

S/N: 71957

CALIBRATION DATE: DECEMBER 12, 2007

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	33.5	22.5	35.5
18.5	33.5	23.0	35.9
19.0	34.0	23.5	35.7
19.5	34.0	24.0	35.6
20.0	34.3	24.5	36.0
20.5	34.9	25.0	36.2
21.0	34.7	25.5	36.1
21.5	35.0	26.0	36.2
22.0	35.0	26.5	35.7

FRONT VIEW

GATEKEEPER SYSTEMS, INC.
INDOOR MANAGER
MODEL: D-9700
FCC SUBPART B AND C – RADIATED EMISSIONS – CONFIGURATION 1

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

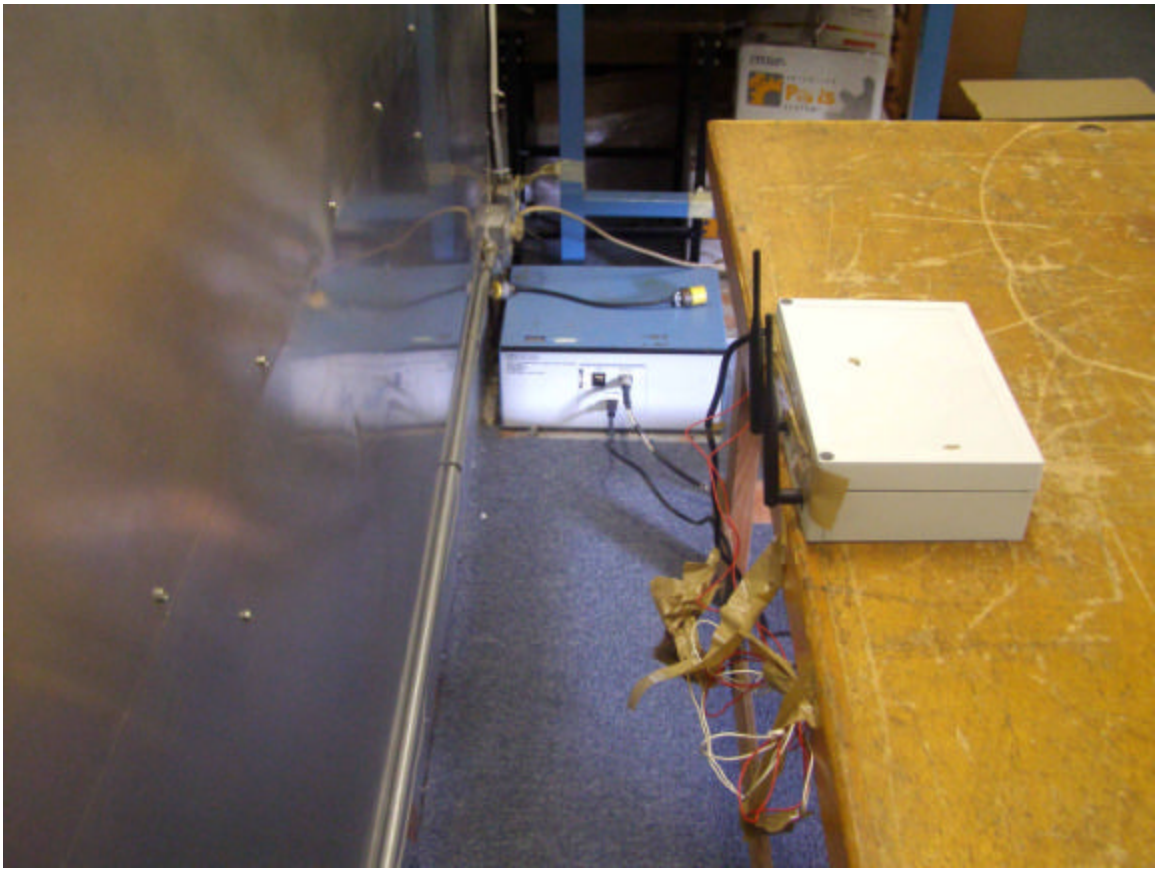
GATEKEEPER SYSTEMS, INC.
INDOOR MANAGER
MODEL: D-9700
FCC SUBPART B AND C – RADIATED EMISSIONS – CONFIGURATION 1

