



Test Report: 4W08005.4 Issue 2

Applicant: Kolombo Technologies Ltd
255 Fotin Suite 80
Vanier, Québec G1M 3M2

**Equipment Under Test:
(EUT)** K-2000
128.5KHz Low Power Transmitter

In Accordance With: **FCC Part 15, Subpart C, 15.209**

FCC I.D. : RYAK2000100

Tested By: Nemko Canada Inc.
303 River Road, R.R. 5
Ottawa, Ontario K1V 1H2

Authorized By: 
Sim Jagpal, Resource Manager

Date: 23 March 2005

Total Number of Pages: 10

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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 C for low power devices. All tests were conducted using measurement procedure ANSI C63.4-1992. Radiated Emissions were made on an open area test site. A description of the test facility in on file with the FCC.

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: Daxesh Thakker, Wireless Test Engineer DATE: _March 30, 2004

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The tests included in this report are within the scope of this accreditation

EQUIPMENT: K-2000

Summary Of Test Data

Name Of Test	Para. No.	Result
Powerline Conducted Emissions	15.207	N/A
Radiated Emissions	15.209	Complies

Footnotes For N/A's:

- This device is powered by a 12 Vdc battery.

Test Conditions:

Indoor Temperature: 24 °C
 Humidity: 23 %

Outdoor Temperature: 16 °C
 Humidity: 36 %

Section 2. General Equipment Specification

Manufacturer:	M2S Electronics 2855 rue De Celles Québec, Québec G2C 1K7 Canada
Model No.:	K-2000
Serial No.:	None
Date Received In Laboratory:	19 March 2004
Nemko Identification No.:	#2, #3
Frequency:	128.5 kHz Fixed
Modulation:	Pulsed signal, no modulation and no data
Emission Designator:	P0N

Section 3. Radiated Emissions**Para. No.: 15.209****Test Performed By:** Daxesh Thakker**Date of Test:** 29 March 2004**Minimum Standard:**

Fundamental (MHz)	Field Strength (μV/m)	Field Strength (dBμV)
0.009 - 0.490	2400/F(kHz) @ 300m	—
0.490 - 1.705	24000/F(kHz) @ 30m	—
1.705 - 30	30 @ 30m	—
30 - 88	100	40.0
88 - 216	150	43.5
216 - 960	200	46.0
Above 960	500	54.0

Test Results: Complies.**Measurement Data:** See attached table.

