

Report No. : EED32081145302





# **RF Exposure Evaluation Report**

| Product                         | : | Radar R   |  |
|---------------------------------|---|---|--|
| Trade mark                      | : | Rentokil  |  |
| Model/Type reference            | : | 5000006S  |  |
| Serial Number                   | : | N/A   |  |
| Report Number                   | : | EED32O81145302  |  |
| FCC ID                          | : | 2AK3P-5000006S  |  |
| Date of Issue<br>Test Standards | : | Feb. 09, 2023<br>47 CFR Part 1.1307<br>47 CFR Part 1.1310<br>447498 D04 Interim General RF<br>Exposure Guidance v01 |  |
|                                 |   |   |  |

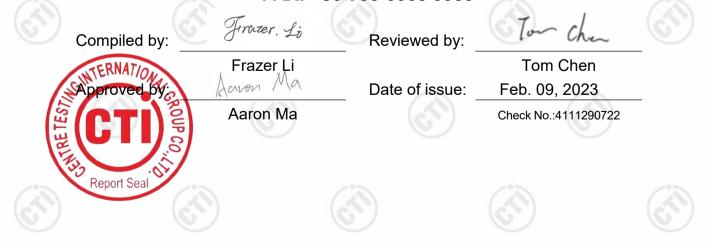
Test result

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. Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China TEL: +86-755-3368 3668 FAX: +86-755-3368 3385









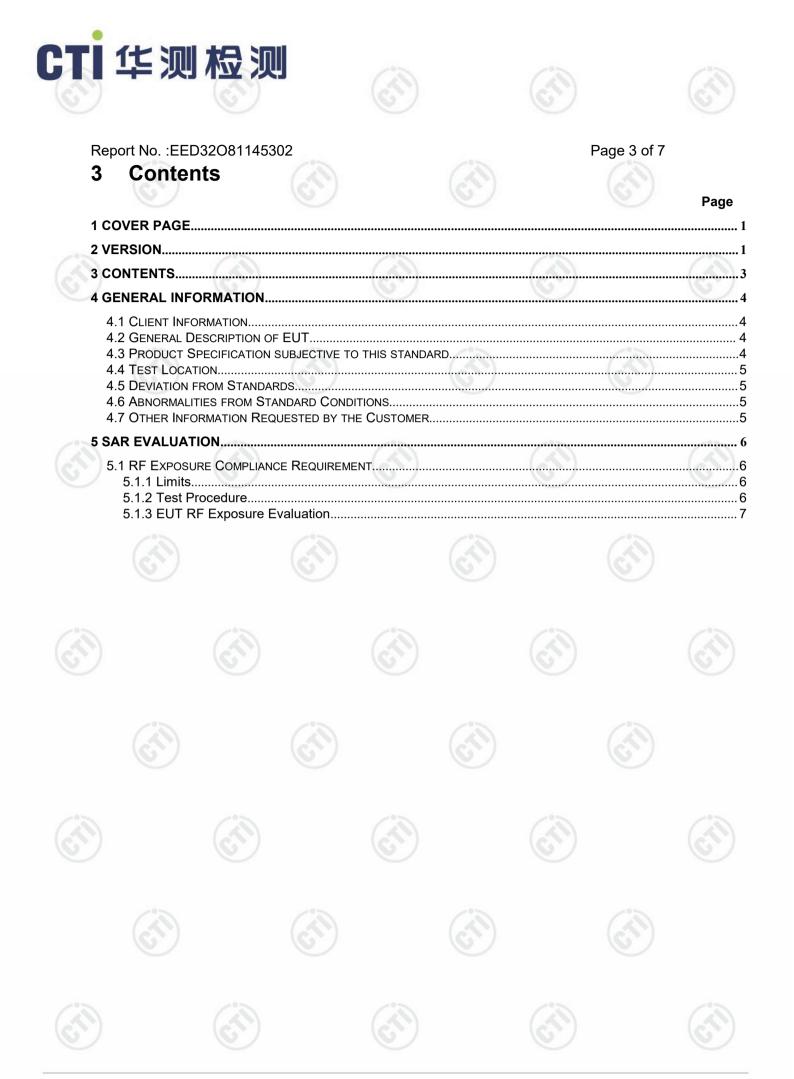
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 **2 Version** Date
 Description

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 Feb. 09, 2023
 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<br>Sussex, RH10 9PY, United Kingdom              |
| Manufacturer:            | Rentokil Initial 1927 plc  |
| Address of Manufacturer: | Compass House, Manor Royal, Crawley, West<br>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:    | 13         | Radar R  |                 |            |     |
|------------------|------------|----------|-----------------|------------|-----|
| Model No. (EUT): | 6          | 5000006S | $(\mathcal{C})$ | (5)        | (3) |
| Add Model No.:   | $\bigcirc$ | N/A      | $\bigcirc$      | $\bigcirc$ |     |
| Trade Mark:      |            | Rentokil |                 |            |     |

### 4.3 Product Specification subjective to this standard

| Operation Frequency:            | 915.25MHz~927.50MHz                         |   | I A A A A A A A A A A A A A A A A A A A |                               |
|---------------------------------|---|---|---|-------------------------------|
| Modulation Technique:           | Frequency Hopping Spread Sp                 | ectrum(FHSS)                            |   |                               |
| Modulation Type:                | LoRa Chirp Spread Spectrum                  |   |   |                               |
| Product Type:                   | Fix Location                                |   | 1                                       |                               |
| Test Power Grade:               | Default                                     | (°)                                     | /                                       | $\langle \mathcal{O} \rangle$ |
| Test Software of EUT:           | Putty.exe                                   |   |   |                               |
| Antenna Type:                   | Internal antenna                            |   |   |                               |
| Antenna Gain:                   | 5.48dBi                                     |   |   |                               |
| Power Supply:                   | Battery: DC 6.0V                            | $(c^{(n)})$                             | (S)                                     |                               |
| Test Voltage:                   | DC 6.0V                                     | U                                       |   |                               |
| Sample Received Date:           | Sep. 01, 2022                               |   |   |                               |
| Sample tested Date:             | Jan. 11, 2023 to Feb.03, 2023               |   |   | (i)                           |
| Remark:                         |   | 6                                       | )                                       | $(\mathcal{O})$               |
| Communication Norman and Astala | and the second and Demand the second second | · (·) · · · · · · · · · · · · · · · · · | /= <b>1</b> ! = = / =                   | a sea a shall a sal           |

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.







All tests were performed at:

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## 4.4 Test Location



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

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

where

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

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

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









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## 5.1.3 EUT RF Exposure Evaluation

#### For Lora:

| Frequency<br>(MHz) | Separation<br>distance(c<br>m) | Max.<br>Conducted<br>Output<br>power<br>(dBm) | Antenna<br>Gain<br>(dBi) | ERP<br>(dBm) | ERP<br>(mW) | Limit<br>(mW) | Result |
|--------------------|--------------------------------|---|--------------------------|--------------|-------------|---------------|--------|
| 915.25             | 20                             | 16.04   | 5.48                     | 21.52        | 141.906     | 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.

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