



## RF EXPOSURE EVALUATION REPORT

**Application No.:** GZCR2108020747LM  
**Applicant:** DOREL JUVENILE GROUP  
**Address of Applicant:** 2525 State Street Columbus Indiana United States  
**Manufacturer:** DOREL JUVENILE GROUP  
**Address of Manufacturer:** 2525 State Street Columbus Indiana United States  
**Factory:** Shenzhenshi Kaixin Guangdian Co., Ltd Bao An Branch  
**Address of Factory:** Rm 403 4<sup>th</sup> floor, A3 building, Yangbei industrial park 1st phase, Huangtian, Hangcheng street, Bao'an district, Shenzhen, China  
**Equipment Under Test (EUT):**  
**EUT Name:** Smart Soother  
**Model No.:** IH557  
**Trade Mark:** Safety 1ST  
**Standard(s) :** 47 CFR Part 1.1307  
KDB447498D01 General RF Exposure Guidance v06  
**Date of Receipt:** 2021-08-10  
**Date of Evaluation:** 2021-08-27  
**Date of Issue:** 2021-09-07

|                           |              |
|---------------------------|--------------|
| <b>Evaluation Result:</b> | <b>Pass*</b> |
|---------------------------|--------------|

\* In the configuration evaluated, the EUT complied with the standards specified above.



Kobe Jian

EMC Laboratory Manager



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

| Revision Record |         |            |          |          |
|-----------------|---------|------------|----------|----------|
| Version         | Chapter | Date       | Modifier | Remark   |
| 01              |         | 2021-09-07 |          | Original |
|                 |         |            |          |          |
|                 |         |            |          |          |

|                          |  |                              |  |  |
|--------------------------|--|------------------------------|--|--|
| Authorized for issue by: |  |                              |  |  |
|                          |  | Kevin Zhang                  |  |  |
|                          |  | Kevin Zhang/Project Engineer |  |  |
|                          |  | Ricky Liu                    |  |  |
|                          |  | Ricky Liu/Reviewer           |  |  |

## 2 Evaluation Summary

**Note:**

E.U.T./EUT means Equipment Under Test.

Pass means the test result passed the test standard requirement, please find the detailed decision rule in the report relative section.

### 3 Contents

|                                                        | Page     |
|--------------------------------------------------------|----------|
| <b>1 Cover Page .....</b>                              | <b>1</b> |
| <b>2 Evaluation Summary.....</b>                       | <b>3</b> |
| <b>3 Contents.....</b>                                 | <b>4</b> |
| <b>4 General Information .....</b>                     | <b>5</b> |
| 4.1 Details of E.U.T. ....                             | 5        |
| 4.2 Evaluating Location .....                          | 5        |
| 4.3 Facility .....                                     | 6        |
| 4.4 Deviation from Standards.....                      | 6        |
| 4.5 Abnormalities from Standard Conditions .....       | 6        |
| <b>5 Technical Requirements Specification .....</b>    | <b>7</b> |
| 5.1 RF Exposure Evaluation.....                        | 7        |
| 5.1.1 Limit & Test Method .....                        | 7        |
| 5.1.2 Conclusion .....                                 | 8        |
| <b>6 EUT Constructional Details (EUT Photos) .....</b> | <b>9</b> |

## 4 General Information

### 4.1 Details of E.U.T.

Power supply: DC 5 V, powered by AC/DC adapter as below:  
Model: TPA-46050150UU  
Input: AC 100-240 V, 50/60 Hz, 0.3A  
Output: DC 5.0 V, 1500 mA

