Nemko Test Report:	16621RUS1
Applicant:	Freshloc Sensor Systems 15443 Knoll Trail Drive Suite 100 Dallas, Texas 75248 USA
Equipment Under Test: (E.U.T.)	90-0102-001 Sensor
In Accordance With:	**FCC Part 15, Subpart C, 15.249** Operation within the bands 902-928 MHz, 2400-2483.5 MHz, 5725-5875 MHz, and 24.0-24.25 GHz.
Tested By:	Nemko USA Inc. 802 N. Kealy Lewisville, Texas 75057-3136

TESTED BY: _____ **DATE:** **22 October, 2008**
David Light, Senior Wireless Engineer

APPROVED BY: _____ **DATE:** **23 October, 2008**
Tom Tidwell, Telecom Direct

Total Number of Pages: 14

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Section 1. Summary Of Test Results

Manufacturer: Freshloc Sensor Systems

Model No.: 90-0102-001 Sensor

Serial No.: None

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 15.249. All tests were conducted using measurement procedure ANSI C63.4-2003. Radiated Emissions were made on an open area test site.

☒ New Submission ☒ Production Unit

☐ Class II Permissive Change ☐ Pre-Production Unit

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: 100426-0

Summary Of Test Data

NAME OF TEST	PARA. NO.	RESULT
Conducted Emissions	15.207	NA
Radiated Emissions	15.249	Complies

Footnotes For N/A's:

The device is powered by a single 3.6 volt lithium battery.

Section 2. General Equipment Specification

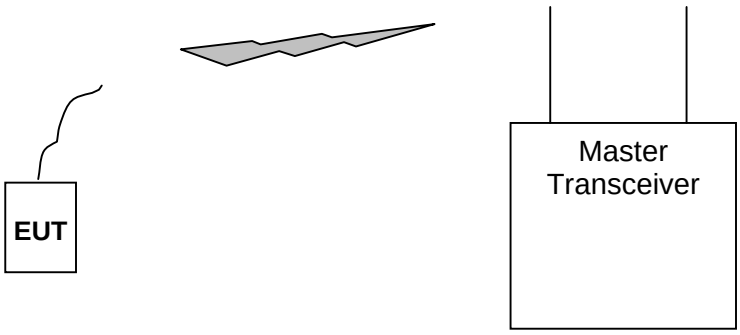
Frequency Band:	902 to 928 MHz
Operating Frequency(ies) of Sample:	915.25 to 917.25 MHz
User Frequency Adjustment:	Set at factory. Not adjustable by user.

	Yes	**No**
Integral Antenna	☒	☐

Description of EUT

The Equipment Under Test is a remote sensor that communicates environmental data to a base transceiver where the data is logged.

System Diagram



Section 3. Radiated Emissions

NAME OF TEST: Radiated Emissions	PARA. NO.: 15.249
TESTED BY: David Light	DATE: 21 October 2008

Minimum Standard: Para no. 15.249

(a) The field strengths shall not exceed the following:

Carrier (MHz)	Field Strength (mV/m)	Field Strength (dBμV)	Harmonic (μV/m)	Harmonic (dBμV)
902-928	50	94	500	54
2400-2483.5	50	94	500	54
5725-5875	50	94	500	54
24000-24250	250	108	2500	68

(b) Field strength limits are specified at a distance of 3 metres.

(c) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated limits of 15.209 whichever is the less attenuation.

(d) …for frequencies above 1000 MHz, the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

Test Results: Complies

Measurement Data: See attached table.

