TEST REPORT NUMBER: (8523)109-0059 (A)

TEST REPORT

Applicant:	Tsuen Lee Metals & Plastic Toys Co.,Ltd.	Fax:	---
		E-mail:	---
Address :	Room 303-304, 3/F., Crown Industrial Building, 106 How Ming Street, Kwun Tong, Kowloon, Hong Kong		
Test Date :	2023-4-13 to 2023-4-17		

Manufacturer or Supplier:	Tsuen Lee Metals & Plastic Toys Co.,Ltd.
Address :	Room 303-304, 3/F., Crown Industrial Building, 106 How Ming Street, Kwun Tong, Kowloon, Hong Kong
Sample Description:	TTR23 TRON TRACK SET (Tron Lightcycle Track Set)
Trade Mark:	Disney
Model number:	020S421U005
Additional Model :	N/A
Rated Voltage:	DC3V (1.5V*LR44*2) from button cell
FCC ID :	2BAP6020S421U005
The submitted sample of the above equipment has been tested according to following standard(s)	
47 CFR Part 1.1307 47 CFR Part 2.1093 KDB447498D01 General RF Exposure Guidance v06	
CONCLUSION: The submitted sample was found to COMPLY with the test requirement	

Project Manager

Tom Chen

Name: Tom Chen
Date: Apr. 17, 2023

Bureau Veritas Shenzhen Co., Ltd
1st Floor, Block A,Minlida Industrial Building,4th Zone of Honghualing Industrial Park,Shenzhen, Guangdong Province , China
Tel: +86 755 8600 0151
Fax: +86 755 8618 5206
www.bureauveritas.com/cps

1 Contents

2 General Information

2.1 Client Information

Applicant:	Tsuen Lee Metals & Plastic Toys Co.,Ltd.
Address of Applicant:	Room 303-304, 3/F., Crown Industrial Building, 106 How Ming Street, Kwun Tong, Kowloon, Hong Kong
Manufacturer:	Tsuen Lee Metals & Plastic Toys Co.,Ltd.
Address of Manufacturer:	Room 303-304, 3/F., Crown Industrial Building, 106 How Ming Street, Kwun Tong, Kowloon, Hong Kong
Factory:	ZHONG SHAN CITY HENG FENG TOYS CO.,LTD.
Address of Factory:	No. 3, Bi Hua 3rd Road, Bai Shi Industrial Area, San Xiang Town, Zhong Shan City Guang Dong Province, China

2.2 General Description of EUT

Name:	TTR23 TRON TRACK SET (TRON LIGHTCYCLE TRACK SET)
Tset Model No.:	020S421U005
Model No.:	020S421U005
Trade Mark :	Disney
Serial No:	---
Software Version:	V1.00
Hardware Version:	V1.00
Frequency Range:	2443-2477MHz
Modulation Type:	GFSK
Number of Channels:	7
Sample Type:	Portable product
Antenna Type:	PCB antenna
Antenna Gain:	1.5dBi
Power Supply:	DC3V (1.5V*LR44*2) from button cell

3 SAR Evaluation

3.1 FCC RF Exposure Compliance Requirement

3.1.1 Standard Requirement

FCC:

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.

3.1.2 Limits

FCC:

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

f(GHz) is the RF channel transmit frequency in GHz
Power and distance are rounded to the nearest mW and mm before calculation[17]
The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

3.1.3 EUT RF Exposure

Measurement Data

FCC:

The worst case refer to report (8523)109-0059 is below:

Antenna polarization: Horizontal		
Frequency (MHz)	Level (dBμV/m)	Value
2460	90.85	Peak

For 2460MHz:

Field strength = 90.85dB μ V/m @3m

Ant. gain 1.5dBi; so Ant numeric gain=1.41

So pt={[$10^{(90.85/20)}$/10^6x3]^2/30 /1.41}x1000mW =0.258mW

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g

Calculated value=0.258/5*√2.46=0.081<3

So the SAR test is not required.

Antenna polarization: Horizontal		
Frequency (MHz)	Level (dBμV/m)	Value
2477	89.86	Peak

For 2477MHz:

Field strength = 89.86dB μ V/m @3m

Ant. gain 1.5dBi; so Ant numeric gain=1.41

So pt={[$10^{(89.86/20)}$/10^6x3]^2/30 /1.41}x1000mW =0.206mW

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g

Calculated value=0.206/5*√2.477=0.065<3

So the SAR test is not required.

*** END OF REPORT ***