

**KTL Test Report:** 9R01704

**Applicant:** Electra Enterprises  
390 Edgeley Blvd.  
Concord, Ontario  
L4K 3Z6

**Equipment Under Test:  
(E.U.T.)** Video Transmitter

**FCC ID:** NIM2400

**In Accordance With:** **FCC Part 15, Subpart C, Paragraph 15.209**  
General Limits For Low Power Transmitters

**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:** 14

*EQUIPMENT: Video Transmitter*  
*FCC ID: NIM2400*

---

**Table Of Contents**

**Section 1. Summary Of Test Results..... 3**

**Section 2. General Equipment Specification ..... 5**

**Section 3. Radiated Emissions..... 6**

**Section 4. Occupied Bandwidth..... 10**

**Section 5. Test Equipment List ..... 12**

**Annex A Test Diagrams ..... A1**

*EQUIPMENT: Video Transmitter*  
*FCC ID: NIM2400*

---

## **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.

New Submission

Production Unit

Class II Permissive Change

Pre-Production Unit

D	X	X
---	---	---

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**

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

TESTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Kevin Carr, Technologist

KTL Ottawa Inc. authorizes the above named company to reproduce this report provided it is reproduced in its entirety and for use by the company's employees only.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. KTL Ottawa Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

This report applies only to the items tested.

*EQUIPMENT: Video Transmitter*  
*FCC ID: NIM2400*

---

**Summary Of Test Data**

<b>Name Of Test</b>	<b>Para. No.</b>	<b>Result</b>
Powerline Conducted Emissions	15.207	Not Applicable
Radiated Emissions	15.209	Complies
Occupied Bandwidth	Not Specified	Complies

**Footnotes For N/A's:**                      Battery Powered

**Test Conditions:**

**Indoor**                      Temperature: 24 °C  
                                    Humidity:     35 %

**Outdoor**                     Temperature: 15 °C  
                                    Humidity:     35 %



*EQUIPMENT: Video Transmitter*  
*FCC ID: NIM2400*

---

**Section 3. Radiated Emissions**

**Para. No.: 15.209**

<b>Test Performed By:</b> Kevin Carr	<b>Date of Test:</b> April 3, 2000
--------------------------------------	------------------------------------

**Minimum Standard:** The field strength of emissions from the device shall not exceed the following limits.

<b>Fundamental (MHz)</b>	<b>Field Strength (µV/m)</b>	<b>Field Strength (dBµV)</b>
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. The worst-case emission level is 92.5 dBµV/m @ 3m at 2411 MHz. This is 1.5 dB below the specification limit.

**Measurement Data:** (Procedure ANSI C63.4-1992)

Series resistor in II network equal to 120Ω for fundamental frequencies of 2453 MHz and 2473 MHz. Series resistor equal to 82Ω for fundamental frequency of 2411 MHz

EQUIPMENT: Video Transmitter  
 FCC ID: NIM2400

**Test Data - Radiated Emissions**

Test Distance (meters) : 3		Range: A Tower		Receiver: HP8564E		RBW(kHz): 1000		Detector: Peak	
Freq. (MHz)	Ant. *	Pol. (V/H)	RCVD Signal (dBµV/m)	Ant. Factor (dB)**	Amp. Gain (dB)***	Dist. Corr. (dB)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2411.0	H2	V	56.3	35.3			91.6	94.0	2.4
2411.0	H2	H	57.2	35.3			92.5	94.0	1.5
4822.0	H2	V	48.33	34.4	-45.5		37.23	54.0	16.77
4821.0	H2	H	47.83	34.4	-45.5		36.73	54.0	17.27
7232.0	H2	V	57.0	38.0	-46.8		48.2	54.0	5.8
7232.0	H2	H	58.0	38.0	-46.8		49.2	54.0	4.8
9644.0	H2	V	40.2	40.1	-40.7		39.6	54.0	14.4
9644.0	H2	H	39.8	40.1	-40.7		39.2	54.0	14.8
12055.0	H2	V	41.8	40.2	-40.7		41.3	54.0	12.7
12055.0	H2	H	40.6	40.2	-40.7		40.1	54.0	13.9
14465.0	H2	V	40.7	42.0	-41.1		41.6	54.0	12.4
14465.0	H2	H	41.0	42.0	-41.1		41.9	54.0	12.1
2453.0	H2	V	55.8	35.4			91.2	94.0	2.8
2453.0	H2	H	56.1	35.4			91.5	94.0	2.5
4906.0	H2	V	50.9	43.6	-45.6		48.9	54.0	5.1
4906.0	H2	H	51.2	43.6	-45.6		49.2	54.0	4.8
7359.0	H2	V	57.7	37.0	-46.9		47.8	54.0	6.2
7359.0	H2	H	58.0	37.0	-46.9		48.1	54.0	5.9
9812.0	H2	V	46.8	38.6	-41.0		44.4	54.0	9.6
9812.0	H2	H	45.6	38.6	-41.0		43.2	54.0	10.8
12265.0	H2	V	44.5	40.2	-40.7		44.0	54.0	10.0
12265.0	H2	H	43.5	40.2	-40.7		43.0	54.0	11.0
14718.0	H2	V	44.1	41.0	-41.3		43.8	54.0	10.2
14718.0	H2	H	43.9	41.0	-41.3		43.6	54.0	10.4