Test Data - Radiated Emissions

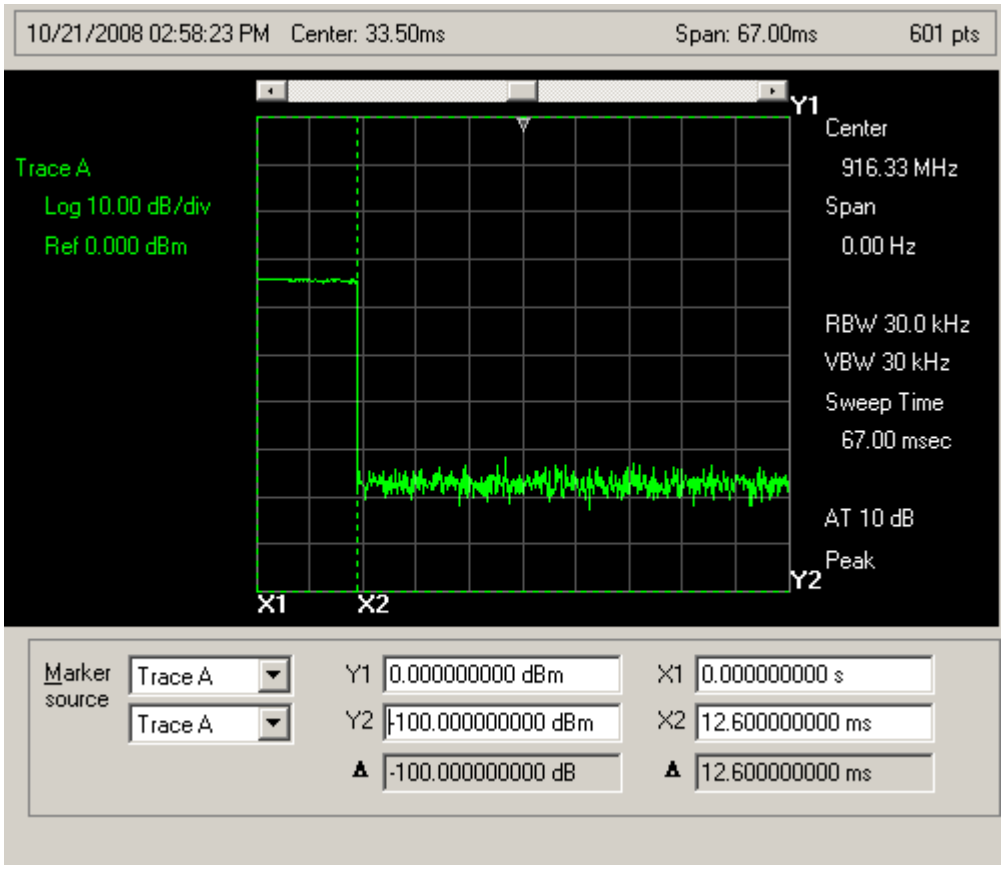
Meas. Freq. (MHz)	Ant. Pol. (H/V)	Det. Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. limit (dBuV/m)	CR/SL Diff. (dB)	Pass Fail Unc.	Comment
											Mid Channel
916.25	V	0	66.8	23	3.8	0.0	93.6	94.0	-0.4	Pass	
916.25	H	0	65.9	23	3.8	0.0	92.7	94.0	-1.3	Pass	
											Low Channel
915.25	V	0	67.1	23	3.8	0.0	93.9	94.0	-0.1	Pass	
915.25	V	0	67.1	23	3.8	0.0	93.9	94.0	-0.1	Pass	
916.25	H	0	64.6	23	3.8	0.0	91.4	94.0	-2.6	Pass	
916.25	H	0	64.5	23	3.8	0.0	91.3	94.0	-2.7	Pass	
											High Channel
916.25	H	0	62.4	23	3.8	0.0	89.2	94.0	-4.8	Pass	
917.25	H	0	62.4	23	3.8	0.0	89.2	94.0	-4.8	Pass	
916.25	V	0	64.8	23	3.8	0.0	91.6	94.0	-2.4	Pass	
917.25	V	0	64.6	23	3.8	0.0	91.4	94.0	-2.6	Pass	

Analyzer Settings: <1000 MHz RBW=VBW=100 kHz Peak detector
>1000 MHz RBW=VBW=1 MHz Peak detector

The spectrum was searched from 30 MHz to 10 GHz. All readings within 20 dB of the specification limit of 74 dBµV/m Peak and 54 dBµV/m Average are reported per 15.31(o). All readings are peak unless otherwise stated.

