Standards Council of Canada
Accredited Laboratory
Scope of Accreditation 75

Conseil canadien des normes
Laboratoire accrédité
Portée d'accréditation 75

TM

Test Report:	2W06328
Applicant:	Digital Security Controls Ltd. 3301 Langstaff Road Vaughan, Ontario L4K 4L2
Equipment Under Test: (EUT)	SKYROUTE CL3050 Cellemetry Transceiver
FCC ID:	F5302CL3050
In Accordance With:	**FCC Part 22**
Tested By:	Nemko Canada Inc. 303 River Road, R.R. 5 Ottawa, Ontario K1V 1H2
Authorized By:	J. Harrington, RF Group Manager
Date:	21 August 2002
Total Number of Pages:	12

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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 22.

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".

TESTED BY: _____ DATE: 16 August 2002
Glen Westwell, Wireless Technologist

Summary Of Test Data

Name Of Test	Para. No.	Result
RF Power Output	2.1046	Complies
Audio Frequency Response	2.1047	N/A
Audio Low-Pass Filter Response	2.1047	N/A
Modulation Limiting	2.1047	Not Tested
Occupied Bandwidth	2.1049	Not Tested
Spurious Emissions at Antenna Terminals	2.1051	Not Tested
Field Strength of Spurious Emissions	2.1053	Complies
Frequency Stability	2.1055	Not Tested
Transient Frequency Behavior	——	N/A

Footnotes For N/A's:
This equipment does not use voice modulation.

This equipment has been previously approved for user under FCC ID: APV09001. The approval is for OEM integration using 3dBi antenna. The applicant has changed the antenna to 0dBi and has mounted the transceiver module on a digital interface card for installation in an alarm control panel. Therefore measurements made were Transmitter Power Output and Transmitter Radiated Spurious Emissions. The applicant has permission from the original certificate holder to obtain equipment authorization based on the original certificate.

Description:

The Skyroute CL3050 transceiver offers a new wireless communication method for transmission of event information using Cellemetry service. Events are transmitted from the Skyroute CL3050 transceiver via Cellemetry network to the Clearing House and than to the Central Monitoring Station in a faster manner, maximum 2 seconds on every transmitter's activation.

The transceiver consists of the OEM radio module, Standard Model CMM7700 and a digital interface board UA366 rev. 01 assembled together in a plastic enclosure. The digital interface receives the alarm events from the alarm control panel and communicates them over to the radio module which then transmits the information over the RF network.

Indoor	Temperature:	24 °C
	Humidity:	48 %
Outdoor	Temperature:	28 °C
	Humidity:	54 %

Section 2. General Equipment Specification

Model No.: SKYROUTE CL3050

Serial No.: None

Date Received In Laboratory: July 26, 2002

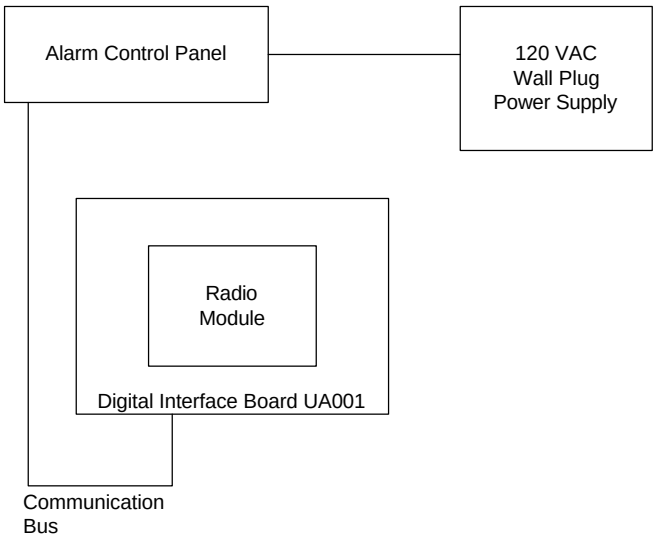
Nemko Identification No.: Item #3

Frequency: Tx: 824 – 849 MHz
Rx: 869 – 894 MHz

Output Power: 0.6 Watts

Emission Designator: 36K0F1D

Block Diagram



MPE Statement
FCC Radio Frequency Exposure Limits 1.1310
Health Canada Safety Code 6
Industry Canada RSS 102
Skyroute CL3050

General Population Limit = $f/1500\ mW/cm^2 = 824/1500 = 0.549 mW/cm^2$

Maximum power at antenna port = 600mW
Maximum Antenna Gain = 0dBi
EIRP(GP) = 600mW

Therefore $\frac{GP}{4\pi R^2} \pounds$ *Limit*

R ³ ÖEIRP/4pL = Ö1269/4p0.549 = 9.3cm » 10cm

This minimum safe distance for the general population of 10.0cm shall be stated in the installation & operators instruction manual under the RF Safety Exposure Warning Statement.

Analysis provided by,
Glen Westwell, Nemko Canada Inc. for Digital Security Controls.

Section 3. RF Power Output

Para. No.: 2.1046

Test Performed By: Glen Westwell	**Date of Test:** 8 Aug 2002

Minimum Standard: 22.913(a), 500 Watts ERP

Test Results: Complies within ± 1 dB of rated power.

Measurement Data:

Measured:	27.6 dBm
Rated:	27.8 dBm
Antenna Gain:	0dBi, -2.15 dBd
ERP:	25.7 dBm (372mW)

Section 4. Field Strength of Spurious Emissions

Para. No.: 2.1053

Test Performed By: Glen Westwell	**Date of Test:** 9 Aug 2002

Minimum Standard: 22.917 (d)(e), -13 dBm ERP

Test Results: Complies.

