

# RF EXPOSURE REPORT



Report No.: 17020361-FCC-H1  
Supersede Report No.: N/A

|  |  |  |
|--|--|--|
| Applicant  | Raycan Technology Co., Ltd. (Suzhou)                                   |  |
| Product Name   | Electronic personal dosimeter  |  |
| Model No.  | RadTarge-Mini  |  |
| Serial Model   | N/A  |  |
| Test Standard  | FCC 2.1093   |  |
| Test Date  | December 14 to December 15, 2017                                       |  |
| Issue Date   | December 22, 2017  |  |
| Test Result  | <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail |  |
| Equipment complied with the specification  | <input checked="" type="checkbox"/>                                    |  |
| Equipment did not comply with the specification  | <input type="checkbox"/>   |  |
| <i>Trety Lu</i>  | <i>Deon Dai</i>  |  |
| Trety Lu<br>Test Engineer  | Deon Dai<br>Engineer Reviewer  |  |
| This test report may be reproduced in full only<br>Test result presented in this test report is applicable to the tested sample only |  |  |

Issued by:  
**SIEMIC (Nanjing-China) Laboratories**  
 2-1 Longcang Avenue Yuhua Economic and  
 Technology Development Park, Nanjing, China  
 Tel:+86(25)86730128/86730129 Fax:+86(25)86730127 Email: China@siemic.com.cn

## Laboratories Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.



In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

### Accreditations for Conformity Assessment

| Country/Region | Scope                              |
|----------------|------------------------------------|
| USA            | EMC, RF/Wireless, SAR, Telecom     |
| Canada         | EMC, RF/Wireless, SAR, Telecom     |
| Taiwan         | EMC, RF, Telecom, SAR, Safety      |
| Hong Kong      | RF/Wireless, SAR, Telecom          |
| Australia      | EMC, RF, Telecom, SAR, Safety      |
| Korea          | EMI, EMS, RF, SAR, Telecom, Safety |
| Japan          | EMI, RF/Wireless, SAR, Telecom     |
| Singapore      | EMC, RF, SAR, Telecom              |
| Europe         | EMC, RF, SAR, Telecom, Safety      |

|                 |                 |
|-----------------|-----------------|
| Test Report No. | 17020361-FCC-H1 |
| Page            | 3 of 7          |

---

This page has been left blank intentionally.

---

# CONTENTS

|     |  |   |
|-----|--|---|
| 1   | REPORT REVISION HISTORY.....   | 5 |
| 2   | CUSTOMER INFORMATION .....   | 5 |
| 3   | TEST SITE INFORMATION.....   | 5 |
| 4   | EQUIPMENT UNDER TEST (EUT) INFORMATION .....                                       | 6 |
| 5   | FCC §2.1093 - RADIOFREQUENCY RADIATION EXPOSURE EVALUATION: PORTABLE DEVICES ..... | 7 |
| 5.1 | RF EXPOSURE .....  | 7 |

## 1 Report Revision History

| Report No.      | Report Version | Description | Issue Date        |
|-----------------|----------------|-------------|-------------------|
| 17020361-FCC-H1 | NONE           | Original    | December 22, 2017 |
|                 |                |             |                   |
|                 |                |             |                   |
|                 |                |             |                   |

## 2 Customer information

|                  |                                      |
|------------------|--------------------------------------|
| Applicant Name   | Raycan Technology Co., Ltd. (Suzhou) |
| Applicant Add    | Bldg 17, 8 Jinfeng Road, SND, Suzhou |
| Manufacturer     | Raycan Technology Co., Ltd. (Suzhou) |
| Manufacturer Add | Bldg 17, 8 Jinfeng Road, SND, Suzhou |

## 3 Test site information

|                      |  |
|----------------------|--|
| Lab performing tests | SIEMIC (Nanjing-China) Laboratories  |
| Lab Address          | 2-1 Longcang Avenue Yuhua Economic and Technology Development Park, Nanjing, China |
| FCC Test Site No.    | 694825   |
| IC Test Site No.     | 4842B-1  |
| Test Software        | EZ_EMG   |

## 4 Equipment under Test (EUT) Information

|                               |                                  |
|-------------------------------|----------------------------------|
| Description of EUT:           | Electronic personal dosimeter    |
| Main Model:                   | RadTarge-Mini                    |
| Serial Model:                 | N/A                              |
| Date EUT received:            | December 13, 2017                |
| Test Date(s):                 | December 14 to December 15, 2017 |
| Output power                  | BLE: -4.415dBm                   |
| Antenna Gain:                 | BLE:0dBi                         |
| Type of Modulation:           | BLE:GFSK                         |
| RF Operating Frequency (ies): | BLE:2402-2480 MHz                |
| Number of Channels:           | BLE:40CH                         |
| Port:                         | Power Port                       |
| Input Power:                  | Battery: DC3.7V 600mAh 2.22Wh    |
| Trade Name :                  | RAYCAN                           |
| FCC ID:                       | 2ALQQ-RADTARGE                   |

## 5 FCC §2.1093 - Radiofrequency radiation exposure evaluation: portable devices.

### 5.1 RF Exposure

#### Standard Requirement:

According to §15.247 (i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances*  $\leq 50$  mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{\text{(GHz)}}}] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR,<sup>16</sup> where

- $f_{\text{(GHz)}}$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation<sup>17</sup>
- The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum *test separation distance* is  $\leq 50$  mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion.

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.

$$\text{result} = P\sqrt{F} / D$$

P= Maximum turn-up power in mW

F= Channel frequency in GHz

D= Minimum test separation distance in mm

#### BLE Mode:

| Modulation | CH   | Freq (MHz) | Conducted Power (dBm) | Tune Up Power (dBm) | Max Tune Up Power (dBm) | Max Tune Up Power (mW) | Result | Limit |
|------------|------|------------|-----------------------|---------------------|-------------------------|------------------------|--------|-------|
| GFSK       | Low  | 2402       | -4.415                | -5.0±1              | -4.0                    | 0.398                  | 0.123  | 3     |
|            | Mid  | 2440       | -5.776                | -5.0±1              | -4.0                    | 0.398                  | 0.124  | 3     |
|            | High | 2480       | -6.548                | -6.0±1              | -5.0                    | 0.316                  | 0.100  | 3     |

Result: Pass