

## RF Exposure Evaluation Report

**Report Reference No.**.....: **MTEB24070093 -H**

**FCC ID**.....: **2BHAO-6138**

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**Representative Laboratory Name.:** **Shenzhen Most Technology Service Co., Ltd.**

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**Applicant's name**.....: **NINGBO LONGMARCH IMPORT&EXPORT CO.,LTD**

Address .....: ROOM 1505, 15TH FLOOR, BUILDING 3, YUNHUI CENTER, NO.  
299 TONGJI ROAD, JIANGBEI DISTRICT, NINGBO, CHINA

**Test specification/ Standard** .....: **47 CFR Part 1.1307;47 CFR Part 1.1310**

**KDB447498D01 General RF Exposure Guidance v06**

TRF Originator.....: Shenzhen Most Technology Service Co., Ltd.

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**Test item description** .....: Speaker Charging Lamp

Trade Mark .....: BELL+HOWELL

Model/Type reference.....: 6138

Listed Models .....: N/A

Modulation Type .....: GFSK,  $\pi/4$ DQPSK

Operation Frequency.....: From 2402MHz to 2480MHz

Hardware Version.....: DC375-V1.3

Software Version .....: 20210622

Rating .....: DC 5V by USB Port

Result.....: **PASS**

**TEST REPORT**

Equipment under Test : Speaker Charging Lamp

Model /Type : 6138

Listed Models : N/A

Remark : N/A

Applicant : NINGBO LONGMARCH IMPORT&EXPORT CO.,LTD

Address : ROOM 1505, 15TH FLOOR, BUILDING 3, YUNHUI CENTER,  
NO. 299 TONGJI ROAD, JIANGBEI DISTRICT, NINGBO, CHINA

Manufacturer : NINGBO LI SENSOR ELETRONICS CO.,LTD

Address : NO. 5 JINSHAN 7TH ROAD, NINGHAI COUNTRY, NINGBO, CHINA

<b>Test Result:</b>	<b>PASS</b>
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The test report merely corresponds to the test sample.  
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

1. Revision History

Revision	Issue Date	Revisions	Revised By
00	2024.07.05	Initial Issue	Alisa Luo

## 2. SAR Evaluation

### 2.1 RF Exposure Compliance Requirement

#### 2.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

##### 4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

#### 2.1.2 Limits

According to FCC Part1.1310: 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 part1.1307(b)

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 <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposures</b>				
0.3–3.0 .....	614	1.63	*(100)	6
3.0–30 .....	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30–300 .....	61.4	0.163	1.0	6
300–1500 .....	.....	.....	f/300	6
1500–100,000 .....	.....	.....	5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3–1.34 .....	614	1.63	*(100)	30
1.34–30 .....	824/f	2.19/f	*(180/f <sup>2</sup> )	30
30–300 .....	27.5	0.073	0.2	30
300–1500 .....	.....	.....	f/1500	30
1500–100,000 .....	.....	.....	1.0	30

F= Frequency in MHz

Friis Formula

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

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

$G$  = gain of antenna in linear scale

$\pi$  = 3.1416

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

$P_d$  is the limit of MPE, 1 mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance  $r$  where the MPE limit is reached.

## 2.1.3 EUT RF Exposure

BT classic

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	2.027	$2.027 \pm 1$	3.027
Middle(2441MHz)	2.449	$2.449 \pm 1$	3.449
Highest(2480MHz)	2.382	$2.382 \pm 1$	3.382

$\pi$ /4DQPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	2.844	$2.844 \pm 1$	3.844
Middle(2441MHz)	3.282	$3.282 \pm 1$	4.282
Highest(2480MHz)	3.238	$3.238 \pm 1$	4.238

Worst case: $\pi$ /4DQPSK						
Channel	Maximum tune-up Power (dBm)	Maximum tune-up Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Limit	Result
Middle(2441MHz)	4.282	2.68	-0.68	0.00046	1.0	Pass

Note: 1) Refer to report MTEB24070093-R1 for EUT test Max Conducted average Output Power value.

Note: 2)  $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2) = (2.68 \cdot 0.86) / (4 \cdot 3.1416 \cdot 20^2) = 0.00046$

Note: 3) EUT's Bluetooth module is more than 20cm away from the human body.

.....THE END OF REPORT.....