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RADIO TEST REPORT

Report ID:

REP082014

Project number:

PRJ0074769

Type of assessment:

SAR Exemption report

Manufacturer:

Sensormatic USA LLC

Hardware Version Identification Number (HVIN):

LFAMB2102

Product Marketing Name (PMN):

Label Deactivator Controller

Brand:

Sensormatic

FCC ID:

BVCAMB9012

ISED certification number:

3506A-AMB9012

Specifications:

- ◆ FCC 47 CFR Part 2 Subpart J, §2.1093
- ◆ FCC KDB 447498 D01 General RF Exposure Guidance v06
- ◆ ISED Canada RSS-102 Issue 5 Amendment 1, (February 2021)
- ◆ Supplementary Procedure SPR-002, Issue 2
- ◆ Health Canada Safety Code 6

RSS-102 Annex C Attestation:

I attest that the radiocommunication apparatus meets the exemption from the routine evaluation limits in these standards; that the Technical Brief was prepared and the information contained therein is correct; that the device evaluation was performed or supervised by me; that applicable measurement methods and evaluation methodologies have been followed; and that the device meets the SAR and/or RF field strength limits of the above standards.

Date of issue: February 21, 2025

Tarek Elkholy, EMC/RF Specialist

Prepared by

Tarek Elkholy

Signature

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Test site identifier	Organization	Ottawa	Montreal	Cambridge
	FCC: ISED:	CA2040 2040A-4	CA2041 2040G-5	CA0101 24676
Website	www.nemko.com			

Limits of responsibility

Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.

This test report has been completed in accordance with the requirements of ISO/IEC 17025. All results contained in this report are within Nemko Canada's ISO/IEC 17025 accreditation.

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Section 1 Evaluation summary

1.1 SAR exemption for standalone transmission, FCC

1.1.1 References, definitions and limits

FCC §2.1093

(2) The SAR limits for general population/uncontrolled exposure are 0.08 W/kg, as averaged over the whole body, and a peak spatial-average SAR of 1.6 W/kg, averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the parts of the human body treated as extremities, such as hands, wrists, feet, ankles, and pinnae, where the peak spatial-average SAR limit is 4 W/kg, averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). Exposure may be averaged over a time period not to exceed 30 minutes to determine compliance with general population/uncontrolled SAR limits.

FCC KDB 447498 D01

4.3.1 Standalone SAR test exclusion considerations

- c For frequencies below 100 MHz, the following may be considered for SAR test exclusion (also illustrated in Appendix C)
 - 1) For test separation distances > 50 mm and < 200 mm, the power threshold at the corresponding test separation distance at 100 MHz in step b) is multiplied by $[1 + \log(100/f(\text{MHz}))]$
 - 2) For test separation distances ≤ 50 mm, the power threshold determined by the equation in c) 1) for 50 mm and 100 MHz is multiplied by $\frac{1}{2}$
 - 3) SAR measurement procedures are not established below 100 MHz.

Appendix C

Table 1.1-1: SAR Test Exclusion Thresholds (mW) for < 100 MHz and < 200 mm

Separation:	<50 mm	50 mm	60 mm	70 mm	80 mm	90 mm	100 mm	110 mm	120 mm	130 mm	140 mm	150 mm	160 mm	170 mm	180 mm	190 mm
100 MHz	237	474	481	487	494	501	507	514	521	527	534	541	547	554	561	567
50 MHz	308	617	625	634	643	651	660	669	677	686	695	703	712	721	729	738
10 MHz	474	948	961	975	988	1001	1015	1028	1041	1055	1068	1081	1095	1108	1121	1135
1 MHz	711	1422	1442	1462	1482	1502	1522	1542	1562	1582	1602	1622	1642	1662	1682	1702
0.1 MHz	948	1896	1923	1949	1976	2003	2029	2056	2083	2109	2136	2163	2189	2216	2243	2269
0.05 MHz	1019	2039	2067	2096	2125	2153	2182	2211	2239	2268	2297	2325	2354	2383	2411	2440
0.01 MHz	1185	2370	2403	2437	2470	2503	2537	2570	2603	2637	2670	2703	2737	2770	2803	2837

Notes: Values in the table are in mW

1.1.2 Justification for Standalone SAR test exclusion

Using linear interpolation method, the threshold at 58 kHz at separation distance 5 mm is 1008 mW.

5 mm separating distance was chosen to represent the worst-case scenario.

1.1.3 Verdict

The EUT has two main types of antennas ANAMB-2402 antenna and DEAC STP-SD antenna.

ANAMB-2402 antenna

The measured field strength at 3 meters is 110.8 dB μ V/m or 15.6 dBm (36.3 mW), which is significantly below the threshold of 1008 mW.

DEAC STP-SD antenna

The measured field strength at 3 meters is 101.1 dB μ V/m or 5.9 dBm (3.9 mW), which is significantly below the threshold of 1008 mW.

Based on this calculation, the product is exempt from the SAR test requirements.

