

## 1 Cover Page

# **FCC MPE REPORT**

<b>Application No.:</b>	SHEM1511004139CR
<b>Applicant:</b>	Camec Pty Ltd
<b>FCC ID:</b>	2AGDW0006V2
<b>Equipment Under Test (EUT):</b>	
<b>NOTE:</b> The following sample(s) submitted was/were identified on behalf of the client as	
<b>Product Name:</b>	BLUETOOTH SPEAKER
<b>Model No.(EUT):</b>	RVM2000(043441)
<b>Add Model No.:</b>	RVM2001(043440)
<b>Standards:</b>	FCC Rules 47 CFR §2.1091 KDB447498 D01 General RF Exposure Guidance v05r02
<b>Date of Receipt:</b>	November 11, 2015
<b>Date of Test:</b>	November 20, 2015 to November 22, 2015
<b>Date of Issue:</b>	December 04, 2015
<b>Test Result:</b>	<b>Pass*</b>

\* In the configuration tested, the EUT detailed in this report complied with the standards specified above.



Parlam Zhan  
E&E Section Manager  
SGS-CSTC (Shanghai) Co., Ltd.

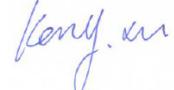
The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

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## 2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
00	/	December 04, 2015	/	Original

Authorized for issue by:			
Engineer		Eddy Zong	
		Print Name	
Clerk		Susie Liu	
		Print Name	
Reviewer		Keny Xu	
		Print Name	

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## 4 General Information

### 4.1 Client Information

Applicant:	Camec Pty Ltd
Address of Applicant:	47-63 Remington Drive Dandenong South, Victoria. 3175. Australia
Manufacturer:	NINGBO CODE LIGHTING TECHNOLOGY CO., LTD
Address of Manufacturer:	Building #3, No.181-197, Shanshan Road, Wangchun Industrial Zone, Yinzhou District, Ningbo, China
Factory:	NINGBO CODE LIGHTING TECHNOLOGY CO., LTD
Address of Factory:	Building #3, No.181-197, Shanshan Road, Wangchun Industrial Zone, Yinzhou District, Ningbo, China

### 4.2 General Description of E.U.T.

Product Description:	Fixed product with BT function
Brand Name:	RV Media
Rate Voltage:	DC 12V

### 4.3 Technical Specifications

Operation Frequency:	BT:2402MHz~2480MHz BT 4.0: 2402MHz~2480MHz
Bluetooth Version:	BT: 4.0 Dual mode BT 4.0: 4.0 Dual mode
Modulation Technique:	BT: FHSS (GFSK, $\pi/4$ DQPSK, 8DPSK) BT 4.0: GFSK
Number of Channel:	BT: 79 BT 4.0: 40
Antenna Type	BT: PIFA Antenna BT 4.0: PIFA Antenna
Antenna Gain	BT: 0 dBi BT 4.0: 0 dBi

#### **4.4 Test Location**

All tests were performed at:

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.  
No.588 West Jindu Road, Songjiang District, Shanghai, China.201612.  
Tel: +86 21 6191 5666  
Fax: +86 21 6191 5678

#### **4.5 Test Facility**

The test facility is recognized, certified, or accredited by the following organizations:

- CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing. Date of expiry: 2017-07-14.

- FCC – Registration No.: 402683**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered and fully described in a report filed with the Federal Communications Commission (FCC). The acceptance letter from the FCC is maintained in our files. Registration No.: 402683, Expiry Date: 2017-09-16.

- Industry Canada (IC) – IC Assigned Code: 8617A**

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 8617A-1. Expiry Date: 2017-06-18.

- VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-3868, C-4336, T-2221, G-830 respectively. Date of Expiry: 2017-11-16.

## 5 Test Standards and Limits

According to §1.1310 Radiofrequency radiation exposure limits:

The limit for general population/uncontrolled exposures

Frequency	Power density(mW/cm <sup>2</sup> )	Averaging time(minutes)
300MHz~1.5GHz	f/1500	30
1.5GHz~100GHz	1.0	30

## 6 Measurement and Calculation

### 6.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM151100413802 & SHEM151100413803.

**For BT:**

Test Mode	Test Frequency (MHz)	Output Power (dBm)	Reading Power (mW)
GFSK	2402	0.14	1.03
	2441	-0.25	0.94
	2480	0.75	1.19
$\pi/4$ DQPSK	2402	0.42	1.10
	2441	0.42	1.10
	2480	0.23	1.05
8DPSK	2402	0.75	1.19
	2441	0.85	1.22
	2480	0.48	1.12

**For BT 4.0:**

Test Mode	Test Frequency (MHz)	Output Power (dBm)	Output Power (mW)
GFSK	2412	4.35	2.72
	2437	4.48	<b>2.81</b>
	2462	3.41	2.19

## 6.2 MPE Calculation

According to the formula  $S = \frac{PG}{4R^2\pi}$ , we can calculate S which is MPE.

Note:

- 1) P (Watts) = Power Input to antenna =  $10^{\frac{dBm}{10}} / 1000$
- 2) G (Antenna gain in numeric) =  $10^{\text{Antenna gain in dBi}} / 10$
- 3) R = distance to the center of radiation of antenna (in meter) = 20cm
- 4) MPE limit = 1mW/cm<sup>2</sup>

The Max Conducted Peak Output Power is 2.81mW;

The best case gain of the antenna is 0dBi. 0dB logarithmic terms convert to numeric result is nearly 1

$$\text{So, } S = \frac{PG}{4R^2\pi} = \frac{2.81 \times 1}{4 \times 400 \times 3.14} = 0.00056 \text{ mW/cm}^2$$

The BT and the BT 4.0 modules can't simultaneous transmitting at frequency 2.4GHz band, according to the KDB447498 section 7.1 determine the device is exclusion from SAR test.

## 7 EUT Constructional Details

Refer to the < RVM2000(043441)\_External Photos > & < RVM2000(043441)\_Internal Photos>.

**--End of the Report--**