

**KTL Test Report:** 9R02131

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

**Equipment Under Test:  
(E.U.T.)** PC5132-433 Radio Receiver

**FCC ID:** F53005132

**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:**  
  
Russell Grant, Wireless Group Manager

**Date:**

**Total Number of Pages:** 11

*EQUIPMENT: PC5132-433 Radio Receiver*  
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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.

- |  |                            |                                     |                     |                |  |  |
|--|----------------------------|-------------------------------------|---------------------|----------------|--|--|
| <input checked="" type="checkbox"/>  | New Submission             | <input checked="" type="checkbox"/> | Production Unit     |                |  |  |
| <input type="checkbox"/>   | Class II Permissive Change | <input type="checkbox"/>            | Pre-Production Unit |                |  |  |
| <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>C</td><td>Y</td><td>Y</td></tr></table> | C                          | Y                                   | Y                   | Equipment Code |  |  |
| C  | Y                          | Y                                   |                     |                |  |  |

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**

It is recommended that the margin of compliance be improved to allow for manufacturing tolerances

TESTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Kevin Rose, Test Technician

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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	Not Applicable

**Footnotes For N/A's:**      This equipment was tested with a permanently attached antenna.  
   This equipment is powered by 12 Vdc.

**Test Conditions:**

**Indoor**                      Temperature: 20 °C  
   Humidity:      20 %

**Outdoor**                    Temperature: 10 °C  
   Humidity:      20 %

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**Section 2. Equipment Under Test (E.U.T.)**

Manufacturer: Digital Security Controls Ltd.  
Model No.: PC5132-433  
Serial No.: None  
Date Received In Laboratory: January 17, 2000  
KTL Identification No.: Item #2

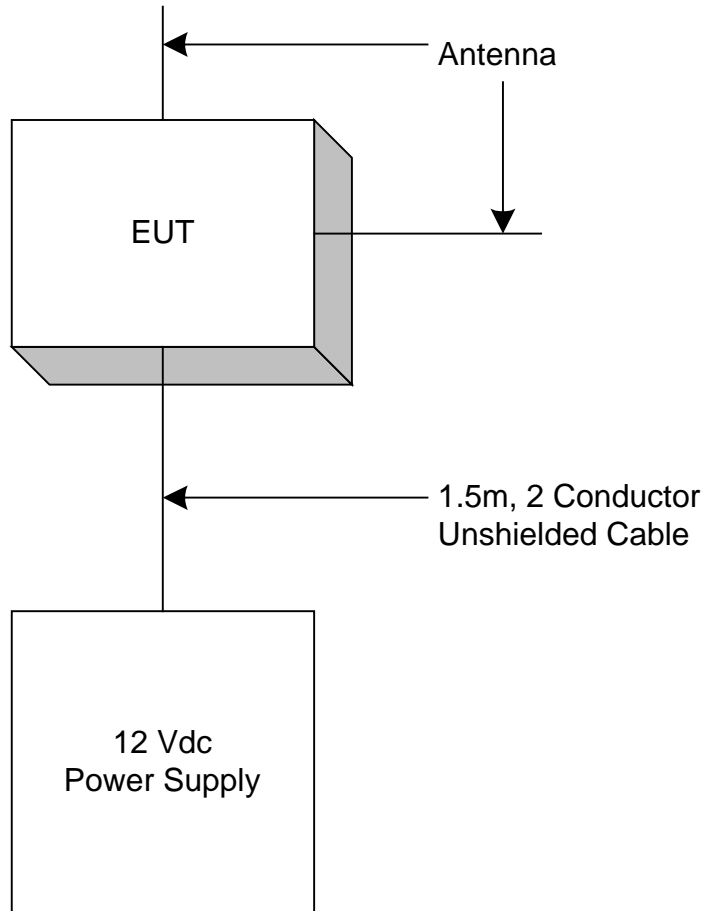
**Equipment Details**

Frequency Range: 433.92 MHz  
Number of Channels: 1  
Operating Frequency(ies) of Sample: 433.92 MHz  
Primary Power Requirement: 12 Vdc  
Intermediate Frequency(ies): 10.7 MHz

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**Configuration of the Equipment Under Test**



