

Test Report:

3W07091

Applicant:

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

Equipment Under Test: (EUT)

FCC ID:

ISEBTG

Baby Tag

In Accordance With:

FCC Part 15, Subpart C, 15.231 Class II Permissive Change

Tested By:

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

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Authorized By:

Kevin Carr, EMC Specialist

Date:

29 April 2003

Total Number of Pages: 15

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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.

He Wyfeld

TESTED BY:

Glen Westwell, Wireless Technologist

DATE: 24 April 2003

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This report applies only to the items tested.

Summary Of Test Data

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

Description of Changes to Hugs Tag Transmitter

The following change was made to change the operating Frequency of the Transmitter from 217.003MHz to 216.6645MHz:

	Designator	Part Identifier		Description		
Was:	Y1	80600701		XTMR Crystal 72.332833M		
Becomes	х Ү1	XTL 72.220000		Crystal,72.22000	0MHz, UM-5	
Test C	onditions:					
Indoor		Temperature: Humidity:	22°C 45%			
Outdo)r	Temperature: Humidity:	5°C 55%			

Section 2. Equipment Under Test

General Equipment Information

Manufacturer:	Instantel Inc.
Model No.:	806A2402
Serial No.:	None
Date Received In Laboratory:	23 April 2003
Nemko Identification No.:	1
Transmit Frequency (fixed)	216.6645MHz
20 dB Bandwidth:	10.0kHz
Type of Modulation:	FSK
Emission designator:	9K7P0D
Occupied Bandwidth (99% BW):	9.7kHz



99% Occupied Band Width

Section 3. Transmission Requirements

Para. No.: 15.231(a)

Test Performed By: Glen	Westwell	Date of Test: 23 April 2003
Minimum Standard:	15.231(a) Continuous transmiss	ions such as voice, video or data
	15.231(a)(1) A manually open switch that will automatically de more than 5 seconds after being re	rated transmitter shall employ a activate the transmitter within not eleased.
	15.231(a)(2) A transmitter act transmission within 5 seconds of a	tivated automatically shall cease activation.
	15.231(a)(3) Periodic transmis intervals are not permitted. transmissions to determine system security or safety applications a transmission does not exceed one second duration per hour for each	ssions at regular pre-determined However polling or supervisory m integrity of transmitters used in re allowed if the periodic rate of transmission of not more than one transmitter.
	15.231(a)(4) Intentional radiato control purposes during emerger safety of life, when activated to st the pendency of the alarm.	ors which are employed for radio ncies involving fire, security, and ignal an alarm, may operate during
Test Results:	N/A EUT was tested to 15.231(e), Red	luced Field Strengths.
Test Data:	Compliance was determined specifications and a functional te	by verification of technical est on the equipment.

Section 4. Occupied Bandwidth

Para. No.: 15.231(c)

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: Complied.

Test Data: See attached graph.

EQUIPMENT: Baby Tag



EQUIPMENT: Baby Tag

Section 5. Periodic Alternate Field Strength Requirements

Para. No.: 15.231(e)

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 (µV/m @ 3m)	Field Strength of Spurious Emissions (µV/m @ 3m)
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:Complied. The EUT was verified for maximum amplitude in three
orthogonal axis. Worst case has been reported.

Emissions were searched up to the 10^{th} harmonic with a fresh battery.

Test Data:As per attached tabulated data.Duty Cycle= -11.0dB.

Test Distance		Range:		Receiver:		RBW(kHz):		Detector:		
(meters) : 3		С		ESVS 30, HP8566B		100, 1000		Peak, Peak		
No.	Freq. (MHz)	Ant.	Pol (V/H)	RCVD Signal (dBµV)	Ant. Factor (dB)**	Amp. Gain (dB)***	Duty Cycle Corr. (dB)	Field Strength (dBµV/ m)	Limit (dBµV/m)	Margin (dB)
1	216.66	BL	V	45.0	12.6		-11.0	46.6	63.5	16.9
2	216.66	BL	Н	59.0	12.6		-11.0	60.6	63.5	2.9
3	433.329	BL	V	N.D.	20.2		-11.0	N.D.	43.5	
4	433.329	BL	Н	N.D.	20.2		-11.0	N.D.	43.5	
5	649.993	BL	V	50.7	23.2	27.0	-11.0	35.9	43.5	7.6
6	649.993	BL	Н	56.2	23.2	27.0	-11.0	41.4	43.5	2.1
7	866.65	BL	V	N.D.	25.6		-11.0	N.D.	43.5	
8	866.65	BL	Н	N.D.	25.6		-11.0	N.D.	43.5	
9	1083.32	BL	V	N.D.	27.8		-11.0	N.D.	54	
10	1083.32	BL	Н	N.D.	27.8		-11.0	N.D.	54	
11	72.336	BL	V	17.1	8.2			25.3	40	14.7
12	72.336	BL	Н	14.0	8.2			22.2	40	17.8
Note	Notos									

Test Data - Radiated Emissions

Notes:

B/C = Biconical, BL = Bilog, L/P = Log-Periodic, H = Horn, D/P = Dipole, E/D = EMCO 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: Baby Tag



Transmission Characteristics, 15.231(e)



EQUIPMENT: Baby Tag

OATS, SET UP PHOTO





EQUIPMENT: Baby Tag

Section 6. Block Diagrams

Outdoor Test Site For Radiated Emissions



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

Section 7. TEST EQUIPMENT LIST NEMKO CANADA - OTTAWA

CAL	Equipment	Manufacturer	Model No.	Asset/Serial	Last Cal.	Next Cal.
Cycle				No.		
1 Year	Receiver	Rohde & Schwarz	ESVS-30	FA001445	June. 07/02	June. 07/03
Extended	Spectrum Analyzer	Hewlett-Packard	8566B	FA001431	Dec. 11/02	Jun. 11/03
Extended	Spectrum Analyzer Display	Hewlett-Packard	85662A	FA001432	Dec. 11/02	Jun. 11/03
1 Year	Bilog	Schaffner	CBL6112B	FA001503	July. 02/02	July. 02/03
1 Year	Pre-Amplifier 0.6- 26.5 GHz	Hewlett-Packard	HP 8449	FA001761	23 Apr 03	C.O.U.
1 Year	Spectrum Analyzer	Hewlett-Packard	8565E	FA000981	July. 15/02	July. 15/03
1 Year	Horn Antenna #1	EMCO	3115	FA000649	Dec. 23/02	Dec. 23/03

Note: N/A = Not Applicable NCR = No Cal Required COU = CAL On Use OUT = Out For CAL/Repair