

**KTL Test Report:** 0R03329

**Applicant:** Digital Security Controls Ltd.  
3301 Langstaff Road  
Vaughan, Ontario  
L4K 4L2

**Equipment Under Test:  
(E.U.T.)** NT9010A-433  
Receiver

**FCC ID:** F5301NB9010

**In Accordance With:** **FCC Part 15, Subpart B**  
Radio Receivers

**Tested By:** KTL Ottawa Inc.  
3325 River Road, R.R. 5  
Ottawa, Ontario K1V 1H2

**Authorized By:**  
  
G. Westwell, Technologist

**Date:**

**Total Number of Pages:** 15

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**Section 1. Summary of Test Results**

**General**

**All measurements are traceable to national standards.**

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 15, Subpart B. Measurement procedure ANSI C63.4-1992 was used for all tests. Radiated Emissions were measured on an open area test site.

New Submission

Production Unit

Class II Permissive Change

Pre-Production Unit

C	Y	Y
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Equipment Code

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST SPECIFICATIONS HAVE BEEN MADE.

See " Summary of Test Data".



**NVLAP LAB CODE: 100351-0**

TESTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Russell Grant, Wireless Group Manager

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This report applies only to the items tested.

*EQUIPMENT: NT9010A-433 Receiver*

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**Summary Of Test Data**

<b>Name Of Test</b>	<b>Para. No.</b>	<b>Results</b>
Antenna Conducted Emissions	15.111	Not Applicable
Radiated Emissions	15.109	Complies
Powerline Conducted Emissions	15.107	Complies



*EQUIPMENT: NT9010A-433 Receiver*

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**Section 3. Radiated Emissions**

**Para. No.: 15.109(a)**

<b>Test Performed By:</b> Russell Grant	<b>Date of Test:</b> November 28, 2000
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**Minimum Standard:**

<b>Frequency(MHz)</b>	<b>Field Strength (dB<math>\mu</math>V/m @ 3m)</b>
30 - 88	40.0
88 - 216	43.5
216 - 960	46.0
Above 960	54.0

**Test Results:** Complies. The worst-case emission level is 43.2 dB $\mu$ V/m @ 3m at 846.44 MHz. This is 2.8 dB below the specification limit.

**Measurement Data:** See attached table.

For super-regenerative receivers the receiver is coerhered using a signal generator and dipole antenna.

Handheld equipment and equipment not designed to be mounted in any fixed orientation, the E.U.T. is tested in three orthogonal axis to obtain worst case results.

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**Test Data - Radiated Emissions**

Test Distance (meters) : 3		Range: A Tower		Receiver: ESVP		RBW(kHz): 120		Detector: Q-Peak	
Freq. (MHz)	Ant. *	Pol. (V/H)	RCVD Signal (dBµV/m)	Ant. Factor (dB)**	Amp. Gain (dB)***	Dist. Corr. (dB)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
174.08	B/C1	V	21.7	13.9			35.6	43.5	7.9
174.08	B/C1	H	23.5	13.9			37.4	43.5	6.1
163.84	B/C1	V	19.4	13.7			33.1	43.5	10.4
163.84	B/C1	H	21.7	13.7			35.4	43.5	8.1
194.56	B/C1	V	18.4	15.5			33.9	43.5	9.6
194.56	B/C1	H	21.6	15.5			37.1	43.5	6.4
423.22	L/P2	V	21.7	20.2			41.9	46.0	4.1
423.22	L/P2	H	21.3	20.2			41.5	46.0	4.5
846.44	L/P2	V	15.5	27.4			42.9	46.0	3.1
846.44	L/P2	H	15.8	27.4			43.2	46.0	2.8
300.0	L/P2	V	13.3	17.5			30.8	46.0	15.2
300.0	L/P2	H	13.1	17.5			30.6	46.0	15.4

**Notes:**  
 B/C = Biconical, B/L = Biconilog, L/P = Log-Periodic, H = Horn, D/P = Dipole  
 \* Re-Measured Using Dipole Antenna. ( ) Denotes Failing Emission Level.  
 (1) 120 kHz, Q-Peak,  
 (2) 10 kHz, Peak,  
 (3) 100 kHz RGW, 300 kHz VBW, Peak,  
 (4) 300 kHz RBW, 1 MHz VBW, Peak,  
 (5) 1 MHz RBW, 3 MHz VBW, Peak,  
 (6) 1 MHz RBW, 10 Hz VBW, Peak  
 N.D. = Not Detected

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**Radiated Photographs**

**Front View**



**Rear View**





*EQUIPMENT: NT9010A-433 Receiver*

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**Section 4. Powerline Conducted Emissions**

