



# 시험 성적서

## TEST REPORT

페이지(page) : ( 1 ) / ( 총(Total) 6 )

|                              |                                   |                                                                                                                                                                                                      |  |
|------------------------------|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 성적서 번호<br>Report No.         |                                   | ICRT-TR-E221608-0A                                                                                                                                                                                   |  |
| 신청자<br>Client                | 기관명<br>Name                       | AISOLUTION CO., LTD                                                                                                                                                                                  |  |
|                              | 주 소<br>Address                    | 28-4, Samyang-ro 29gil, Gangbuk-gu, Seoul, 01194, Republic of Korea                                                                                                                                  |  |
| 시험대상품목<br>Sample description |                                   | KDC180 Bluetooth Barcode Scanner                                                                                                                                                                     |  |
| 모델명<br>Type designation      |                                   | KDC180                                                                                                                                                                                               |  |
| 정 격<br>Ratings               |                                   | DC 3.7 V                                                                                                                                                                                             |  |
| 시험장소<br>Place of test        |                                   | <input checked="" type="checkbox"/> 고정시험(Inside test) <input type="checkbox"/> 현장시험(Field test)<br>주소지(Address): 112, Hwanggeum 3-ro 7beon-gil, Hagun-ri, Yangchon-eup, Gimpo-si, Gyeonggi-do, Korea |  |
| 시험기간<br>Date of test         |                                   | 17. Jun. 2022 ~ 28. Jun. 2022                                                                                                                                                                        |  |
| 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                  | 기술책임자<br>Technical Manager                                                                                                                                                                           |  |
|                              | 성 명<br>Name Yeong-Hwan, Hong (서명) | 성 명<br>Name Min-Gi, Son (서명)                                                                                                                                                                         |  |

☐ 위 성적서는 고객이 제공한 시료에 대한 시험결과입니다.  
 The above test report is certified that the above mentioned products have been tested for the sample.

☐ 위 성적서는 KS Q ISO/IEC 17025 및 한국인정기구(KOLAS)인정과 관련이 없습니다.  
 The above test report is not related to accreditation by KS Q ISO/IEC 17025 and Korea Laboratory Accreditation scheme.

☐ 위 성적서는 주식회사 아이씨알의 승인 없이는 일부 복제에 대해 금지됩니다.  
 The test report is prohibited for some reproduction without the approval of the ICR.

2022. 06. 29

**주식회사 아이씨알 대표이사**

The head of INTERNATIONAL CERTIFICATION REGISTRAR

본 성적서의 진위 확인은 G4B 혹은 ICR 홈페이지에서 가능합니다.

The authenticity of the test report can be checked on the G4B or ICR website.

경기도 김포시 양촌읍 황금3로7번길 112 / Tel: 02-6351-9001 ~ 6



## **Contents**

|                                                                               |          |
|-------------------------------------------------------------------------------|----------|
| <b>1. Applicant &amp; Manufacturer &amp; Test Laboratory Information.....</b> | <b>4</b> |
| <b>1.1 Applicant information.....</b>                                         | <b>4</b> |
| <b>1.2 Manufacturer Information.....</b>                                      | <b>4</b> |
| <b>1.3 Test Laboratory Information.....</b>                                   | <b>4</b> |
| <b>2. Equipment under Test(EUT) Information.....</b>                          | <b>5</b> |
| <b>2.1 General Information .....</b>                                          | <b>5</b> |
| <b>2.2 Additional Information .....</b>                                       | <b>5</b> |
| <b>2.3 Mode of operation during the test.....</b>                             | <b>5</b> |
| <b>2.4 Modifications of EUT .....</b>                                         | <b>5</b> |
| <b>3. Maximum Permissible Exposure .....</b>                                  | <b>6</b> |
| <b>3.1 RF Exposure calculation .....</b>                                      | <b>6</b> |
| <b>3.2 Result.....</b>                                                        | <b>6</b> |



### Revision History

| Issued Report No.  | Issued Date | Revisions     | Effect Section |
|--------------------|-------------|---------------|----------------|
| ICRT-TR-E221608-0A | 29-JUN-2022 | Initial Issue | All            |
|                    |             |               |                |
|                    |             |               |                |



