



**Test Report:**

6W59817.2

**Applicant:**

Kinectrics Inc  
800 Kipling Ave.  
Toronto, Ontario  
M8Z 6C4  
Canada

**Apparatus:**

Ground Station Collector (GSC)

**FCC ID:**

TY3-GSCV3

**In Accordance With:**

FCC Part 15 Subpart B, 15.107 and 15.109  
Unintentional Radiators

**Tested By:**

Nemko Canada Inc.  
303 River Road  
Ottawa, Ontario  
K1V 1H2

**Authorized By:**

A handwritten signature in blue ink, which appears to read 'Roman Kuleba'.

Roman Kuleba, Wireless Test Specialist

**Date:**

March 29, 2006

**Total Number of Pages:**

15

## Report Summary

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15, Subpart B. Radiated tests were conducted in accordance with ANSI C63.4-2003. Radiated emissions are made on an open area test site. A description of the test facility is on file with the FCC.

The assessment summary is as follows:

<b>Apparatus Assessed:</b>	Ground Station Collector (GSC)
<b>Specification:</b>	FCC Part 15 Subpart B, 15.107 and 15.109
<b>Compliance Status:</b>	Complies
<b>Exclusions:</b>	None
<b>Non-compliances:</b>	None
<b>Report Release History:</b>	Original Release

Author: Mac Huang

Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.

This test report has been completed in accordance with the requirements of ISO/IEC 17025.

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## **Section 1 : Equipment Under Test**

### **1.1 Product Identification**

The Equipment Under Test was identified as follows:

Item #1, Ground Station Collector (GSC), S/N: GSC-003

### **1.2 Samples Submitted for Assessment**

The following samples of the apparatus have been submitted for type assessment:

<b>Sample No.</b>	<b>Description</b>	<b>Serial No.</b>
#1	Ground Station Collector (GSC)	GSC-003

The first samples were received on: February 06, 2006

### **1.3 Theory of Operation**

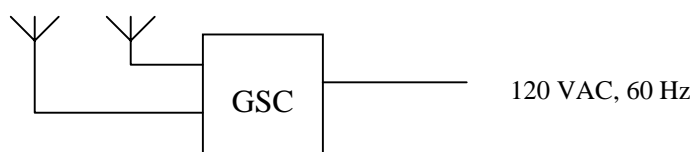
The short-range system operates in the 916.5MHz band using OOK modulation at 19,200 baud. Once every 15 minutes, the RST wakes up and measures the temperature of the base to which it is affixed and transmits this temperature and its battery voltage digitally to the GSC receiver. The RST is in sleep mode between transmissions to extend battery life.

The GSC time stamps the data and stores it in memory. 2048 data sets can be stored.

## 1.4 Technical Specifications of the EUT

<b>Manufacturer:</b>	Kinectrics Inc
<b>Receive Frequency:</b>	916.5 MHz
<b>Receiver Type:</b>	Detachable 0 dB whip
<b>Antenna Data:</b>	SMA
<b>Power Source:</b>	120 VAC, 60 Hz

## 1.5 Block Diagram of the EUT



## Section 2 : Test Conditions

### 2.1 Specifications

The apparatus was assessed against the following specifications:

FCC Part 15 Subpart B, 15.107 and 15.109  
Unintentional Radiators

### 2.2 Deviations From Laboratory Test Procedures

No deviations were made from laboratory test procedures.

### 2.3 Test Environment

All tests were performed under the following environmental conditions:

Temperature range : 15 – 30 °C  
Humidity range : 20 - 75 %  
Pressure range : 86 - 106 kPa  
Power supply range : +/- 5% of rated voltages

### 2.4 Test Equipment

Equipment	Manufacturer	Model No.	Asset/Serial No.	Next Cal.
Spectrum Analyzer	Hewlett-Packard	8566B	FA001309	May 18/06
Spectrum Analyzer Display	Hewlett-Packard	85662A	FA001309	May 18/06
1.0 – 2.0 GHz Amplifier	JCA	12-400	FA001498	July 14/06
2.0 – 4.0 GHz Amplifier	JCA	24-600	FA001496	July 14/06
4.0 – 8.0 GHz Amplifier	JCA	48-600	FA001497	July 14/06
Receiver	Rohde & Schwarz	ESVS-30	FA001437	July 27/06
Spectrum Analyzer	Rohde & Schwarz	FSU	FA001877	May 17/06
LISN	EMCO	4825/2	FA001545	Jan. 30/07
Bilog	Schaffner	CBL6112B	FA001504	NCR
Log Periodic Antenna #1	EMCO	LPA-25	FA000477	Aug. 29/06
Biconical (1) Antenna	EMCO	3109	FA000805	April 22/06
Horn Antenna #1	EMCO	3115	FA000649	Jan. 12/07

## **Section 3 : Observations**

### **3.1 Modifications Performed During Assessment**

No modifications were performed during assessment.