**Para. No.: 15.107**

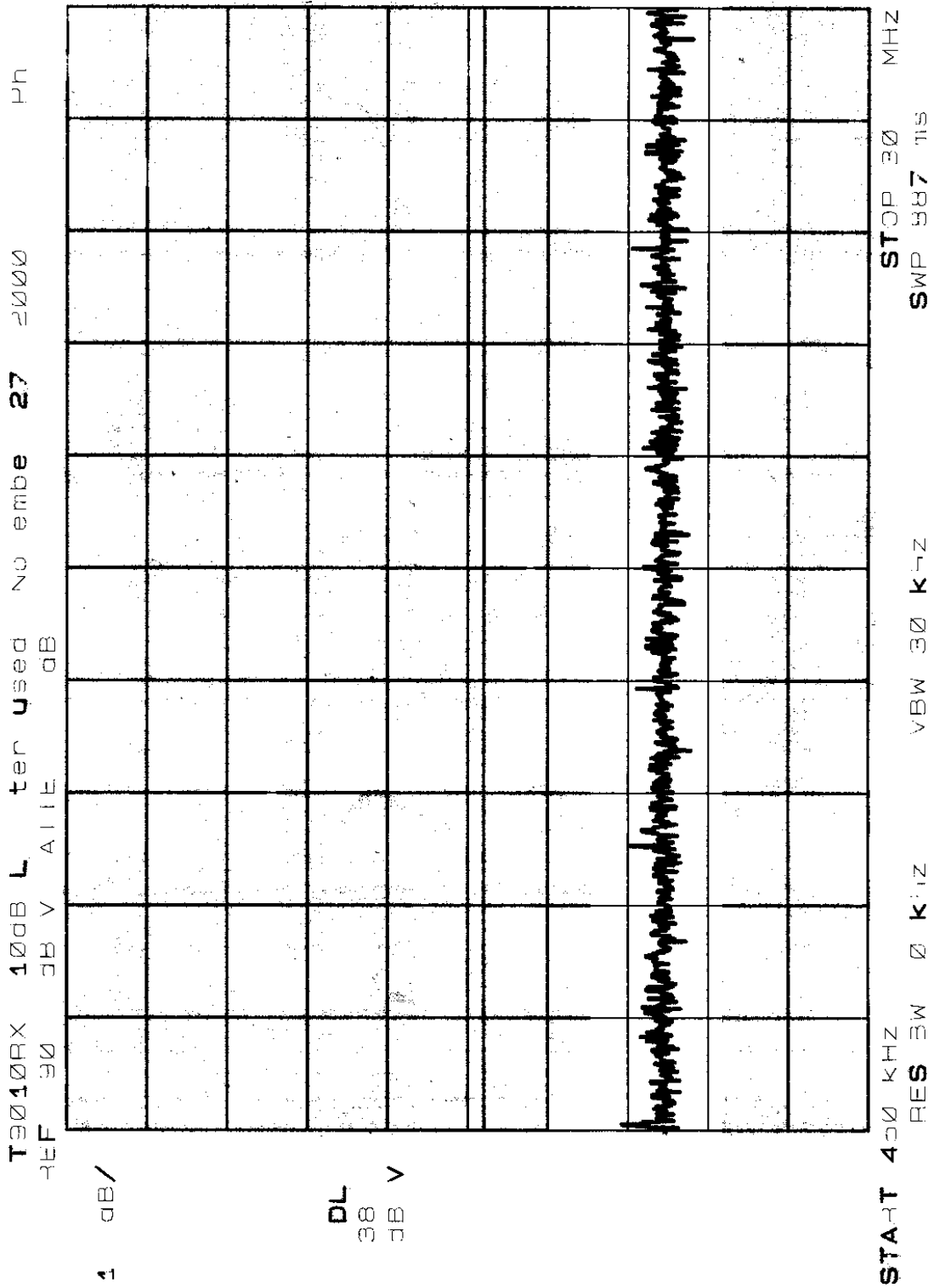
<b>Test Performed By:</b> Russell Grant	<b>Date of Test:</b> November 28, 2000
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**Minimum Standard:** The RF energy feed back into the power lines shall not exceed 48 dB $\mu$ V on any frequency between 0.45 MHz and 30 MHz inclusive.

