

FCC&IC Exposure Test Report

FCC ID: EMOHWL83

IC: 986B-HWL83

This report concerns (check one): ☒Original Grant ☐Class I Change ☐Class II Change

Project No. : 1601C013
Equipment : Wireless Charging Clock Speaker with Dual USB Charging
Model Name for FCC : HWL83, HWL83B, HWL83X("X" denote as color of cabinet)
Model Name for IC : HWL83
Applicant : SDI TECHNOLOGIES INC.
Address : 1299 Main Street, Rahway, NJ 07065, U.S.A

Date of Receipt : Jan. 04, 2016
Date of Test : Jan. 04, 2016 ~ Feb. 03, 2016
Issued Date : Feb. 04, 2016
Tested by : BTL Inc.

Testing Engineer :

Shawn Xiao
(Shawn Xiao)

Technical Manager :

David Mao
(David Mao)

Authorized Signatory :

Steven Lu
(Steven Lu)

B T L I N C .

No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan,
Guangdong, China.

TEL: +86-769-8318-3000 FAX: +86-769-8319-6000

Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with the standards traceable to National Measurement Laboratory (**NML**) of **R.O.C.**, or National Institute of Standards and Technology (**NIST**) of **U.S.A.**

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BTL's laboratory quality assurance procedures are in compliance with the **ISO Guide 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

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REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FICP-3-1601C013	Original Issue.	Feb. 04, 2016

1. CERTIFICATION

Equipment : Wireless Charging Clock Speaker with Dual USB Charging
Brand Name : iHome
Model Name : HWL83, HWL83B, HWL83X("X" denote as color of cabinet)
for FCC
Model Name : HWL83
for IC
Applicant : SDI TECHNOLOGIES INC.
Manufacturer : SDI TECHNOLOGIES INC.
Address : 1299 Main Street, Rahway, NJ 07065, U.S.A
Factory : DONGGUAN FINEMOST ELECTRONICS CO., LTD
Address : 46 Shangxing Road, Shangjiao, Chang-An Town, Dongguan City,
Guangdong, P.R.China
Date of Test : Jan. 04, 2016 ~ Feb. 03, 2016
Test Sample : Engineering Sample
Standard(s) : 47 CFR PART 1, Subpart I, Section 1.1310
RSS-102 Issue 5 March 2015

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FICP-3-1601C013) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Wireless Charging Clock Speaker with Dual USB Charging
Brand Name	iHome
Model Name for FCC	HWL83, HWL83B, HWL83X
Model Name for IC	HWL83
Model Difference	"X" denote as color of cabinet.
Operation Frequency	110kHz-205kHz
Power Source	#1 DC voltage supplied from AC Adapter. Brand/Model: iHome / GQ30-090300-AU #2 Supplied from AA*2 battery. (for clock)
Power Rating	#1 I/P: AC100-240V 50/60Hz 1.0A Max O/P: DC9V 3A #2 I/P: DC 3V(for clock)

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

3. RULES

3.1 FCC CRITERIA

§ 1.1310 The criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in § 1.13107(b), except in the case of portable devices which shall be evaluated according to the provisions of § 2.1093 of this chapter.

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 ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	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

Note 1 to Table 1: Occupational/controlled exposure limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when a person is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

Note 2 to Table 1: General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

3.2 IC CRITERIA

IC Safety Code 6, Section 2.2.1(a) A person other than an RF and microwave exposed worker shall not be exposed to electromagnetic radiation in a frequency band listed in Column 1 of Table 5, if the field strength exceeds the value given in Column 2 or 3 of Table 4, when averaged spatially and over time, or if the power density exceeds the value given in Column 4 of Table 4, when averaged spatially and over time.

Table 2: Internal Electric Field Strength Basic Restrictions (3 kHz-10 MHz)

Condition ¹⁹	Internal Electric Field Strength* (V/m) (any part of the body)
Controlled Environment	$2.7 \times 10^{-4} f$
Uncontrolled Environment	$1.35 \times 10^{-4} f$
Note: f is frequency in Hz. *Instantaneous, RMS values apply.	

**Table 4: RF Field Strength Limits for Devices Used by the General Public
(Uncontrolled Environment)**

Frequency Range (MHz)	Electric Field (V/m rms)	Magnetic Field (A/m rms)	Power Density (W/m ²)	Reference Period (minutes)
0.003-10 ²¹	83	90	-	Instantaneous*
0.1-10	-	$0.73/f$	-	6**
1.1-10	$87/f^{0.5}$	-	-	6**
10-20	27.46	0.0728	2	6
20-48	$58.07/f^{0.25}$	$0.1540/f^{0.25}$	$8.944/f^{0.5}$	6
48-300	22.06	0.05852	1.291	6
300-6000	$3.142 f^{0.3417}$	$0.008335 f^{0.3417}$	$0.02619 f^{0.6834}$	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	$616000/f^{1.2}$
150000-300000	$0.158 f^{0.5}$	$4.21 \times 10^{-4} f^{0.5}$	$6.67 \times 10^{-5} f$	$616000/f^{1.2}$
Note: f is frequency in MHz. *Based on nerve stimulation (NS). ** Based on specific absorption rate (SAR).				

