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# RADIO TEST REPORT

Report ID
REP104595

Project ID
PRJ0077315

Type of assessment:
MPE Calculation report

Manufacturer:
Otodata Wireless Network, Inc.

Product Marketing Name (PMN):
Wireless Tracking Device TAG V3

Hardware Version Identification Number (HVIN):
TAGXV3

FCC identifier:
2ADQFTAGL3

ISED certification number:
12649A-TAGL3

Specification:

- FCC 47 CFR Part 1 Subpart I, §1.1307, §1.1310
- FCC 47 CFR Part 2 Subpart J, §2.1091
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- ISED Canada RSS-102 Issue 6, (December 2023)

**RSS-102 Annex B - Declaration of RF Exposure Compliance**

ATTESTATION: I attest that the information provided in Annex A is correct; 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 RSS-102.

Date of issue: July 7, 2025

Goojun Jung, EMC/RF Specialist
Prepared by

Goojun
Signature

## Lab locations

| | | | |
|---|---|---|---|
| Company name | Nemko Canada Inc. | | |
| Facilities | *Ottawa site:*<br>303 River Road<br>Ottawa, Ontario<br>Canada<br>K1V 1H2<br><br>Tel: +1 613 737 9680<br>Fax: +1 613 737 9691 | *Montréal site:*<br>292 Labrosse Avenue<br>Pointe-Claire, Québec<br>Canada<br>H9R 5L8<br><br>Tel: +1 514 694 2684<br>Fax: +1 514 694 3528 | *Cambridge site:*<br>1-130 Saltsman Drive<br>Cambridge, Ontario<br>Canada<br>N3E 0B2<br><br>Tel: +1 519 650 4811 |
| Test site identifier | CA2040 | CA2041 | CA0101 |
| 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.

## Copyright notification

# Section 1 Evaluation summary

## 1.1 MPE calculation for standalone transmission

### 1.1.1 References, definitions and limits

**FCC §2.1091(d)**

(2) (2) For operations within the frequency range of 300 kHz and 6 GHz (inclusive), the limits for maximum permissible exposure (MPE), derived from whole-body SAR limits and listed in Table 1 in paragraph (e)(1) of this section, may be used instead of whole-body SAR limits as set forth in paragraphs (a) through (c) of this section to evaluate the environmental impact of human exposure to RF radiation as specified in §1.1307(b) of this part, except for portable devices as defined in §2.1093 of this chapter as these evaluations shall be performed according to the SAR provisions in §2.1093.

***Table 1.1-1:*** *Table 1 to §1.1310(e)(1) — Limits for Maximum Permissible Exposure (MPE)*

| Frequency range (MHz) | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density ($mW/cm^2$) | Averaging time (minutes) |
|---|---|---|---|---|
| **(i) Limits for Occupational/Controlled Exposure** | | | | |
| 0.3–3.0 | 614 | 1.63 | *(100) | ≤6 |
| 3.0–30 | 1842 / f | 4.89 / f | *(900 / $f^2$) | <6 |
| 30–300 | 61.4 | 0.163 | 1.0 | <6 |
| 300–1500 | | | f / 300 | <6 |
| 1500–100000 | | | 5 | <6 |
| **(ii) Limits for General Population/Uncontrolled Exposure** | | | | |
| 0.3–1.34 | 614 | 1.63 | *(100) | <30 |
| 1.34–30 | 824 / f | 2.19 / f | *(180 / $f^2$) | <30 |
| 30–300 | 27.5 | 0.073 | 0.2 | <30 |
| 300–1500 | | | f / 1500 | <30 |
| 1500–100000 | | | 1.0 | <30 |

Notes: f = frequency in MHz. * = Plane-wave equivalent power density.

**RSS-102, Section 5**

For the purpose of this standard, ISED has adopted the SAR and RF field strength limits established in Health Canada's RF exposure guideline, Safety Code 6:

***Table 1.1-2:*** *Table 4 to RSS-102 — RF Field Strength Limits*

| Frequency range (MHz) | Electric field strength (V/m rms) | Magnetic field strength (A/m rms) | Power density ($W/m^2$) | Reference Period (minutes) |
|---|---|---|---|---|
| **Limits for Controlled Environment** | | | | |
| 10–20 | 61.4 | 0.163 | 10 | 6 |
| 20–48 | 129.8 / $f^{0.25}$ | 0.3444 / $f^{0.25}$ | 44.72 / $f^{0.5}$ | 6 |
| 48–100 | 49.33 | 0.1309 | 6.455 | 6 |
| 100–6000 | 15.60 $f^{0.25}$ | 0.04138 $f^{0.25}$ | 0.6455 $f^{0.5}$ | 6 |
| 6000–15000 | 137 | 0.364 | 50 | 6 |
| **Limits for Uncontrolled Environment** | | | | |
| 10–20 | 27.46 | 0.0728 | 2 | 6 |
| 20–48 | 58.07 / $f^{0.25}$ | 0.1540 / $f^{0.25}$ | 8.944 / $f^{0.5}$ | 6 |
| 48–300 | 22.06 | 0.05852 | 1.291 | 6 |
| 300–6000 | 3.142 $f^{0.3417}$ | 0.008335 $f^{0.3417}$ | 0.02619 $f^{0.6834}$ | 6 |
| 6000–15000 | 61.4 | 0.163 | 10 | 6 |

Notes: $f$ = frequency in MHz

## References, definitions and limits, continued

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{PG}{4\pi R^2}$$

where: S = power density (mW/cm$^2$ or W/m$^2$)
P = power input to the antenna (mW or W)
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna (cm or m)

### 1.1.2 EUT technical information

| | |
|---|---|
| Prediction frequency | 915 MHz |
| Antenna type | ¼ Wave Monopole |
| Antenna gain | 1.36 dBi |
| Number of antennas | 1 |
| Maximum transmitter power | 28.44 dBm (conducted) |
| Prediction distance (declared) | 20 cm |

### 1.1.3 MPE calculation

| | | |
|---|---|---|
| Fundamental transmit (prediction) frequency: | 915 | MHz |
| Maximum measured conducted peak output power: | 28.44 | dBm |
| Cable and/or jumper loss: | 0 | dB |
| Maximum peak power at antenna input terminal: | 28.44 | dBm |
| Duty cycle: | 100 | % |
| Maximum calculated average power at antenna input terminal: | 698.23 | mW |
| Single Antenna gain (typical): | 1.36 | dBi |
| Number of antennae: | 1 | |
| Total system gain: | 1.36 | dBi |

| | FCC calculations | | ISED calculations | |
|---|---|---|---|---|
| **Uncontrolled environment** | | | | |
| **Declared distance:** | 20 | cm | 20 | cm |
| **Average power density at declared distance:** | **0.189990** | **mW/cm$^2$** | **0.189990** | **mW/cm$^2$** |
| | 1.899897 | W/m$^2$ | 1.899897 | W/m$^2$ |
| **MPE limit** at prediction frequency: | **0.610000** | **mW/cm$^2$** | **0.276675** | **mW/cm$^2$** |
| | 6.100000 | W/m$^2$ | 2.766755 | W/m$^2$ |
| **Minimum** calculated prediction **distance** for compliance: | 20 | cm | 20 | cm |
| **Margin** of Compliance: | **5.07** | **dB** | **1.63** | **dB** |
| with Maximum premitted antenna gain: | 6.43 | dBi | 2.99 | dBi |

| | FCC calculations | | ISED calculations | |
|---|---|---|---|---|
| **Controlled environment** | | | | |
| **Declared distance:** | 20 | cm | 20 | cm |
| **Average power density at declared distance:** | **0.189990** | **mW/cm$^2$** | **0.189990** | **mW/cm$^2$** |
| | 1.899897 | W/m$^2$ | 1.899897 | W/m$^2$ |
| **MPE limit** at prediction frequency: | **3.050000** | **mW/cm$^2$** | **1.952571** | **mW/cm$^2$** |
| | 30.500000 | W/m$^2$ | 19.525708 | W/m$^2$ |
| **Minimum** calculated prediction **distance** for compliance: | 20 | cm | 20 | cm |
| **Margin** of Compliance: | **12.06** | **dB** | **10.12** | **dB** |
| with Maximum permitted antenna gain: | 13.42 | dBi | 11.48 | dBi |

### 1.1.4 Verdict

The calculation is below the limit; therefore, the product is passing the RF Exposure requirements for the declared distance.

**End of the test report**