**Test Results:** Complies. See attached graphs.

**Measurement Data:** See attached graphs.

EQUIPMENT: NT9010A-433 Receiver





*EQUIPMENT: NT9010A-433 Receiver*

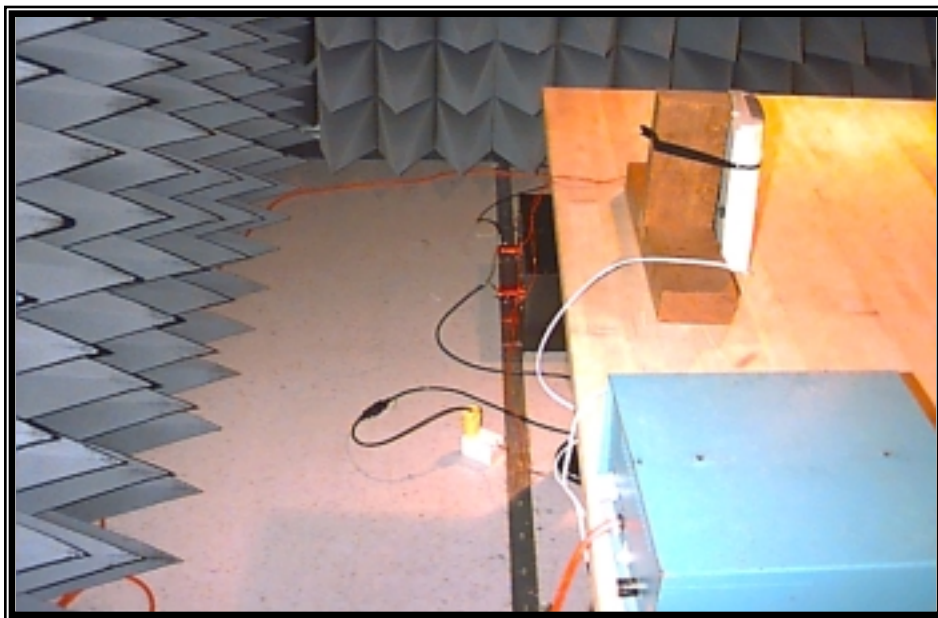
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**Powerline Conducted Photographs**

