

RF Exposure Evaluation Report

Report Reference No......: **MTEB24070388-H**

FCC ID.....: **2BHVQ-IMMERSIONA3**

Compiled by

(position+printed name+signature)...: File administrators Alisa Luo



Supervised by

(position+printed name+signature)...: Test Engineer Sunny Deng



Approved by

(position+printed name+signature)...: Manager Yvette Zhou



Date of issue.....: July 26,2024

Representative Laboratory Name .: **Shenzhen Most Technology Service Co., Ltd.**

Address: No.5, 2nd Langshan Road, North District, Hi-tech Industrial Park,
Nanshan, Shenzhen, Guangdong, China.

Applicant's name.....: **Shenzhen Hexgears Technology Co.,Ltd**

Address: No. 1407, 14th Floor, Building 4, Excellence Meilin Center Plaza
North, Zhongkang Road, Meilin Street, Futian District,
Shenzhen, China

Test specification/ Standard: **47 CFR Part 1.1307**
47 CFR Part 2.1093

TRF Originator: Shenzhen Most Technology Service Co., Ltd.

Shenzhen Most Technology Service Co., Ltd. All rights reserved.

This publication may be reproduced in whole or in part for non-commercial purposes as long as the Shenzhen Most Technology Service Co., Ltd. is acknowledged as copyright owner and source of the material. Shenzhen Most Technology Service Co., Ltd. takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

Test item description: Immersion A3 Three-Mode Low-Profile Mechanical Keyboard

Trade Mark: HEXGEARS

Model/Type reference.....: Immersion A3

Listed Models: KA3BK80T202407E,KA3BK80L202407E,KA3BK80C202407E
KA3RO80T202407E,KA3RO80L202407E,KA3RO80C202407E
KA3SY80T202407E,,KA3SY80L202407E,KA3SY80C202407E
KA3PBK108T202407E,KA3PBK108L202407E,KA3PBK108C202407E
KA3PRO108T202407E,KA3PRO108L202407E,KA3PRO108C202407E
KA3PSY108T202407E,KA3PSY108L202407E,KA3PSY108C202407E

Modulation Type: GFSK

Operation Frequency.....: From 2402MHz to 2480MHz

Hardware Version.....: V03

Software Version: V1.29

Rating: DC 3.7V by Battery
DC 5V by USB Port

Result.....: PASS

TEST REPORT

Equipment under Test : Immersion A3 Three-Mode Low-Profile Mechanical Keyboard

Model /Type : Immersion A3

Listed Models : KA3BK80T202407E,KA3BK80L202407E,KA3BK80C202407E
KA3RO80T202407E,KA3RO80L202407E,KA3RO80C202407E
KA3SY80T202407E,,KA3SY80L202407E,KA3SY80C202407E
KA3PBK108T202407E,KA3PBK108L202407E,KA3PBK108C202407E
KA3PRO108T202407E,KA3PRO108L202407E,KA3PRO108C202407E
KA3PSY108T202407E,KA3PSY108L202407E,KA3PSY108C202407E

Remark : It's just that the product models are called differently

Applicant : **Shenzhen Hexgears Technology Co.,Ltd**

Address : No. 1407, 14th Floor, Building 4, Excellence Meilin Center
Plaza North, Zhongkang Road, Meilin Street, Futian District,
Shenzhen, China

Manufacturer : **Dongguan City Greatiny Electronics Technology Co.,Ltd.**

Address : Room 201,Building 2,No.170 Qingxi Xiangshan Road,Qingxi Town,
Dongguan City ,Guangdong,China

Test Result:	PASS
---------------------	-------------

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

1. Revision History

Revision	Issue Date	Revisions	Revised By
00	2024.07.26	Initial Issue	Alisa Luo

2. SAR Evaluation

2.1 RF Exposure Compliance Requirement

2.1.1 Standard Requirement

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.

2.1.2 Limits

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:

$$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{\text{min. test separation distance, mm}} \right] \cdot \left[\sqrt{f(\text{GHz})} \right]$$
$$\leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$

$f(\text{GHz})$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation¹⁷

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

2.1.3 EUT RF Exposure

Measurement Data

BLE

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	1.845	1.845 ± 1	2.845
Middle(2440MHz)	2.364	2.364 ± 1	3.364
Highest(2480MHz)	2.762	2.762 ± 1	3.762

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold	SAR Test Exclusion
		(dBm)	(mW)			
Highest(2480MHz)	2.762	3.762	2.38	0.75	3.0	Yes

.....THE END OF REPORT.....