# RF EXPOSURE REPORT



Report No.: Q190401S002-FCC-H

Supersede Report No.: N/A

| Applicant                                       | REMOTE SOLUTION.CO,.LTD |                           |  |
|---|-------------------------|---------------------------|--|
| Product Name                                    | REMOTE CONTROL UNIT     |                           |  |
| Model No.                                       | P3700                   |                           |  |
| Serial No.                                      | N/A                     |                           |  |
| Test Standard                                   | FCC 2.109               | 3                         |  |
| Test Date                                       | May 08, 2019            |                           |  |
| Issue Date                                      | May 08, 2019            |                           |  |
| Test Result                                     | Pass Fail               |                           |  |
| Equipment complied with the specification       |                         |                           |  |
| Equipment did not comply with the specification |                         |                           |  |
| Agaran Liona                                    |                         | David Huang               |  |
| Aaron Liang<br>Test Engineer                    |                         | David Huang<br>Checked By |  |

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Test result presented in this test report is applicable to the tested sample only

#### Issued by:

#### SIEMIC (SHENZHEN-CHINA) LABORATORIES

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#### **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      |



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## 1. Report Revision History

| Report No.        | Report Version | Description | Issue Date   |
|-------------------|----------------|-------------|--------------|
| Q190401S002-FCC-H | NONE           | Original    | May 08, 2019 |
|                   |                |             |              |
|                   |                |             |              |
|                   |                |             |              |
|                   |                |             |              |
|                   |                |             |              |

## 2. Customer information

| Applicant Name   | REMOTE SOLUTION.CO,.LTD   |  |
|------------------|---|--|
| Applicant Add    | 92, Chogokri , Nammyun , Kimchon City, Kyungbuk , South Korea , 740-871 |  |
| Manufacturer     | REMOTE SOLUTION.CO,.LTD   |  |
| Manufacturer Add | 92, Chogokri , Nammyun , Kimchon City, Kyungbuk , South Korea , 740-871 |  |

### 3. Test site information

| Lab performing tests | SIEMIC (Shenzhen-China) LABORATORIES                                   |  |
|----------------------|--|--|
|                      | Zone A, Floor 1, Building 2 Wan Ye Long Technology Park                |  |
| Lab Address          | South Side of Zhoushi Road, Bao'an District, Shenzhen, Guangdong China |  |
|                      | 518108   |  |
| FCC Test Site No.    | 535293   |  |
| IC Test Site No.     | 4842E-1  |  |
| Test Software        | Radiated Emission Program-To Shenzhen v2.0                             |  |



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## 4. Equipment under Test (EUT) Information

| 4. Equipment under 10         |                               |
|-------------------------------|-------------------------------|
| Description of EUT:           | REMOTE CONTROL UNIT           |
| Main Model:                   | P3700                         |
| Serial Model:                 | N/A                           |
| Date EUT received:            | April 04, 2019                |
| Test Date(s):                 | May 08, 2019                  |
| Antenna Gain:                 | 2.03dBi                       |
| Antenna Type:                 | PCB Antenna                   |
| Type of Modulation:           | BLE: GFSK                     |
| RF Operating Frequency (ies): | BLE: 2402-2480 MHz            |
| Number of Channels:           | BLE: 40CH                     |
| Port:                         | Please refer to user's manual |
| Input Power:                  | Battery:<br>Spec: DC 3V       |
| Trade Name :                  | N/A                           |

TX4-P3700



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## 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 ≤ 50 mm are determined by:

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

- f<sub>(GHz)</sub> 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  $\leq 5$  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.

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

P= Maximum turn-up power in mW

F= Channel frequency in GHz

D= Minimum test separation distance in mm



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#### 5.2 Test Result

#### BLE Mode:

| Modulation | СН   | Freq<br>(MHz) | Conducted Power (dBm) | Tune Up<br>Power<br>(dBm) | Max Tune Up Power (dBm) | Max Tune Up Power (mW) | Result | Limit |
|------------|------|---------------|-----------------------|---------------------------|-------------------------|------------------------|--------|-------|
| GFSK       | Low  | 2402          | 8.45                  | 8±1                       | 9                       | 7.94                   | 2.46   | 3     |
|            | Mid  | 2440          | 8.81                  | 8±1                       | 9                       | 7.94                   | 2.48   | 3     |
|            | High | 2480          | 8.71                  | 8±1                       | 9                       | 7.94                   | 2.50   | 3     |

Result: Compliance

No SAR measurement is required.