

Dates of Tests: March 20, 2024  
Test Report S/N: LR500112404L  
Test Site : LTA CO., LTD.

## CERTIFICATION OF COMPLIANCE

FCC ID.

**2AZKWAIR-R75A**

APPLICANT

**ATEC IoT CO., LTD.**

|                           |   |                                                |
|---------------------------|---|------------------------------------------------|
| Equipment Class           | : | Digital Transmission System (DTS)              |
| Manufacturing Description | : | Electronic Shelf Label                         |
| Manufacturer              | : | ATEC IoT CO., LTD.                             |
| Model name                | : | AIR-R75A                                       |
| Variant Model name        | : | -                                              |
| Test Device Serial No.:   | : | Identical prototype                            |
| Rule Part(s)              | : | FCC Part 15.247 Subpart C ; ANSI C63.10 - 2013 |
| Frequency Range           | : | 2405 ~ 2480 MHz Zigbee                         |
| Max. Output Power         | : | Max 4.79 dBm - Conducted                       |
| Data of issue             | : | April 01, 2024                                 |

This test report is issued under the authority of:



Ja-Beom Koo, Manager

The test was supervised by:



Eun-Hwan Jung, Test Engineer

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## 1. General information

### 1-1 Test Performed

Company name : LTA Co., Ltd.  
Address : 243, Jubug-ri, Yangji-Myeon, Youngin-Si, Kyunggi-Do, Korea. 449-822  
Web site : <http://www.ltalab.com>  
E-mail : [chahn@ltalab.com](mailto:chahn@ltalab.com)  
Telephone : +82-31-323-6008  
Facsimile : +82-31-323-6010

Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which is the “General requirements for the competents of calibration and testing laboratory”.

### 1-2 Accredited agencies

LTA Co., Ltd. is approved to perform EMC testing by the following agencies:

| Agency | Country | Accreditation No. | Validity   | Reference           |
|--------|---------|-------------------|------------|---------------------|
| RRA    | KOREA   | KR0049            | -          | EMC accredited Lab. |
| FCC    | U.S.A   | 649054            | 2025-03-29 | FCC CAB             |
| VCCI   | JAPAN   | C-4948,           | 2026-09-10 | VCCI registration   |
| VCCI   | JAPAN   | T-2416,           | 2026-09-10 | VCCI registration   |
| VCCI   | JAPAN   | R-4483(10 m),     | 2026-10-15 | VCCI registration   |
| VCCI   | JAPAN   | G-847             | 2024-12-13 | VCCI registration   |
| IC     | CANADA  | 5799A-1           | 2024-08-15 | IC filing           |

2. Information about test item

2-1 Client & Manufacturer

Client Company name : ATEC IoT CO., LTD.

Address : 289, Pangyo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea

Tel / Fax : +82-31-696-9829 / +82-31-696-9899

Manufacturer : ATEC IoT CO., LTD.

Address : 289, Pangyo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea

Tel / Fax : +82-31-696-9829 / +82-31-696-9899

2-2 Equipment Under Test (EUT)

Model name : AIR-R58A

Serial number : Identical prototype

Date of receipt : February 27 ,2024

EUT condition : Pre-production, not damaged

Antenna type : Pattern Antenna (Gain : 0.95 dBi)

Frequency Range : 2405 ~ 2480 MHz

RF output power : Max 4.79 dBm – Conducted

Type of Modulation : GFSK, O-QPSK

Power Source : DC 3 V

2-3 Tested frequency

| Bluetooth       | LOW  | MID  | HIGH |
|-----------------|------|------|------|
| Frequency (MHz) | 2405 | 2440 | 2480 |

2-4 Ancillary Equipment

| Equipment | Model No. | Serial No. | Manufacturer |
|-----------|-----------|------------|--------------|
| Notebook  | -         | MS-1736    | MSI          |

3. Test Report

3.1 Summary of tests

| FCC Part<br>Section(s)  | Parameter             | Limit | Test<br>Condition | Status<br>(note 1) |
|-------------------------|-----------------------|-------|-------------------|--------------------|
| § 1.1310 and<br>§2.1091 | RF EXPOSURE EVULATION | -     | -                 | C                  |

Note 1: C=Complies    NC=Not Complies    NT=Not Tested    NA=Not Applicable

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3.2 RF EXPOSURE EVULATION

1.1 Limit

According to §1.1310 and §2.1091 RF exposure is calculated.

(B) Limits for General Population/Uncontrolled Exposures

| Frequency range (MHz) | Electric field<br>Strength | Magnetic field<br>Strength | Power density<br>(mW/cm <sup>2</sup> ) | Averaging<br>time |
|-----------------------|----------------------------|----------------------------|----------------------------------------|-------------------|
| 1.34 - 30.....        | 824/f                      | 2.19/f                     | *(180/ f <sup>2</sup> )                | 30                |
| 30 - 300.....         | 27.5                       | 0.073                      | 0.2                                    | 30                |
| 300 - 1500.....       | .....                      | .....                      | <b>f/1500</b>                          | 30                |
| 1500 - 100.000.....   | .....                      | .....                      | 1.0                                    | 30                |

F = frequency in MHz  
\* = Plane-wave equivalent power density

1.2 MAXIMUM PERMISSIBLE EXPOSURE Prediction

Prediction of MPE limit at a given distance

Power density at the specific separation:

|                                                                                                    |                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $S = PG/(4R^2\pi)$<br><br>$S = (3.01 * 1.24) / (4 * 5^2 * \pi)$<br><br>$S = 0.012 \text{ mW/cm}^2$ | Where,<br>S = Maximum power density (mW/cm <sup>2</sup> )<br>P = Power input to the antenna (mW)<br>G = Numeric power gain of the antenna<br>R = Distance to the center of the radiation of the antenna<br>(20 cm = limit for MPE) |
|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### 1.3 MAXIMUM PERMISSIBLE EXPOSURE Prediction

- Calculated under the worst-case conditions of each mode.

(Measured power 3 dBm  $\pm$  0.5dB)

#### 2.4GHz Mode

|                                                 |      |     |
|-------------------------------------------------|------|-----|
| Max Peak output Power at antenna input terminal | 4.79 | dBm |
| Max Peak output Power at antenna input terminal | 3.01 | mW  |
| Prediction distance                             | 5    | cm  |
| Prediction frequency                            | 2440 | MHz |
| Antenna Gain(typical)                           | 0.95 | dBi |
| Antenna Gain(numeric)                           | 1.24 | -   |

SAR Test exclusion thresholds for 100MHz to 6GHz at test separation distance  $\leq$  50 mm = **Used**

$[(\text{max.power of channel, including tune-up torelance, mW})/(\text{min. test separation distance, mm})] * [\sqrt{f}(\text{GHz})]$

$= [3.01 / 50] * [\sqrt{2.440}] = 0.10 \leq 3.0$ , for 1g SAR

**Thus, SAR for this device is not required.**