



# FCC TEST REPORT

## FCC ID: 2A5CSTSL-Y

|  |   |   |
|--|---|---|
| Product  | : | Smart lock  |
| Model Name   | : | SD+H  |
| Serial Model   | : | SD, SD01, SD02, SD+L, SD+K, TSL, TSL+H, TSL+L, TSL+K, TSL-Y, BSJ, BSJ01, BSJ02, BSJ+H, BSJ+L, BSJ+K |
| Brand  | : | N/A   |
| Report No.   | : | PTC23102801302E-FC02  |
| <b>Prepared for</b>  |   |   |
| Guangdong Yongding Technology Co., Ltd   |   |   |
| NO. 10 Chenglong Road, Qianlong village, Sanxiang Town, Zhongshan City, Guangdong Province |   |   |
| <b>Prepared by</b>   |   |   |
| Precise Testing & Certification Co., Ltd.  |   |   |
| Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan, Guangdong, China              |   |   |



## TEST RESULT CERTIFICATION

Applicant's name : Guangdong Yongding Technology Co., Ltd  
Address : NO. 10 Chenglong Road, Qianlong village, Sanxiang Town, Zhongshan City, Guangdong Province  
Manufacture's name : Guangdong Yongding Technology Co., Ltd  
Address : NO. 10 Chenglong Road, Qianlong village, Sanxiang Town, Zhongshan City, Guangdong Province  
Product name : Smart lock  
Model name : SD+H, SD, SD01, SD02, SD+L, SD+K, TSL, TSL+H, TSL+L, TSL+K, TSL-Y, BSJ, BSJ01, BSJ02, BSJ+H, BSJ+L, BSJ+K  
Test procedure : FCC CFR47 Part 1.1307(b)(1)  
Test Date : Nov. 09, 2023 to Nov. 13, 2023  
Date of Issue : Nov. 25, 2023  
Test Result : PASS

This device described above has been tested by PTC, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

This report shall not be reproduced except in full, without the written approval of PTC, this document may be altered or revised by PTC, personal only, and shall be noted in the revision of the document.

Test Engineer:

A handwritten signature in black ink, appearing to read 'Jack Zhou'.

Jack Zhou / Engineer

Technical Manager:

A handwritten signature in black ink, appearing to read 'Simon Pu'.

Simon Pu / Manager



## Contents

|  | <b>Page</b> |
|--|-------------|
| <b>2 TEST SUMMARY .....</b>            | <b>4</b>    |
| <b>3 GENERAL INFORMATION .....</b>     | <b>5</b>    |
| 3.1 GENERAL DESCRIPTION OF E.U.T. .... | 5           |
| <b>4 RF EXPOSURE .....</b>             | <b>5</b>    |
| 4.1 REQUIREMENTS .....                 | 6           |
| 4.2 THE PROCEDURES / LIMIT .....       | 6           |
| 4.3 MPE CALCULATION METHOD .....       | 7           |
| 4.4 TEST RESULT .....                  | 7           |



## 2 Test Summary

| Test Items  | Test Requirement | Result |
|---|------------------|--------|
| Maximum Permissible Exposure<br>(Exposure of Humans to RF Fields) | 15.247 (i)       | PASS   |
| Remark:   |                  |        |
| N/A: Not Applicable   |                  |        |



### 3 General Information

#### 3.1 General Description of E.U.T.

|                      |   |  |
|----------------------|---|--|
| Product Name         | : | Smart lock   |
| Model Number         | : | SD+H   |
| Additional model     | : | SD, SD01, SD02, SD+L, SD+K, TSL, TSL+H, TSL+L, TSL+K, TSL-Y, BSJ, BSJ01, BSJ02, BSJ+H, BSJ+L, BSJ+K                  |
| Model difference     | : | The difference between each model is only the model name and appearance color are different, the other are the same. |
| Operating frequency  | : | 2402-2480MHz   |
| Number of Channels   | : | 40 channels For DTS  |
| Type of Modulation   | : | GFSK, For DTS  |
| Antenna installation | : | PCB Antenna  |
| Antenna Gain         | : | 2 dBi  |
| Power supply         | : | Input: DC 6V   |
| Hardware Version     | : | 1.0  |
| Software Version     | : | 2.4  |



## 4 RF Exposure

Test Requirement : 15.247 (i)

Evaluation Method : FCC Part 2.1091

### 4.1 Requirements

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 levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

### 4.2 The procedures / limit

(A) Limits for Occupational / Controlled Exposure

| Frequency Range | Electric Field | Magnetic Field | Power Density (S) | Averaging Time |
|-----------------|----------------|----------------|-------------------|----------------|
| 0.3-3.0         | 614            | 1.63           | (100)*            | 6              |
| 3.0-30          | 1842 / f       | 4.89 / f       | (900 / f)*        | 6              |
| 30-300          | 61.4           | 0.163          | 1.0               | 6              |
| 300-1500        |                |                | F/300             | 6              |
| 1500-100,000    |                |                | 5                 | 6              |

(B) Limits for General Population / Uncontrolled Exposure

| Frequency Range | Electric Field | Magnetic Field | Power Density (S) | Averaging Time |
|-----------------|----------------|----------------|-------------------|----------------|
| 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



### 4.3 MPE Calculation Method

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

E = Electric field (V/m)

P = Peak RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

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

### 4.4 Test Result

| Item | Antenna Gain (numeric) | Max. Peak Output Power (dBm) | Tune up tolerance (dBm) | Max Tune Up Power (mW) | Power Density (mW/cm <sup>2</sup> ) | Limit of Power Density (mW/cm <sup>2</sup> ) | Result |
|------|------------------------|------------------------------|-------------------------|------------------------|-------------------------------------|--|--------|
| 2402 | 1.58                   | 3.34                         | 3.34 ± 1                | 2.7164                 | 0.00854                             | 1  | Pass   |

\*\*\*\*\*THE END REPORT\*\*\*\*\*