

RF Exposure Evaluation Report

Product : Smart Door Lock
Trade mark : /
Model/Type reference : 3109
Serial Number : N/A
Report Number : EED32P80445302
FCC ID : 2BAX9-3109
Date of Issue : May. 05, 2023
Test Standards : 47 CFR Part 1.1307
47 CFR Part 1.1310
47 CFR Part 2.1091
47 CFR Part 2.1093
447498 D04 Interim General RF
Exposure Guidance v01
Test result : PASS

Prepared for:

Guangdong HOTATA Technology Group Co.,Ltd.
No. 21 Shihua Road, Hualong Town, Panyu District, Guangzhou.

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2 Version

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4 General Information

4.1 Client Information

Applicant:	Guangdong HOTATA Technology Group Co.,Ltd.
Address of Applicant:	No. 21 Shihua Road, Hualong Town, Panyu District, Guangzhou.
Manufacturer:	Guangdong HOTATA Technology Group Co.,Ltd.
Address of Manufacturer:	No. 21 Shihua Road, Hualong Town, Panyu District, Guangzhou.
Factory:	zhongshan Fuyu Intelligent Lock Mfg. Co.,Ltd.
Address of Factory:	Liansheng South Road, Lianfeng Industrial Zone, Xiaolan town, Zhongshan city, Guangdong, China

4.2 General Description of EUT

Product Name:	Smart Door Lock
Model No.(EUT):	3109
Trade Mark:	/

4.3 Product Specification subjective to this standard

For BLE	
Frequency Range:	2402MHz~2480MHz
Modulation Type:	GFSK
Test Power Grade:	Default
Test Software of EUT:	BK3256 RF Test
Antenna Type:	PCB Antenna
Antenna Gain:	1.43dBi
Power Supply:	Battery DC 6.0V
Max Conducted Peak Output Power:	-2.77dBm
	The Max Conducted Peak Output Power data refer to the report EED32P80445301
For NFC	
Operation Frequency:	13.56MHz
Modulation Type:	ASK
Antenna Type:	PCB antenna
maximum Field Strength (E) @3m:	57.63 dBμV/m
	The maximum Field Strength data refer to the report EED32P80445303

Sample Received Date:	Mar. 31, 2023
Sample tested Date:	Mar. 31, 2023 to Apr. 20, 2023
Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.	

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold P_{th} (mW).

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

where

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

and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1).

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

The 1 mW Blanket Exemption of § 1.1307(b)(3)(i)(A) applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1 mW, regardless of separation distance.

5.1.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

5.1.3 EUT RF Exposure Evaluation**For Stand alone:****For BLE**

Frequency (MHz)	Max. Conducted Output power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	ERP (dBm)	ERP (mW)	Limit (mW)	Result
2440	-2.77	1.43	-1.34	-3.49	0.448	3060	PASS

Note:

- ① EIRP=conducted power + antenna gain;
- ② ERP=EIRP-2.15
- ③ Only the worst case data was recorded in the report.

For NFC:

Frequency (MHz)	maximum Field Strength (E) @3m (dB μ V/m)	EIRP (dBm)	ERP (mW)	Limit (mW)	Result
13.56	57.63	-37.67	0.000171	1	PASS

The maximum Field Strength of the transmitter was 57.63 dB μ V/m at 3m which equals 0.000171mW , which is well below the exemption limit of 1mW.

Note:

- ① EIRP (dBm) = E(dB μ V/m) -95.3

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*** End of Report ***