



# SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

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Report No.: SHEM160200060204  
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## 1 Cover Page

# RF Exposure REPORT

Application No.:	SHEM1602000602CR
Applicant:	HANGZHOU CHIC INTELLIGENT TECHNOLOGY CO., LTD
FCC ID:	2AHNZCHIC1
Equipment Under Test (EUT): <b>NOTE:</b> The following sample(s) submitted was/were identified on behalf of the client as	
Product Name:	Balancing scooter
Model No.(EUT):	SMART-K1
Add Model No.:	SMART-K2
Standards:	FCC PART 15 Subpart C: 2015
Date of Receipt:	2016-02-26
Date of Test:	2016-04-07 to 2016-04-11
Date of Issue:	2016-06-15
Test Result:	Pass*

\* 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.



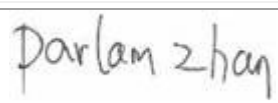
The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant 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	/	2016-06-15	/	Original

Authorized for issue by:			
Engineer	Eddy Zong		
	Print Name		
Clerk	Vincent Zhu		
	Print Name		
Reviewer	Parlam Zhan		
	Print Name		



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## 4 General Information

### 4.1 Client Information

Applicant:	HANGZHOU CHIC INTELLIGENT TECHNOLOGY CO., LTD
Address of Applicant:	LIANGZHU UNIVERSITY SCIENCE AND TECHNOLOGY PARK, JINGYI ROAD, QIXIANQIAO LIANGZHU, HANGZHOU, CHINA, 311112
Manufacturer:	LIANGZHU UNIVERSITY SCIENCE AND TECHNOLOGY PARK, JINGYI ROAD, QIXIANQIAO LIANGZHU, HANGZHOU, CHINA, 311112
Address of Manufacturer:	1877 Centro West, Tiburon, CA 94920 US
Factory:	HANGZHOU CHIC INTELLIGENT TECHNOLOGY CO., LTD
Address of Factory:	LIANGZHU UNIVERSITY SCIENCE AND TECHNOLOGY PARK, JINGYI ROAD, QIXIANQIAO LIANGZHU, HANGZHOU, CHINA, 311112

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

Product Description:	Mobile product with BT function for scooter
Brand Name:	IO CHIC
Rechargeable Batteries:	DC 36V, 2.2Ah Li-on Rechargeable Battery for scooter
Charging Voltage:	100~240V AC, 50/60Hz Max. 1.6A

### 4.3 Technical Specifications

Operation Frequency:	BT: 2402MHz-2480MHz
Bluetooth Version:	2.1+EDR BT 4.0 Single mode
Modulation Technique:	FHSS(GFSK, $\pi/4$ DQPSK) GFSK
Number of Channel:	BT2.1+EDR: 79 BT4.0:40
Antenna Type	PIFA
Antenna Gain	BT2.1+EDR: 4dBi BT4.0: 0dBi

#### 4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China

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

### 5.1 FCC Radiofrequency radiation exposure limits:

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:

$[(\text{max power of channel})/(\text{min test separation distance})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR, where

- $f(\text{GHz})$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds

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 4.1 f) is applied to determine SAR test exclusion.

For 2.4G band device, the limit of worse case is  $P_{\text{max}} \leq 7.5 \cdot D_{\text{min}} / \sqrt{f} = 3.0 \cdot 5 / \sqrt{2.480} = 9.524 \text{ mW}$

## 6 Measurement and Calculation

### 6.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM160200060202 & SHEM160200060203.

**Test Data:**

**For BT 4.0 Classic mode**

Test mode	Channel	Peak Power (dBm)	Peak Power (mW)
GFSK	2402	0.68	1.17
	2441	0.58	1.14
	2480	0.52	1.13
$\pi/4$ DQPSK	2402	1.69	1.48
	2441	1.56	1.43
	2480	1.52	1.42

**For BT 4.0 BLE mode**

Test mode	Channel	Peak Power (dBm)	Peak Power (mW)
GFSK	2402	-1.43	0.72
	2440	-1.57	0.70
	2480	-1.67	0.68

### 6.2 RF Exposure Calculation

The BT and the DTS modules can simultaneous transmitting at frequency 2.4GHz band. The Max Conducted Peak Output Power is  $1.48+0.72=2.2\text{mW} < 9.524\text{mW}$ . According to the KDB447498 section 7.2 determine the device is exclusion from SAR test.

## 7 EUT Constructional Details

Refer to the < SMART-K1\_External Photos > & < SMART-K1\_Internal Photos >.

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