



FCC Test Report

Report No: FCS202409041H01

Issued for

Applicant:	Shenzhen Wang Chu Technology Trading Co., Ltd
Address:	301, No.19-20, Hualong Xincun, Guanghua Community, Jihua St., Longgang District, Shenzhen, China
Product Name:	Music Boxing Machine
Brand Name:	TGLLM
Model Name:	HJ-005
FCC ID:	N/A
Test Standard:	FCC 47CFR §2.1091
Issued By: Flux Compliance Service Laboratory Add: Room 105 Floor Bao hao Technology Building 1 NO.15 Gong ye West Road Hi-Tech Industrial, Song shan lake Dongguan Tel: 769-27280901 Fax:769-27280901 http://www.FCS-lab.com	

**TEST RESULT CERTIFICATION**

Applicant's Name..... : Shenzhen Wang Chu Technology Trading Co., Ltd
Address : 301, No.19-20, Hualong Xincun, Guanghua Community, Jihua St.,
Longgang District, Shenzhen, China
Manufacture's Name..... : Shenzhen Wang Chu Technology Trading Co., Ltd
Address : 301, No.19-20, Hualong Xincun, Guanghua Community, Jihua St.,
Longgang District, Shenzhen, China

Product Description

Product Name : Music Boxing Machine
Brand Name : TGLLM
Model Name : HJ-005
Series Model : N/A
Test Standards : FCC 47CFR §2.1091
447498 D04 Interim General RF Exposure Guidance v01

This device described above has been tested by Flux Compliance Service Laboratory, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test.....:

Date (s) of performance of tests.: Sep. 02. 2024 ~ Sep. 03. 2024

Date of Issue.....: Sep. 03. 2024

Test Result: Pass

Tested by : Scott Shen
(Scott Shen)
Reviewed by : Duke Qian
(Duke Qian)
Approved by : Jack Wang
(Jack Wang)





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**Revision History**

Rev.	Issue Date	Contents
00	Sep. 03.2024	Initial Issue

1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Music Boxing Machine	
Brand	TGLLM	
Model Number	HJ-005	
Series Model(s)	N/A	
Model Difference	N/A	
Product Description	The EUT is Music Boxing Machine	
	Operation Frequency:	BT: 2402~2480MHz
	Modulation Type:	GFSK, $\pi/4$ -DQPSK, 8DPSK
	Antenna gain:	BT: 0 dBi
	Antenna Designation:	PCB Antenna
Power Supply	Input: DC 5V	
Battery	Rated Voltage: DC 3.7V Capacity: 2000mAh	
Hardware Version	V01	
Software Version	V01	



1.2 TEST FACTORY

Company Name:	Flux Compliance Service Laboratory		
Address:	Room 105 Floor Bao hao Technology Building 1 NO.15 Gong ye West Road Hi-Tech Industrial, Song shan lake Dongguan		
Telephone:	+86-769-27280901		
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FCC Test Firm Registration Number: 514908 Designation number: CN0127 A2LA accreditation number: 5545.01 ISED Number: 25801 CAB ID : CN0097			
Organization FLUX COMPLIANCE SERVICE LABORATORY Baohao Technology Building 1 No. 15 Gongye West Road Hi-Tech Industrial Park Songshan Lake Dongguan, Guangdong. 523808 PRC. ISED#: 25801 Contact: Andy Yue andy-yue@fcs-lab.com	CAB identifier CN0097	Scope / Recognition Date (yyyy-mm-dd) RSS-102(RFExp) (2020-01-09) RSS-GEN (2020-01-09) RSS-210 (2020-01-09) RSS-247 (2020-01-09)	Expiration (yyyy-mm-dd) RECOGNIZED UNTIL: 2023-12-31 A2LA ISO/IEC 17025: 2017 Expires: 2023-12-31

2. FCC 47CFR §2.1091 REQUIREMENT

2.1 TEST STANDARDS

Follow the maximum permissible exposure (MPE) limits specified in 447498 D04 Interim General Radio Frequency Exposure Guidelines v01. The gain of the antenna used in the product was extracted from the supplied antenna data sheet and the maximum total power input to the antenna was also measured. Calculate the distance from the product to the MPE limit by the formula.