### **3.2 Record Of Technical Judgements**

No technical judgements were made during the assessment.

### **3.3 EUT Parameters Affecting Compliance**

The user of the apparatus could not alter parameters that would affect compliance.

### **3.4 Test Deleted**

No Tests were deleted from this assessment.

### **3.5 Additional Observations**

There were no additional observations made during this assessment.

## **Section 4 : Results Summary**

This section contains the following:

FCC Part 15 Subpart B : Test Results

The column headed 'Required' indicates whether the associated clauses were invoked for the apparatus under test. The following abbreviations are used:

- N      No : not applicable / not relevant.
- Y      Yes : Mandatory i.e. the apparatus shall conform to these tests.
- N/T    Not Tested, mandatory but not assessed. (See section 3.4 Test deleted)

The results contained in this section are representative of the operation of the apparatus as originally submitted.



**4.1 FCC Part 15 Subpart B: Test Results**

Part 15	Test Description	Required	Result
15.107(a)	Conducted Emissions for Class B	Y	PASS
15.109(a)	Radiated Emissions for Class B	Y	PASS

## Appendix A : Test Results

### Clause 15.107(a) Conducted Emissions

Frequency of Conducted limit (dBmV)		
Emission (MHz)	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
* Decreases with the logarithm of the frequency.		

