

KTL Test Report: 9R02256

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

**Equipment Under Test:
(E.U.T.)** LCD 5501Z32-900

FCC ID: **F5300SS5501Z32**

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:

R. Grant, Wireless Group Manager

Date:

Total Number of Pages: 16

EQUIPMENT: LCD 5501Z32-900
FCC ID: F5300SS5501Z32

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EQUIPMENT: LCD 5501Z32-900
FCC ID: F5300SS5501Z32

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: _____
Kevin Carr, Technologist

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This report applies only to the items tested.

EQUIPMENT: LCD 5501Z32-900
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Summary Of Test Data

Name Of Test	Para. No.	Results
Antenna Conducted Emissions	15.111	N/A
Radiated Emissions	15.109	Complies
Powerline Conducted Emissions	15.107	Complies

Footnotes For N/A's: Integral Antenna

Test Conditions:

Indoor Temperature: 21 °C
 Humidity: 13 %

Outdoor Temperature: 10 °C
 Humidity: 13 %

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

Manufacturer: Digital Security Controls Ltd.

Model No.: LCD 5501Z32-900

Serial No.: 70001078

Date Received In Laboratory: February 16, 2000

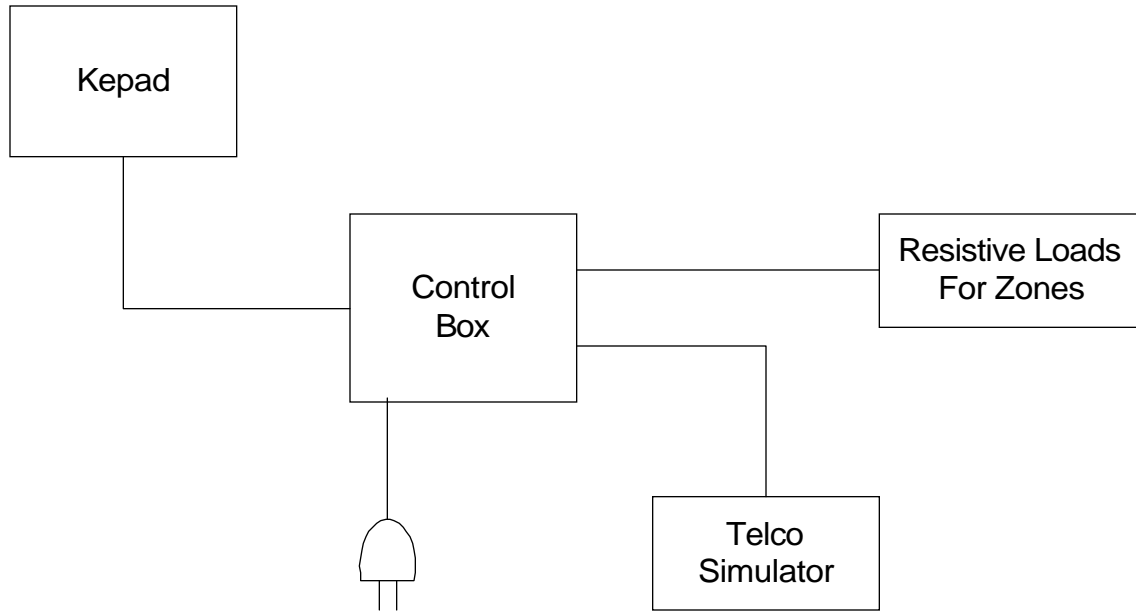
KTL Identification No.: Item #4

Equipment Details

Primary Power Requirement: 120 VAC

EQUIPMENT: LCD 5501Z32-900
FCC ID: F5300SS5501Z32

Configuration of the Equipment Under Test



EQUIPMENT: LCD 5501Z32-900
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Section 3. Radiated Emissions

NAME OF TEST: Radiated Emissions	PARA. NO.: 15.109(a)
TESTED BY: Kevin Carr	DATE: February 18, 2000

Minimum Standard:

Frequency(MHz)	Field Strength (dB μ 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 36.2 dB μ V/m @ 3m at 80.0 MHz. This is 3.8 dB below the specification limit.