1.2 Nerve Stimulation test, ISED

1.2.1 References, definitions, and limits

This evaluation of the instantaneous requirements for Radio Frequency (RF) field strengths (reference levels) based on the effects of internal electric fields was done in accordance with SPR-002, Issue 2. The limits for Uncontrolled Environment are found in RSS 102, Issue 6, Table 5 & 6 (Instantaneous).

Table 1.2-1: Electric field strength reference levels

Frequency range (MHz)	Reference level basis	Reference level (E_{RL}) for uncontrolled environment (V_{RMS}/m)	Reference period
0.003 -10	NS	83	Instantaneous

Notes: None

Table 1.2-2: Magnetic field strength reference levels

Frequency range (MHz)	Reference level basis	Reference level (H_{RL}) for uncontrolled environment (A_{RMS}/m)	Reference period
0.003 -10	NS	90	Instantaneous

Notes: None

Start date August 16, 2024

1.2.2 Observations, settings and special notes

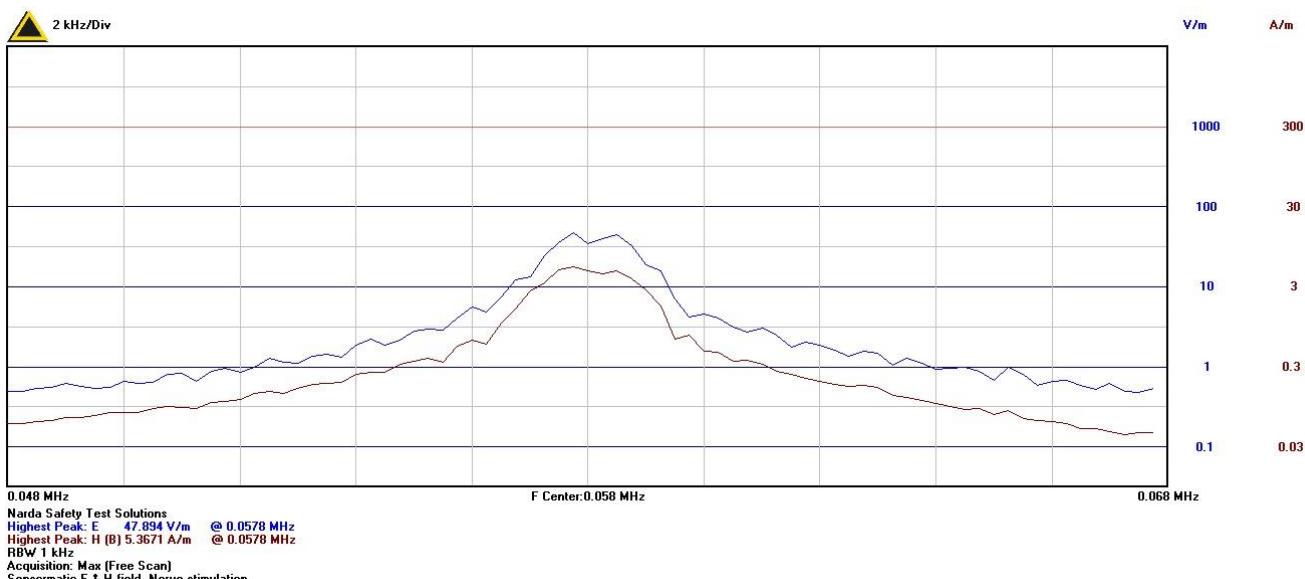
The testing was performed as per SPR-002, Issue 2.

- a) The measurement probe is set a fixed separation distance of 5 mm
- b) The X, Y, and Z axis are measured simultaneously, and summed by the measurement probe software
- c) The maximum emission level is measured using an appropriate resolution bandwidth.
- d) The EUT has two main types of antennas ANAMB-2402 antenna and DEAC STP-SD antenna. Both antennas were verified, worst case test data were observed while testing the EUT attached to ANAMB-2402 antenna, such worst-case test data were recorded in the tables in the test data section.
- e) The Nerve stimulation test was performed at multiple distances at all sides, 5 mm separating distance was chosen to represent the worst-case scenario.

1.2.3 Test data
Table 1.2-3: Equipment list

Equipment	Manufacturer	Model no.	Test Software	Asset no.	Cal cycle	Next cal.
Electric & Magnetic field probe analyzer	Narda	EHP200AC	EHP200-TS	FA003508	3 years	March 25, 2027

Type of evaluation	Nerve Stimulation Exposure Evaluation (SPR-002)		
	Evaluated against exposure limits: <input checked="" type="checkbox"/> General Public Use <input type="checkbox"/> Controlled Use		
	Measurement distance:	5	mm
	Field Strength:	4.7	<input checked="" type="checkbox"/> V/m (electric) <input type="checkbox"/> A/m (magnetic) <input checked="" type="checkbox"/> Measured <input type="checkbox"/> Computed <input type="checkbox"/> Calculated
Nerve Stimulation Evaluation (SPR-002)	Field Strength:	0.5	<input type="checkbox"/> V/m (electric) <input checked="" type="checkbox"/> A/m (magnetic) <input checked="" type="checkbox"/> Measured <input type="checkbox"/> Computed <input type="checkbox"/> Calculated
	Exposure condition:	<input checked="" type="checkbox"/> Whole body/Torso/Head <input type="checkbox"/> Leg <input checked="" type="checkbox"/> Arm <input type="checkbox"/> Hand/Foot	