Antenna Type: PCB Antenna  
Antenna Gain: 2.3 dBi declared by applicant  
Firmware Version: SV 01  
Hardware Version: KX-DL02 V1.2  
Testing Software: Wi-Fi Test Tool V1.5.2  
Sample NO.: GZ\_SP\_20210846134 M5  
Function: Smart Soother with BT & 2.4 G Wi-Fi function  
For BLE  
Modulation Type: GFSK  
Number of Channels: 40  
Channel Spacing: 2MHz  
Power Setting: 5 dBm can not changed by user  
For Wi-Fi  
Operation Frequency: 802.11b/g/n(HT20): 2412MHz to 2462MHz; 802.11n(HT40): 2422MHz to 2452MHz  
Modulation Type: 802.11b: DSSS (CCK, DQPSK, DBPSK); 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)  
Number of Channels: 802.11b/g/n(HT20): 11; 802.11n(HT40): 7  
Channel Spacing: 5MHz  
Power Setting: 15 dBm can not changed by user

### 4.2 Evaluating Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory,  
198 Kezhu Road, Sciencetech Park, Guangzhou Economic & Technology Development District,  
Guangzhou, China 510663

Tel: +86 20 82155555 Fax: +86 20 82075059

No tests were sub-contracted.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.  
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

#### 4.3 Facility

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

- **NVLAP (Lab Code: 200611-0)**

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

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.

- **ACMA**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian/New Zealand Regulatory Compliance Mark (RCM).

- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

- **CNAS (Lab Code: L0167)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2018 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2017 General Requirements) for the Competence of Testing Laboratories.

- **FCC Recognized Accredited Test Firm(Registration No.: 486818)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: CN5016, Test Firm Registration Number: 486818.

- **ISED (Registration No.: 4620B, CAB identifier: CN0052)**

SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Innovation Science and Economic Development Canada for Wireless Device Testing laboratories to test to Canadian radio equipment requirements. Registration No. 4620B, CAB identifier: CN0052.

- **VCCI (Registration No.: R-12460, C-12584, G-20107 and T-11179)**

The 10m Semi-anechoic chamber, 966 Anechoic Chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-12460, C-12584, G-20107 and T-11179 respectively.

- **CBTL (Lab Code: TL129)**

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2017, the Basic Rules, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.

#### 4.4 Deviation from Standards

None

#### 4.5 Abnormalities from Standard Conditions

None



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

SGS-CSTC Standards Technical Services Co., Ltd.  
Guangzhou Branch EMC Laboratory

No. 198 Kezhu Road, Sciotech Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075058 www.sgsgroup.com.cn  
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075058 sgs.china@sgs.com

## 5 Technical Requirements Specification

### 5.1 RF Exposure Evaluation

#### 5.1.1 Limit & Test Method

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in Part1.1307(b)

TABLE 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> ) | Averaging time (minutes) |
|----------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| <b>(A) Limits for Occupational/Controlled Exposure</b>         |                               |                               |                                     |                          |
| 0.3-3.0                                                        | 614                           | 1.63                          | *100                                | 6                        |
| 3.0-30                                                         | 1842/f                        | 4.89/f                        | *900/f <sup>2</sup>                 | 6                        |
| 30-300                                                         | 61.4                          | 0.163                         | 1.0                                 | 6                        |
| 300-1,500                                                      |                               |                               | f/300                               | 6                        |
| 1,500-100,000                                                  |                               |                               | 5                                   | 6                        |
| <b>(B) Limits for General Population/Uncontrolled Exposure</b> |                               |                               |                                     |                          |
| 0.3-1.34                                                       | 614                           | 1.63                          | *100                                | 30                       |
| 1.34-30                                                        | 824/f                         | 2.19/f                        | *180/f <sup>2</sup>                 | 30                       |
| 30-300                                                         | 27.5                          | 0.073                         | 0.2                                 | 30                       |
| 300-1,500                                                      |                               |                               | f/1500                              | 30                       |
| 1,500-100,000                                                  |                               |                               | 1.0                                 | 30                       |
| f = frequency in MHz                                           |                               |                               |                                     |                          |
| * = Plane-wave equivalent power density                        |                               |                               |                                     |                          |

