

TEST REPORT

Product Name : WIRELESS CHARGING ALARM CLOCK
: RADIO WITH SPEAKER AND DUAL USB
: CHARGING
Model Number : iBTW282, iBTW282X (X could be single or
: multiple digits by any alphabets and
: punctuation marks denoting different year
: version, buyers and cabinet colors)
FCC ID : EMOIBTW282A

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

Prepared by : EMTEK (SHENZHEN) CO., LTD.
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Report Number : ENS2505160048W01104R
Date of sample receipt : Apr 25, 2025
Date(s) of Tests : Apr 25, 2025 to May 19, 2025
Date of issue : May 20, 2025

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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
EUT : WIRELESS CHARGING ALARM CLOCK RADIO WITH SPEAKER AND DUAL USB CHARGING
Model Name : iBTW282, iBTW282X (X could be single or multiple digits by any alphabets and punctuation marks denoting different year version, buyers and cabinet colors)
Trademark : iHome

Measurement Procedure Used:

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
§ 15.247(i), § 2.1091	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), § 2.1091..

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

Date of Test : Apr 25, 2025 to May 19, 2025

Prepared by : 
Una Yu /Editor

Reviewer : 
Joe Xia/Supervisor

Approve & Authorized Signer : 
Lisa Wang/Manager



Modified History

Version	Report No.	Revision Date	Summary
	ENS2505160048W01104R	/	Original Report



2. EUT Specification

Characteristics	Description
Product:	WIRELESS CHARGING ALARM CLOCK RADIO WITH SPEAKER AND DUAL USB CHARGING
Model Number:	iBTW282, iBTW282X (X could be single or multiple digits by any alphabets and punctuation marks denoting different year version, buyers and cabinet colors) (Note: These models are the same, except for the model names, year version, buyers and cabinet color; iBTW282 was selected for full test.)
Sample:	1#
Data Rate:	1Mbps for GFSK modulation 2Mbps for $\pi/4$ -DQPSK modulation 3Mbps for 8DPSK modulation
Modulation:	GFSK, $\pi/4$ -DQPSK, 8DPSK
Operating Frequency Range(s) :	2402-2480MHz
Number of Channels:	79 channels
Transmit Power Max:	-3.87 dBm(0.000410 W)
Antenna Gain:	2.499 dBi
Power supply:	DC 9V from Adapter Adapter: Model: XY-CA03600900330U01 INPUT: 100-240V~50/60Hz 0.95A Max Output: 9V= 3.3A
Evaluation applied:	☐ MPE Evaluation ☒ SAR Evaluation

3. Test Requirement

RF EXPOSURE EVALUATION

According to FCC 1.1310: 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 §1.1307(b)

Limits for Maximum Permissible Exposure (MPE)

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density(mW/cm ²)	Average Time
(A) Limits for Occupational/Control Exposures				
300-1500	--	--	F/300	6
1500-100000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
300-1500	--	--	F/1500	6
1500-100000	--	--	1	30

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

P_d = Power density in mW/cm²

P_{out} =output power to antenna in mW

G = Numeric gain of the antenna relative to isotropic antenna

π =3.1416

R = distance between observation point and center of the radiator in cm

P_d the limit of MPE, 1mW/cm². If we know the maximum gain of the nd total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

4. Measurement Result

Antenna gain:
2.499 dBi

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result	Power density Limits
		(dBm)		tune-up power		Gain		(mW/cm2)	(mW/cm2)
				(dBm)	(mW)	(dBi)	Numeric		
2402	GFSK	-6.02	-6±1	-5	0.316	2.499	1.78	0.0001	1
2441		-5.32	-5±1	-4	0.398	2.499	1.78	0.0001	1
2480		-4.93	-4±1	-3	0.501	2.499	1.78	0.0002	1
2402	Π/4-DQPSK	-5.45	-5±1	-4	0.398	2.499	1.78	0.0001	1
2441		-4.65	-4±1	-3	0.501	2.499	1.78	0.0002	1
2480		-4.13	-4±1	-3	0.501	2.499	1.78	0.0002	1
2402	8DPSK	-4.97	-4±1	-3	0.501	2.499	1.78	0.0002	1
2441		-4.29	-4±1	-3	0.501	2.499	1.78	0.0002	1
2480		-3.87	-3±1	-2	0.631	2.499	1.78	0.0002	1

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

*** End of Report ***