Measurement Data: See attached table.

For super-regenerative receivers the receiver is cohered 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.

EQUIPMENT: LCD 5501Z32-900
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Test Data - Radiated Emissions

Test Distance (meters) : 3		Range: A Tower		Receiver: ESVP H.P. 8564		RBW(kHz): 120 1 MHz		Detector: PEAK, CISPR, Q-PEAK			
Freq. (MHz)	Ant. *	Pol. (V/H)	Ant. HGT. (m)	Table (deg.)	RCVD Signal (dBµV/m)	Ant. Factor (dB)**	Amp. Gain (dB)***	Dist. Corr. (dB)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
48.0	E/D1	V			28.7	3.3			32.0	40.0	8.0
48.0	E/D1	H			20.9	3.3			24.2	40.0	15.8
54.86	E/D1	V			18.4	5.2			23.6	40.0	16.4
54.83	E/D1	H			21.0	5.2			26.2	40.0	13.8
64.0	E/D2	V			26.5	5.1			31.6	40.0	8.4
64.0	E/D2	H			22.4	5.1			27.5	40.0	12.5
68.5	E/D2	V			20.8	5.6			26.4	40.0	13.6
68.5	E/D2	H			25.4	5.6			31.0	40.0	9.0
80.0	E/D2	V			28.0	7.5			35.5	40.0	4.5
80.0	E/D2	H			28.7	7.5			36.2	40.0	3.8
877.32	E/D4	V			2.5	34.6			37.1	46.0	8.9
877.37	E/D4	H			2.8	34.6			37.4	46.0	8.6
1754.7	Hrn2	V			56.8	32.3	-46.5		42.6	54.0	11.4
1754.9	Hrn2	H			58.8	32.3	-46.5		44.6	54.0	9.4
2632.0	Hrn2	V			54.0	36.0	-47.8		42.2	54.0	11.8
2632.0	Hrn2	H			51.1	36.0	-47.8		39.3	54.0	14.7
3509.5	Hrn2	V			46.0	40.6	-47.1		39.5	54.0	14.5
3509.5	Hrn2	H			45.8	40.6	-47.1		39.3	54.0	14.7
4386.7	Hrn2	V			46.0	41.9	-45.9		42.0	54.0	12.0
4386.8	Hrn2	H			45.2	41.9	-45.9		41.2	54.0	12.8

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

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Radiated Photographs (Worst Case Configuration)

Front View



Rear View



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Section 4. Powerline Conducted Emissions

NAME OF TEST: Powerline Conducted Emissions	PARA. NO.: 15.107
TESTED BY: Kevin Carr	DATE: February 18, 2000

Minimum Standard: The RF energy feed back into the power lines shall not exceed 48 dB μ V on any frequency between 0.45 MHz and 30 MHz inclusive.

Test Results: Complies. See attached graphs.

Measurement Data: See attached graphs.

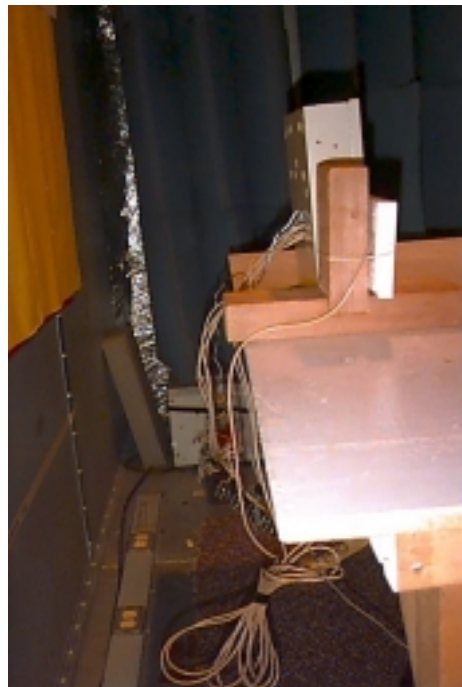
EQUIPMENT: LCD 5501Z32-900
FCC ID: F5300SS5501Z32

