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Project Number: 15E5599-2a

Prepared for:

**Heartsine Technologies Ltd.**

By

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**FCC Site Registration: 92592**

**Industry Canada Assigned Site Code: 8517A-2**

FCC ID: 2AFILTRNRMT1

IC: 2703-TRNRMT1

**Date**

6<sup>th</sup> Nov 2015

FCC EQUIPMENT AUTHORISATION

Test Report

**EUT Description**

Remote control

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**Authorised :**

**John McAuley**

A handwritten signature in blue ink, appearing to read 'John McAuley', written over a horizontal line.

## **RF Exposure Exhibit– Technical Report**

### **1.0 SAR Evaluation FCC**

#### **SAR Exclusion Limits**

**Excerpt from 447498 KDB** (47498 D01 General RF Exposure Guidance v05r02)

#### **Section 4.3.1 Standalone SAR Test exclusion considerations**

##### **4.3.1. Standalone SAR test exclusion considerations**

- 1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances*  $\leq 50$  mm are determined by:

$$\left[ \frac{(\text{max. power of channel, including tune-up tolerance, mW})}{(\text{min. test separation distance, mm})} \right] \cdot [\sqrt{f_{\text{(GHz)}}}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR,}^{25} \text{ where}$$

- $f_{\text{(GHz)}}$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation<sup>26</sup>
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum *test separation distance* is  $\leq 50$  mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is  $< 5$  mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

- 2) At 100 MHz to 6 GHz and for *test separation distances*  $> 50$  mm, the SAR test exclusion threshold is determined according to the following, and as illustrated in Appendix B:<sup>27</sup>
- a)  $[\text{Power allowed at numeric threshold for 50 mm in step 1}) + (\text{test separation distance} - 50 \text{ mm}) \cdot (f_{\text{(MHz)}}/150)]$  mW, at 100 MHz to 1500 MHz
  - b)  $[\text{Power allowed at numeric threshold for 50 mm in step 1}) + (\text{test separation distance} - 50 \text{ mm}) \cdot 10]$  mW at  $> 1500$  MHz and  $\leq 6$  GHz
- 3) At frequencies below 100 MHz, the following may be considered for SAR test exclusion, and as illustrated in Appendix C:<sup>28</sup>
- a) The power threshold at the corresponding test separation distance at 100 MHz in step 2) is multiplied by  $[1 + \log(100/f_{\text{(MHz)}})]$  for *test separation distances*  $> 50$  mm and  $< 200$  mm
  - b) The power threshold determined by the equation in a) for 50 mm and 100 MHz is multiplied by  $\frac{1}{2}$  for *test separation distances*  $\leq 50$  mm
  - c) SAR measurement procedures are not established below 100 MHz. When SAR test exclusion cannot be applied, a KDB inquiry is required to determine SAR evaluation requirements for any test results to be acceptable.

**1.1 Extremity SAR**

|                               |                   |       |      |
|-------------------------------|-------------------|-------|------|
| Prediction frequency:         | f                 | 2.466 | GHz  |
| Maximum power of channel :    | P                 | 0.12  | mW   |
| Minimum separation distance:  | D                 | 5     | mm   |
|                               |                   |       |      |
| Calculation                   |                   | 0.04  |      |
|                               |                   |       |      |
| Numeric Threshold for 10g SAR |                   | 7.5   |      |
|                               |                   |       |      |
| <b>SAR Test not required</b>  |                   |       |      |
|                               |                   |       |      |
|                               |                   |       |      |
| Estimated SAR Value           | $[0.04/7.5]*0.08$ | 0     | W/Kg |

## 2.0 SAR Evaluation IC

### RSS102 Issue 5 Section 2.5.1 Exemption Limits for Routine Evaluation — SAR Evaluation

Note the Radiated field strength was measured at 3 metres distance and the conversion formula below was used to determine the EIRP in dBm

$$EIRP (dBm) = E_{3m} (dBuV/m) - 95.2$$

|                                                 |      |     |
|-------------------------------------------------|------|-----|
| Prediction frequency:                           | 2466 | MHz |
| EIRP Peak                                       | -9.1 | dBm |
| Time Averaging Factor                           | 0.00 | dB  |
| Tune up factor                                  | 0    | dB  |
|                                                 |      |     |
| Minimum separation distance: D                  | 5    | mm  |
|                                                 |      |     |
| EIRP Peak                                       | 0.12 | mW  |
| Exemption limit for Routine Evaluation SAR :    | 9.92 | mW  |
| Extremity; General pop/Uncontrolled             |      |     |
|                                                 |      |     |
| <b>Test Result : Exempt from SAR Evaluation</b> |      |     |
|                                                 |      |     |