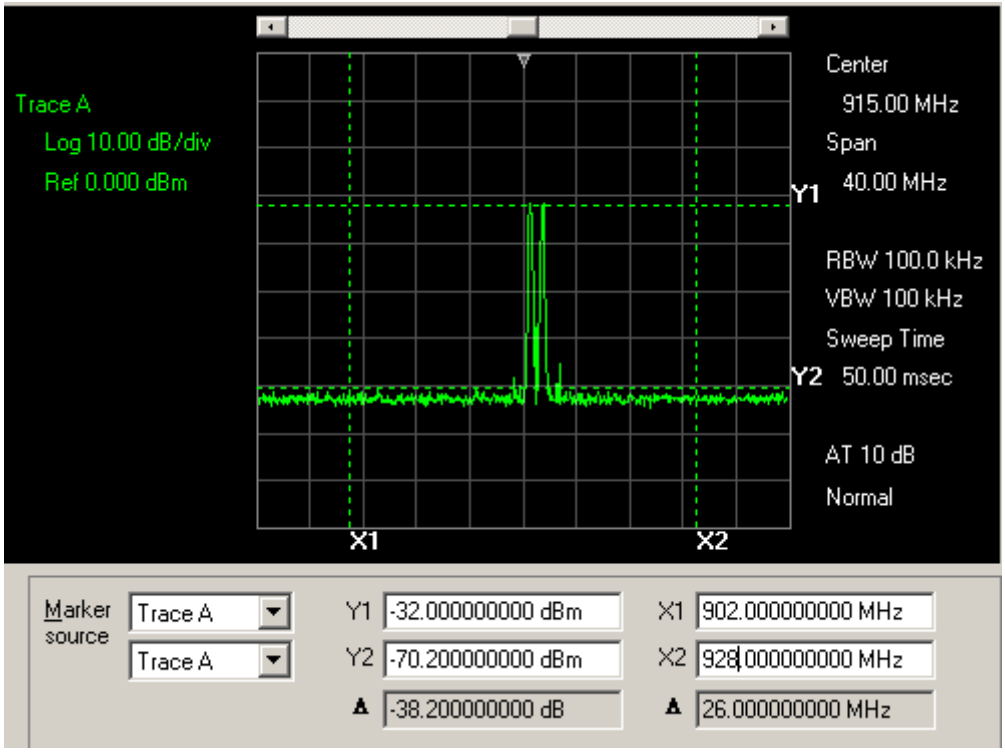
The radio was tested with a new battery.