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

GATEKEEPER SYSTEMS, INC.
INDOOR MANAGER
MODEL: D-9700
FCC SUBPART B AND C – CONDUCTED EMISSIONS – CONFIGURATION 1

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

GATEKEEPER SYSTEMS, INC.
INDOOR MANAGER
MODEL: D-9700
FCC SUBPART B AND C – CONDUCTED EMISSIONS – CONFIGURATION 1

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

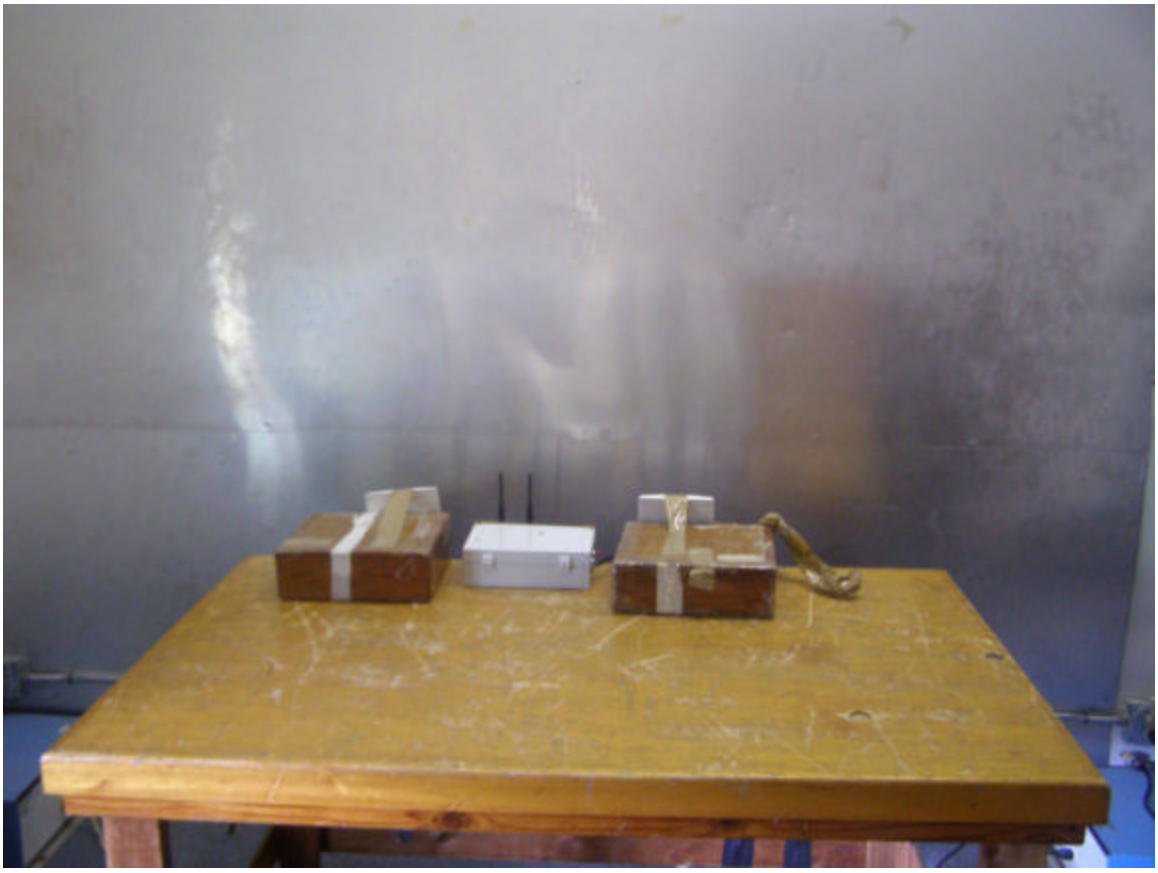
GATEKEEPER SYSTEMS, INC.
INDOOR MANAGER
MODEL: D-9700
FCC SUBPART B AND C – RADIATED EMISSIONS – CONFIGURATION 11

