

Test Report: 1W04145

Applicant: Instantel Inc.
309 Legget Drive
Kanata, Ontario
K2K 3A3

**Equipment Under Test:
(EUT)** Hugs Tag With Tamper Unit Assembly

FCC ID: ISEIFT

In Accordance With: **FCC Part 15, Subpart C
Class II Permissive Change**

Tested By: Nemko Canada Inc.
3325 River Road, R.R. 5
Ottawa, Ontario K1V 1H2

Authorized By:

R. Grant, Wireless Group Manager

Date:

Total Number of Pages: 11

EQUIPMENT: Hugs Tag With Tamper Unit Assembly
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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 Part 15, Subpart C. All tests were conducted using measurement procedure ANSI C63.4-1992. Radiated emissions are made on an open area test site. A description of the test facility is 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".



NVLAP LAB CODE: 100351-0

TESTED BY: _____ DATE: _____
Wayne Clarke, Wireless Technologist

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This report applies only to the items tested.

EQUIPMENT: Hugs Tag With Tamper Unit Assembly
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Summary Of Test Data

Name of Test	Para. Number	Results
Transmission Requirements	15.231(a)	N/A
Radiated Emissions	15.231(b)	N/A
Occupied Bandwidth	15.231(c)	Complies
Frequency Tolerance	15.231(d)	N/A
Periodic Alternate Field Strength Requirements	15.231(e)	Complies
Powerline Conducted Emissions	15.207	N/A

Class II Permissive Change:

The EUT was tested as a Class II Permissive Change, the frequency was changed from 217MHz to 216.664MHz. The Occupied Bandwidth and Periodic Alternate Field Strength requirements were verified to ensure compliance with Part 15.231(e). The original unit was model 805A170 FCC ID: ISEIFT.

Description of Changes to Hugs Tag Transmitter:

The following change was made change the operating frequency of the transmitter from 217.003MHz to 216.6645MHz:

	<u>Designator</u>	<u>Part Identifier</u>	<u>Description</u>
Was:	Y1	80600701	STMR Crystal 72.332833MHz
Becomes:	Y1	XTL 72.220000	Crystal 72.220000MHz, UM-5

Test Conditions:

Indoor Temperature: 23 °C
 Humidity: 44 %

Outdoor Temperature: 24 °C
 Humidity: 88 %

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Section 2. Equipment Under Test

General Equipment Information

Manufacturer:	Instantel Inc.
Model No.:	806A1901
Serial No.:	None
Date Received In Laboratory:	July 18, 2001
Nemko Identification No.:	Item #1

EQUIPMENT: Hugs Tag With Tamper Unit Assembly
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Section 3. Occupied Bandwidth

Para. No.: 15.231(c)

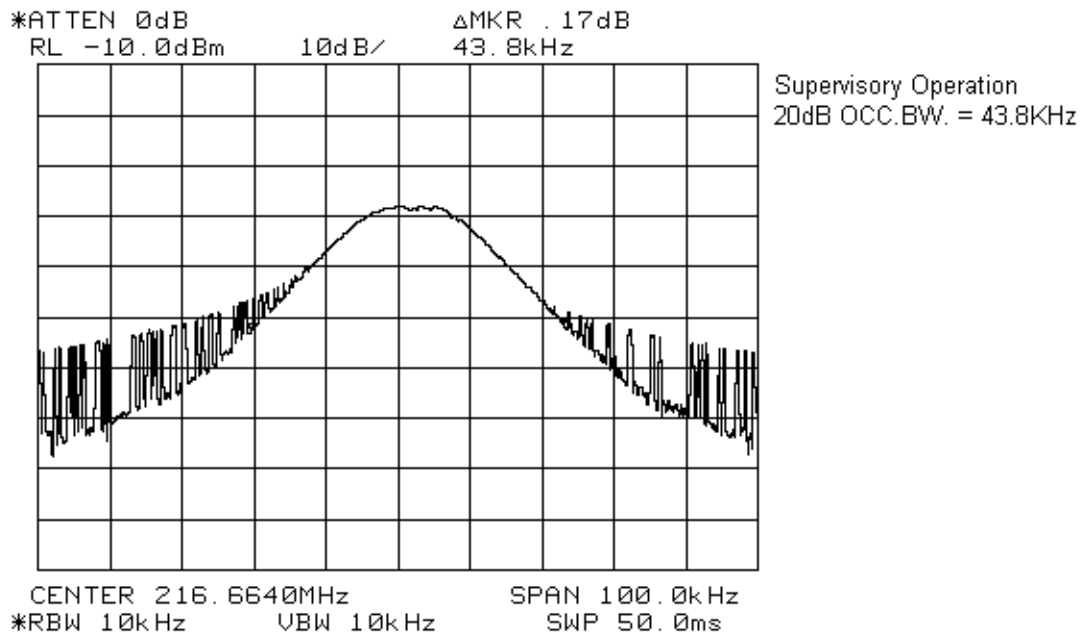
Test Performed By: Wayne Clarke	Date of Test: July 18, 2001
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Minimum Standard: 15.231(c) The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

Test Results: Complies.

Test Data: See attached graph.