3.3 EUT OPERATION

This device has been tested the worst status of full load and the device has been tested with mobile phone at zero charge, intermediate charge, and full charge.

3.4 TEST RESULT

EUT has been Full load

Electric Field Emissions

Test Position	Probe Measure Result(V/m)	Limit(V/m)	30% Limit(V/m)
Side 1	1.25	614	184.2
Side 2	1.52	614	184.2
Side 3	1.48	614	184.2
Side 4	1.56	614	184.2
Top	1.47	614	184.2
Bottom	1.34	614	184.2

Magnetic Field Emissions

Test Position	Probe Measure Result(A/m)	Limit(A/m)	30% Limit(A/m)
Side 1	0.059	1.63	0.489
Side 2	0.037	1.63	0.489
Side 3	0.032	1.63	0.489
Side 4	0.045	1.63	0.489
Top	0.045	1.63	0.489
Bottom	0.034	1.63	0.489

4. MEASUREMENT INSTRUMENTS LIST

Human Exposure					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	NARDA Broadband Field Meter	Narda Safety Test Solutions GmbH	NBM-520	B-0138	Sep. 12, 2016
2	H-Field Probe	Narda Safety Test Solutions GmbH	EF 0391(NBM)	A-0253	Sep. 12, 2016

Remark: "N/A" denotes no model name, serial no. or calibration specified.

All calibration period of equipment list is one year.

5. EUT TEST PHOTO

Full Load

Side 1



Side 2

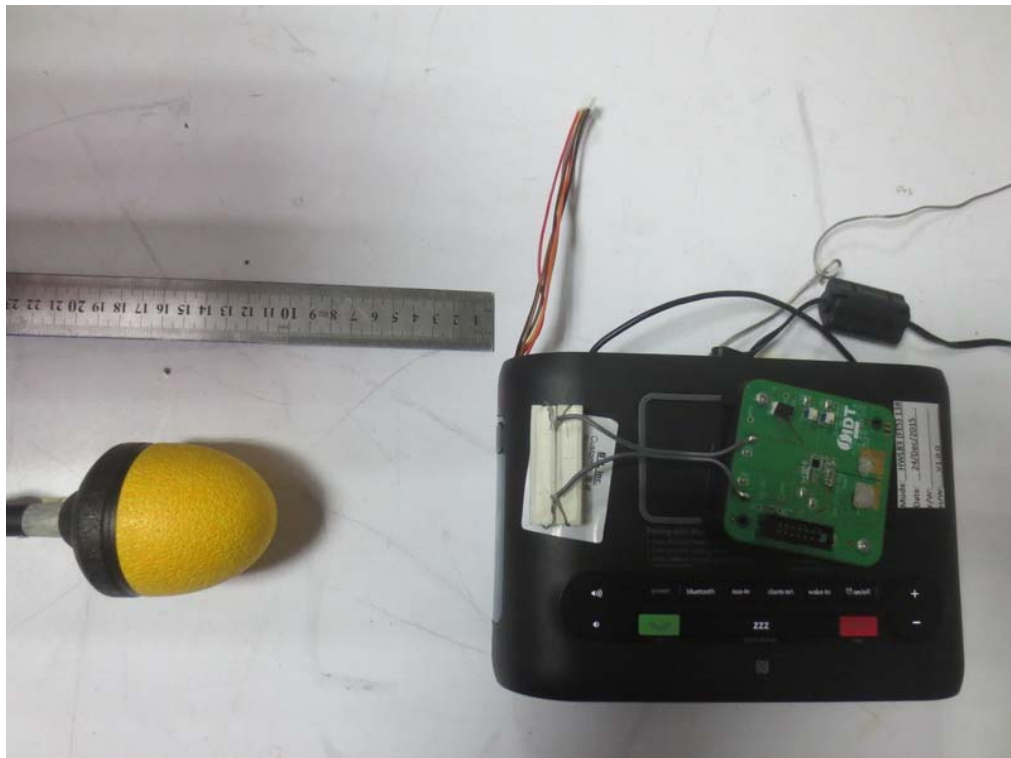


Full Load

Side 3



Side 4



Full Load

Top



Bottom

