



# TEST REPORT

Applicant Name: Shenzhen TCL Smart Home Technology Co., Ltd.  
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Report Number: 2504X03184E-RF-00D  
FCC ID: 2BG9T-TCLD2L

## Test Standard (s)

47 CFR §2.1091

## Sample Description

Product Type: D2 Series Smart Door Lock  
Model No.: D2L  
Trade Mark: TCL  
Date Received: 2025-09-12  
Report Date: 2025-11-06

|              |                                            |
|--------------|--------------------------------------------|
| Test Result: | The EUT complied with the standards above. |
|--------------|--------------------------------------------|

## Prepared and Checked By:

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## Approved By:

*Bob.Liao*

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Note: This report must not be used by the customer to claim product certification, approval, or endorsement by A2LA, or any agency of the Federal Government. The information marked "#" is provided by the applicant, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report. Customer model name, addresses, names, trademarks etc. are included but no need marked.  
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DOCUMENT REVISION HISTORY

| Revision Number | Report Number      | Description of Revision | Date of Revision |
|-----------------|--------------------|-------------------------|------------------|
| Rev.00          | 2504X03184E-RF-00D | Original Report         | 2025-11-06       |

## GENERAL INFORMATION

### Product Description for Equipment under Test (EUT)

|                                                                                                                                                                                                                           |                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| Product Name                                                                                                                                                                                                              | D2 Series Smart Door Lock                                              |
| Tested Model                                                                                                                                                                                                              | D2L                                                                    |
| Voltage Range <sup>#</sup>                                                                                                                                                                                                | DC 6V from battery(8 AA Alkaline Batteries, 4+4 parallel battery pack) |
| Note 1: The device(D2 Series Smart Door Lock) has two parts: Exterior Assembly and Interior Assembly.<br>Note 2: The Exterior Assembly has NFC/BLE function.<br>Note 3: The Interior Assembly has BLE/2.4G WIFI function. |                                                                        |

|                                                             |                                                                                                                                                                |
|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency Range                                             | NFC: 13.56 MHz<br>BLE 1M/2M: 2402-2480MHz<br>2.4G Wi-Fi: 2412-2462MHz/2422-2452MHz                                                                             |
| Maximum Conducted Output Peak Power<br>(actual test result) | Exterior Assembly:<br>BLE: -1.68dBm                                                                                                                            |
|                                                             | Interior Assembly:<br>BLE: 5.98dBm, 2.4G Wi-Fi: 20.92dBm                                                                                                       |
| Antenna Specification <sup>#</sup>                          | BLE/2.4G WIFI: PCB Antenna<br>Antenna gain: Exterior Assembly: 0.29dBi<br>Interior Assembly: 3.97dBi<br>NFC: PCB Antenna<br>(It is provided by the applicant.) |
| Sample Serial Number                                        | For Radiated Spurious Emissions Test: 39XN-3<br>For RF Conducted Test: 39XN-5<br>(Assigned by ATC, Shenzhen)                                                   |
| Sample/EUT Status                                           | Good condition                                                                                                                                                 |

### Objective

This test report is in accordance with Part 2-Subpart J, Part 15-Subparts C and Part 2-Subpart J, Radiofrequency Radiation Exposure of the Federal Communication Commission rules.

The tests were performed in order to determine compliance with FCC §2.1091 rules.

### Test Facility

The test site used by Shenzhen Accurate Technology Co., Ltd. to collect test data is located on the Floor 1, KuMaKe Building, Dongzhou Community, Guangming Street, Guangming District, Shenzhen, Guangdong, China.

Accredited by American Association for Laboratory Accreditation (A2LA).The Certificate Number is 4297.01.

