Report No.: DDT-RE23081017-2E02

Issued Date: Oct. 08, 2023

RF EXPOSURE REPORT

FOR

Applicant	**:**	Shenzhen Kaadas Intelligent Technology Co., Ltd.
Address	**:**	Floor 11, Building B2, Phase 2, Creative City, Xiandong Road, Xili Community, Xili Street, Nanshan District, Shenzhen, Guangdong, 518000, China
Equipment under Test	**:**	Smart Lock
Model No.	**:**	KA215-Z, KA210A, KA210
Trade Mark	**:**	Kaadas
FCC ID	**:**	2AQY4-KA210
Manufacturer	**:**	Shenzhen Kaadas Intelligent Technology Co., Ltd.
Address	**:**	Floor 11, Building B2, Phase 2, Creative City, Xiandong Road, Xili Community, Xili Street, Nanshan District, Shenzhen, Guangdong, 518000, China

Issued By: Dongguan Dongdian Testing Service Co., Ltd.

Add.: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808

Tel.: +86-0769-38826678, **E-mail:** ddt@dgddt.com, http://www.dgddt.com

REPORT

Table of Contents

Test Report Declare

Applicant	:	Shenzhen Kaadas Intelligent Technology Co., Ltd.
Address	:	Floor 11, Building B2, Phase 2, Creative City, Xiandong Road, Xili Community, Xili Street, Nanshan District, Shenzhen, Guangdong, 518000, China
Equipment under Test	:	Smart Lock
Model No.	:	KA215-Z, KA210A, KA210
Trade mark	:	Kaadas
Manufacturer	:	Shenzhen Kaadas Intelligent Technology Co., Ltd.
Address	:	Floor 11, Building B2, Phase 2, Creative City, Xiandong Road, Xili Community, Xili Street, Nanshan District, Shenzhen, Guangdong, 518000, China

Standard Used: KDB447498 D01 General RF Exposure Guidance v06

We Declare:

The equipment described above is assessed by Dongguan Dongdian Testing Service Co., Ltd. and in the configuration assessed the equipment complied with the standards specified above. The assessed results are contained in this report and Dongguan Dongdian Testing Service Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these assess.

After evaluation, our opinion is that the equipment In Accordance with above standard.

Report No:	DDT-RE23081017-2E02		
Date of Receipt:	Aug. 28, 2023	**Date of Test:**	Aug. 28, 2023 ~ Oct. 08, 2023

Prepared By:

Tiger Mo

Tiger Mo/Engineer

Approved By:

Damon Hu

Damon Hu/EMC Manager

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Dongguan Dongdian Testing Service Co., Ltd.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Oct. 08, 2023	

1. General Information

1.1. Description of equipment

EUT Name	:	Smart Lock
Model Number	:	KA215-Z, KA210A, KA210
Difference of modelss	:	The KA210 and KA210A come with a USB power supply, while the KA215-Z does not. The KA215-Z has emergency keys, the KA210 and KA210A do not, the KA210A has fingerprint recognition, the KA210 and KA215-Z do not. The wireless module of the models are the same. the KA210A model is tested. The difference of the models has no effect on the above 1GHz part. The KA210 and KA215-Z below 1GHz part has tested.
EUT function description	:	Please reference user manual of this device
Power Supply	:	KA210, KA210A: Battery 1.5V*4(Size: AA) or External DC 5V power supply KA215-Z: Battery 1.5V*4(Size: AA)
Radio Specification	:	Bluetooth V5.0
Operation Frequency	:	2402 MHz - 2480 MHz
Modulation	:	GFSK
Data Rate	:	1 Mbps
Antenna Gain	:	FPC antenna, Maximum PK gain: 4.47 dBi
Serial Number	:	S23081017-03 for conductive S23081017-04, S23081017-05, S23082334-01 for radiation

1.2. Assess laboratory

Dongguan Dongdian Testing Service Co., Ltd.

Add.: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808.

Tel.: +86-0769-38826678, http://www.dgddt.com, Email: ddt@dgddt.com.

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

VCCI facility registration number: C-20087, T-20088, R-20123, R-20155, G-20118

2. RF Exposure Evaluation

2.1. Requirement

Systems operating under the provisions of FCC 47 CFR 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 guidelines.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

Limits for General Population/Uncontrolled Exposure

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$,$\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

2.2. Calculation method

$$E(V/m) = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power Density: } S(mW/cm^2) = \frac{E^2}{377}$$

E = Electric field (V/m)
P = Peak RF output power (mW)
G = EUT Antenna numeric gain (numeric)=
d = Separation distance between radiator and human body (m)
The formula can be changed to

We can change the formula to:

$$S = \frac{30 \times P \times G}{377 \times d^2} \quad \text{or, } d = \sqrt{\frac{30 \times P \times G}{377 \times S}}$$

From the peak EUT RF output power, the minimum mobile separation distance, d= 0.2 m, as well as the gain of the used antenna, the RF power density can be obtained.

2.3. Estimation result

Mode	PK Output power (dBm)	Output power (mW)	tune up power (dBm)	Antenna Gain (dBi)	Antenna Gain (linear)	MPE Values (mW/cm^2)	MPE Limit (mW/cm^2)
BLE	0.43	1.104	1	4.47	2.80	0.0006	1

Note: The estimation distance is 20 cm

Conclusion: The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

END OF REPORT