Powerline Conducted Photographs (Worst Case Configuration)

Front View



Rear View



KTL Ottawa

FCC PART 15, SUBPART B
RADIO RECEIVERS
PROJECT NO.: 9R02256

EQUIPMENT: LCD 5501Z32-900

FCC ID: F5300SS5501Z32

KTL Ottawa

FCC PART 15, SUBPART B
RADIO RECEIVERS
PROJECT NO.: 9R02256

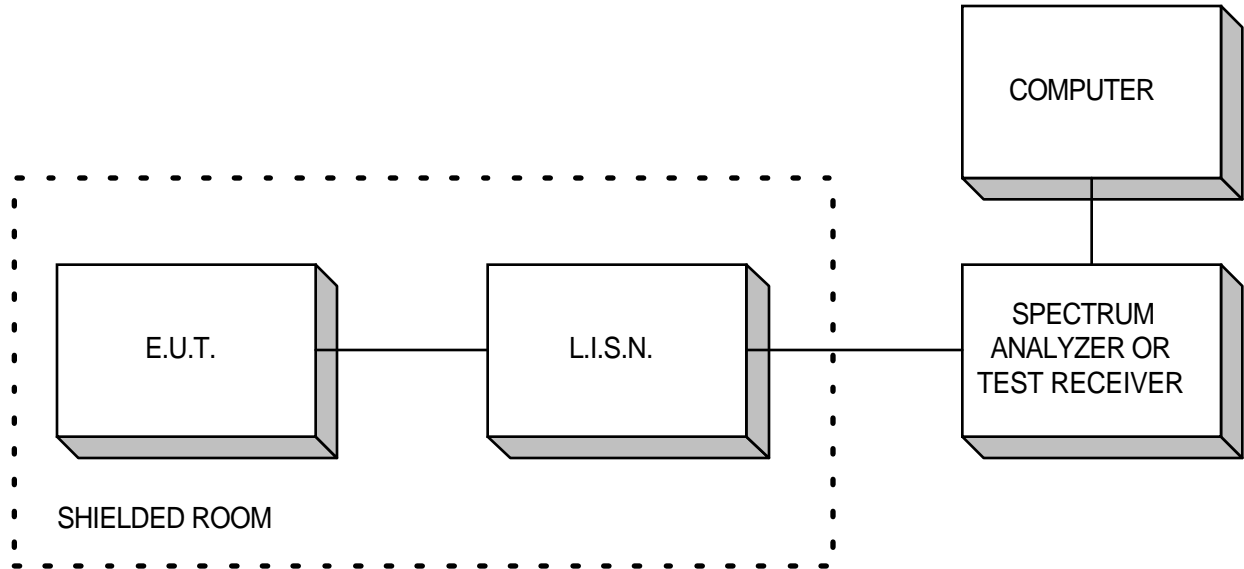
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FCC ID: F5300SS5501Z32

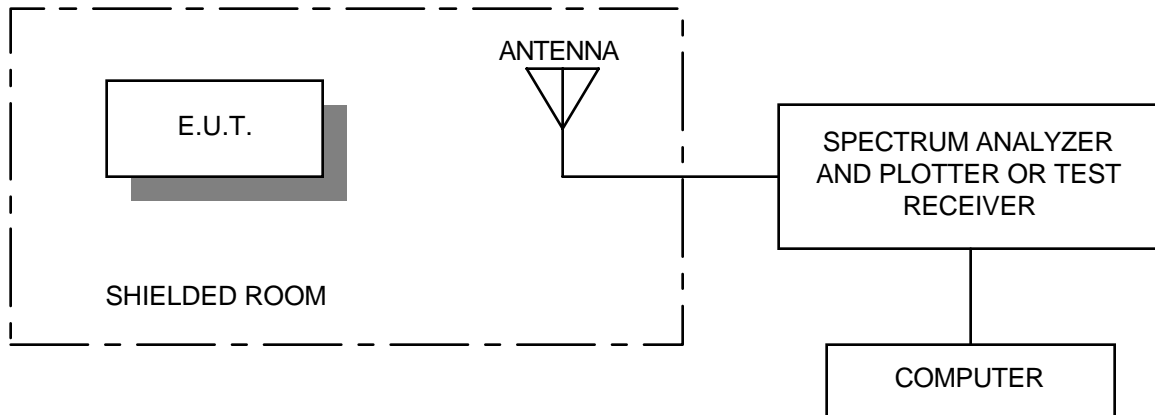
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Section 5. Block Diagrams

