

TEST REPORT

of

FCC CFR 47 part 1, 1.1307(b), 1.1310


FCC ID: 2ABFG-YRD642BLEV1

Equipment Under Test : Digital Door Lock
Model Name : YRD642-ACC
Variant Model Name(s) : Refer to the page 3
Applicant : iRevo-ASSAABLOY Korea
Manufacturer : iRevo-ASSAABLOY Korea
Date of Receipt : 2022.03.07
Date of Test(s) : 2022.03.18 ~ 2022.05.12
Date of Issue : 2022.05.13

In the configuration tested, the EUT complied with the standards specified above. This test report does not assure KOLAS accreditation.

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Tested by:



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1. General Information

1.1. Testing Laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)

- 10-2, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
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- Designation number: KR0150

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1.2. Details of Applicant

Applicant : iRevo-ASSA ABLOY Korea
 Address : 10f of JEI PLATZ Bldg., 186, Gasandigital 1-ro, Geumcheon-gu, Seoul, South Korea, 08502
 Contact Person : Soo-kyung, Jang
 Phone No. : +82 2 2107 5741

1.3. Details of Manufacturer

Company : Same as applicant
 Address : Same as applicant

1.4. Description of EUT

Kind of Product	Digital Door Lock
Model Name	YRD642-ACC
Variant Model Names	YRD622-ACC, YRD622-ICK
Serial Number	Conducted Sample: QJVM0000382 Radiated Sample: QJVM0000589(Basic Model), 4MVM0001258(Variant Model)
Power Supply	DC 6 V
Frequency Range	2 402 MHz ~ 2 480 MHz (Bluetooth Low Energy)
Modulation Technique	GFSK
Number of Channels	40 channels (Bluetooth Low Energy)
Antenna Type	Dielectric Chip Antenna
Antenna Gain*	0.20 dBi
H/W Version	PV04
S/W Version	3.2.0

1.5. Test Report Revision

Revision	Report Number	Date of Issue	Description
0	F690501-RF-RTL003127	2022.05.13	Initial

1.6. Description of Variant Models

Model name		Description
Basic model	YRD642-ACC	- Basic model
Variant models	YRD622-ACC	- Same to basic model except below - Deleted 9V emergency power, added cylinder key and related structures
	YRD622-ICK	- Same to basic model except below - Added mechanical handles and related structures

2. RF Exposure Evaluation

2.1. Environmental evaluation and exposure limit according to FCC CFR 47 part 1, 1.1307(b), 1.1310

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time
(A) Limits for Occupational/Controlled Exposure				
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
300-1 500	-	-	f/300	6
1 500-100 000	-	-	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
300-1 500	-	-	f/1500	30
<u>1 500-100 000</u>	-	-	<u>1.0</u>	<u>30</u>

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

Where P_d = power density in mW/cm^2

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

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

P_d the limit of MPE, $1 mW/cm^2$. 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 where the MPE limit is reached.

2.1.2. Test Result of RF Exposure Evaluation

Test Item : RF Exposure Evaluation Data
 Test Mode : Normal Operation

2.1.3. Output Power into Antenna & RF Exposure Evaluation Distance

Bluetooth Low Energy

- Maximum Tune up Tolerance

Frequency (MHz)	Maximum Average Target Power (dB m)	Maximum Tune up (dB)	Antenna Gain (dB i)	Power Density at 20 cm (mW/cm ²)	Limits (mW/cm ²)
2 400 ~ 2 483.5	-5	2	0.20	0.000 104	1

Note;

- The power density Pd (5th column) at a distance of 20 cm calculated from the friis transmission formula is far below the limit of 1 mW/cm².
- This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.
- This equipment should be installed and operated with minimum 20 cm between the radiator and your body.
- The antenna gain of this transmitter is less than 6 dB i and must not be collocated or operating in conjunction with any other antenna or transmitter unless authorized to do so by the FCC.
- According to KDB 447498 D01 RF Exposure Guidance 4.1.

- End of the Test Report -