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

Report #: 86202TRFEMC

Model #: JT0705REC1 (Receiver)

FCC #: VBB-JT0705REC1

ElectroMagnetic Compatibility Test Report

- FCC 47 CFR Part 15, Subpart B (Verification)
- RSS-210 Issue 7 (RSS-GEN, Issue 2)

Reviewed by:

Signature
Jason Nixon, Telecom Specialist

July 4, 2007
Date

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Report No: 86202TRFEMC

Declaratory Statements

Product: Wireless Strap Monitor (Receiver)

Model #: JT0705REC1

Trademark:



Serial #: None

Applicant:

Johnny Tiedown Inc
176, 13e Rue
Rouyn Noranda Quebec
Canada J9X 2H8

Manufacturer:

Johnny Tiedown Inc
176, 13e Rue
Rouyn Noranda Quebec
Canada J9X 2H8

Product Background Information

The test was performed for the following reasons.

- ☒ New Product
- ☐ Engineering Changes
- ☐ Configuration Change
- ☐ Product Audit
- ☐ Other

Test Procedure: ANSI C63.4-2003/CISPR22

Test Location: 303 River Road, R.R. 5, Ottawa, Ontario, Canada, K1V 1H2

Limits of Responsibility

The results included in this test report apply only to the equipment listed within this report as being the Equipment Under Test (EUT). Equipment listed as support equipment is not considered to be part of the EUT. In some instances, the EUT may consist of multiple devices in a single enclosure, and will be so indicated in the report.

Measurement Uncertainty

Measurement	Test Specification	Ulab
Conducted disturbance	9kHz – 150kHz	4.0dB
	150kHz – 30MHz	3.6dB
Radiated disturbance	30MHz – 200MHz <i>Horizontal polarization</i>	4.7dB
	200MHz – 1000MHz <i>Horizontal polarization</i>	4.7dB
	30MHz – 200MHz <i>Vertical polarization</i>	4.9dB
	200MHz – 1000MHz <i>Vertical polarization</i>	4.9dB

Accuracy of Measurement

Measurement uncertainty was calculated using the methods described in CISPR 16-4 *Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC measurements* and Nemko Canada Inc. procedure EMC/MUC/001 *Uncertainty in EMC Measurements*.

Lab Environmental Conditions

Ambient Temperature: 15°C to 35°C,
Relative Humidity: 30% to 60%,
Atmospheric Pressure: 86kPa (860mbar) to 106kPa (1 060mbar)

Measurement Equipment Setup

These are the standard bandwidth and possible detector settings used during emissions testing

9 kHz - 150 kHz	200 Hz bandwidth, Quasi-Peak detector with linear response; Peak detector with log response; Average detector with linear response
150 kHz - 30 MHz	9 kHz bandwidth, Quasi-Peak detector with linear response; Peak detector with log response; Average detector with linear response
30 MHz - 1 GHz	120 kHz bandwidth, Quasi-Peak detector with linear response; Peak detector with log response
1 GHz - 18 GHz	1 MHz bandwidth, Peak detector with log response, Average detector with linear response



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Statement of Compliance

FCC 47 CFR Part 15, Subpart B for Digital Devices. Class B	TEST RESULT
	PASS/FAIL/NA
Radiated Disturbance	PASS
Conducted Disturbance at Mains Port	NA
Notes	
<ul style="list-style-type: none">– Test Method Used: ANSI C63.4-2003– System Power: Radiated: 12VDC– The equipment was tested for conducted emissions from 0.15MHz to 30MHz using a 50 microhenry line impedance stabilization network (L.I.S.N.) as described in ANSI C63.4-2003. Peripheral equipment was also operated through a 50 microhenry L.I.S.N.	
RSS-GEN, Issue 2	TEST RESULT
	PASS/FAIL/NA
Radiated Disturbance	PASS
Conducted Disturbance at Mains Port	NA
Notes	
<ul style="list-style-type: none">– Test Method Used: CISPR 22– System Power: Radiated: 12VDC– All tests were performed using measurement apparatus defined in CISPR 16-1. Radiated Emissions were performed on an open area test site within the NSA conforming to the requirements of CISPR16-1.	



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Engineering Considerations

Product Modification Required for Compliance

None

Justification

None

Deviations from Standard Test Procedure

None

Test Report Revision History

Issue #	Details of changes made to test report
-	Original Report Issued
N/A	N/A



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General Information Regarding the Equipment Under Test (EUT)

Date Received In Laboratory: May 07, 2007

Nemko Identification Number: Item # 1

Description & Theory of Operation:

The EUT is used for monitoring the tension in the strap or cable and send a signal if the tension changes.