2.2 LIMIT

For single RF sources (i.e., any single fixed RF source, mobile device, or portable device, as defined in paragraph (b)(2) of this section): A single RF source is exempt if:

(A) The available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(ii)(A) of Part 1.1307. Medical implant devices may only use this exemption and that in paragraph (b)(3)(ii)(A);

(B) Or the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by:

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

d = the separation distance (cm);

(C) Or using below table and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least $\lambda/2\pi$, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

RF Source frequency (MHz)	Threshold ERP(watts)
0.3-1.34	$1,920 R^2$.
1.34-30	$3,450 R^2/f^2$.
30-300	$3.83 R^2$.
300-1,500	$0.0128 R^2 f$.
1,500-100,000	$19.2 R^2$.

For multiple RF sources: Multiple RF sources are exempt if:

(A) The available maximum time-averaged power of each source is no more than 1 mW and there is a separation distance of two centimeters between any portion of a radiating structure operating and the nearest portion of any other radiating structure in the same device, except if the sum of multiple sources is less than 1 mW during the time-averaging period, in which case they may be treated as a single source (separation is not required). This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(i)(A) of Part 1.1307. Medical implant devices may only use this exemption and that in paragraph (b)(3)(i)(A).

(B) in the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation.

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1$$

Where:

a = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(B) of Part 1.1307 for P_{th}, including existing exempt transmitters and those being added.

b = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(C) of Part 1.1307 for Threshold ERP, including existing exempt transmitters and those being added.

c = number of existing fixed, mobile, or portable RF sources with known evaluation for the specified minimum distance including existing evaluated transmitters.

P_i = the available maximum time-averaged power or the ERP, whichever is greater, for fixed, mobile, or portable RF source i at a distance between 0.5 cm and 40 cm (inclusive).

P_{th,i} = the exemption threshold power (P_{th}) according to paragraph (b)(3)(i)(B) of this section for fixed, mobile, or portable RF source i.

ERP_j = the ERP of fixed, mobile, or portable RF source j.

ERP_{th,j} = exemption threshold ERP for fixed, mobile, or portable RF source j, at a distance of at least λ/2π according to the applicable formula of paragraph (b)(3)(i)(C) of Part 1.1307.

Evaluated_k = the maximum reported SAR or MPE of fixed, mobile, or portable RF source k either in the device or at the transmitter site from an existing evaluation at the location of exposure.

Exposure Limit_k = either the general population/uncontrolled maximum permissible exposure (MPE) or specific absorption rate (SAR) limit for each fixed, mobile, or portable RF source k, as applicable from § 1.1310.

2.3 TEST RESULT

Turn up

Mode	Detector	Turn up	MAX. Turn up
BT_GFSK_LCH	PEAK	0±1dBm	1 dBm
BT_GFSK_MCH	PEAK	1±1dBm	2 dBm
BT_GFSK_HCH	PEAK	1±1dBm	2 dBm
BT_π/4DQPSK_LCH	PEAK	1±1dBm	2 dBm
BT_π/4DQPSK_MCH	PEAK	2±1dBm	3 dBm
BT_π/4DQPSK_HCH	PEAK	2±1dBm	3 dBm
BT_8DPSK_LCH	PEAK	1±1dBm	2 dBm
BT_8DPSK_MCH	PEAK	2±1dBm	3 dBm
BT_8DPSK_HCH	PEAK	2±1dBm	3 dBm

Function	Fre. (GHz)	Separation distance (cm)	Max Turn up power (dBm)	ANT Gain (dBi)	Max EIRP (dBm)	Max EIRP (mW)	Limit (mW)	Result
BT	2.48	0.5	3	0	3	1.995	2.788	Pass

Multiple transmission:

Note: 1. The Maximum power is less than the limit, complies with the exemption requirements.

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