

# TEST REPORT

**Product Name** : Bluetooth Sing-Along Microphone  
**Model Number** : TR-B12, M1 – B12 M2M3M4M5M6M7M8M9M10  
(M1 – M10, please refer to model no. table)  
**FCC ID** : EMOB12A

**Prepared for** : SDI Technologies Inc.  
**Address** : 1299, Main Street, Rahway, NJ 07065, U.S.A.

**Prepared by** : EMTEK (SHENZHEN) CO., LTD.  
**Address** : Building 69, Majialong Industry Zone, Nanshan District,  
Shenzhen, Guangdong, China

Tel: (0755) 26954280  
Fax: (0755) 26954282

**Report Number** : ENS2305290220W00402R  
**Date(s) of Tests** : May 29, 2023 to July 31, 2023  
**Date of issue** : July 31, 2023

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## 1. TEST RESULT CERTIFICATION

Applicant : SDI Technologies Inc.  
 Address : 1299, Main Street, Rahway, NJ 07065, U.S.A.  
 Manufacturer : eKids, LLC. / KIDDESIGNS INC.  
 Address : 1299, Main Street, Rahway, NJ 07065, U.S.A.  
 Factory : Dongguan Richbo Plastic Manufacturing Limited  
 Address : Building 2, No. 2 Lan-Gi Yuan Road, Xie-Gang Town, Dongguan, Guangdong, China  
 EUT : Bluetooth Sing-Along Microphone  
 Model Name : TR-B12, M1-B12 M2M3M4M5M6M7M8M9M10 (M1-M10, please refer to model no. table)  
 Trademark : eKids

Measurement Procedure Used:

| APPLICABLE STANDARDS  |             |
|-----------------------|-------------|
| STANDARD              | TEST RESULT |
| § 15.247(i), § 2.1093 | PASS        |

The above equipment was tested by EMTEK(SHENZHEN) CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules FCC § 15.247(i), § 2.1093.

The test results of this report relate only to the tested sample identified in this report

Date of Test : May 29, 2023 to July 31, 2023

*Una Yu*

Prepared by : \_\_\_\_\_

Una Yu /Editor

Reviewer : \_\_\_\_\_

*Joe Xia*

Joe Xia/Supervisor

*[Signature]*

Approve & Authorized Signer : \_\_\_\_\_

Lisa Wang/Manager



## Modified History

| Version | Report No.           | Revision Date | Summary         |
|---------|----------------------|---------------|-----------------|
| V1.0    | ENS2305290220W00402R | /             | Original Report |
|         |                      |               |                 |
|         |                      |               |                 |



## 2. EUT Specification

| Characteristics                       | Description   |
|---------------------------------------|---|
| <b>Product:</b>                       | Bluetooth Sing-Along Microphone   |
| <b>Model Number:</b>                  | TR-B12, M1-B12 M2M3M4M5M6M7M8M9M10 (M1-M10, please refer to model no. table)<br>All products are the same, only the model number and color of appearance are different<br>Here we selected TR-B12.EMv23M for all the test |
| <b>Sample:</b>                        | 2#  |
| <b>Device Type:</b>                   | Bluetooth V5.1  |
| <b>Data Rate:</b>                     | 1Mbps for GFSK modulation<br>2Mbps for $\pi/4$ -DQPSK modulation<br>3Mbps for 8DPSK modulation  |
| <b>Modulation:</b>                    | GFSK, $\pi/4$ -DQPSK, 8DPSK   |
| <b>Operating Frequency Range(s) :</b> | 2402-2480MHz  |
| <b>Number of Channels:</b>            | -8.15 dBm(0.000153 W)   |
| <b>Transmit Power Max:</b>            | Wire Antenna  |
| <b>Antenna Gain:</b>                  | 0.58 dBi  |
| <b>Power supply:</b>                  | DC 4.5V from battery  |
| <b>Evaluation applied:</b>            | <input type="checkbox"/> MPE Evaluation<br><input checked="" type="checkbox"/> SAR Evaluation   |

