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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**

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## **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:

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

- $f_{(\text{GHz})}$  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)  $[\text{Power allowed at numeric threshold for } 50 \text{ mm in step 1} + (\text{test separation distance} - 50 \text{ mm}) \cdot (f_{(\text{MHz})}/150)] \text{ mW, at } 100 \text{ MHz to } 1500 \text{ MHz}$
  - b)  $[\text{Power allowed at numeric threshold for } 50 \text{ mm in step 1} + (\text{test separation distance} - 50 \text{ mm}) \cdot 10] \text{ mW at } > 1500 \text{ MHz and } \leq 6 \text{ GHz}$
- 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

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

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>		