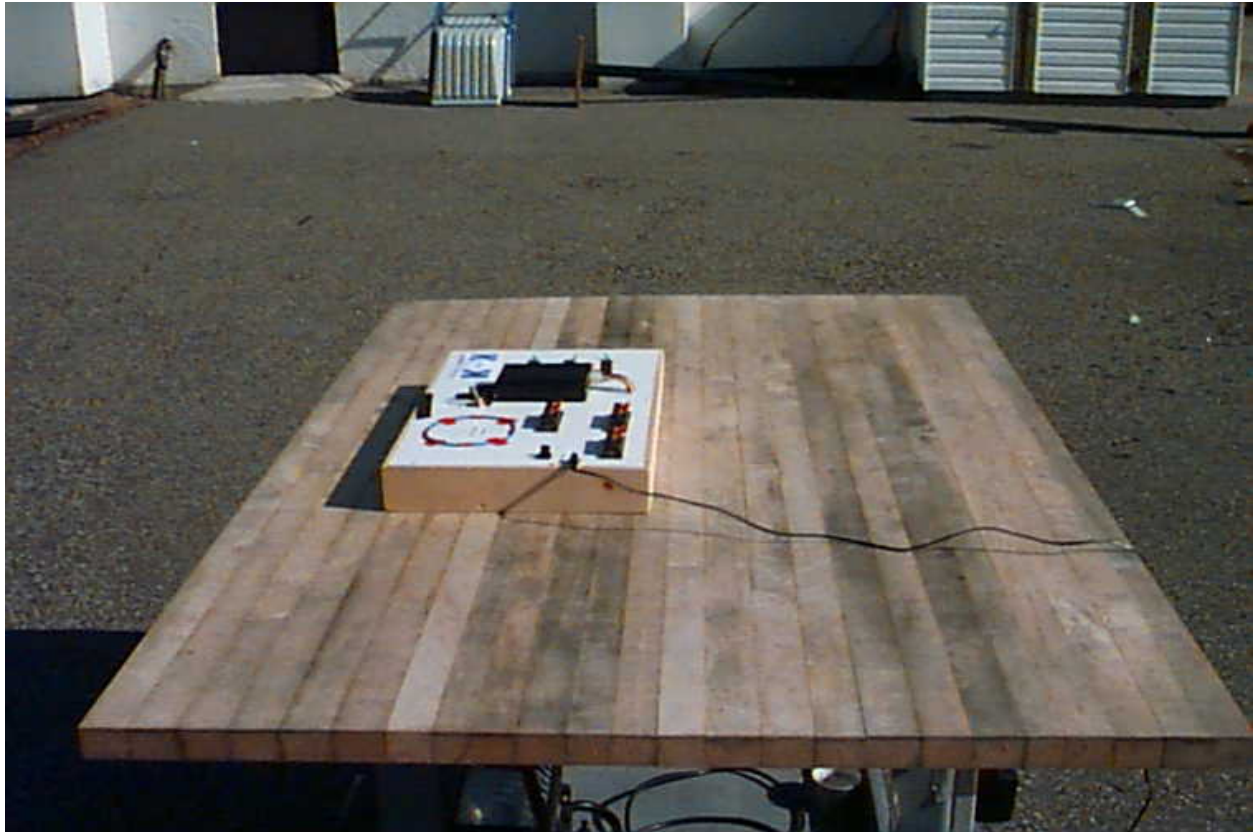
Test Data - Radiated Emissions

Frequency of Emission (MHz)	Received Signal (dBuV/m@3m)	Extrapolated Signal (dBuV/m@300m)	Limit (dBuV/m@300m)	Margin (dB)
0.1285	68.5	-11.5	25.42	36.92
0.257	51.2	-28.8	19.4	48.2
0.3855	40	-40	15.87	55.87
Frequency of Emission (MHz)	Received Signal (dBuV/m@3m)	Extrapolated Signal (dBuV/m@30m)	Limit (dBuV/m@30m)	Margin (dB)
0.514	33	-7	33.4	40.4
Notes: Field strength emissions were measured at 3 m due to the very low power of the device. All emissions measured were extrapolated using 40 dB/decade extrapolation factor.				

All harmonic and spurious emissions were searched up to the 10th harmonic.
The EUT was tested on all three orthogonal axes and the worst case data presented here.
The loop antenna was rotated 0 to 360 degrees to search highest emissions.
Measurement equipment setup was 200Hz peak detector for measurements below 30MHz.
The EUT was tested with new fresh battery.

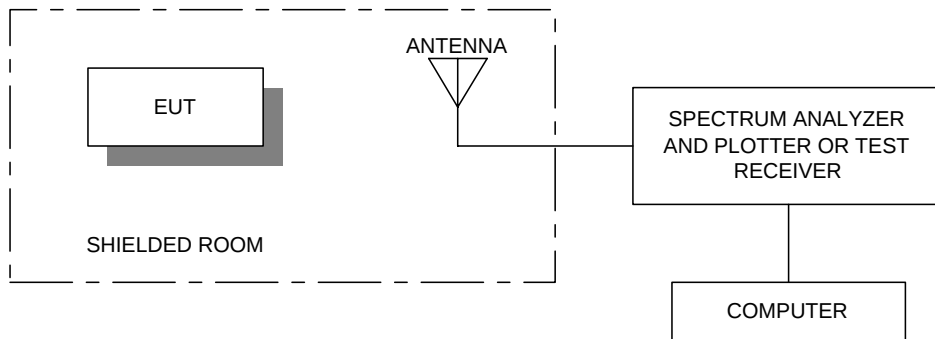
EQUIPMENT: K-2000

Radiated Emissions- Photographs



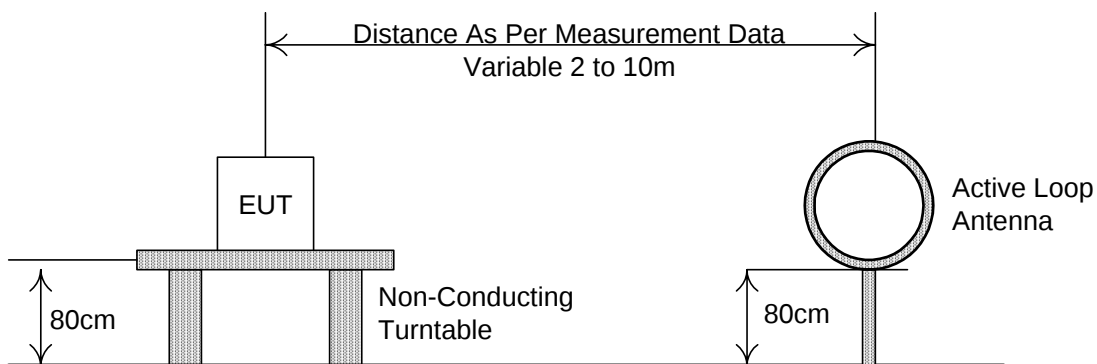
Section 4. Block Diagrams

Radiated Prescan



Test Site For Radiated Emissions

Measurement distance at 3m, fundamental and harmonics, due to the very low power of this device.



EQUIPMENT: K-2000

Section 5. Test Equipment List

CAL CYCLE	EQUIPMENT	MANUFACTURER	MODEL	SERIAL	LAST CAL.	NEXT CAL.
1 Year	Spectrum Analyzer	Hewlett Packard	8564E	FA001367	May. 13/03	May. 13/04
1 Year	Receiver	Rohde & Schwarz	ESH3	892473/002	Jan. 14/04	Jan. 14/05
1 Year	Active Loop Antenna	Rohde & Schwarz	HFH2-Z2	FA000631	May. 12/03	May. 12/04

NA: Not Applicable

NCR: No Cal Required

COU: CAL On Use