**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.  
 N.D. = Not Detected

*EQUIPMENT: Video Transmitter*  
*FCC ID: NIM2400*

**Test Data - Radiated Emissions, continued**

Test Distance (meters) : 3		Range: A Tower		Receiver: HP8564E		RBW(kHz): 1000		Detector: Peak	
Freq. (MHz)	Ant. *	Pol. (V/H)	RCVD Signal (dBµV/m)	Ant. Factor (dB)**	Amp. Gain (dB)***	Dist. Corr. (dB)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2473.0	H2	V	57.0	35.5			92.5	94.0	1.5
2473.0	H2	H	55.3	35.5			90.8	94.0	3.2
4946.0	H2	V	49.0	43.8	-45.6		47.2	54.0	6.8
4946.0	H2	H	50.7	43.8	-45.6		48.9	54.0	5.1
7419.0	H2	V	58.4	38.2	-46.8		49.8	54.0	4.2
7419.0	H2	H	60.5	38.2	-46.8		51.9	54.0	2.1
9892.0	H2	V	48.4	39.8	-41.0		47.2	54.0	6.8
9892.0	H2	H	46.9	39.8	-41.0		45.7	54.0	8.3
12365.0	H2	V	42.9	40.5	-40.8		42.6	54.0	11.4
12365.0	H2	H	43.4	40.5	-40.8		43.1	54.0	10.9
14838.0	H2	V	44.0	41.9	-41.3		44.6	54.0	9.4
14838.0	H2	H	42.9	41.9	-41.3		43.5	54.0	10.5

**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



*EQUIPMENT: Video Transmitter*  
*FCC ID: NIM2400*

---

**Radiated Photographs (Worst Case Configuration)**

**Front View**



**Rear View**



*EQUIPMENT: Video Transmitter*  
*FCC ID: NIM2400*

---

**Section 4. Occupied Bandwidth**

**Para. No.: Not Applicable**

<b>Test Performed By:</b> Kevin Carr	<b>Date of Test:</b> April 3, 2000
--------------------------------------	------------------------------------

**Minimum Standard:** Not specified.

**Test Results:** The 99% power occupied bandwidth is 13.42 MHz.

**Measurement Data:** See attached graph(s).



*EQUIPMENT: Video Transmitter*  
*FCC ID: NIM2400*

---

**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
	Power Supply	Astron	VS-50M	8405071	NCR	NCR
	Biconilog Antenna	EMCO	3143	1038	NCR	NCR
3 Year	Standard Gain Horn	Electro-Metrics	SH-50/60-1	FA000479	July 29/97	July 29/00
	High Pass Filter	K&L	11SH10-4000	FA001340	COU	COU
1 Year	RF AMP	Aventek	AWT-8035	FA001428	Jan. 7/00	Jan. 7/01
1 Year	RF AMP	DBS, NARDA	DWT-1861 N23U40	01	Jan. 7/00	Jan. 7/01

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

*EQUIPMENT: Video Transmitter*  
*FCC ID: NIM2400*

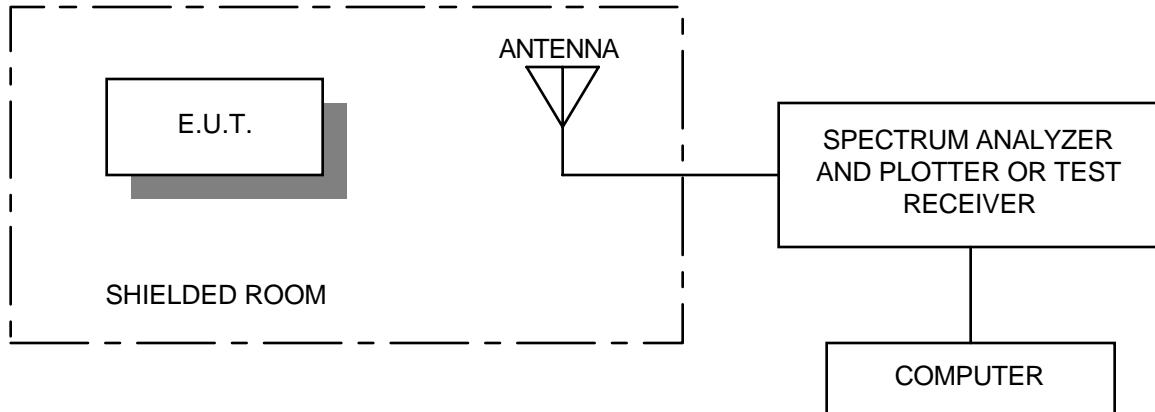
---

**Annex A**  
**Test Diagrams**

EQUIPMENT: Video Transmitter  
FCC ID: NIM2400

---

### Radiated Prescan



### Test Site For Radiated Emissions