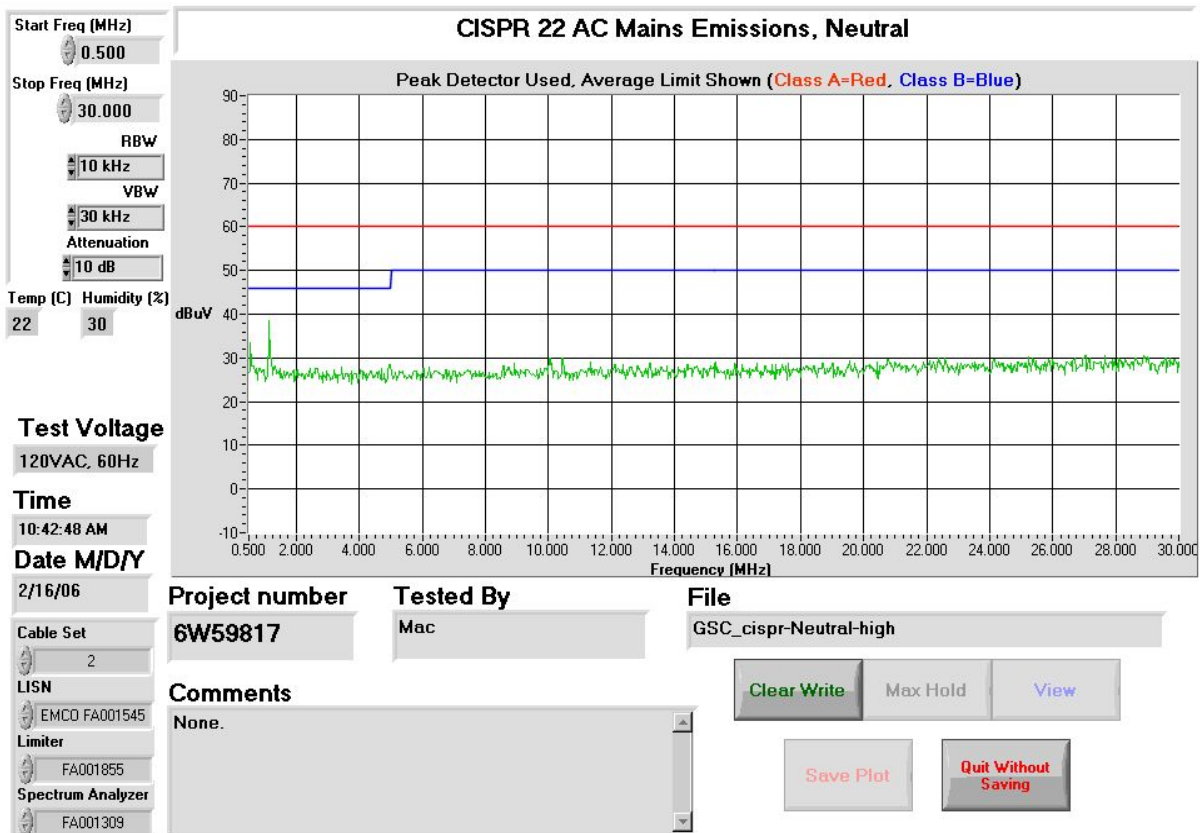
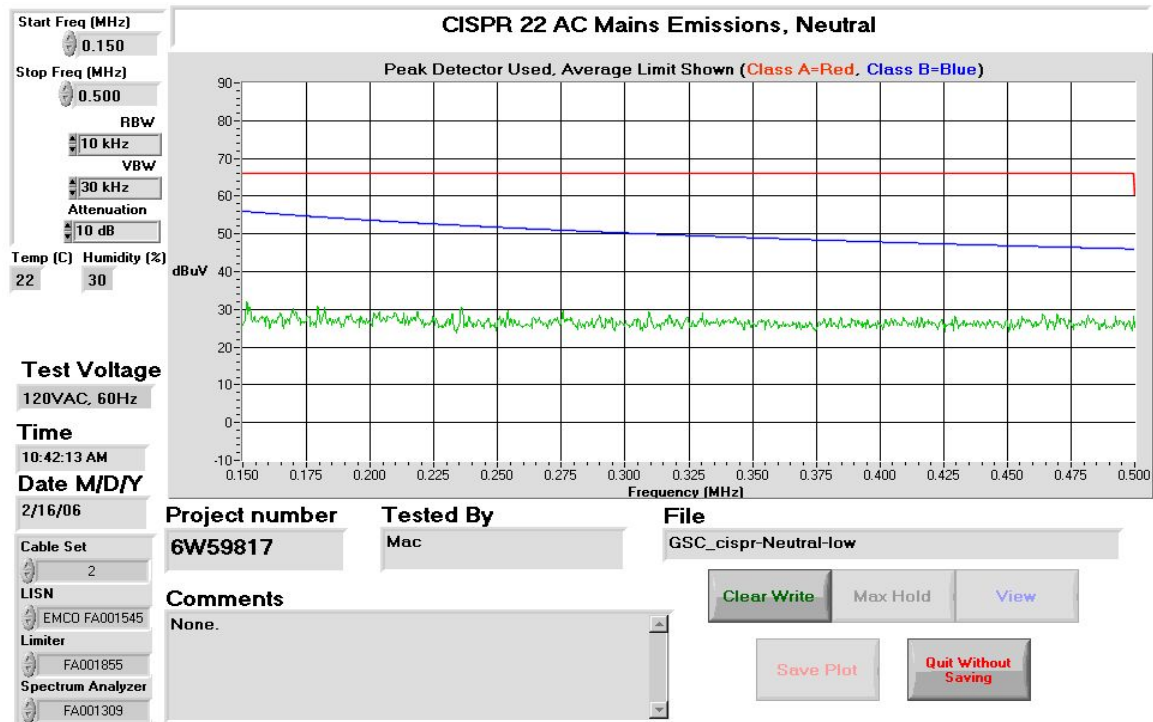
### Test Conditions:

