

TEST REPORT

Product Name : Portable Color Changing Stereo Speaker with
Passive Radiator and Microphone - Speaker
iKBT70, iKBT70X (X could be single or multiple
digits by any alphabets and punctuation marks
Model Number : denoting different cabinet colors, year versions
and clients)
FCC ID : EMOIKBT70A

Prepared for : SDI Technologies Inc.
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Report Number : EDG2302240202E00404R
Date(s) of Tests : February 24, 2023 to March 14, 2023
Date of issue : March 14, 2023

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1. TEST RESULT CERTIFICATION

Applicant : SDI Technologies Inc.
 Address : 1299, Main Street, Rahway, NJ 07065, U.S.A.
 Manufacturer : SDI Technologies Inc.
 Address : 1299, Main Street, Rahway, NJ 07065, U.S.A.
 Factory : Ruijin Trefan Technology Co.,Ltd
 Address : North Jinyuan Road, Economic and Development Zone, Ruijin, Jiangxi, China
 EUT : Portable Color Changing Stereo Speaker with Passive Radiator and Microphone
 - Speaker
 Model Name : iKBT70, iKBT70X (X could be single or multiple digits by any alphabets and
 punctuation marks denoting different cabinet colors, year versions and clients)
 Trademark : iHome

Measurement Procedure Used:

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

The above equipment was tested by EMTEK(DONGGUAN) 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 : February 24, 2023 to March 14, 2023

Prepared by : 

Xia Yang /Editor

Reviewer : 

Tim Dong/ Supervisor

Approve & Authorized Signer : 

Sam Lv / Manager

Modified History

Version	Report No.	Revision Date	Summary
	EDG2302240202E00404R	/	Original Report



2. EUT Specification

Characteristics	Description
Product:	Portable Color Changing Stereo Speaker with Passive Radiator and Microphone - Speaker
Model Number:	iKBT70, iKBT70X (X could be single or multiple digits by any alphabets and punctuation marks denoting different cabinet colors, year versions and clients) All products are the same, only the model number and color of appearance are different Here we selected iKBT70B.EXv23 for all the test
Sample:	1#
Device Type:	Bluetooth V5.1
Data Rate:	1Mbps for GFSK modulation 2Mbps for $\pi/4$ -DQPSK modulation 3Mbps for 8DPSK modulation
Modulation:	BT1: GFSK, $\pi/4$ -DQPSK, 8DPSK BLE: GFSK BT2: GFSK, $\pi/4$ -DQPSK, 8DPSK
Operating Frequency Range(s) :	2402-2480MHz
Number of Channels:	BT1: 79 channels BLE: 40 Channels BT2: 79 channels
Transmit Power Max:	BT1: -4.32 dBm(0.000370W) BLE: -5.25 dBm(0.000299W) BT1: -2.14 dBm(0.000611W)
Antenna Gain:	-0.58 dBi
Power supply:	DC 5V from USB, DC 3.7V from battery
Evaluation applied:	<input type="checkbox"/> MPE Evaluation <input checked="" type="checkbox"/> SAR Evaluation

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* ≤ 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 ≤ 7.5 for 10-g extremity SAR,²⁴ where

- $f_{(\text{GHz})}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation²⁵
- 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 ≤ 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:

BT1

Transmit Frequency(MHz)	Mode	Measured Power (dBm)	Tune upPower (dBm)	Max tune up power(dBm)	Calculation Result	1-g SAR
2402	GFSK	-5.11	-6±1	-5	0.0980204	3
2441	GFSK	-7.69	-8±1	-7	0.0623468	3
2480	GFSK	-6.35	-7±1	-6	0.0791145	3
2402	Π/4-DQPSK	-4.71	-5±1	-4	0.1234004	3
2441	Π/4-DQPSK	-7.32	-8±1	-7	0.0623468	3
2480	Π/4-DQPSK	-5.98	-6±1	-5	0.0995992	3
2402	8DPSK	-4.32	-5±1	-4	0.1234004	3
2441	8DPSK	-7.25	-8±1	-7	0.0623468	3
2480	8DPSK	-5.78	-6±1	-5	0.0995992	3

BLE_1M

Transmit Frequency(MHz)	Mode	Measured Power (dBm)	Tune upPower (dBm)	Max tune up power(dBm)	Calculation Result	1-g SAR
2402	GFSK	-5.25	-6±1	-5	0.0980204	3
2441	GFSK	-7.48	-8±1	-7	0.0623340	3
2480	GFSK	-6.66	-7±1	-6	0.0791145	3

BT2

Transmit Frequency(MHz)	Mode	Measured Power (dBm)	Tune upPower (dBm)	Max tune up power(dBm)	Calculation Result	1-g SAR
2402	GFSK	-3.00	-3±1	-2	0.1955764	3
2441	GFSK	-3.05	-4±1	-3	0.1566080	3
2480	GFSK	-4.22	-5±1	-4	0.1253880	3
2402	Π/4-DQPSK	-2.53	-3±1	-2	0.1955764	3
2441	Π/4-DQPSK	-2.57	-3±1	-2	0.1971578	3
2480	Π/4-DQPSK	-3.71	-4±1	-3	0.1578541	3
2402	8DPSK	-2.24	-3±1	-2	0.1955764	3
2441	8DPSK	-2.14	-3±1	-2	0.1971578	3
2480	8DPSK	-3.33	-4±1	-3	0.1578541	3

When multiple modules work at the same time, the measurement results are as follows:
module1+module2

Transmit Frequency(MHz)	Measured Power BT1(dBm)	Measured Power BT2(dBm)	Measured Power (dBm)	Tune up Power (dBm)	Max tune up power(dBm)	Calculation Result	1-g SAR
2402	-4.32	-2.24	-0.15	-1±1	0	0.30996774	3
2441	-7.25	-2.14	-0.97	-1±1	0	0.31247400	3
2480	-5.78	-3.33	-1.37	-2±1	-1	0.25018187	3

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

*** End of Report ***