# 시 험 성 적 서
# TEST REPORT



| | | |
|---|---|---|
| 성적서 번호<br>Report No. | | ICRT-TR-E192000-0A |
| 신청자<br>Client | 기관명<br>Name | Seyoung Information & Telecommunication Co., Ltd. |
| | 주 소<br>Address | 298-2, Gongdan-dong, Gumi-Si, Gyeongsanbuk-do, 730-030, South Korea |
| 시험대상품목<br>Sample description | | WIWI |
| 모델명<br>Type designation | | SH-350M |
| 정 격<br>Ratings | | DC 3.7 V |
| 시험기간<br>Date of test | | Oct. 08, 2019 ~ Oct. 21, 2019 |
| 시험방법/항목<br>Test Method/Item | | FCC rule §1.1310 |
| 시험결과<br>Test Results | | Refer to 3. Maximum Permissible Exposure |
| 확 인<br>Affirmation | 작성자<br>Tested by<br>성 명 (서 명)<br>Name Yeong-Hwan, Hong (Signature) | 기술책임자<br>Technical Manager<br>성 명 (서 명)<br>Name Jun-Hui, Lee (Signature) |

☐ 위 성적서는 고객이 제공한 시료에 대한 시험결과 이며, 용도 이외의 사용은 금합니다.
This is certified that the above mentioned products have been tested for the sample provided by customer and forbid the use except for original purpose.

☐ 위 성적서는 한국인정기구(KOLAS)인정과 관련이 없습니다.
The above test report is not related to accreditation by Korea Laboratory Accreditation scheme.

☐ 위 성적서는 주식회사 아이씨알의 승인 없이는 복제 및 재발급이 금지됩니다.
No part of this document may be duplicated or reproduced by any means without the express written permission of the ICR.

**2019. 10. 30**

**주식회사 아이씨알 대표이사**

The head of INTERNATIONAL CERTIFICATION REGISTRAR

# Contents



**Revision History**

| Issued Report No. | Issued Date | Revisions | Effect Section |
|---|---|---|---|
| ICRT-TR-E192000-0A | 30-Oct-2019 | Initial Issue | All |
| | | | |
| | | | |

# 1. Applicant & Manufacturer & Test Laboratory Information

## 1.1 Applicant information

| | |
|---|---|
| Applicant | Seyoung Information & Telecommunication Co., Ltd. |
| Address | 298-2, Gongdan-dong, Gumi-Si, Gyeongsanbuk-do, 730-030, South Korea |
| Contact Person | YOUNG BAE, PARK |
| Telephone No. | +82-54-463-2300 |
| Fax No. | +82-54-463-2106 |
| E-mail | lilybulb@eseyoung.com |

## 1.2 Manufacturer Information

| | |
|---|---|
| Manufacturer | Seyoung Information & Telecommunication Co., Ltd. |
| Address | 298-2, Gongdan-dong, Gumi-Si, Gyeongsanbuk-do, 730-030, South Korea |

## 1.3 Test Laboratory Information

| Conducted tests were performed at | |
|---|---|
| Laboratory | ICR Co., Ltd. |
| Address | 112, Hwanggeum 3-ro 7beon-gil, Hagun-ri, Yangchon-eup, Gimpo-si, Gyeonggi-do, Korea |
| Telephone No. | +82-2-6351-9002 |
| Fax No. | +82-2-6351-9007 |
| RRA No. | KR0165 |
| KOLAS No. | KT652 |

# 2. Equipment under Test(EUT) Information

## 2.1 General Information

| | |
|---|---|
| Product Name | WIWI |
| Brand Name | - |
| Model Name | SH-350M |
| Additional Model Name | - |
| FCC ID | ZAB-SH-350M |
| Hardware Version | - |
| Software Version | - |
| Power Supply | DC 3.7 V |

## 2.2 Additional Information

| | |
|---|---|
| Equipment Class | DSS-Part 15 Spread Spectrum Transmitter |
| Device Type | Stand-alone |
| Operating Frequency | 902.5 ㎒ ~ 927.25 ㎒ |
| RF Output Power | 17.70 ㏈m |
| Number of Channel | 100 |
| Modulation Type | GFSK |
| Antenna Type | Dipole Antenna |
| Antenna Gain | 0.09 ㏈d |
| Antenna Operating Mode | Single Antenna Equipment with only one antenna |

## 2.3 Mode of operation during the test

- The EUT is continuous transmission mode during the test with set at Low Channel, Middle Channel, and High Channel. To get a maximum radiated emission levels from the EUT, the EUT was moved throughout the XY, YZ, XZ planes.

## 2.4 Modifications of EUT

- None

# 3. Maximum Permissible Exposure

## 3.1 RF Exposure calculation

According to the FCC rule §1.1310 the limit for General Population/Uncontrolled exposure is 1 ㎽/㎠ for the device operating 1 500 ㎒ ~ 100 000 ㎒.

| Kind of EUT | WIWI | |
|---|---|---|
| Operating Frequency Band | □ WLAN(802.11b/g/n(HT20)): 2 412 ㎒ ~ 2 462 ㎒<br>□ WLAN(802.11n(HT40)): 2 422 ㎒ ~ 2 452 ㎒<br>□ WLAN: 5 180 ㎒ ~ 5 320 ㎒ / 5 500 ㎒ ~ 5 700 ㎒<br>□ WLAN: 5 745 ㎒ ~ 5 825 ㎒<br>□ Bluetooth: 2 402 ㎒ ~ 2 480 ㎒<br>■ FHSS: 902 ㎒ ~ 928 ㎒ | |
| Max. Output Power | FHSS | 17.70 dBm |
| Exposure Evaluation Applied | □ MPE<br>□ SAR<br>■ N/A | |

## 3.2 Result

According to the procedure, KDB 447498 D01, the standalone SAR test exclusion threshold is

[(Max. Power of channel, including tune-up tolerance, ㎽) / (Min. test separation distance, ㎜)] x [√f(㎓)] < 3

= (0.16/5) x $\sqrt{0.92725}$ = 0.03 at FHSS

Conclusion: The SAR test exclusion threshold is less than 3, so the device meets the RF Exposure Requirement and excluded SAR Test.

| Operating Mode | Frequency (㎒) | Target Power W / tolerance | Max tune up power (Average power) | | Separation distance (㎜) | RF exposure |
|---|---|---|---|---|---|---|
| | | (dBm) | (dBm) | (㎽) | | |
| FHSS | 927.25 | -8.45 ± 0.5 | -7.95 | 0.16 | 5.00 | 0.03 |

※ Max tune up power (Average Power) = -7.95 dBm = 0.16 ㎽
(Measured Maximum Average Power = Max. Peak Output Power – Duty Cycle Correction Factor
= -8.45 dBm ± 0.5 dB)