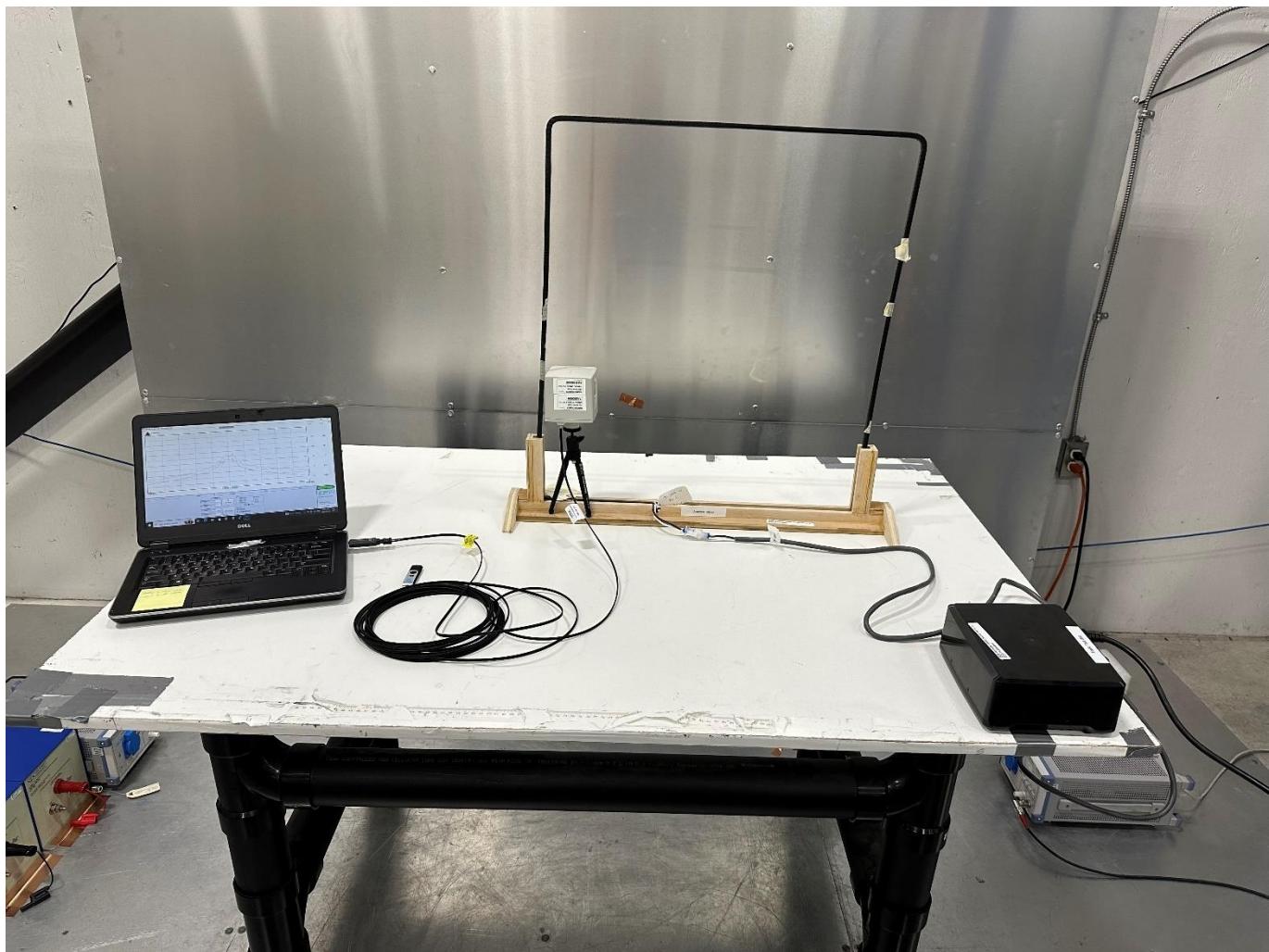

Table 1.2-4: Instantaneous E-Field & H-Field measurements

Frequency, kHz	Antenna Position referencing EUT	Measurement distance mm	Measured Electric Field Strength V/m (r.m.s) instantaneous	RSS-102 Limit Electric Field Strength V/m (r.m.s) instantaneous	Margin, dB
57.8	All sides	5	47.9	83.0	35.1

Table 1.2-5: Maximum instantaneous H-Field

Frequency, kHz	Antenna Position referencing EUT	Measurement distance mm	Measured Magnetic Field Strength A/m (r.m.s) instantaneous	RSS-102 Limit Magnetic Field Strength A/m (r.m.s) instantaneous	Margin, dB
57.8	All sides	5	5.4	90.0	84.6

1.2.4 Test setup photos



End of the test report