## RF EXPOSURE

### Applicable Standard

According to subpart 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

#### Limits for General Population/Uncontrolled Exposure

| Limits for General Population/Uncontrolled Exposure |                               |                               |                                     |                          |
|-----------------------------------------------------|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| Frequency Range (MHz)                               | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density (mW/cm <sup>2</sup> ) | Averaging Time (Minutes) |
| 0.3-1.34                                            | 614                           | 1.63                          | *(100)                              | 30                       |
| 1.34-30                                             | 824/f                         | 2.19/f                        | *(180/f <sup>2</sup> )              | 30                       |
| 30-300                                              | 27.5                          | 0.073                         | 0.2                                 | 30                       |
| 300-1500                                            | /                             | /                             | f/1500                              | 30                       |
| 1500-100,000                                        | /                             | /                             | 1.0                                 | 30                       |

f = frequency in MHz

\* = Plane-wave equivalent power density

### MPE Calculated Formulary:

Predication of MPE limit at a given distance

$$S = \frac{PG}{4\pi R^2}$$

S = power density (in appropriate units, e.g. mW/cm<sup>2</sup>)

P = power input to the antenna (in appropriate units, e.g., mW).

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain.

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

**Test Result:****Exterior Assembly:**

| Radio | Frequency (MHz) | Tune up conducted power <sup>#</sup> (dBm) | Antenna Gain <sup>#</sup> (dBi) | EIRP   |        | Evaluation Distance (cm) | Power Density (mW/cm <sup>2</sup> ) | MPE Limit (mW/cm <sup>2</sup> ) |
|-------|-----------------|--------------------------------------------|---------------------------------|--------|--------|--------------------------|-------------------------------------|---------------------------------|
|       |                 |                                            |                                 | (dBm)  | (mW)   |                          |                                     |                                 |
| BLE   | 2402-2480       | -1.0                                       | 0.29                            | -0.71  | 0.85   | 20                       | 0.000169                            | 1.0                             |
| NFC   | 13.56           | /                                          | /                               | -35.15 | 0.0003 | 20                       | 0.00000006                          | 0.98                            |

Note 1: The tune-up power and antenna gain are declared by the applicant.

Note 2: EIRP= Tune up conducted power + Antenna Gain

Note 3: E[dBμV/m] = EIRP[dBm] + 95.2 for d = 3 m.

For NFC EIRP= 60.05 dBuV/m - 95.2 = -35.15 dBm

Note 4: The BLE and NFC can transmission simultaneously.

**Interior Assembly:**

| Radio      | Frequency (MHz) | Tune up conducted power <sup>#</sup> (dBm) | Antenna Gain <sup>#</sup> (dBi) | EIRP  |        | Evaluation Distance (cm) | Power Density (mW/cm <sup>2</sup> ) | MPE Limit (mW/cm <sup>2</sup> ) |
|------------|-----------------|--------------------------------------------|---------------------------------|-------|--------|--------------------------|-------------------------------------|---------------------------------|
|            |                 |                                            |                                 | (dBm) | (mW)   |                          |                                     |                                 |
| BLE        | 2402-2480       | 6.5                                        | 3.97                            | 10.47 | 0.11   | 20                       | 0.002217                            | 1.0                             |
| 2.4G Wi-Fi | 2412-2462       | 21.5                                       | 3.97                            | 25.47 | 352.37 | 20                       | 0.07                                | 1.0                             |

Note 1: The tune-up power and antenna gain are declared by the applicant.

Note 2: EIRP= Tune up conducted power + Antenna Gain

Note 3: The BLE and Wi-Fi can't transmission simultaneously.

The Exterior Assembly and Interior Assembly can transmission simultaneously.

Simultaneous transmitting consideration (worst case):

The ratio= BLE/Limit + NFC/Limit + 2.4G Wi-Fi /Limit

= 0.000169/1+ 0.00000006/0.98 + 0.07/1

= 0.070169061 < 1.0

**Result:** Compliance. The device compliant Simultaneous transmission at 20cm distances.

## EXHIBIT A-EUT PHOTOGRAPHS

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Please refer to the Attachment No.1 2504X03184E-RF EUT External Photos and Attachment No.2 2504X03184E-RF EUT Internal Photos.

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