Measurement Data: See attached test data.

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

The EUT was searched on 3 orthogonal axis for worst case emissions.

Test Data - Field Strength of Spurious Emissions

Test Distance (meters) : 3	**Range: A Tower**		**Receiver: Spectrum Analyzer**		**RBW(kHz) : 1000**	**Detector: Peak**	
Freq. (MHz)	**Ant. ***	**Pol. (V/H)**	**RCVD Signal (dBµV/m)**	**Conversion Factor (dBµV, dBm)**	**Field Strength (dBm)**	**Limit (dBm)**	**Margin (dB)**
1672.4	SSV	V	90.5	-117.5	-27.0	-13.0	14.0
1672.4	SSH	H	88.2	-117.9	-29.7	-13.0	16.7
2508.6	SSV	V	86.8	-123.2	-36.4	-13.0	23.4
2508.6	SSH	H	84.0	-122.9	-38.9	-13.0	25.9
3344.8	SSV	V	78.7	-119.9	-41.2	-13.0	28.2
3344.8	SSH	H	75.6	-120.8	-45.2	-13.0	32.2
4180.9	SSV	V	59.2	-113.4	-54.2	-13.0	41.2
4180.9	SSH	H	58.3	-113.1	-54.8	-13.0	41.8
4541.0	SSV	V	56.7	-113.7	-57.0	-13.0	44.0
4541.0	SSH	H	54.2	-114.3	-60.1	-13.0	47.1
2778.6	SSV	V	78.7	-122.6	-43.9	-13.0	30.9
2778.6	SSH	H	75.4	-124.3	-48.9	-13.0	35.9

Notes:

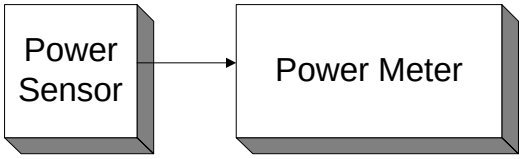
B/C = Biconical, B/L = Biconilog, L/P = Log-Periodic, H = Horn, D/P = Dipole
* Re-measured using dipole antenna.
** Includes cable loss when amplifier is not used.
*** Includes cable loss.
( ) Denotes failing emission level.
N.D. = Not Detected

Field Strength of Spurious Emissions Photograph

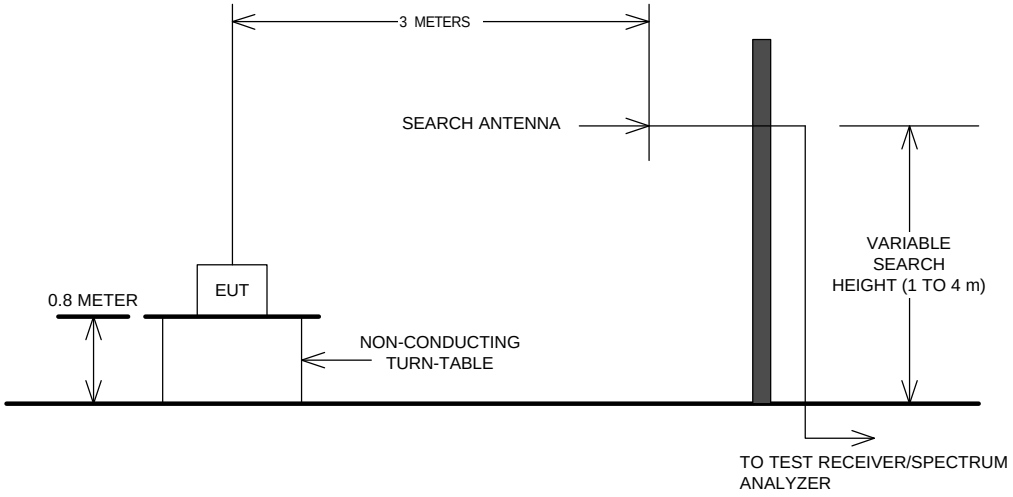
Front View:

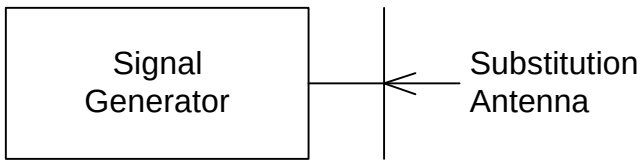
Section 5. Block Diagrams

Para. No. 2.1046 - R.F. Power Output



Para. No. 2.1053 - Field Strength of Spurious Radiation





Section 6. Test Equipment List

CAL CYCLE	EQUIPMENT	MANUFACTURER	MODEL	SERIAL	LAST CAL.	NEXT CAL.
1 Year	Spectrum Analyzer	Hewlett Packard	8565E	FA000981	July 15/02	July 15/03
3 Year	RF Millivoltmeter	Rohde & Schwarz	URV5	FA001570	July 3/00	July 3/03
3 Year	Power Sensor	Rohde & Schwarz	URV5-Z5	FA000419	Oct. 6/99	Oct. 6/02
1 Year	Horn Antenna	EMCO #2	3115	4336	Dec. 1/01	Dec. 1/02
1 Year	RF AMP	JCA	2-4 GHz	FA001496	COU	COU
1 Year	RF AMP	JCA	1-2 GHz	FA001498	COU	COU
1 Year	RF AMP	JCA	4-8 GHz	FA001497	COU	COU
2 Year	RF AMP	Narda	5 - 18GHz	FA001409	COU	COU

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