

RF Exposure Evaluation Report

Product : Dual AutoGate Connect
Trade mark : N/A
Model/Type reference : 304854
Serial Number : N/A
Report Number : EED32O80257302
FCC ID : 2AK3PGSD-500349
Date of Issue : Jul. 01, 2022
Test Standards : 47 CFR Part 1.1307
47 CFR Part 1.1310
KDB 447498 D01v06
Test result : PASS

Prepared for:

Rentokil Initial 1927 Plc
Compass House, Manor Royal, Crawley, West Sussex,
RH10 9PY, United Kingdom

Prepared by:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District,
Shenzhen, Guangdong, China
TEL: +86-755-3368 3668
FAX: +86-755-3368 3385

Compiled by:

Frazer Li

Frazer Li

Reviewed by:

Tom Chen

Tom Chen

Approved by:

Aaron Ma

Aaron Ma

Date:

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2 Version

Version No.	Date	Description
00	Jul. 01, 2022	Original

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4 General Information

4.1 Client Information

Applicant:	Rentokil Initial 1927 Plc
Address of Applicant:	Compass House, Manor Royal, Crawley, West Sussex, RH10 9PY, United Kingdom
Manufacturer:	Rentokil Initial 1927 Plc
Address of Manufacturer:	Compass House, Manor Royal, Crawley, West Sussex, RH10 9PY, United Kingdom

4.2 General Description of EUT

Product Name:	Dual AutoGate Connect
Model No.(EUT):	304854
Trade Mark:	N/A
EUT Supports Radios application:	915.25MHz to 927.5MHz

4.3 Product Specification subjective to this standard

Frequency Range:	915.25MHz to 927.5MHz
Modulation Type:	LoRa modulation - CSS modulation(Chirp Spread Spectrum modulation)
Sample Type:	Fixed Product
Test Power Grade:	Default
Test Software of EUT:	SecureCRTP ortable.exe
Antenna Type:	Internal antenna
Antenna gain:	-3.9dBi
Power Supply:	Battery: DC 6.0V
Test Voltage:	DC 6.0V
Conducted Peak Output Power:	22.56dBm(*0.180302W) The Conducted Peak Output Power data refer to FCC ID: 2AK3PGSD-500349 report.
Sample Received Date:	May 08, 2022
Sample tested Date:	May 08, 2022 to May 20, 2022

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

According to FCC Part1.1310: 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 part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

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

A rough estimation of the expected exposure in power flux density on a given point can be made with the following equation:

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

Where:

S = power density

P = power input to the antenna

G = numeric gain of the antenna in the direction of interest relative to an isotropic radiator

R= distance to the centre of radiation of the antenna

EIRP = P*G

The antenna of the product, under normal use condition is at least 20 cm away from the body of the user.

Warning statement to the user for keeping at least 20cm separation distance and the prohibition of operating to a person has been printed on the user's manual. Therefore, the S of the device is calculated with R=20cm, and if it is below the limit S, then we can conclude the device complies with the rules.

5.1.2 Test Procedure

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

5.1.3 EUT RF Exposure Evaluation

Antenna Gain: 6dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Channel	Frequen cy (MHz)	Max Conducted Peak Output Power(dBm)	Gain (dBi)	Gain (nume ric)	EIRP* (dBm)	EIRP (mW)	R (cm)	S (mW/cm ²)	Limit (mW/cm ²)	Result
Lowest	915.25	22.56	-3.9	0.41	18.66	73.45	20	0.015	1.0	Pass

Note: Refer to FCC ID: 2AK3PGSD-500349 report for module test Max Conducted Peak Output Power value.

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No.EED32O80257301 for EUT external and internal photos.

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.

*** End of Report ***