**Front View**



**Side View**

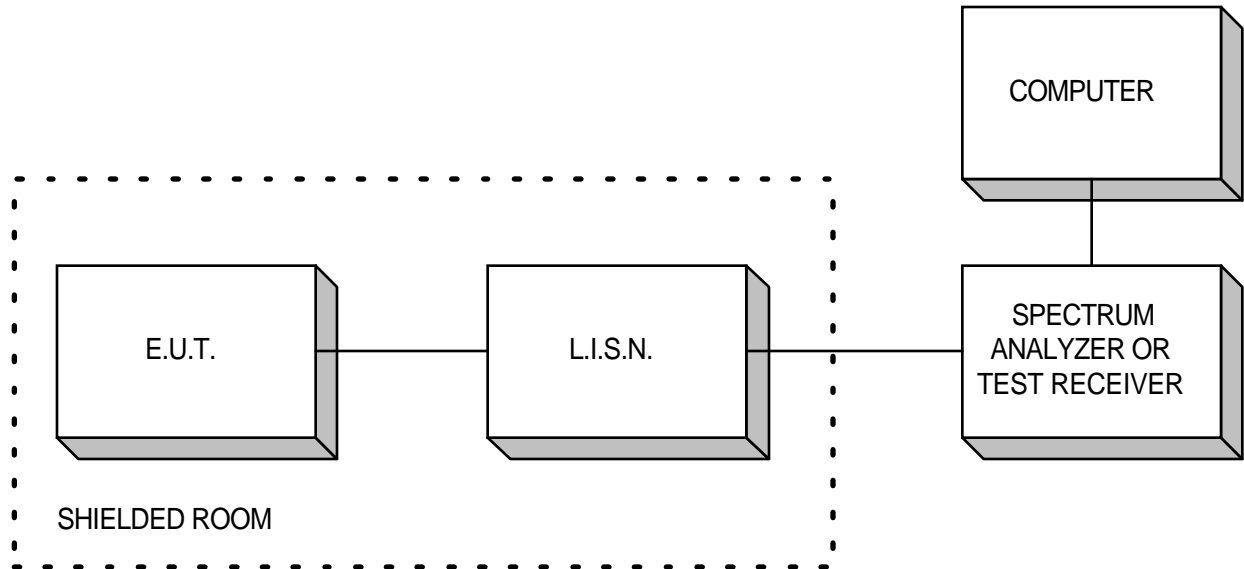


EQUIPMENT: NT9010A-433 Receiver

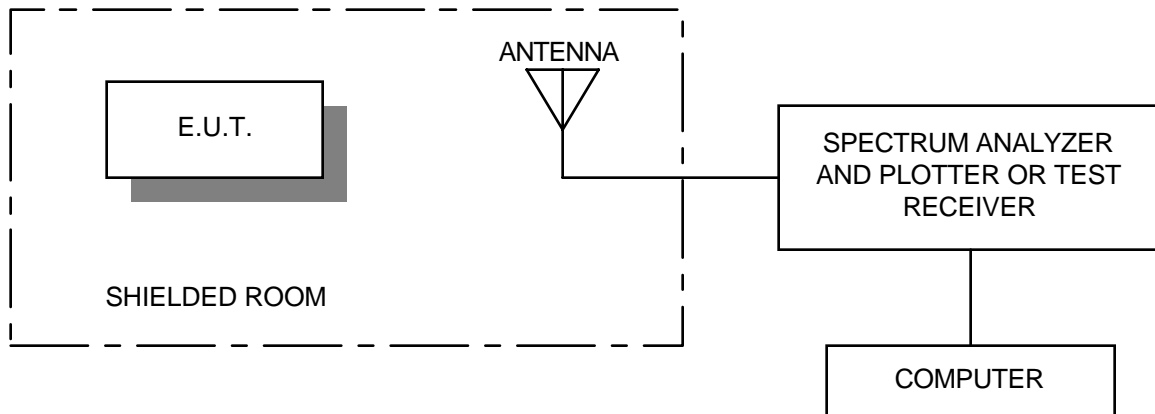
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## Section 5. Block Diagrams

### Conducted Emissions



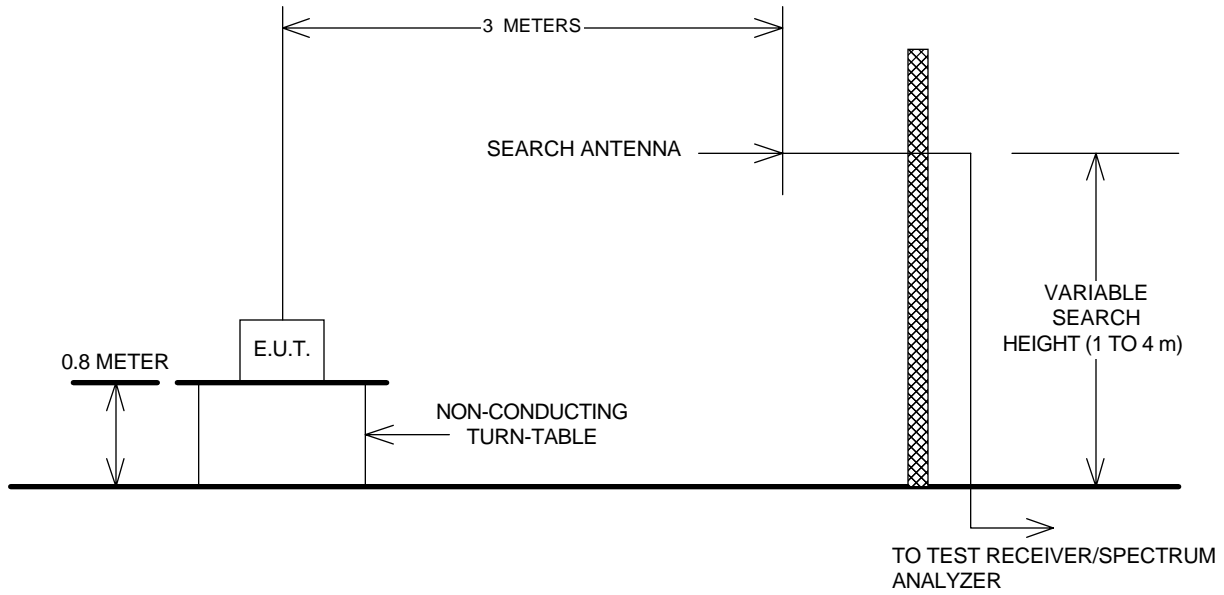
### Radiated Prescan



EQUIPMENT: NT9010A-433 Receiver

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### Outdoor Test Site For Radiated Emissions



The spectrum was searched up to the 10th harmonic of the fundamental frequency of operation.

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**Section 6. Test Equipment List**

<b>CAL CYCLE</b>	<b>EQUIPMENT</b>	<b>MANUFACTURER</b>	<b>MODEL</b>	<b>SERIAL</b>	<b>LAST CAL.</b>	<b>NEXT CAL.</b>
1 Year	Spectrum Analyzer Display-1	Hewlett Packard	8566B	2314A04759	Nov. 6/99	Nov. 6/00
1 Year	LISN	Rohde & Schwarz	ESH2-Z5	890485/017	Aug. 24/99	Aug. 24/00
1 Year	Receiver	Rohde & Schwarz	ESVP	892661/014	April 5/00	April 5/01
1 Year	Log Periodic Antenna 2	EMCO	3148	9904-1054	Apr. 30/99	Oct. 30/00
1 Year	Biconical (1) Antenna	EMCO	3109	9204-2708	Aug. 4/99	Aug. 4/00

NA: Not Applicable  
 NCR: No Cal Required  
 COU: CAL On Use