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**Section 3. Radiated Emissions**

NAME OF TEST: Radiated Emissions	PARA. NO.: 15.109(a)
TESTED BY: Kevin Rose	DATE: January 19, 2000

**Minimum Standard:**

Frequency(MHz)	Field Strength (dB $\mu$ V/m @ 3m)
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 45.7 dB $\mu$ V/m @ 3m at 423.21 MHz. This is 0.3 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 H.P. 8564E		RBW(kHz): 120K 1 MHz		Detector: CISPR, Q-PEAK, PEAK			
Freq. (MHz)	Ant. *	Pol. (V/H)	Ant. HGT. (m)	Table (deg.)	RCVD Signal (dBµV/m)	Ant. Factor (dB)**	Amp. Gain (dB)***	Duty Cycle (dB)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
423.21	E/D4	V			20.0	25.7			45.7	46.0	0.3
423.21	E/D4	H			13.0	25.7			38.7	46.0	7.3
846.43	E/D4	V			6.8	34.3			41.1	46.0	4.9
845.43	E/D4	H			6.8	34.3			41.1	46.0	4.9
1269.65	Hrn2	V			8.0	28.0			36.0	54.0	18.0
1269.65	Hrn2	H			7.7	28.0			35.7	54.0	18.3
1692.88	Hrn2	V			23.6	29.4	-46.1		6.9	54.0	47.1
1692.88	Hrn2	H			24.0	29.4	-46.1		7.3	54.0	46.7
39.67	B/C2	V			14.1	13.0			27.1	40.0	12.9
39.67	B/C2	H			8.6	13.0			21.6	40.0	18.4

Notes:  
 B/C = Biconical, B/L = Biconilog, L/P = Log-Periodic, H = Horn, D/P = Dipole  
 \* Re-measured using dipole antenna.  
 \*\* Includes cable loss when amplifier is not used.  
 \*\*\* Includes cable loss.  
 ( ) Denotes failing emission level.



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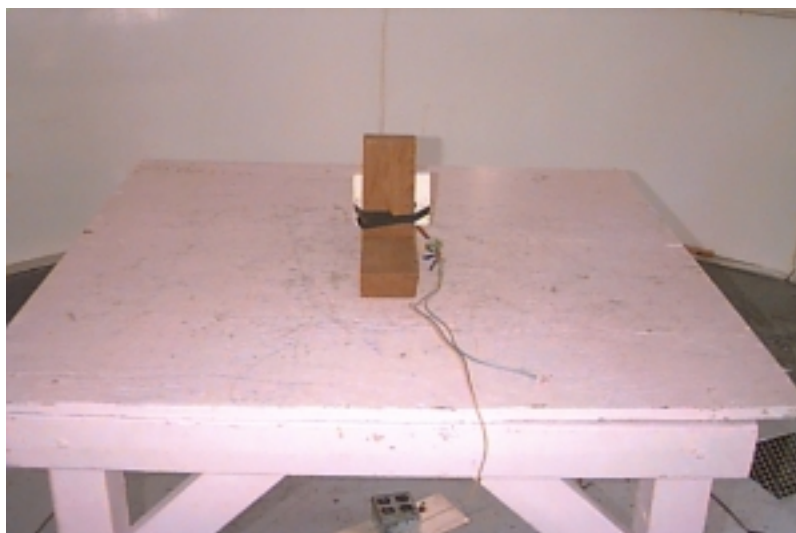
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**Radiated Photographs (Worst Case Configuration)**

