



**中认信通**  
CHINA CERTIFICATION ICT CO., LTD (DONGGUAN)



# RF EXPOSURE EVALUATION REPORT

**Applicant:** Xiamen Milesight IoT Co., Ltd.

**Address:** Building C09, Software Park Phase III, Xiamen 361024, Fujian, China

**FCC ID:** 2AYHY-AT101

**Product Name:** Asset Tracker

**Standard(s):** 47 CFR §1.1307

The above equipment has been tested and found compliant with the requirement of the relative standards by China Certification ICT Co., Ltd (Dongguan)

**Report Number:** CR230421702-00E

**Date Of Issue:** 2023/6/28

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**Test Facility**

The Test site used by China Certification ICT Co., Ltd (Dongguan) to collect test data is located on the No. 113, Pingkang Road, Dalang Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 442868, the FCC Designation No. : CN1314.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0123.

**Declarations**

China Certification ICT Co., Ltd (Dongguan) is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol “▲”. Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

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**DOCUMENT REVISION HISTORY**

| Revision Number | Report Number   | Description of Revision | Date of Revision |
|-----------------|-----------------|-------------------------|------------------|
| 1.0             | CR230421702-00E | Original Report         | 2023/6/28        |

## 1. RF EXPOSURE EVALUATION

### 1.1 Applicable Standard

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.

### 1.2 Procedure

According to §1.1307(b)(3)(i)

(C) Or using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least  $\lambda/2\pi$ , where  $\lambda$  is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of  $\lambda/4$  or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

Table 1 to § 1.1307(b)(3)(i)(C) - Single RF Sources Subject to Routine Environmental Evaluation

| RF Source frequency (MHz) | Threshold ERP (watts) |
|---------------------------|-----------------------|
| 0.3-1.34                  | $1,920 R^2$ .         |
| 1.34-30                   | $3,450 R^2/f^2$ .     |
| 30-300                    | $3.83 R^2$ .          |
| 300-1,500                 | $0.0128 R^2 f$ .      |
| 1,500-100,000             | $19.2 R^2$ .          |

### 1.3 Measurement Result

| Operation Modes | Frequency (MHz) | $\lambda/2\pi$ (mm) | Distance (mm) | Exemption ERP |       | Maximum Conducted Power including Tune-up Tolerance (dBm) | Antenna Gain (dBi) | ERP (dBm) | ERP (mW) | MPE-Based Exemption |
|-----------------|-----------------|---------------------|---------------|---------------|-------|-----------------------------------------------------------|--------------------|-----------|----------|---------------------|
|                 |                 |                     |               | (mW)          | (dBm) |                                                           |                    |           |          |                     |
| Lora-FHSS       | 902.3-927.6     | 52.94               | 200           | 462           | 26.65 | 10                                                        | 0.98               | 8.83      | 7.64     | Compliant           |
| Lora-DTS        | 903-926.9       | 52.90               | 200           | 462           | 26.65 | 10                                                        | 0.98               | 8.83      | 7.64     | Compliant           |
| BLE             | 2402-2480       | 19.89               | 200           | 768           | 28.85 | -1                                                        | 4.49               | 1.34      | 1.36     | Compliant           |

Note: The Maximum Conducted Power including Tune-up Tolerance was declared by manufacturer.

#### Simultaneous transmission:

The Lora-FHSS and Lora-DTS can't transmit simultaneously. WiFi and Lora can transmit simultaneously:

$$\begin{aligned}
 & \sum_{i=1}^a \left( \frac{P_i}{P_{th\_i}} \right) + \sum_{j=1}^b \left( \frac{ERP_j}{ERP_{th\_j}} \right) + \sum_{k=1}^c \left( \frac{Evaluated_k}{Exposure Limit_k} \right) \\
 &= ERP_{BLE} / RRP_{th\_BLE} + ERP_{Lora} / ERP_{th\_Lora} \\
 &= 1.36 / 768 + 7.64 / 462 \\
 &= 0.02
 \end{aligned}$$

**Result:** The device compliant the MPE-Based Exemption at 20cm distances.

===== END OF REPORT =====