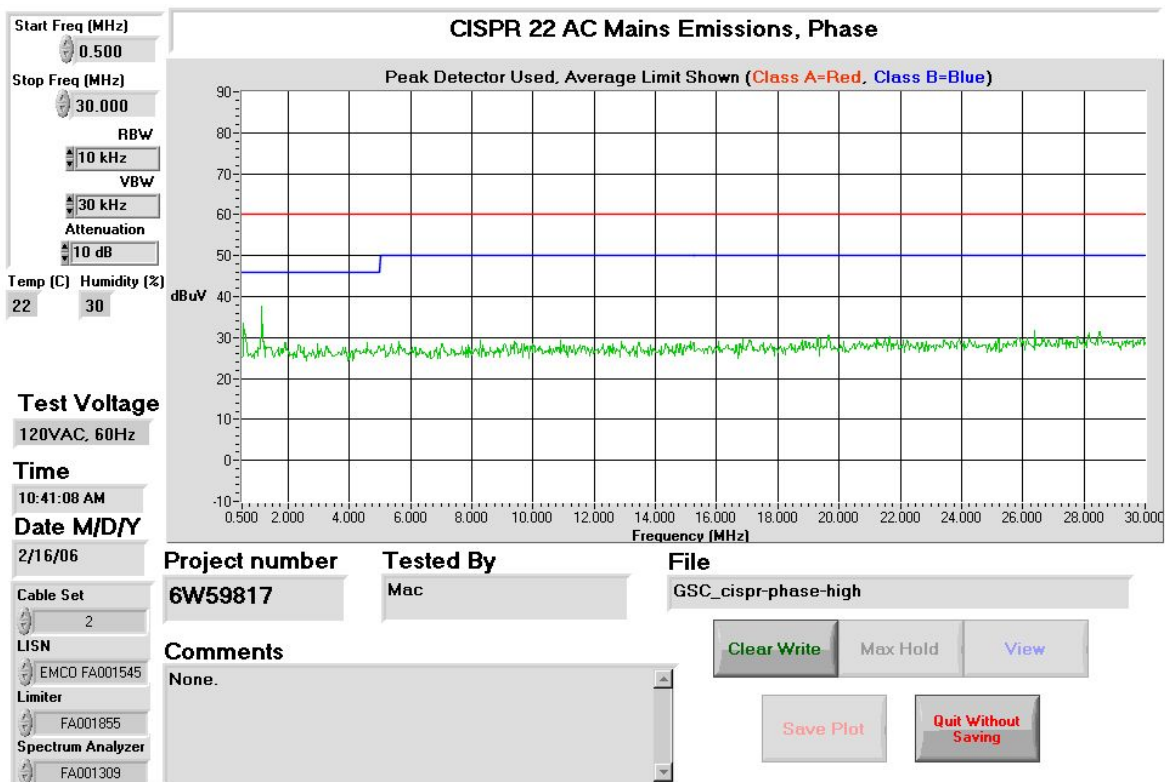
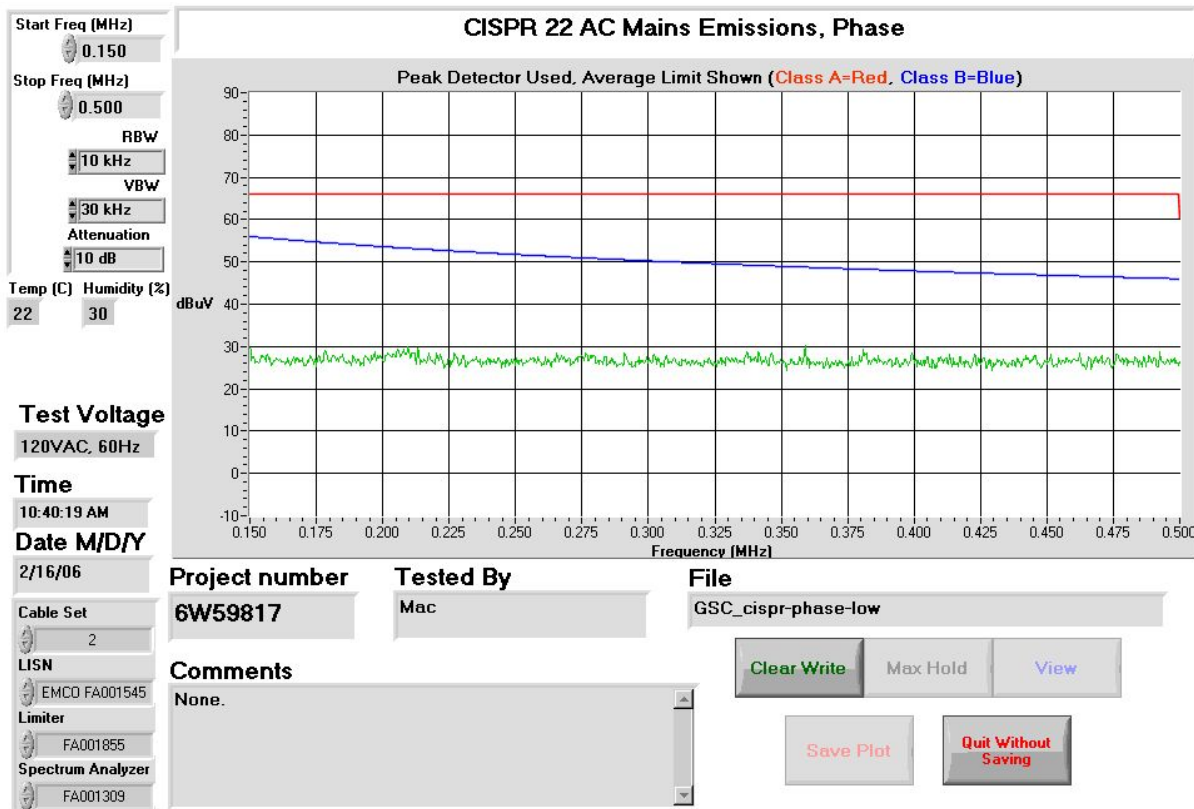
<b>Sample Number:</b>	#1	<b>Temperature:</b>	21
<b>Date:</b>	February 16, 2006	<b>Humidity:</b>	25
<b>Modification State:</b>	None	<b>Tester:</b>	Mac Huang
		<b>Laboratory:</b>	Ottawa

