



TEST REPORT

Applicant Name: Shenzhen TCL Smart Home Technology Co., Ltd.
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Report Number: 2504X16951E-RF-00E
FCC ID: 2BG9T-TCLD2BH

Test Standard (s)

47 CFR §2.1091

Sample Description

Product Type: D2 Series Smart Door Lock
Model No.: D2 Pro-H
Trade Mark: TCL
Date Received: 2025-09-09
Report Date: 2025-11-25

Test Result:	The EUT complied with the standards above.
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Prepared and Checked By:

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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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TABLE OF CONTENTS

DOCUMENT REVISION HISTORY 3

GENERAL INFORMATION 4

 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT) 4

 OBJECTIVE 4

 TEST FACILITY 4

RF EXPOSURE 5

 APPLICABLE STANDARD..... 5

 TEST RESULT: 6

EXHIBIT A-EUT PHOTOGRAPHS 7

DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
Rev.00	2504X16951E-RF-00E	Original Report	2025-11-25

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product Name	D2 Series Smart Door Lock
Tested Model	D2 Pro-H
Voltage Range [#]	DC 3.635V from lithium battery
Note 1: The device (D2 Series Smart Door Lock) has two parts: Exterior Assembly and Interior Assembly. Note 2: The Exterior Assembly has NFC/BLE/5.8G Radar function. Note 3: The Interior Assembly has BLE/2.4G WIFI function.	

Frequency Range	NFC: 13.56MHz BLE: 2402-2480MHz 2.4G Wi-Fi: 2412-2462MHz/2422-2452MHz 5.8G Radar: 5780-5840MHz
Maximum Conducted Output Peak Power (actual test result)	Exterior Assembly: BLE: -1.23dBm
	Interior Assembly: BLE: 1.53dBm, 2.4G Wi-Fi: 14.05dBm
Antenna Specification [#]	Exterior Assembly: PCB Antenna BLE Antenna gain: 0.29dBi 5.8G Radar Antenna gain: 2.0dBi Interior Assembly: FPC Antenna BLE&2.4G WIFI Antenna gain: 3.7dBi (The antenna gain is provided by the applicant.)
Sample Serial Number	For Radiated Spurious Emissions Test: 39R9-2 For RF Conducted Test: 39R9-1 (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 ²)	Averaging Time (Minutes)
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	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/cm²)

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 [#] (dBm)	Antenna Gain [#] (dBi)	EIRP		Evaluation Distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)
				(dBm)	(mW)			
BLE	2402-2480	-1.0	0.29	-0.71	0.849	20	0.00017	1.0
NFC	13.56	/	/	-36.51	0.00022	20	0.00000004	0.98
5.8G Radar	5780-5840	/	/	-14.74	0.03358	20	0.00000667	1

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= 58.69 dBuV/m - 95.2 = -36.51 dBm

For 5.8G EIRP= 80.46 dBuV/m - 95.2 = -14.74 dBm

Note 4: The BLE, NFC and 5.8G Radar can transmission simultaneously.

Interior Assembly:

Radio	Frequency (MHz)	Tune up conducted power [#] (dBm)	Antenna Gain [#] (dBi)	EIRP		Evaluation Distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)
				(dBm)	(mW)			
BLE	2402-2480	2.0	3.7	5.7	3.715	20	0.00074	1.0
2.4G Wi-Fi	2412-2462	14.5	3.7	18.2	66.069	20	0.01315	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 + 5.8G Radar/Limit + 2.4G Wi-Fi/Limit

= 0.000171/1 + 0.00000004/0.98 + 0.00000667/1 + 0.01315/1

= 0.0133277 < 1.0

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

EXHIBIT A-EUT PHOTOGRAPHS

Please refer to the Attachment No.1 2504X16951E-RF EUT External Photos and Attachment No.2 2504X16951E-RF EUT Internal Photos.

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