



RF Exposure Evaluation

FCC ID: 2BFKI-905ML

Applicant: Zhongshan Haohan Hardware Technology Co.,Ltd.

Address: Floor 4,Tuofeng Street 2,Yumin seven Cun, Dongsheng Town, Zhongshan City,Guangdong, China

Manufacturer: Zhongshan Haohan Hardware Technology Co.,Ltd.

Address: Floor 4,Tuofeng Street 2,Yumin seven Cun, Dongsheng Town, Zhongshan City,Guangdong, China

EUT: digital deadbolt lock

Trade Mark: N/A

Model Number: 905ML/904ML/906ML/907ML

Date of Receipt: Mar. 27, 2025

Test Date: Mar. 28, 2025~Apr. 03, 2025

Date of Report: Apr. 03, 2025

Prepared By: Shenzhen DL Testing Technology Co., Ltd.

Address: 101-201, Building C, Shuanghuan, No.8, Baoqing Road, Baolong Industrial Zone, Baolong Street, Longgang District, Shenzhen, Guangdong, China

Applicable Standards: 47CFR§1.1310, 47CFR§1.1307
FCC CFR 47 part2 2.1091
KDB 447498 D01 General RF Exposure Guidance v06

Test Result: Pass

Report Number: DLE-250403004R-1

Prepared (Test Engineer): Ken Tan

Reviewer (Supervisor): Jack Bu

Approved (Manager): Jade Yang



This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen DL Testing Technology Co., Ltd.



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1. Product Information

Product Name:	digital deadbolt lock
Trademark	N/A
Model No.:	905ML/904ML/906ML/907ML
Model Difference	All the models are electrical identical including the same software parameter and hardware design, same mechanical structure and design, the only difference is the model named and the shape of the unlocking shell.
BT Version:	5.0
Operation Frequency:	2402~2480MHz
Channel numbers:	40 Channels
Channel separation:	1M
Modulation technology:	GFSK
Antenna Type:	PCB antenna
Antenna gain:	0dBi
Power supply:	DC 6V from battery

Note:

- 1.For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
- 2.The EUT's all information provided by client.



2. Test laboratory information

Test Lab: Shenzhen DL Testing Technology Co., Ltd.
101-201, Building C, Shuanghuan, No.8, Baoqing Road, Baolong
Address: Industrial Zone, Baolong Street, Longgang District, Shenzhen,
Guangdong, China
FCC Test Firm Registration Number: 854456
Designation Number: CN1307
IC Registered No.: 27485
CAB ID.: CN0118

3. MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	3m chamber Radiated spurious emission(9KHz-30MHz)	U=4.5dB
2	3m chamber Radiated spurious emission(30MHz-1GHz)	U=4.8dB
3	3m chamber Radiated spurious emission(1GHz-6GHz)	U=4.9dB
4	3m chamber Radiated spurious emission(6GHz-40GHz)	U=5.0dB
5	Conducted disturbance	U=3.2dB
6	RF Band Edge	U=1.68dB
7	RF power conducted	U=1.86dB
8	RF conducted Spurious Emission	U=2.2dB
9	RF Occupied Bandwidth	U=1.8dB
10	RF Power Spectral Density	U=1.75dB
11	humidity uncertainty	U=5.3%
12	Temperature uncertainty	U=0.59℃



4. METHOD OF MEASUREMENT

4.1 APPLICABLE STANDARD

ANSI C95.1 – 1999: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

FCC KDB447498 D01 General RF Exposure Guidance v06: Mobile and Portable Device, RF Exposure, Equipment Authorization Procedures.

FCC CFR 47 part1 1.1310: Radio frequency radiation exposure limits

FCC CFR 47 part2 2.1091: Radiofrequency radiation exposure evaluation: mobile devices

The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

4.2 LIMITS

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f ²)	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				
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

Friis transmission formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

P_d = power density in mW/cm², **P_{out}** = output power to antenna in mW;

G = gain of antenna in linear scale, **P_i** = 3.1416;

R = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, 1 mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.



4.3 TEST PROCEDURE

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

4.4 EVALUATION RESULT

Tune-up Power

BT BLE					
Modulation Type	Frequency (MHz)	Output Power to antenna (dBm)	Output Power to antenna (mW)	Tune-up Power(dBm) ± 1	Maxmun Tune-up Power(dBm)
GFSK	2402	-0.74	0.843	-1	0

Frequency (MHz)	Output power to antenna (dBm)	Output power to antenna (mW)	Antenna gain	Power Density at R=20cm (mW/cm ²)	Limit (mW/cm ²)	Result
GFSK	0	1	0 dbi	0.0002	1.0	PASS

So a SAR test is not required

****END OF REPORT****