

## 1 Cover Page

# **FCC RF Exposure REPORT**

<b>Application No.:</b>	SHEM1507002271CR
<b>Applicant:</b>	Association Mobsya
<b>FCC ID:</b>	2AFKS-WLTHYMI0

### **Equipment Under Test (EUT):**

**NOTE:** The following sample(s) submitted was/were identified on behalf of the client as

<b>Product Name:</b>	Wireless Educational Robot
<b>Model No.(EUT):</b>	Wireless Thymio
<b>Standards:</b>	FCC Rules 47 CFR §2.1093 KDB 447498 D01 General RF Exposure Guidance v05r02
<b>Date of Receipt:</b>	July 10, 2015
<b>Date of Test:</b>	October 21, 2015 to October 23, 2015
<b>Date of Issue:</b>	November 03, 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.**

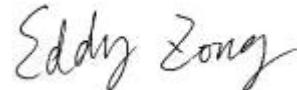
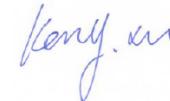
The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant 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	/	November 03, 2015	/	Original

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

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## 4 General Information

### 4.1 Client Information

Applicant:	Association Mobsya
Address of Applicant:	Association Mobsya Ch. de la Raye 13 1024 Ecublens
Manufacturer:	Not Supplied by the client.
Address of Manufacturer:	Not Supplied by the client.
Factory:	Not Supplied by the client.
Address of Factory:	Not Supplied by the client.

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

Brand Name:	mobsya
Rated Input:	DC 5V via USB port
Recharging Battery:	For Robot: DC 3.7V 1500mAh Li-Po battery

### 4.3 Technical Specifications

Operation Frequency:	2425MHz-2475MHz
Modulation Technique:	O-QPSK
Channel Space:	5MHz
Antenna Type:	Integral PCB Antenna
Antenna Gain:	5.89 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

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table. The equation and threshold in KDB447498 D01 section 4.3.1 must be applied to determine SAR test exclusion.

MHz	5	10	15	20	25	30	35	40	45	50	mm
150	39	77	116	155	194	232	271	310	349	387	(mW)
300	27	55	82	110	137	164	192	219	246	274	
450	22	45	67	89	112	134	157	179	201	224	
835	16	33	49	66	82	98	115	131	148	164	
900	16	32	47	63	79	95	111	126	142	158	
1500	12	24	37	49	61	73	86	98	110	122	
1900	11	22	33	44	54	65	76	87	98	109	
2450	10	19	29	38	48	57	67	77	86	96	
3600	8	16	24	32	40	47	55	63	71	79	
5200	7	13	20	26	33	39	46	53	59	66	
5400	6	13	19	26	32	39	45	52	58	65	
5800	6	12	19	25	31	37	44	50	56	62	

## 6 Measurement and Calculation

### 6.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM150700227101

Test Frequency (MHz)	Output Power (dBm)	Reading Power (mW)
Lowest	<b>3.01</b>	2.07
Middle	2.71	1.98
Highest	3.29	1.86

### 6.2 RF Exposure Calculation

The Max Conducted Peak Output Power is 2.07mW. The best case gain of the antenna is 5.89dBi.

5.89dB logarithmic terms convert to numeric result is nearly 3.88.

According to the formula. calculate the EIRP test result:

$$\text{EIRP} = P \times G = 2.07 \text{ mW} \times 3.88 = 8.03 \text{ mW} < 10 \text{ mW}$$

So the SAR report is not required.

## 7 EUT Constructional Details

Refer to the < Wireless Thymio\_External Photos > & < Wireless Thymio\_Internal Photos >.

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