

# TEST REPORT

<b>FCC ID</b> .....	2BH94-LIO87
<b>Test Report No</b> .....	TCT240725E067
<b>Date of issue</b> .....	Aug. 07, 2024
<b>Testing laboratory</b> .....	SHENZHEN TONGCE TESTING LAB
<b>Testing location/ address:</b>	2101 & 2201, Zhenchang Factory Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China
<b>Applicant's name</b> .....	Shenzhen Xinghan Huanyu Trading Co., Ltd
<b>Address</b> .....	1101, Building E, Dengke Garden, Haihua Community, Xin'an Street, Bao'an District, Shenzhen, China
<b>Manufacturer's name</b> ...	Shen Zhen Newidea Technology Co., Limited
<b>Address</b> .....	Building 31, No.5 Area, Cuigang Industrial Zone, Fuyong Town, Baoan District, Shenzhen, China
<b>Standard(s)</b> .....	KDB 447498 D01 General RF Exposure Guidance v06
<b>Product Name</b> .....	Mechanical Keyboard
<b>Trade Mark</b> .....	N/A
<b>Model/Type reference</b> .....	GeekElite Lio87
<b>Rating(s)</b> .....	Rechargeable Li-ion Battery DC 3.7V
<b>Date of receipt of test item</b> .....	Jul. 25, 2024
<b>Date (s) of performance of test</b> .....	Jul. 25, 2024 ~ Aug. 07, 2024
<b>Tested by (+signature)</b> ...	Onnado YE
<b>Check by (+signature)</b> ....	Beryl ZHAO
<b>Approved by (+signature):</b>	Tomsin

**General disclaimer:**

This report shall not be reproduced except in full, without the written approval of SHENZHEN TONGCE TESTING LAB. This document may be altered or revised by SHENZHEN TONGCE TESTING LAB personnel only, and shall be noted in the revision section of the document. The test results in the report only apply to the tested sample.

## Table of Contents

<b>1. General Product Information .....</b>	<b>3</b>
1.1. EUT description .....	3
1.2. Model(s) list.....	3
<b>2. General Information.....</b>	<b>4</b>
2.1. Test environment and mode.....	4
2.2. Description of Support Units.....	4
<b>3. Facilities and Accreditations .....</b>	<b>5</b>
3.1. Facilities .....	5
3.2. Location .....	5
<b>4. Test Results and Measurement Data .....</b>	<b>6</b>

## 1. General Product Information

### 1.1. EUT description

Product Name.....:	Mechanical Keyboard
Model/Type reference.....:	GeekElite Lio87
Sample Number.....:	TCT240725E012-0101
Operation Frequency .....	2402MHz~2480MHz
Modulation Type .....	GFSK
Antenna Type.....:	PCB Antenna
Antenna Gain.....:	0.338dBi
Rating(s).....:	Rechargeable Li-ion Battery DC 3.7V

Note: The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.

### 1.2. Model(s) list

None.

## 2. General Information

### 2.1. Test environment and mode

Item	Normal condition
Temperature	+25°C
Voltage	DC 3.7V
Humidity	56%
Atmospheric Pressure:	1008 mbar
Test Mode:	
Engineering mode:	Keep the EUT in continuous transmitting by select channel

### 2.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
/	/	/	/	/

**Note:**

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
3. For conducted measurements (Output Power, 20dB Occupied Bandwidth, Carrier Frequencies Separation, Hopping Channel Number, Dwell Time, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

### 3. Facilities and Accreditations

#### 3.1. Facilities

The test facility is recognized, certified, or accredited by the following organizations:

- FCC - Registration No.: 645098

SHENZHEN TONGCE TESTING LAB

Designation Number: CN1205

The testing lab has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC - Registration No.: 10668A-1

SHENZHEN TONGCE TESTING LAB

CAB identifier: CN0031

The testing lab has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

#### 3.2. Location

SHENZHEN TONGCE TESTING LAB

Address: 2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China

TEL: +86-755-27673339

## 4. Test Results and Measurement Data

According to KDB 447498 D01 General RF Exposure Guidance v06, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the commission's guidance.

The 1-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$  for 1-g SAR, where

- $f(\text{GHz})$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm according is applied to determine SAR test exclusion.
- The result is rounded to one decimal place for comparison
- 
- 

• BLE(1M):

Channel	Frequency (GHz)	Max. Power (dBm)	Tune up Power (dBm)	Max. Tune up Power (dBm)	Max. Tune up Power (mW)	Test distance (mm)	Result	exclusion thresholds for 1-g SAR
CH 19	2.440	0.76	0 $\pm$ 1	1	1.26	5	0.39	3.0

2.4G:

The maximum peak radiation emission for the EUT is 96.90 dBuV/m at 3 m with frequency 2402 MHz,  $\text{EIRP}[\text{dBm}] = \text{E}[\text{dB}\mu\text{V/m}] + 20 \log(d[\text{m}]) - 104.77 = 1.67$  dBm.

Channel	Frequency (GHz)	Max. Power (dBm)	Tune up Power (dBm)	Max. Tune up Power (dBm)	Max. Tune up Power (mW)	Test distance (mm)	Result	exclusion thresholds for 1-g SAR
CH 00	2.402	1.67	1 $\pm$ 1	2	1.58	5	0.49	3.0

**Result:**

**Base on the calculation value, No SAR measurement is required.**

**\*\*\*\*\*END OF REPORT\*\*\*\*\***