Conducted Emissions

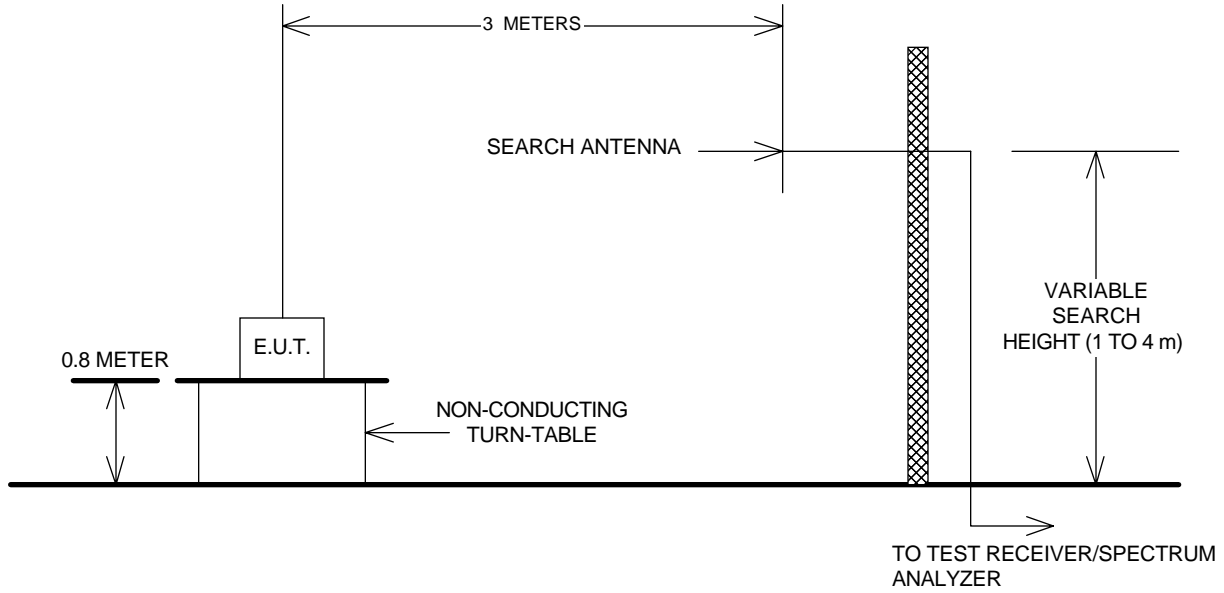


Radiated Prescan



EQUIPMENT: LCD 5501Z32-900
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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

CAL CYCLE	EQUIPMENT	MANUFACTURER	MODEL	SERIAL	LAST CAL.	NEXT CAL.
1 Year	Spectrum Analyzer	Hewlett Packard	8564E	3846A01407	May 31/99	May 31/00
1 Year	Spectrum Analyzer-1	Hewlett Packard	8566B	2311A02238	Nov. 6/99	Nov. 6/00
1 Year	Spectrum Analyzer Display-1	Hewlett Packard	8566B	2314A04759	Nov. 6/99	Nov. 6/00
1 Year	Quasi-peak adapter-1	Hewlett-Packard	85650A	2043A00302	Nov. 11/99	Nov. 11/00
1 Year	LISN	Rohde & Schwarz	ESH2-Z5	890485/017	Aug. 24/99	Aug. 24/00
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	Plotter	Hewlett Packard	7550A	FA001129	NCR	NCR
1 Year	RF Amplifier	DBS	AWT-8035	FA001428	Jan. 7/00	Jan. 7/01

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