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

GATEKEEPER SYSTEMS, INC.
INDOOR MANAGER
MODEL: D-9700
FCC SUBPART B AND C – RADIATED EMISSIONS – CONFIGURATION 11

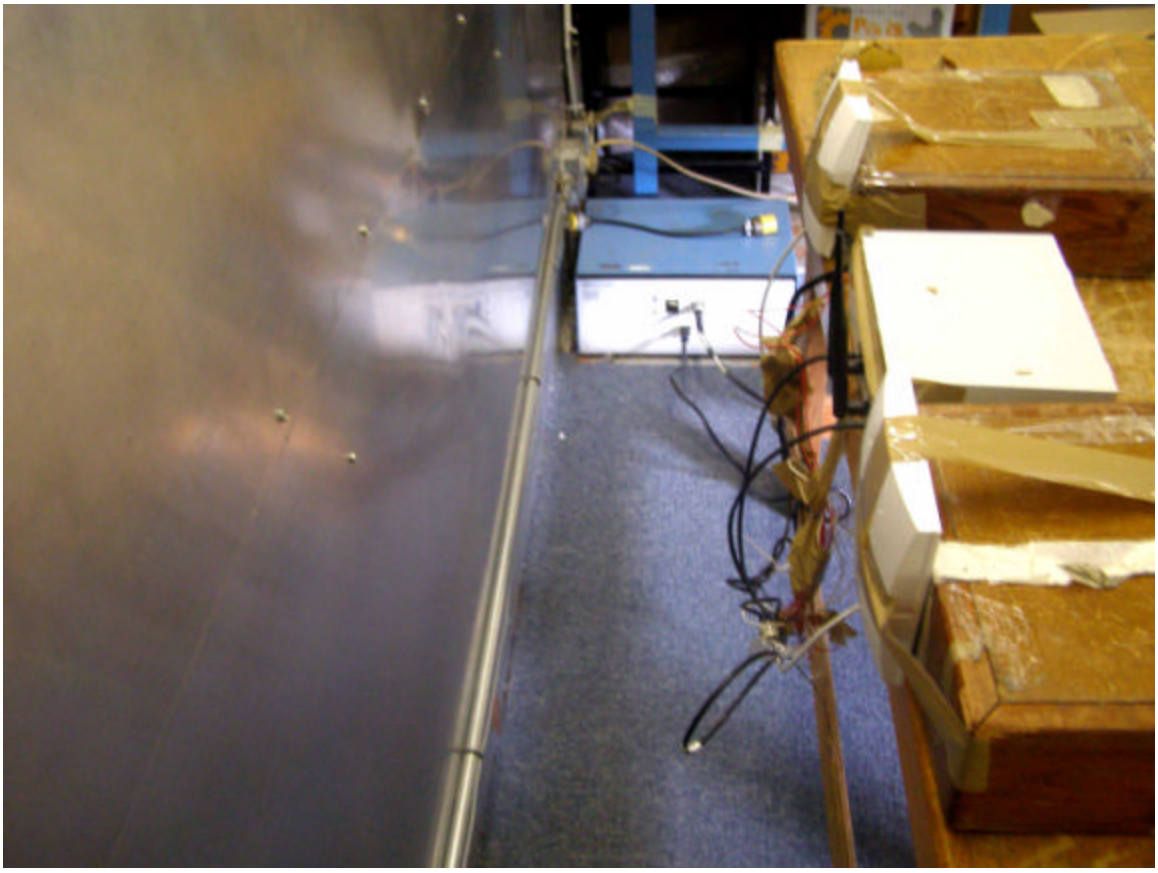
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

