

# RF Exposure Evaluation Report

**Product** : 915MHz 4-Buttons Transmitter  
**Trade mark** : MANARAS-OPERA  
**Model/Type reference** : RADIOEM204  
**Serial Number** : N/A  
**Report Number** : EED32P81638202  
**FCC ID** : X7ORADIOEM204  
**Date of Issue** : Dec. 25, 2023  
**Test Standards** : 47 CFR Part 1.1307  
47 CFR Part 1.1310  
KDB 447498 D04 Interim General RF  
Exposure Guidance v01  
**Test result** : PASS

Prepared for:

**9141-0720 Quebec Inc. DBA MANARAS/OPERA**  
**136 Oneida Drive, Pointe-Claire, Canada, H9R 1A8**

Prepared by:

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Date:

Dec. 25, 2023



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## 2 Version

Version No.	Date	Description
00	Dec. 25, 2023	Original

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## 4 General Information

### 4.1 Client Information

Applicant:	9141-0720 Quebec Inc. DBA MANARAS/OPERA
Address of Applicant:	136 Oneida Drive, Pointe-Claire, Canada, H9R 1A8
Manufacturer:	9141-0720 Quebec Inc. DBA MANARAS/OPERA
Address of Manufacturer:	136 Oneida Drive, Pointe-Claire, Canada, H9R 1A8

### 4.2 General Description of EUT

Product Name:	915MHz 4-Buttons Transmitter
Model No.(EUT):	RADIOEM204
Trade Mark:	MANARAS-OPERA

### 4.3 Product Specification subjective to this standard

Frequency Range:	915MHz
Number of Channels:	1 (declared by the client)
Modulation type:	OOK
Antenna Type:	PCB antenna
Antenna gain:	0dBi
Test Software of EUT:	RF test
Test Power Grade:	Default
Power Supply:	DC3.0V,20mA Battery
Test Voltage:	DC 3.0V
Sample Received Date:	Oct. 16, 2023
Sample tested Date:	Oct. 16, 2023 to Dec. 25, 2023
Remark:	Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.

## 4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax:+86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

## 4.5 Deviation from Standards

None.

## 4.6 Abnormalities from Standard Conditions

None.

## 4.7 Other Information Requested by the Customer

None.

## 5 SAR Evaluation

### 5.1 RF Exposure Compliance Requirement

#### 5.1.1 Limits

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold P<sub>th</sub> (mW).

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P<sub>th</sub> is given by Formula

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

where

$$x = -\log_{10} \left( \frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and ERP<sub>20cm</sub> is per Formula (B.1).

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

The 1 mW Blanket Exemption of § 1.1307(b)(3)(i)(A) applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1 mW, regardless of separation distance.

#### 5.1.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at the only channel individually.



### 5.1.3 EUT RF Exposure Evaluation

Frequency (MHz)	Field strength of the fundamental signal (dBuV/m@3m)	ERP (dBm)	ERP (mW)	Limit (mW)	Result
915	80.99	-16.39	0.0230	≤7.0540	PASS

**Note:**

- ① EIRP=conducted power+antenna gain;
- ② ERP=EIRP-2.15;
- ③ EIRP(dBm) = Field strength of the fundamental signal(dBuV/m@3m) – 95.23;
- ④ ERP(mW) =  $10^{(ERP (dBm)/10)}$ ;
- ⑤ The estimation distance is 0.5cm;
- ⑥ The test data please refer to the report of EED32P81638201 and only the worst case data was recorded in the report.

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.

\*\*\* End of Report \*\*\*