EUT Clock and Operational Frequencies:

433.92 MHz, 23.512MHz, 13.560MHz, 12.800MHz, 6.000MHz, 32768Hz

Exercise/Monitoring method:

The EUT was tested while monitoring Transmitter.

Software Version:

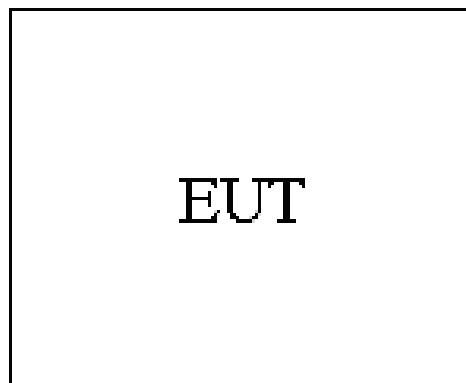
None.

Equipment Configuration

Equipment Configuration List

Description	Identification: (MN#, SN#, PN#, Rev.)
Wireless Strap Monitor	MN#: JT0705256usb1

Configuration of the Equipment Under Test (EUT)



Notes

None



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Report No: 86202TRFEMC

Radiated Disturbance

Test Date: May 17 2007

Engineer's Name: Heng Lin

Tested as per: Table Top

Enclosure Investigation Data

FCC 47 CFR Part 15, Subpart B

Test Distance (meters): 3

Dome: 1

Freq. (MHz)	Ant.	Pol. V/H	RCVD Signal (dBµV)	Ant. Factor (dB)	Amp. Gain (dB)	Cable Loss (dB)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Amp.
123.0000	BC2	V	11.0	12.2	N/A	1.2	24.3	43.5	19.2	Q-Peak	N/A
145.0000	BC2	V	8.0	13.1	N/A	1.3	22.4	43.5	21.1	Q-Peak	N/A
169.0000	BC2	V	7.3	13.2	N/A	1.3	21.8	43.5	21.7	Q-Peak	N/A
190.0000	BC2	V	8.3	14.2	N/A	1.4	23.9	43.5	19.6	Q-Peak	N/A
234.0000	BC2	V	7.5	16.2	N/A	1.6	25.3	46.0	20.7	Q-Peak	N/A
276.0000	BC2	V	9.2	17.2	N/A	2.1	28.5	46.0	17.5	Q-Peak	N/A

RSS-GEN, Issue 2

Test Distance (meters): 3

Dome: 1

Freq. (MHz)	Ant.	Pol. V/H	RCVD Signal (dBµV)	Ant. Factor (dB)	Amp. Gain (dB)	Cable Loss (dB)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Amp.
123.0000	BC2	V	11.0	12.2	N/A	1.2	24.3	40.5	16.2	Q-Peak	N/A
145.0000	BC2	V	8.0	13.1	N/A	1.3	22.4	40.5	18.1	Q-Peak	N/A
169.0000	BC2	V	7.3	13.2	N/A	1.3	21.8	40.5	18.7	Q-Peak	N/A
190.0000	BC2	V	8.3	14.2	N/A	1.4	23.9	40.5	16.6	Q-Peak	N/A
234.0000	BC2	V	7.5	16.2	N/A	1.6	25.3	47.5	22.2	Q-Peak	N/A
276.0000	BC2	V	9.2	17.2	N/A	2.1	28.5	47.5	19.0	Q-Peak	N/A

Legend:

Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole

Detector Legend: Q-Peak = 120kHz RBW, Average = 1.0MHz RBW

Notes

The EUT was tested with fresh new batteries.

The spectrum was searched from 30MHz to the 10th harmonic of the receiver.

Deviations

Refer to Engineering Considerations.

Test Result

Final Test Result: Pass

Test Equipment Used

CAL Cycle	Equipment	Manufacturer	Model No.	Asset/Serial No.	Next Cal.
1 Year	Receiver	Rohde & Schwarz	ESVS-30	FA001445	July 14/07
1 Year	Biconical (2) Antenna	EMCO	3109	FA000904	Sept. 12/07
1 Year	Log Periodic Antenna #2	EMCO	3148	FA001355	May 16/07
1 Year	Horn Antenna #1	EMCO	3115	FA000649	Feb. 26/08
1 Year	Horn Antenna #2	EMCO	3115	FA000825	Jan. 30/08
1 Year	1.0 – 2.0 GHz Amplifier	JCA	12-400	FA001498	Aug. 02/07
1 Year	2.0 – 4.0 GHz Amplifier	JCA	24-600	FA001496	Aug. 02/07
1 Year	4.0 – 8.0 GHz Amplifier	JCA	48-600	FA001497	Aug. 02/07

Note: N/A = Not Applicable, NCR = No Cal Required, COU = CAL On Use

Radiated Disturbance, continued

Setup Photos

