



A D T

## RF Exposure Report

**Report No.:** SA160317C23A

**FCC ID:** 2AH3O-RBB10

**Test Model:** RBB1.0

**Received Date:** Mar. 17, 2016

**Test Date:** Mar. 22, 2016

**Issued Date:** June 02, 2016

**Applicant:** Rapsodo Pte Ltd

**Address:** Block 67, Ayer Rajah Crescent, #04-10, Singapore 139950

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Hsin Chu Laboratory

**Lab Address:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
Taiwan R.O.C.

This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The report must not be used by the client to claim product certification, approval, or endorsement by any government agencies.



### Table of Contents

<b>Release Control Record</b> .....	<b>3</b>
<b>1 Certificate of Conformity</b> .....	<b>4</b>
<b>2 RF Exposure</b> .....	<b>5</b>
2.1 Limits for Maximum Permissible Exposure (MPE) .....	5
2.2 MPE Calculation Formula .....	5
2.3 Classification .....	5
<b>3 Antenna Gain</b> .....	<b>5</b>
<b>4 Calculation Result of Maximum Conducted Power</b> .....	<b>6</b>



A D T

### Release Control Record

Issue No.	Description	Date Issued
SA160317C23A	Original release.	June 02, 2016



A D T

## 1 Certificate of Conformity

**Product:** BaseBall Launch Monitor

**Brand:** Rapsodo BaseBall

**Test Model:** RBB1.0

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** Rapsodo Pte Ltd

**Test Date:** Mar. 22, 2016


**Standards:** FCC Part 2 (Section 2.1093)

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-1992

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**Prepared by :**  , **Date:** June 02, 2016  
Claire Kuan / Specialist

**Approved by :**  , **Date:** June 02, 2016  
May Chen / Manager

## 2 RF Exposure

### 2.1 Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

### 2.2 MPE Calculation Formula

$$Pd = (Pout * G) / (4 * \pi * r^2)$$

where

Pd = power density in mW/cm<sup>2</sup>

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

### 2.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user.

So, this device is classified as **Mobile Device**.

## 3 Antenna Gain

The antenna provided to the EUT, please refer to the following table:

Brand	Model	Antenna Type	Gain (dBi)	Antenna Connector
Innosent	IPS-946	PCB	15	Solder

#### 4 Calculation Result

##### 24GHz wireless transceiver

Frequency Band (MHz)	Field Strength of Fundamental (dBuV/m) @1m	Pout EIRP (dBm)	Pout EIRP (mW)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
24126	121.4	16.63	46.026	20	0.00916	1

NOTE: Pout EIRP (dBm) = Field Strength of Fundamental (dBuV/m) @1m - 104.77 (dB)

##### WLAN 2.4GHz module (FCC ID: O7P-362)

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2412-2462	97.7	2.15	20	0.03189	1

NOTE: Directional gain = 2.15dBi

#### Conclusion:

Both of the 24GHz wireless and WLAN 2.4GHz can transmit simultaneously, the formula of calculated the MPE is:

$$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

Therefore, the worst-case situation is  $0.00916 / 1 + 0.03189 / 1 = 0.04105$ , which is less than "1".

**Therefore the maximum calculations of above situations are less than the "1" limit.**

--- END ---