According to IEEE C95.3:2002 section 5.5.1.1, The power density S at a point on the axis at a distance d from a transmitting antenna is given by the Friis free-space transmission formula

$$S = \frac{PG}{4\pi d^2}$$

*S* = power density (mW/cm<sup>2</sup>)  
*P* = the net power delivered to the antenna (mW)  
*G* = gain of the antenna in linear scale  
*d* = distance between observation point and center of the radiator (cm)



**5.1.2 Conclusion**

Normal use condition for  
Distance between antenna and body: >20cm declared by applicant  
Antenna Gain: 2.3 dBi

For Bluetooth BLE

| Frequency (MHz) | Antenna Gain (Numeric) | Peak Output Power (dBm) | Peak Output Power (mW) | Power Density (S) (mW/cm <sup>2</sup> ) | Limit of Power Density (S) (mW/cm <sup>2</sup> ) | Test Result |
|-----------------|------------------------|-------------------------|------------------------|-----------------------------------------|--------------------------------------------------|-------------|
| 2402            | 1.698                  | 4.55                    | 2.851                  | 0.00096                                 | 1                                                | Complies    |
| 2440            | 1.698                  | 3.77                    | 2.382                  | 0.00080                                 | 1                                                | Complies    |
| 2480            | 1.698                  | 4.57                    | 2.864                  | 0.00097                                 | 1                                                | Complies    |

For 2.4 GHz Wi-Fi

| Frequency (MHz) | Antenna Gain (Numeric) | Peak Output Power (dBm) | Peak Output Power (mW) | Power Density (S) (mW/cm <sup>2</sup> ) | Limit of Power Density (S) (mW/cm <sup>2</sup> ) | Test Result |
|-----------------|------------------------|-------------------------|------------------------|-----------------------------------------|--------------------------------------------------|-------------|
| 11B             |                        |                         |                        |                                         |                                                  |             |
| 2412            | 1.698                  | 14.04                   | 25.351                 | 0.00856                                 | 1                                                | Complies    |
| 2442            | 1.698                  | 14.46                   | 27.925                 | 0.00943                                 | 1                                                | Complies    |
| 2462            | 1.698                  | 14.41                   | 27.606                 | 0.00933                                 | 1                                                | Complies    |
| 11G             |                        |                         |                        |                                         |                                                  |             |
| 2412            | 1.698                  | 12.25                   | 16.788                 | 0.00567                                 | 1                                                | Complies    |
| 2442            | 1.698                  | 12.57                   | 18.072                 | 0.00611                                 | 1                                                | Complies    |
| 2462            | 1.698                  | 12.27                   | 16.866                 | 0.00570                                 | 1                                                | Complies    |
| 11N20           |                        |                         |                        |                                         |                                                  |             |
| 2412            | 1.698                  | 10.83                   | 12.106                 | 0.00409                                 | 1                                                | Complies    |
| 2442            | 1.698                  | 11.65                   | 14.622                 | 0.00494                                 | 1                                                | Complies    |
| 2462            | 1.698                  | 11.13                   | 12.972                 | 0.00438                                 | 1                                                | Complies    |
| 11N40           |                        |                         |                        |                                         |                                                  |             |
| 2422            | 1.698                  | 10.7                    | 11.749                 | 0.00397                                 | 1                                                | Complies    |
| 2442            | 1.698                  | 10.64                   | 11.588                 | 0.00391                                 | 1                                                | Complies    |
| 2452            | 1.698                  | 10.89                   | 12.274                 | 0.00415                                 | 1                                                | Complies    |

The Bluetooth and Wi-Fi can be transmitted together, the result is

0.00943/1 + 0.00080/1 = 0.01023 &lt; 1.0

So SAR report is not required.

Note: Refer to report No. GZCR210802074702 for EUT test Max Conducted Peak Output Power value.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/terms-and-conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

## 6 EUT Constructional Details (EUT Photos)

Refer to external and internal photos for GZCR2108020747LM

- End of the Report -