



**SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch**

No. 1 Workshop, M-10, Middle section, Science & Technology Park,  
Shenzhen, Guangdong, China 518057

Telephone: +86 (0) 755 2601 2053  
Fax: +86 (0) 755 2671 0594  
Email: ee.shenzhen@sgs.com

Report No.: SZEM181000879002

Page: 1 of 7

# SAR Evaluation Report

**Application No.:** SZEM1810008790CR  
**Applicant:** FLYSKY RC MODEL TECHNOLOGY CO., LTD  
**Address of Applicant:** West building 3, Huangjinyuan Ind Park, QIAOLI North Gate Changping Town, Dongguan, China  
**Manufacturer:** ShenZhen FLYSKY Technology Co., Ltd  
**Address of Manufacturer:** 16F, Huafeng Building, No. 6006 Shennan Road, Futian District, Shenzhen, Guangdong, China  
**Factory:** FLYSKY RC MODEL TECHNOLOGY CO., LTD  
**Address of Factory:** West building 3, Huangjinyuan Ind Park, QIAOLI North Gate Changping Town, Dongguan, China  
**Equipment Under Test (EUT):**  
**EUT Name:** 2.4GHz MODULE  
**Model No.:** FRM301  
**FCC ID:** N4ZFRM30100  
**Standard(s) :** 47 CFR Part 1.1307  
 47 CFR Part 2.1093  
 KDB447498D01 General RF Exposure Guidance v06  
**Date of Receipt:** 2018-10-08  
**Date of Test:** 2018-10-16 to 2018-10-19  
**Date of Issue:** 2018-10-25

<b>Test Result:</b>	<b>Pass*</b>
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\* In the configuration tested, the EUT complied with the standards specified above.



Keny Xu

EMC Laboratory Manager

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. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

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## 2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2018-10-25		Original

Authorized for issue by:				
				
		<hr/>		
		Harry Wu /Project Engineer		
				
		<hr/>		
		Eric Fu /Reviewer		



### **3 Contents**

	<b>Page</b>
<b>1 COVER PAGE</b> .....	<b>1</b>
<b>2 VERSION</b> .....	<b>2</b>
<b>3 CONTENTS</b> .....	<b>3</b>
<b>4 GENERAL INFORMATION</b> .....	<b>4</b>
4.1 GENERAL DESCRIPTION OF EUT .....	4
4.2 TEST LOCATION .....	5
4.3 TEST FACILITY .....	5
4.4 DEVIATION FROM STANDARDS .....	5
4.5 ABNORMALITIES FROM STANDARD CONDITIONS.....	5
4.6 OTHER INFORMATION REQUESTED BY THE CUSTOMER .....	5
<b>5 SAR EVALUATION</b> .....	<b>6</b>
5.1 RF EXPOSURE COMPLIANCE REQUIREMENT .....	6
5.1.1 <i>Standard Requirement</i> .....	6
5.1.2 <i>Limits</i> .....	6
5.1.3 <i>EUT RF Exposure</i> .....	7



## 4 General Information

### 4.1 General Description of EUT

Power supply:	DC 5V, 130mA
Operation Frequency	2402-2480MHz
Modulation Type	CSS, GFSK
Antenna Type	Dedicated Antenna
Antenna Gain	Antenna 1: 0.5dBi; Antenna 2: 0.5dBi Two antennas cannot synchronously transmit.

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2402MHz	20	2427MHz	40	2452MHz	60	2477MHz
1	2404MHz	21	2428MHz	41	2454MHz	61	2478MHz
2	2405MHz	22	2429MHz	42	2455MHz	62	2479MHz
3	2406MHz	23	2430MHz	43	2456MHz	63	2480MHz
4	2407MHz	24	2432MHz	44	2457MHz		
5	2409MHz	25	2433MHz	45	2458MHz		
6	2410MHz	26	2434MHz	46	2460MHz		
7	2411MHz	27	2435MHz	47	2461MHz		
8	2412MHz	28	2437MHz	48	2462MHz		
9	2413MHz	29	2438MHz	49	2463MHz		
10	2415MHz	30	2439MHz	50	2465MHz		
11	2416MHz	31	2440MHz	51	2466MHz		
12	2417MHz	32	2441MHz	52	2467MHz		
13	2418MHz	33	2443MHz	53	2468MHz		
14	2419MHz	34	2445MHz	54	2469MHz		
15	2421MHz	35	2446MHz	55	2471MHz		
16	2422MHz	36	2447MHz	56	2472MHz		
17	2423MHz	37	2449MHz	57	2473MHz		
18	2424MHz	38	2450MHz	58	2474MHz		
19	2426MHz	39	2451MHz	59	2475MHz		



## 4.2 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China  
518057

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594

No tests were sub-contracted.

