TEST REPORT

Product Name	:	**Bluetooth Portable Speaker with Passive Radiator**
Model Number	:	**iBT550, iBT550X (X could be single or multiple digits by any alphabets and punctuation marks denoting different cabinet colors, year versions and clients)**
FCC ID	:	**EMOIBT550A**

Prepared for	:	SDI Technologies Inc.
Address	:	1299, Main Street, Rahway, NJ 07065, U.S.A.
Prepared by	:	EMTEK (DONGGUAN) CO., LTD.
Address	:	-1&2/F.,Building 2, Zone A, Zhongda Marine Biotechnology Research and Development Base, No.9, Xincheng Avenue, Songshanhu High-technology Industrial Development Zone, Dongguan, Guangdong, China TEL: +86-0769-22807078 FAX: +86-0769-22807079

Report Number	:	EDG2306290287E00402R
Date(s) of Tests	:	June 29, 2023 to August 15, 2023
Date of issue	:	August 15, 2023

Table of Contents

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	:	Bluetooth Portable Speaker with Passive Radiator
Model Name	:	iBT550, iBT550X (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 : June 29, 2023 to August 15, 2023

Prepared by : Xia Yang /Editor

Reviewer : Tim Dong/ Supervisor

Approve & Authorized Signer : Sam Lv / Manager

Modified History

Version	Report No.	Revision Date	Summary
	EDG2306290287E00402R	/	Original Report

2. EUT Specification

Characteristics	Description
Product:	Bluetooth Portable Speaker with Passive Radiator
Model Number:	iBT550, iBT550X (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 iBT550B.EXv23 for all the test
Sample:	1#
Device Type:	Bluetooth V5.3
Data Rate:	1Mbps for GFSK modulation 2Mbps for π/4-DQPSK modulation 3Mbps for 8DPSK modulation
Modulation:	GFSK, π/4-DQPSK, 8DPSK
Operating Frequency Range(s) :	2402-2480MHz
Number of Channels:	1.35 dBm(0.001365W)
Transmit Power Max:	PCB Antenna
Antenna Gain:	-0.58 dBi
Power supply:	DC 5V from USB, DC 3.7V from battery
Evaluation applied:	☐ MPE Evaluation ☒ SAR Evaluation

3. Test Requirement

RF EXPOSURE EVALUATION

According to 447498 D01 V06, 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:

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

- $f_{(GHz)}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation[25]
- 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 quality 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	0.31	-0.27	0±1	1	0.3902263	3
2441	GFSK	-0.44	-1.02	-1±1	0	0.3124740	3
2480	GFSK	-0.08	-0.66	-1±1	0	0.3149603	3
2402	Π/4-DQPSK	0.94	0.36	0±1	1	0.3902263	3
2441	Π/4-DQPSK	0.26	-0.32	0±1	1	0.3933815	3
2480	Π/4-DQPSK	0.54	-0.04	0±1	1	0.3965115	3
2402	8DPSK	1.35	0.77	1±1	2	0.4912658	3
2441	8DPSK	0.68	0.10	0±1	1	0.3933815	3
2480	8DPSK	0.91	0.33	0±1	1	0.3965115	3

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

*** End of Report ***