**Front View**



**Rear View**

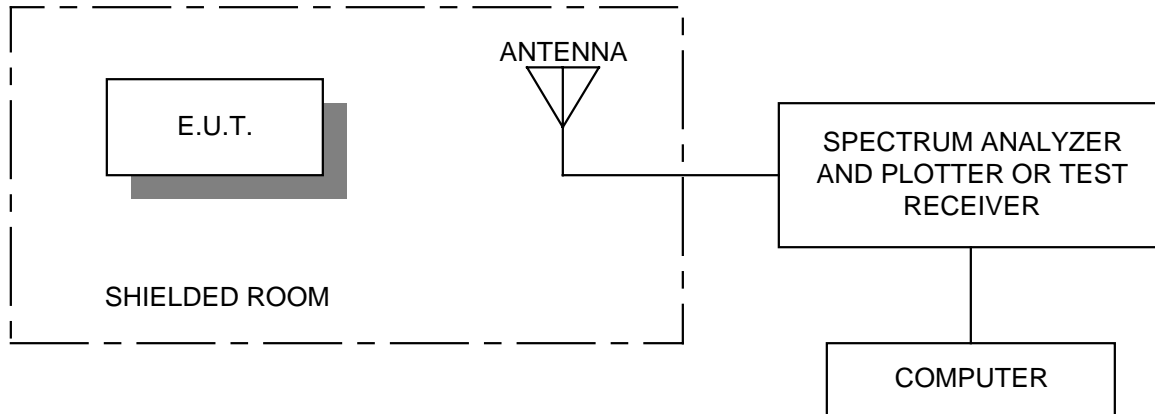


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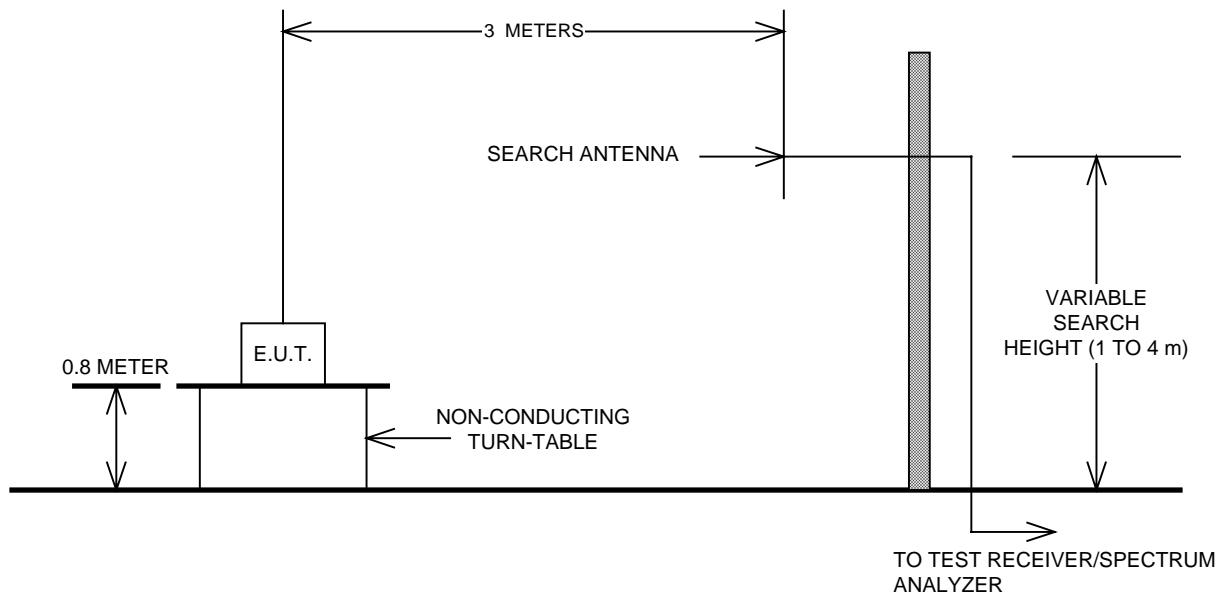
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### Section 4. Block Diagrams

#### Radiated Prescan



#### 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 5. 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	Hewlett Packard	8564E	3846A01407	May 31/99	May 31/00
1 Year	Receiver	Rohde & Schwarz	ESVP	892661/014	Mar. 29/99	Mar. 29/00
2 Year	Horn Antenna	EMCO #2	3115	4336	Nov. 11/99	Nov. 11/00
1 Year	Dipole Antenna Set	EMCO #2	3121C	FA001349	Apr. 5/99	Apr. 5/00
1 Year	Biconical (2) Antenna	EMCO	3109	9503-2894	June 11/99	June 11/00
1 Year	RF Amplifier	AVENTEK	AWT-8035	FA001428	Jan. 7/00	Jan. 7/01

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