GATEKEEPER SYSTEMS, INC.
INDOOR MANAGER
MODEL: D-9700
FCC SUBPART B AND C – CONDUCTED EMISSIONS – CONFIGURATION 11

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

GATEKEEPER SYSTEMS, INC.
INDOOR MANAGER
MODEL: D-9700
FCC SUBPART B AND C – CONDUCTED EMISSIONS – CONFIGURATION 11

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

GATEKEEPER SYSTEMS, INC.
INDOOR MANAGER
MODEL: D-9700
FCC SUBPART B AND C – RADIATED EMISSIONS – CONFIGURATION 13

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

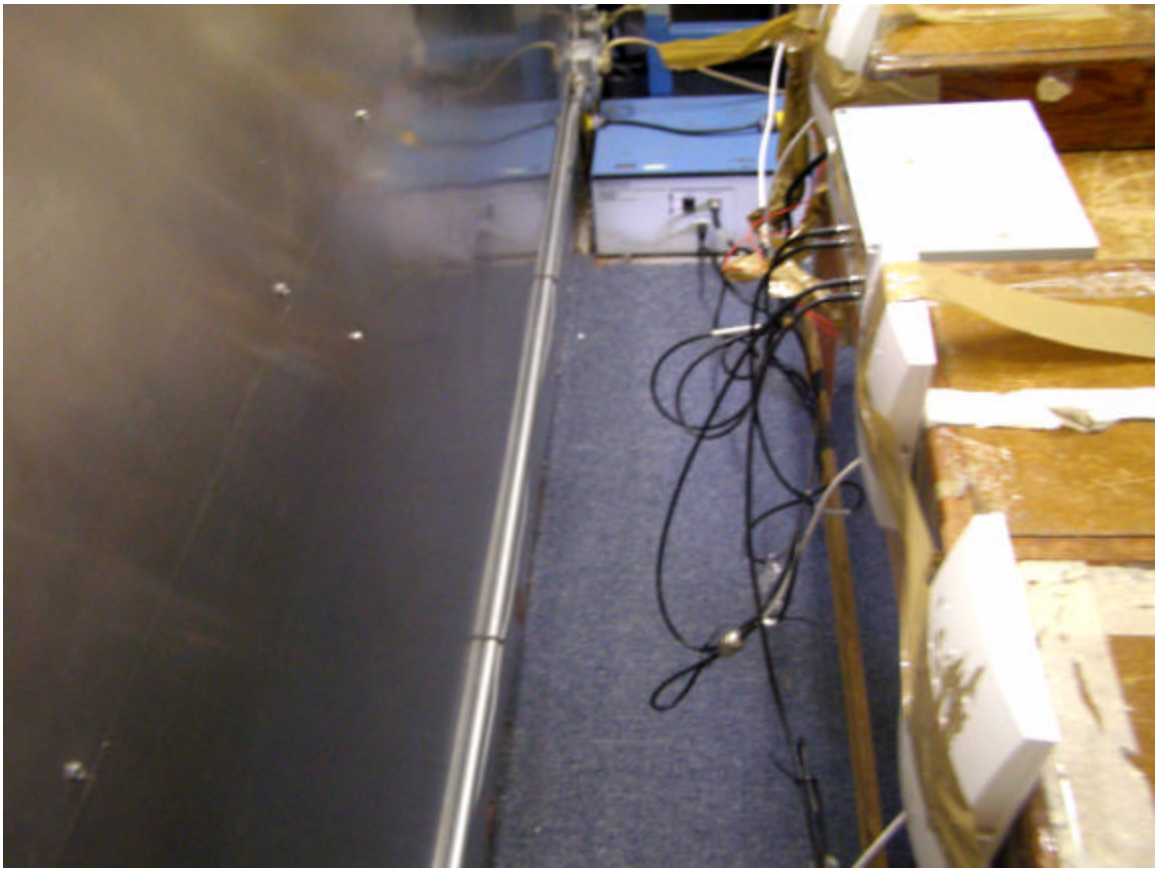
GATEKEEPER SYSTEMS, INC.
INDOOR MANAGER
MODEL: D-9700
FCC SUBPART B AND C – RADIATED EMISSIONS – CONFIGURATION 13

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

GATEKEEPER SYSTEMS, INC.
INDOOR MANAGER
MODEL: D-9700
FCC SUBPART B AND C – CONDUCTED EMISSIONS – CONFIGURATION 13

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

GATEKEEPER SYSTEMS, INC.
INDOOR MANAGER
MODEL: D-9700
FCC SUBPART B AND C – CONDUCTED EMISSIONS – CONFIGURATION 13

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS