

RADIO TEST REPORT

Report ID

REP122226

Project ID

PRJ0079138

Type of assessment:

MPE Calculation report

Manufacturer:

SmartWave Technologies

Product Marketing Name (PMN):

Bell iQ Total Solutions

Hardware Version Identification Numbers (HVINs):

Pulse Rat iQ TOTAL V2, Pulse Mouse iQ TOTAL V2, 24/7 iQ TOTAL V2

FCC identifier:

FCC ID: 2ASYW-B01004V2

ISED certification number:

IC: 24934-B01004V2

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 15, 2026

Tarek Elkholy, EMC/RF Engineer

Prepared by



Signature

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ANAB File Number: AT-3195 (Ottawa); AT-3193 (Pointe-Claire); AT-3194 (Cambridge)



Lab locations

Company name	Nemko Canada Inc.
Facilities	Ottawa site: 303 River Road, Ottawa, ON, Canada, K1V 1H2 Tel: +1 613 737 9680 Test site registration number: CA2040 Montréal site: 292 Labrosse Avenue, Pointe-Claire, QC, Canada, H9R 5L8 Tel: +1 514 694 2684 Test site registration number: CA2041 Cambridge site: 1-130 Saltsman Drive, Cambridge, ON, Canada, N3E 0B2 Tel: +1 519 650 4811 Test site registration number: 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.

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Section 1 Evaluation summary

1.1 MPE calculation for simultaneous 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/cm² or W/m²)

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

	Transmitter 1 (BLE)	Transmitter 2 (LoRa)
Prediction frequency	2402 MHz	903 MHz
Antenna type	Helical antenna	Helical antenna
Antenna gain	0.9 dBi (declared), -2.1 dBi (measured)	0.9 dBi
Maximum transmitter conducted power	0.95 dBm	11.46 dBm
Prediction distance (declared)	20 cm	20 cm

1.1.3 MPE calculation

1. MPE calculation with declared BLE antenna gain for FCC Uncontrolled environment (General population)

Band, type	Frequency, MHz	Conducted power (measured), dBm	Cable loss, dB	Maximum power at antenna terminal, dBm	Duty cycle, %	Average power adjusted for duty cycle, mW	Antenna gain, dBi	Number of antennas	Total system gain, dBi	Declared distance, cm	Average power density at declared distance, mW/cm ²	MPE limit, mW/cm ²	Exposure ratio
BLE	2480	0.95	0	0.95	100	1.245	0.90	1	0.90	20	0.000305	1.000000	0.000305
LoRa	903	11.46	0	11.46	100	13.996	0.90	1	0.90	20	0.003426	0.602000	0.005690
Total exposure ratio for simultaneous operation				0.005995	<1 = Pass								

2. MPE calculation with measured BLE antenna gain for FCC Uncontrolled environment (General population)

Band, type	Frequency, MHz	Conducted power (measured), dBm	Cable loss, dB	Maximum power at antenna terminal, dBm	Duty cycle, %	Average power adjusted for duty cycle, mW	Antenna gain, dBi	Number of antennas	Total system gain, dBi	Declared distance, cm	Average power density at declared distance, mW/cm ²	MPE limit, mW/cm ²	Exposure ratio
BLE	2480	0.95	0	0.95	100	1.245	-2.10	1	-2.10	20	0.000153	1.000000	0.000153
LoRa	903	11.46	0	11.46	100	13.996	0.90	1	0.90	20	0.003426	0.602000	0.005690
Total exposure ratio for simultaneous operation				0.005843	<1 = Pass								

3. MPE calculation with declared BLE antenna gain for ISSED Uncontrolled environment (General population)

Band, type	Frequency, MHz	Conducted power (measured), dBm	Cable loss, dB	Maximum power at antenna terminal, dBm	Duty cycle, %	Average power adjusted for duty cycle, mW	Antenna gain, dBi	Number of antennas	Total system gain, dBi	Declared distance, cm	Average power density at declared distance, mW/cm ²	MPE limit, mW/cm ²	Exposure ratio
BLE	2480	0.95	0	0.95	100	1.245	0.90	1	0.90	20	0.000305	0.546895	0.000557
LoRa	903	11.46	0	11.46	100	13.996	0.90	1	0.90	20	0.003426	0.274191	0.012493

Maximum power density	0.03426	W/m ²
Total simultaneous power density	0.03730	W/m ²
Total exposure ratio for simultaneous operation	0.01305	<1 = Pass

4. MPE calculation with measured BLE antenna gain for ISSED Uncontrolled environment (General population)

Band, type	Frequency, MHz	Conducted power (measured), dBm	Cable loss, dB	Maximum power at antenna terminal, dBm	Duty cycle, %	Average power adjusted for duty cycle, mW	Antenna gain, dBi	Number of antennas	Total system gain, dBi	Declared distance, cm	Average power density at declared distance, mW/cm ²	MPE limit, mW/cm ²	Exposure ratio
BLE	2480	0.95	0	0.95	100	1.245	-2.10	1	-2.10	20	0.000153	0.546895	0.000279
LoRa	903	11.46	0	11.46	100	13.996	0.90	1	0.90	20	0.003426	0.274191	0.012493

Maximum power density	0.03426	W/m ²
Total simultaneous power density	0.03578	W/m ²
Total exposure ratio for simultaneous operation	0.01277	<1 = Pass

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