

RF EXPOSURE REPORT

Applicant	International Toy, Inc.
Address	17922 Fitch STE 100, Irvine CA 92614, USA

Manufacturer or Supplier	Kin Yat (Guangdong) AI Co., Ltd.
Address	Huang Hua Yuan Industrial District, Shi Xing Country, Shao Guan City, Guang Dong, China
Product	AN22 JEDI HOLOCRON
Brand Name	Disney
Model	400958968030
Additional Model & Model Difference	N/A
Date of tests	Oct. 16, 2023 ~ Oct. 30, 2023

☒ FCC Part 2 (Section 2.1093)

☒ KDB 447498 D04 Interim General RF Exposure Guidance v01

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Tested by Lucas Chen Project Engineer / EMC Department	Approved by Glyn He Assistant Manager / EMC Department
	

Date: Dec. 06, 2023

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Test Report No.: FM2310WDG0045

TABLE OF CONTENTS

RELEASE CONTROL RECORD	3
1. CERTIFICATION.....	4
2. RF EXPOSURE DEFINE	5
3. MULTIPLE RF SOURCES ARE EXEMPT.....	6
4. SAR TEST EXCLUSION THRESHOLDS.....	7



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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FM2310WDG0045	Original release	Dec. 06, 2023

1. CERTIFICATION

FCC ID:	2ACU8INT119
PRODUCT:	AN22 JEDI HOLOCRON
BRAND NAME:	Disney
MODEL NO.:	400958968030
ADDITIONAL NO.:	N/A
TEST SAMPLE:	Engineering Sample
APPLICANT:	International Toy, Inc.
STANDARDS:	FCC Part 2 (Section 2.1093)
	KDB 447498 D04 Interim General RF Exposure Guidance v01

2. RF EXPOSURE DEFINE

"Blanket" Exemption – §1.1307(b)(3)(i)(A)

- Regardless of the separation distance, the maximum time-averaged power is no more than 1mw.

"MPE" Exemption – §1.1307(b)(3)(i)(C)

- 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. The MPE-based test exemption condition is in terms of ERP, defined as the product of the maximum antenna gain and the delivered maximum time-averaged power.
- Table applies to any RF source (i.e. single fixed, mobile, and portable transmitters) and specifies power and distance criteria for each of the five frequency ranges used for the MPE limits.

RF Source frequency (MHz)	Minimum Distance		Threshold ERP (watts)
	$\lambda_L/ 2\pi$	$\lambda_H/ 2\pi$	
0.3-1.34	159 m–35.6 m		1,920 R ² .
1.34-30	35.6 m–1.6 m		3,450 R ² /f ² .
30-300	1.6 m–159 mm		3.83 R ² .
300-1,500	159 mm–31.8 mm		0.0128 R ² f.
1,500-100,000	31.8 mm–0.5 mm		19.2 R ² .
R must be at least $\lambda/2\pi$, where λ is the free-space operating wavelength in meters.			

- For mobile devices that are not exempt per Table 1 of §1.1307(b)(1)(i)(C) and device at distances from 20 cm to 40 cm and in 0.3 GHz to 6 GHz. The MPE-based test exemption condition is in terms of ERP, defined as the product of the maximum antenna gain and the delivered maximum time-averaged power.

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

"SAR" Exemption – §1.1307(b)(3)(i)(B)

- 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

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

And

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

3. MULTIPLE RF SOURCES ARE EXEMPT

Multiple RF sources are exempt— §1.1307(b)(3)(ii)

(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).

(b) Either SAR-based or MPE-based exemption may be considered for test exemption for fixed, mobile, or portable device exposure conditions; therefore, the contributions from each exemption in conjunction with the measured SAR (Evaluated_k term) should be used to determine exemption for simultaneous transmission according to Formula below,

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

The sum of the ratios of the applicable terms for SAR-based, MPE-based and measured SAR or MPE should be less than 1, to determine simultaneous transmission exposure compliance.

Where:

a = number of fixed, mobile, or portable RF sources claiming exemption using [paragraph \(b\)\(3\)\(i\)\(B\)](#) of this section 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 this section 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 $\lambda/2\pi$ according to the applicable formula of [paragraph \(b\)\(3\)\(i\)\(C\)](#) of this section.

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 of this chapter](#).

4. SAR TEST EXCLUSION THRESHOLDS

When the measurement distance is specified at 3 m, the relationship between EIRP and field strength can be expressed by the following formula:

$$\text{EIRP(dBm)} = E(\text{dB } \mu\text{V/m}) - 95.3$$

Mode	Frequency (KHz)	Fundamental Emission E (dB $\mu\text{V/m}$)	EIRP (dBm)
120.415KHz (RFID)	120.415	60.27	-34.96

The tuned EIRP (declared by client)

Mode	Frequency (KHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
120.415KHz (RFID)	120.415	-35	+ -1	-36	-34

MPE-based Exemption §1.1307(b)(3)(i)(A)					
Operation Mode	Frequency Band (KHz)	Max. EIRP (dBm)	Max. EIRP (mW)	Limit Threshold (mW)	Test Result
120.415KHz (RFID)	111-150	-34	0.00040	1	Pass

Conclusion

Therefore this device complies with FCC's RF radiation exposure limits for general population without SAR evaluation.

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