Model:  $M_1 - B12 M_2 M_3 M_4 M_5 M_6 M_7 M_8 M_9 M_{10}$  ( $M_1 - M_{10}$ , please refer to model no. table)

Model no. table

| Part of model #    | $M_1$  | $M_2$   | $M_3$                            | $M_4$   | $M_5$   | $M_6$  | $M_7$   | $M_8$  | $M_9$   | $M_{10}$  |
|--------------------|--|---|----------------------------------|---|---|--|---|--|---|---|
| Number of digit(s) | 2 to 3   | 2   | 1                                | 1   | 1 to 2  | 1  | 1 to 3  | 1 to 4   | 2   | 1   |
| Description        | 2 to 3 digits alphabets combination by "a" - "z" for brand | 1 to 2 digits alphabets combination by "a" - "z" special character version<br><i>Or</i><br><i>blank</i> | "."<br><i>Or</i><br><i>blank</i> | "U" for Europe version<br><i>Or</i><br><i>blank</i> | "E" for English content<br><i>Or</i><br>"F" for English & French<br><i>Or</i><br>"3" for 3 language version<br><i>Or</i><br>"5" for 5 languages version<br><i>Or</i><br>"11" for Europe version with 11 languages | "X" for having no sound effect<br><i>Or</i><br>"E" for having speech or sound effect<br><i>Or</i><br>"M" for having Music effect | "0"- "9" for year version<br><i>Or</i><br>"V0" - "V99" for year version | "M" for Movie version brand<br><i>Or</i><br><i>blank</i> | "AK" for Walmart exclusive<br><i>Or</i><br>"AP" for Apple exclusive<br><i>Or</i><br>"KS" for Kohl's exclusive<br><i>Or</i><br>"TG" for Target exclusive<br><i>blank</i> | "I" for inner carton required<br><i>Or</i><br>"z" for direct to consumer on-line packaging<br><i>Or</i><br>"OL" for Amazon packaging<br><i>Or</i><br><i>blank</i> |



### 3. Test Requirement

#### RF EXPOSURE EVALUATION

According to §15.247(i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

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:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f_{\text{(GHz)}}}] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR,<sup>24</sup> where

- $f_{\text{(GHz)}}$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation<sup>25</sup>
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

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 5) in section 4.1 is applied to determine SAR test exclusion.

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval. One antenna is available for the EUT. The minimum separation distance is 5mm.

## 4. Measurement Result

Antenna gain: 0.58 dBi

When a single module works, the measurement results are as follows:

BT

| Transmit Frequency (MHz) | Mode      | Measured Power (dBm) | E.I.R.P (dBm) | Tune up Power (dBm) | Max tune up power (dBm) | Calculation Result | 1-g SAR |
|--------------------------|-----------|----------------------|---------------|---------------------|-------------------------|--------------------|---------|
| 2402                     | GFSK      | -9.33                | -8.75         | -9±1                | -8                      | 0.0491266          | 3       |
| 2441                     | GFSK      | -9.15                | -8.57         | -9±1                | -8                      | 0.0495238          | 3       |
| 2480                     | GFSK      | -9.32                | -8.74         | -9±1                | -8                      | 0.0499178          | 3       |
| 2402                     | Π/4-DQPSK | -8.54                | -7.96         | -8±1                | -7                      | 0.0618467          | 3       |
| 2441                     | Π/4-DQPSK | -8.59                | -8.01         | -9±1                | -8                      | 0.0495238          | 3       |
| 2480                     | Π/4-DQPSK | -8.80                | -8.22         | -9±1                | -8                      | 0.0499178          | 3       |
| 2402                     | 8DPSK     | -8.15                | -7.57         | -8±1                | -7                      | 0.0618467          | 3       |
| 2441                     | 8DPSK     | -8.28                | -7.70         | -8±1                | -7                      | 0.0623468          | 3       |
| 2480                     | 8DPSK     | -8.47                | -7.89         | -8±1                | -7                      | 0.0628428          | 3       |

According to KDB 447498, no stand-alone required for BT antenna, and no simultaneous SAR measurement is required.

\*\*\* End of Report \*\*\*