EQUIPMENT: Hugs Tag With Tamper Unit Assembly
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Section 4. Periodic Alternate Field Strength Requirements

Para. No.: 15.231(e)

Test Performed By: Wayne Clarke

Date of Test: July 18, 2001

Minimum Standard: 15.231(e) Intentional radiators may operate at a periodic rate exceeding that specified in paragraph (a) of this section and may be employed for any type of operation, including operation prohibited in paragraph (a) of this section, provided the intentional radiator complies with the provisions of paragraphs (b) through (d) of this section, except the field strength table in paragraph (b) of this section is replaced by the following.

Fundamental Frequency (MHz)	Field Strength of Fundamental (microvolts/meter)	Field Strength of Spurious Emissions (microvolts/meter)
40.66 - 40.70	1,000	100
70 - 130	500	50
130 - 174	500 to 1,500	50 to 150
174 - 260	1,500	150
260-470	1,500 to 5,000	150 to 500
Above 470	5,000	500

In addition, devices operated under the provisions of this paragraph shall be provided with a means for automatically limiting operation so that the duration of each transmission shall not be greater than one second and the silent period between transmissions shall be at least 30 times the duration of the transmission but in no case less than 10 seconds.

Test Results: Complies.

Test Data: As per attached tabulated data.

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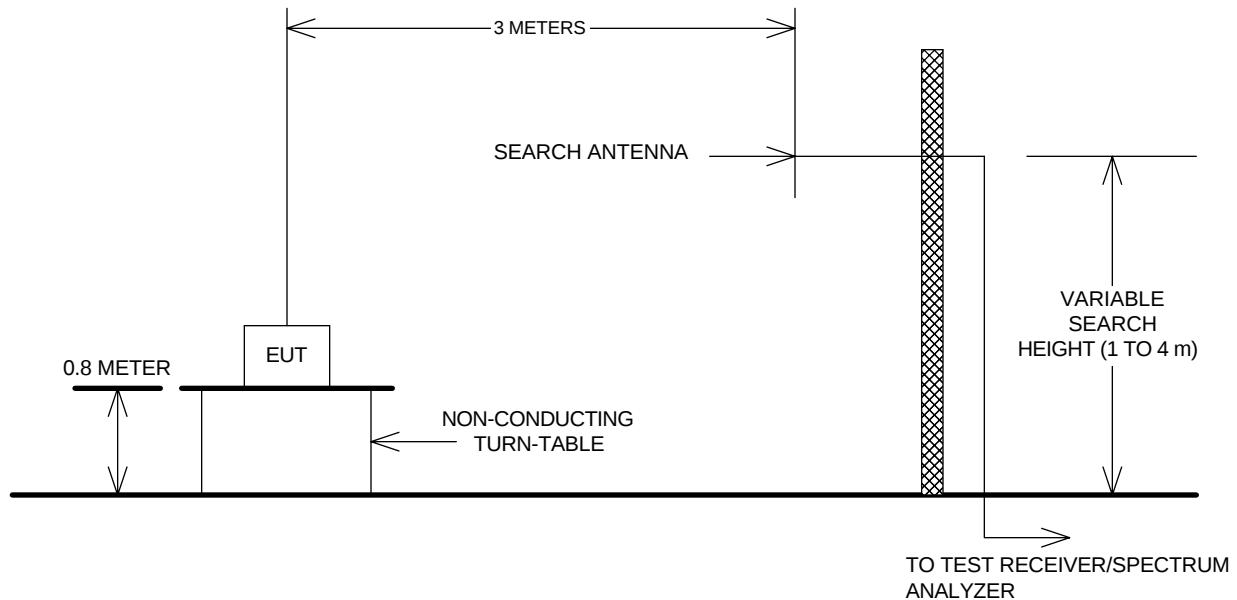
Test Data - Periodic Alternate Field Strength Requirements

Test Distance (meters) : 3		Range: A Tower		Receiver: ESVP		RBW(kHz): 120		Detector: 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)
216.664	E/D3	V			52.3	17.1		-20	49.4	63.5	14.1
216.664	E/D3	H			52.9	17.1		-20	50.0	63.5	13.5
433.328	L/P1	V			24.6	20.2		-20	24.8	43.5	18.7
433.328	L/P1	H			18.7	20.2		-20	18.9	43.5	24.6
649.992	L/P1	V			N.D.	24.7		-20		43.5	
649.992	L/P1	H			21.0	24.7		-20	25.7	43.5	17.8
866.656	L/P1	V			13.4	28.0		-20	21.4	43.5	22.1
866.656	L/P1	H			10.2	28.0		-20	18.2	43.5	25.3
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											

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Section 5. Block Diagrams

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

CAL CYCLE	EQUIPMENT	MANUFACTURER	MODEL	SERIAL	LAST CAL.	NEXT CAL.
1 Year	Spectrum Analyzer	Hewlett Packard	8565E	FA000981	June 08/01	June 08/02
1 Year	Receiver	Rohde & Schwarz	ESVP	892661/014	April 5/01	April 5/02
1 Year	Horn Antenna	EMCO #2	3115	4336	Dec. 1/00	Dec. 1/01
1 Year	Log Periodic Antenna 2	EMCO	3148	9904-1054	Apr. 30/99	Oct. 30/00
1 Year	Dipole Antenna Set	EMCO #2	3121C	FA001349	Apr. 3/01	Apr. 3/02

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