IEEE C95.1 2005
KDB 447498 D01 V06
47 C.F.R. Part 1, Subpart I, Section 1.1310
47 C.F.R. Part 2, Subpart J, Section 2.1091

RF EXPOSURE REPORT

For

Guardian Split System

Model:
G2-SY-CON2-1001272, G2-SY-CON2-1001484

Trade Name: GUARDIAN

Issued to

Seeing Machines
Level 1, 11 Lonsdale Street, Braddon, ACT 2612, Australia

Issued by

Compliance Certification Services Inc.
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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	March 19, 2018	Initial Issue	ALL	Allison Chen

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1. TEST RESULT CERTIFICATION

We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10: 2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.247.

The test results of this report relate only to the tested sample EUT identified in this report.

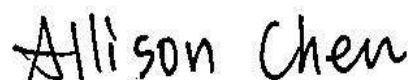| APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
IEEE C95.1 2005 KDB 447498 D03 47 C.F.R. Part 1, Subpart I, Section 1.1310 47 C.F.R. Part 2, Subpart J, Section 2.1091	No non-compliance noted

Approved by: Test by:

Sam Chuang   Allison Chen
Manager   Report coordinator
Compliance Certification Services Inc.   Compliance Certification Services Inc.

2. LIMIT

According to §15.247(i), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.

3. EUT SPECIFICATION

EUT	Guardian Split System
Model	G2-SY-CON2-1001272, G2-SY-CON2-1001484
Model Discrepancy	G2-SY-CON2-1001272→ Guardian Split System has FFC Function G2-SY-CON2-1001484→ Guardian Split System doesn't have FFC Function
Trade Name	GUARDIAN
Frequency band (Operating)	☒ WCDMA Band II: 1852.4MHz ~ 1907.6MHz ☒ WCDMA Band V: 826.4MHz ~ 846.6MHz ☒ Bluetooth: 2402MHz ~ 2480MHz ☐ Others
Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation) ☐ Others
Exposure classification	☐ Occupational/Controlled exposure (S = 5mW/cm^2) ☒ General Population/Uncontrolled exposure (S=1mW/cm^2)

Antenna Specification	**For WWAN (WCDMA)**
	WCDMA Band II: 1.30 dBi (Numeric gain: 1.35)
	WCDMA Band V: 2.50 dBi (Numeric gain: 1.78)
	  Type: Extremal Antenna
	
	For Bluetooth
	Bluetooth 2.56 dBi (Numeric gain: 1.80)
	  Type: FPC Antenna

Max tune up Power Power	<table><tr><th>System</th><th colspan="2">Max Tune up Power</th></tr><tr><td>WWAN</td><td></td><td></td></tr><tr><td>WCDMA Band II:</td><td>24.00 dBm</td><td>(251.189 mW)</td></tr><tr><td>WCDMA Band V:</td><td>24.00 dBm</td><td>(251.189 mW)</td></tr><tr><td></td><td></td><td></td></tr><tr><td>Bluetooth</td><td>12.00 dBm</td><td>(15.849 mW)</td></tr></table>
Evaluation applied	☒ MPE Evaluation* ☐ SAR Evaluation ☐ N/A

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4. TEST RESULTS

No non-compliance noted.

Calculation

Given $\quad E = \dfrac{\sqrt{30 \times P \times G}}{d}$ & $\quad S = \dfrac{E^2}{377}$

Where $\quad E = $ *Field strength in Volts / meter*
$\qquad P = $ *Power in Watts*
$\qquad G = $ *Numeric antenna gain*
$\qquad d = $ *Distance in meters*
$\qquad S = $ *Power density in milliwatts / square centimeter*

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377d^2}$$

Changing to units of mW and cm, using:

$\qquad$ *P (mW) = P (W) / 1000 and*

$\qquad$ *d (cm) = d(m) / 100*

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \qquad \textbf{\textit{Equation 1}}$$

Where $\quad d = $ *Distance in cm*
$\qquad P = $ *Power in mW*
$\qquad G = $ *Numeric antenna gain*
$\qquad S = $ *Power density in mW / cm²*

5. MAXIMUM PERMISSIBLE EXPOSURE

Substituting the MPE safe distance using d = 20 cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where   P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

WCDMA Band II mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm^2)
9262	1852.4	251.189	1.35	20	0.0675	1.000

WCDMA Band V mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm^2)
4132	826.4	251.189	1.78	20	0.0890	0.551

Bluetooth:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
1	2402	15.849	1.8	20	0.0057	1.000

6. SIMULTANEOUS TRANSMISSION SAR ANALYSIS

There are the WWAN and Bluetooth can transmit simultaneously, the formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

The worst-case situation is 0.0890 / 0.551 + 0.0057 / 1 = 0.1672, which is less than "1".

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