### Test Results: PASS

See Attached Plots.

**Additional Observations:** None





**Clause 15.109(a) Radiated Emissions**

Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency of Emission (MHz)	Field Strength (microvoltsmeter)
30 - 88	100
88 - 216	150
216 - 960	200
Above 960	500

**Test Conditions:**

<b>Sample Number:</b>	#3	<b>Temperature:</b>	21
<b>Date:</b>	February 16, 2006	<b>Humidity:</b>	25
<b>Modification State:</b>	None	<b>Tester:</b>	Mac Huang
		<b>Laboratory:</b>	Ottawa

**Test Results: PASS**

No spurious signal was found within 20 dB below the limits.

**Additional Observations:**

The Spectrum was searched from 30MHz to the 10<sup>th</sup> Harmonic (9.16GHz).

The EUT was measured on three orthogonal axis.

Measurement equipment setup was 120kHz Quasi-peak detector for measurements below 1GHz and 1MHz RBW/VBW peak detector above 1GHz.

All Measurements were performed at 3 meters.

## **Appendix B : Setup Photographs**

### **Conducted Emissions Setup:**

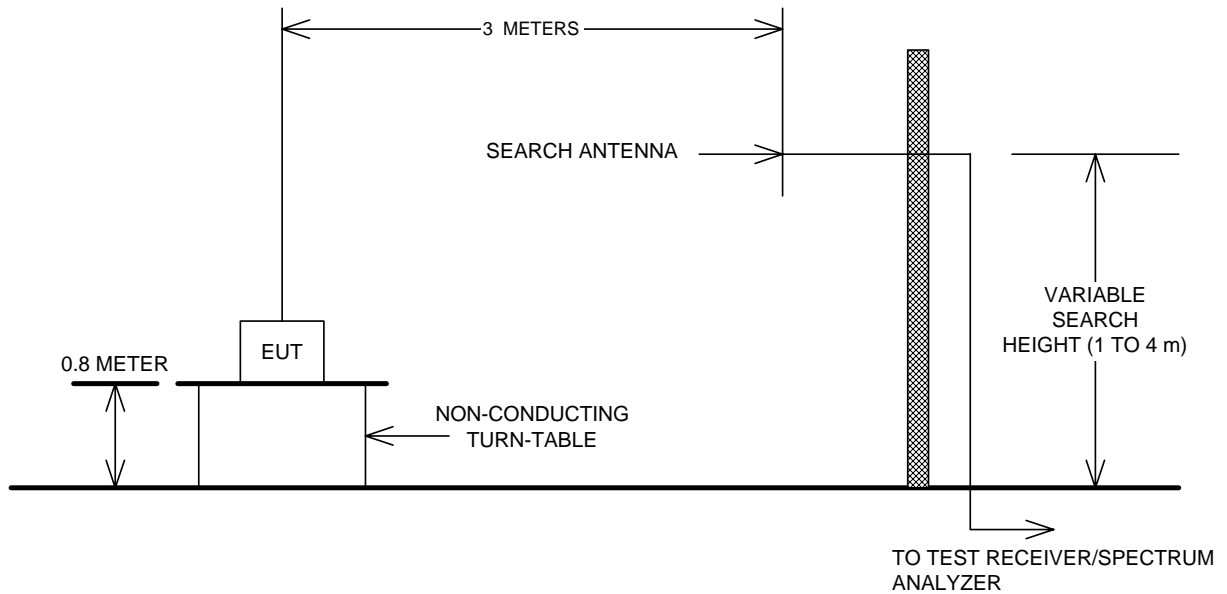


### **Spurious Emissions Setup:**



## Appendix C : Block Diagram of Test Setups

### Test Site For Radiated Emissions



### Conducted Emissions