Duty Cycle Correction

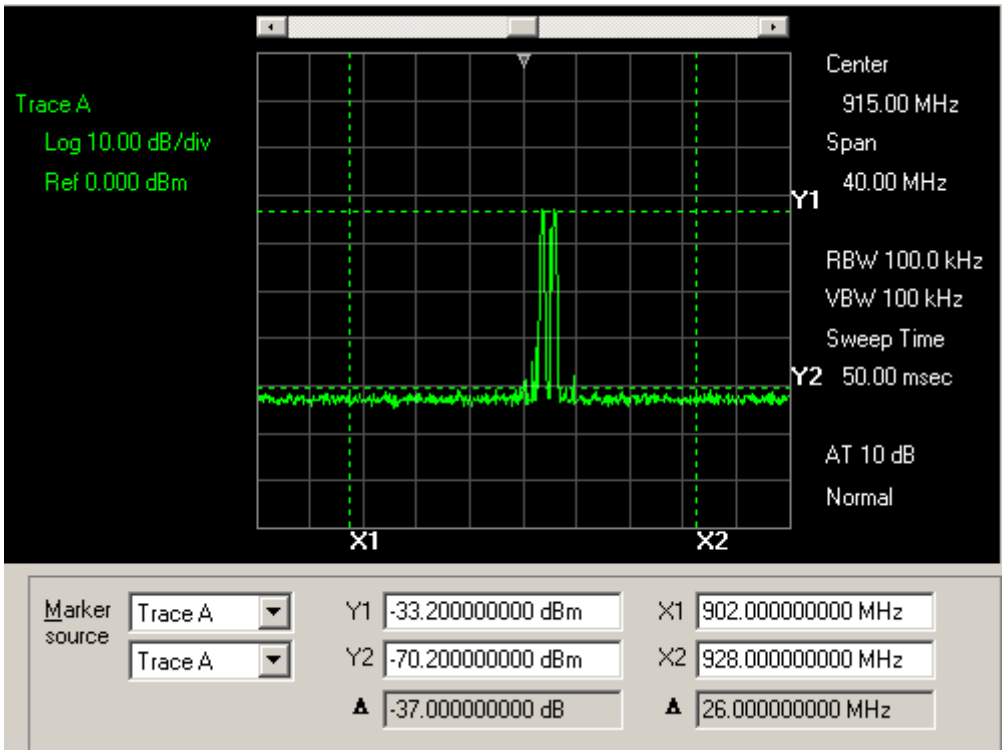


Duty cycle correction (dB) = 20 log (12.6/100) = -17.9 dB

Band Edges
Lowest channel



Band Edges
Highest Channel



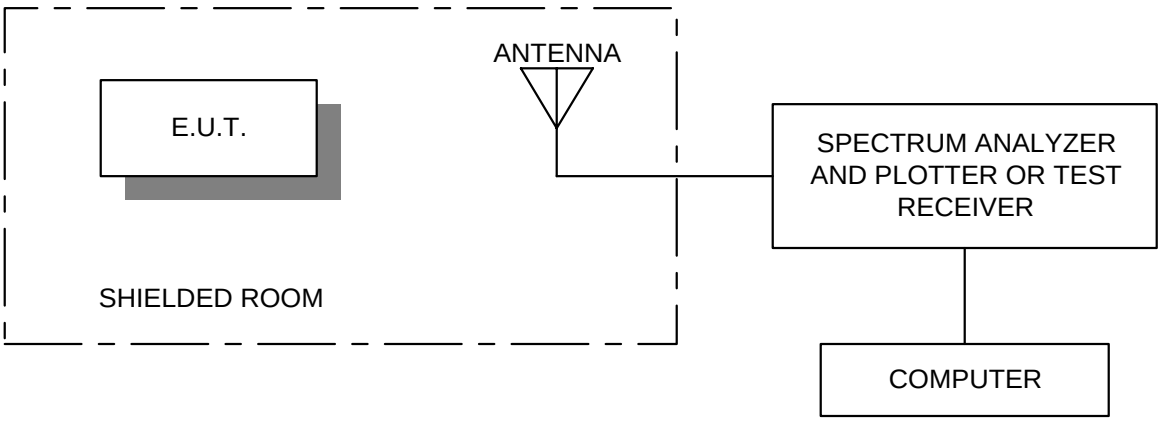
Section 4. Test Equipment List

Nemko ID	Description	Manufacturer Model Number	Serial Number	Calibration Date	Calibration Due
1763	Bilog Antenna	Schaffner CBL 6111D	22926	10/21/07	10/21/08
1783	Cable	Nemko? 0	0	06/12/08	06/12/09
1767	EMI Test Receiver 20Hz - 26.5 GHz - 150 - +30 dBm LC	ROHDE & SCHWARZ ESIB26	837491/0002	09/20/07	09/19/09
993	Horn antenna	A.H. Systems SAS-200/571	XXX	08/31/07	08/30/09
1016	Pre-Amp	HEWLETT PACKARD 8449A	2749A00159	05/07/08	05/07/09
791	PREAMP, 25dB	Nemko USA, Inc. LNA25	398	05/07/08	05/07/09

ANNEX A

TEST DIAGRAMS

Radiated Prescan



Test Site For Radiated Emissions