RF Exposure Evaluation Report

Product	:	Radar R
Trade mark	:	Rentokil
Model/Type reference	:	5000005R
Serial Number	:	N/A
Report Number	:	EED32O81145102
FCC ID	:	2AK3P-5000005R
Date of Issue	:	Feb. 09, 2023
Test Standards	:	47 CFR Part 1.1307 47 CFR Part 1.1310 447498 D04 Interim General RF Exposure Guidance v01
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.
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Approved by: Aaron Ma — Aaron Ma

Date of issue: Feb. 09, 2023

Check No.:4111290722

2 Version

Version No.	Date	Description
00	Feb. 09, 2023	Original

3 Contents

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
Factory:	UK Circuits and Electronics Solutions Ltd
Address of Factory:	Greengate Industrial Estate, Greenside Way, Middleton, Manchester, M24 1SW, United Kingdom

4.2 General Description of EUT

Product Name:	Radar R
Model No. (EUT):	5000005R
Add Model No.:	N/A
Trade Mark:	Rentokil

4.3 Product Specification subjective to this standard

Operation Frequency:	915.25MHz~927.50MHz
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	LoRa Chirp Spread Spectrum
Product Type:	Fix Location
Test Power Grade:	Default
Test Software of EUT:	Putty.exe
Antenna Type:	Internal antenna
Antenna Gain:	5.48dBi
Power Supply:	Battery：DC 6.0V
Test Voltage:	DC 6.0V
Sample Received Date:	Sep. 01, 2022
Sample tested Date:	Dec. 13, 2022 to Feb.03, 2023

Remark：
Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.

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 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold Pth (mW).
This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). Pth is given by Formula

$$P_{\text{th}}\,(\text{mW}) = \begin{cases} ERP_{20\text{ cm}}(d/20\text{ cm})^{x} & d \le 20\text{ cm} \\ ERP_{20\text{ cm}} & 20\text{ cm} < d \le 40\text{ cm} \end{cases}$$

where

$$x = -\log_{10}\left(\frac{60}{ERP_{20\text{ cm}}\sqrt{f}}\right)$$

and f is in GHz, d is the separation distance (cm), and ERP20cm is per Formula (B.1).

$$P_{\text{th}}\,(\text{mW}) = ERP_{20\text{ cm}}\,(\text{mW}) = \begin{cases} 2040f & 0.3\text{ GHz} \le f < 1.5\text{ GHz} \\ 3060 & 1.5\text{ GHz} \le f \le 6\text{ GHz} \end{cases} \qquad (\text{B.1})$$

The 1 mW Blanket Exemption of § 1.1307(b)(3)(i)(A) applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1 mW, regardless of separation distance.

5.1.2 Test Procedure

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

5.1.3 EUT RF Exposure Evaluation

For Lora:

Frequency (MHz)	Separation distance(cm)	Max. Conducted Output power (dBm)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (mW)	Result
915.25	20	16.67	5.48	22.15	164.059	1867.1100	PASS

Note：

①ERP (dBm)=Max. Conducted Output power (dBm)+Antenna Gain (dBi)；

②The test data please refer to the report of EED32O81365001,and only the worst case data was recorded in this report.

*** End of Report ***