## 4.3 Test Facility

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

- **CNAS (No. CNAS L2929)**

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab 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.

- **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

- **VCCI**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

- **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

## 4.4 Deviation from Standards

None.

## 4.5 Abnormalities from Standard Conditions

None.

## 4.6 Other Information Requested by the Customer

None.



## **5 SAR Evaluation**

### **5.1 RF Exposure Compliance Requirement**

#### **5.1.1 Standard Requirement**

According to KDB447498D01 General RF Exposure Guidance v06

##### 4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

#### **5.1.2 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:

$$\left[ \frac{\text{(max. power of channel, including tune-up tolerance, mW)}}{\text{(min. test separation distance, mm)}} \cdot \sqrt{f(\text{GHz})} \right] \leq 3.0$$
 for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR, where

f(GHz) is the RF channel transmit frequency in GHz

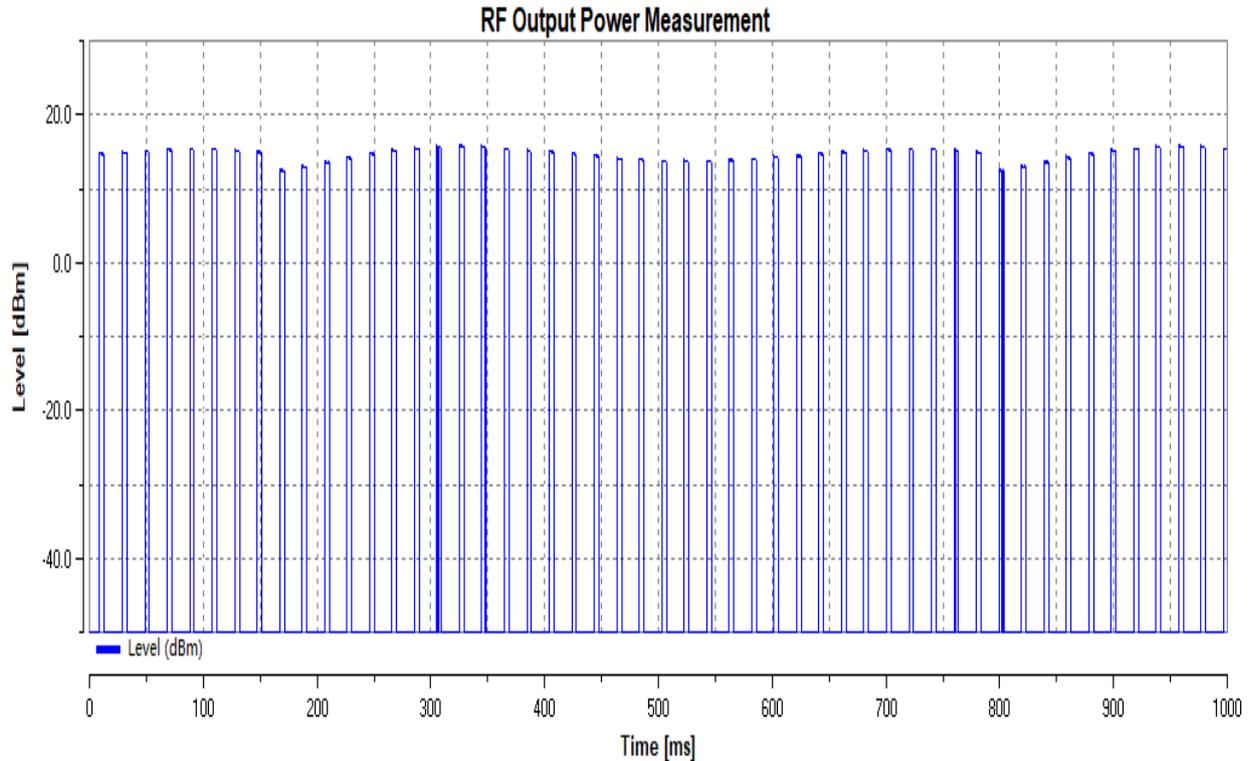
Power and distance are rounded to the nearest mW and mm before calculation<sup>17</sup>

The result is rounded to one decimal place for comparison

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 is applied to determine SAR test exclusion



### 5.1.3 EUT RF Exposure



Duty cycle=19.65%

The Max peak power(including tune-up tolerance) is 16.62dBm(45.92mW).

Source-based time-averaging power:  $(45.92 \times 19.65\%)mW = 9.02mW$

According to the formula, calculate the test exclusion thresholds:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot \sqrt{f(\text{GHz})}$

General RF Exposure =  $(9.02mW / 5 \text{ mm}) \times \sqrt{2.440\text{GHz}} = 2.82$  ①

SAR requirement:

S= 3.0

② ;

① < ②.

So the SAR report is not required.

- End of the Report -