## **1. Applicant & Manufacturer & Test Laboratory Information**

### **1.1 Applicant information**

|                |                                                                     |
|----------------|---------------------------------------------------------------------|
| Applicant      | AISOLUTION CO., LTD                                                 |
| Address        | 28-4, Samyang-ro 29gil, Gangbuk-gu, Seoul, 01194, Republic of Korea |
| Contact Person | Seoneyong Kim                                                       |
| Telephone No.  | 82-01-9876-3482                                                     |
| Fax No.        | 82-07-8260-3731                                                     |
| E-mail         | seonyeong.kim@koamtac.com                                           |

### **1.2 Manufacturer Information**

|              |                                                                     |
|--------------|---------------------------------------------------------------------|
| Manufacturer | AISOLUTION CO., LTD                                                 |
| Address      | 28-4, Samyang-ro 29gil, Gangbuk-gu, Seoul, 01194, Republic of 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                                                                               |
| Test Firm Registration Number     | 490614                                                                              |



## 2. Equipment under Test(EUT) Information

### 2.1 General Information

|                       |                                  |
|-----------------------|----------------------------------|
| Product Name          | KDC180 Bluetooth Barcode Scanner |
| Brand Name            | KOAMTAC                          |
| Model Name            | KDC180                           |
| Additional Model Name | -                                |
| FCC ID                | VH9-KDC180                       |
| Hardware Version      | 1.0                              |
| Software Version      | 1.0                              |
| Power Supply          | DC 3.7 V                         |

### 2.2 Additional Information

|                                              |                                                |
|----------------------------------------------|------------------------------------------------|
| Equipment Class                              | DTS-Digital Transmission System                |
| Device Type                                  | Stand-alone                                    |
| Operating Frequency                          | 2 402 MHz ~ 2 480 MHz                          |
| RF Output Power                              | -0.93 dBm                                      |
| Number of Channel                            | 40                                             |
| Modulation Type                              | GFSK                                           |
| Antenna Type                                 | Chip Antenna                                   |
| Antenna Gain                                 | 3.14 dBi                                       |
| Antenna Operating Mode                       | Single Antenna Equipment with only one antenna |
| List of Each Oscillator or Crystal Frequency | 32 MHz                                         |

### 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 mW/cm<sup>2</sup> for the device operating 1 500 MHz ~ 100 000 MHz.

| Kind of EUT                 | USB BLE Dongle                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Frequency Band    | <input type="checkbox"/> WLAN(802.11b/g/n(HT20)): 2 412 MHz ~ 2 462 MHz<br><input type="checkbox"/> WLAN(802.11n(HT40)): 2 422 MHz ~ 2 452 MHz<br><input type="checkbox"/> WLAN: 5 180 MHz ~ 5 320 MHz / 5 500 MHz ~ 5 700 MHz<br><input type="checkbox"/> WLAN: 5 745 MHz ~ 5 825 MHz<br><input checked="" type="checkbox"/> Bluetooth: 2 402 MHz ~ 2 480 MHz |
| Max. Output Power           | -0.93 dBm                                                                                                                                                                                                                                                                                                                                                      |
| Exposure Evaluation Applied | <input type="checkbox"/> MPE<br><input type="checkbox"/> SAR<br><input checked="" type="checkbox"/> N/A                                                                                                                                                                                                                                                        |

#### 3.2 Result

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

$$[(\text{Max. Power of channel, including tune-up tolerance, mW}) / (\text{Min. test separation distance, mm})] \times [\sqrt{f(\text{GHz})}] < 3$$

$$= (0.91/5) \times \sqrt{2.402} = 0.28$$

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 (MHz) | Target Power W / tolerance | Max tune up power |      | Separation distance (mm) | RF exposure | Limit |
|----------------|-----------------|----------------------------|-------------------|------|--------------------------|-------------|-------|
|                |                 | (dBm)                      | (dBm)             | (mW) |                          |             |       |
| Bluetooth LE   | 2 402           | -0.93 ± 0.5                | -0.43             | 0.91 | 5.0                      | 0.28        | 3.00  |

- END -