



Test report No. : 4790190314-US-R2-V0  
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Issued date : 2022/3/16  
FCC ID : JNZSR0191

# Maximum Permissible Exposure Report

**Product** : Speaker  
**Model Name** : SR0191  
**FCC ID** : JNZSR0191  
**Test Regulation** : 47 CFR FCC Part 2.1091  
**Received Date** : 2021/11/15  
**Test Date** : 2021/11/15 ~ 2021/11/26  
**Issued Date** : 2022/3/16  
**Applicant** : Logitech Far East Ltd.  
#2 Creation Rd. 4, Science-Based Ind. Park Hsinchu Taiwan,  
R.O.C.  
**Issued By** : Underwriters Laboratories Taiwan Co., Ltd.  
Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd.,  
Zhudong Township, Hsinchu County, Taiwan



The results reported herein have been performed in accordance with the laboratory's terms of accreditation. This report shall not be reproduced except in full without the written approval of the Laboratory. The results in this report are responsible of the test sample(s) provided by the client only and are not to be used to indicate applicability to other similar products.

## **Underwriters Laboratories Taiwan Co., Ltd.**

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Doc No: 17-EM-F0864 / 5.0





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## 1. Attestation of Test Results

**APPLICANT:** Logitech Far East Ltd.  
 #2 Creation Rd. 4, Science-Based Ind. Park Hsinchu Taiwan, R.O.C.

**MANUFACTURER:** Logitech Europe S. A.  
 EPFL - Quartier de l'Innovation, Daniel Borel Innovation Center,  
 1015 Lausanne, SWITZERLAND

**EUT DESCRIPTION:** Speaker

**BRAND:** logitech

**MODEL:** SR0191

**SAMPLE STAGE:** Engineering Verification Test sample

APPLICABLE STANDARDS	
STANDARD	Test Results
47 CFR FCC PART 2.1091	PASS

Underwriters Laboratories Taiwan Co., Ltd. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by Underwriters Laboratories Taiwan Co., Ltd. based on interpretations and/or observations of test results. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by Underwriters Laboratories Taiwan Co., Ltd. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Underwriters Laboratories Taiwan Co., Ltd. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Prepared By:

Sally Lu  
 Project Handler

Date : 2022/3/16

Approved and Authorized By:

Waternil Guan  
 Engineer

Date : 2022/3/16

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## 2. Test Methodology and Reference Procedures

The tests documented in this report were performed in accordance with KDB 447498 D01 General RF Exposure Guidance v06.

## 3. Facilities and Accreditation

<b>Test Location</b>	Underwriters Laboratories Taiwan Co., Ltd.
<b>Address</b>	Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan
<b>Accreditation Certificate</b>	Underwriters Laboratories Taiwan Co., Ltd. is accredited by TAF, Laboratory Code 3398.

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## 4. Equipment Under Test

### 4.1. Description of EUT

<b>Product Name</b>	Speaker	
<b>Brand Name</b>	logitech	
<b>Model Name</b>	SR0191	
<b>Operating Frequency</b>	Bluetooth EDR	2402MHz ~ 2480MHz
	Bluetooth LE	BT-LE-1M: 2402~2480 MHz BT-LE-2M: 2404~2478 MHz
<b>Modulation</b>	Bluetooth EDR	GFSK, $\pi/4$ -DQPSK, 8DPSK
	Bluetooth LE	GFSK
<b>Number of Channel</b>	Bluetooth EDR	79
	Bluetooth LE	BT-LE-1M: 40 Channels BT-LE-2M: 37 Channels (excluding 2402, 2426 and 2480 primary advertising channels)
<b>Normal Voltage</b>	120Vac/ 60Hz	
<b>S/N</b>	2143GG02AA48	
<b>Sample ID</b>	Conducted Test: 4393416	
	Radiated Test: 4393415	

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Note:

1. The EUT contains following accessory devices:

Product	Brand	Model	Description
Audio Cable	EASON	EWS00663	200cm

2. The above EUT information is declared by manufacturer and for more detailed features description, please refer the manufacturer's or user's manual.

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#### 4.2. Description of Available Antennas

Ant. No.	Transmitter Circuit	Brand Name	Model Name	Ant. Type	Maximum Gain (dBi)
1	Chain (0)	DongGuan JIASHI Communication Co., LTD	JS-BYM235B	PCB	-0.09

Note: The above antenna information was provided from customer and for more detailed features description, please refer the manufacturer's specification or user's manual.

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## 5. Requirement

### Limits for General Population/Uncontrolled Exposure

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
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

Note 1: f = frequency in MHz, \* means Plane-wave equivalent power density

Note 2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that 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.

Power Density (S) is calculated by the following formula:

$$S=(P*G)/4\pi R^2$$

where: S = power density (in appropriate units, e.g. mW/ cm<sup>2</sup>)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

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## 6. Radio Frequency Radiation Exposure Evaluation

### Bluetooth EDR

Evaluation Frequency (MHz)	Max. Average power (dBm)	Antenna Gain (dBi)	Max. EIRP (dBm)	Max. EIRP (mW)	Power density @ 20 cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2402 ~ 2480	0.95	-0.09	0.86	1.219	0.00024	1

### Bluetooth LE

Evaluation Frequency (MHz)	Max. Average power (dBm)	Antenna Gain (dBi)	Max. EIRP (dBm)	Max. EIRP (mW)	Power density @ 20 cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2404 ~ 2478	1.00	-0.09	0.91	1.233	0.00025	1

Note:

1. Max. EIRP (dBm) = Max. Average power (dBm) + Antenna Gain (dBi)
2. Max. EIRP (mW) =  $10^{(\text{Max. EIRP (dBm)} / 10)}$
3. Power density (mW/cm<sup>2</sup>) = Max. EIRP (mW) / [  $4 \times \pi \times (\text{calculated distance})^2$  ], the calculated distance is 20 cm.

### Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.

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**END OF REPORT**

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