



Test Report No.:  
**FCC2021-0026-EMF**

## EMC Test Report

**EUT** : LoRa Magnetic Contact Switch  
**MODEL** : WS301-915M  
**BRAND NAME** : Milesight  
**APPLICANT** : Xiamen Milesight IoT Co., Ltd.  
**Classification Of Test** : N/A

**CVC Testing Technology Co., Ltd.**



# CVC Testing Technology Co., Ltd.

|   |   |   |                       |
|---|---|---|-----------------------|
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| <b>Applicant</b>  |   | Name : Xiamen Milesight IoT Co., Ltd.<br>Address : 4/F,NO. 63-2 Wanghai Road, 2nd Software Park,Xiamen ,China   |                       |
| <b>Manufacturer</b>   |   | Name : Xiamen Milesight IoT Co., Ltd.<br>Address : 4/F,NO. 63-2 Wanghai Road, 2nd Software Park,Xiamen ,China   |                       |
| <b>Equipment Under Test</b>   |   | Name : LoRa Magnetic Contact Switch<br>Model/Type: WS301-915M<br>Trade mark : Milesight<br>SerialNO.:N/A<br>Sampe NO.:6-1                                   |                       |
| Date of Receipt.  | 2021.09.8   | Date of Testing   | 2021.09.08~2021.11.08 |
| <b>Test Specification</b>   |   | <b>Test Result</b>  |                       |
| FCC Part 2 (Section 2.1091)<br>KDB 447498 D01<br>IEEE C95.1   |   | PASS  |                       |
| <b>Evaluation of Test Result</b>  | The equipment under test was found to comply with the requirements of the standards applied.<br>Issue Date: 2021.11.08                                    |   |                       |
| Tested by:<br><br>Xu ZhenFei<br>Name                      Signature                    | Reviewed by:<br><br>Liu YongHai<br>Name                      Signature | Approved by:<br><br>Chen HuaWen<br>Name                      Signature |                       |
| <b>Other Aspects: NONE.</b>   |   |   |                       |
| Abbreviations:OK,    Pass= passed                      Fail = failed                      N/A= not applicable                      EUT= equipment, sample(s) under tested |   |   |                       |
| This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of CVC.  |   |   |                       |



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## **RELEASE CONTROL RECORD**

| <b>ISSUE NO.</b> | <b>REASON FOR CHANGE</b> | <b>DATE ISSUED</b> |
|------------------|--------------------------|--------------------|
| FCC2021-0026-EMF | Original release         | 2021.11.08         |



## 1. GERTIFICATION

|                  |                                |
|------------------|--------------------------------|
| FCC ID           | 2AYHY-WS301                    |
| PRODUCT          | LoRa Magnetic Contact Switch   |
| BRAND            | Milesight                      |
| MODEL            | WS301-915M                     |
| ADDITIONAL MODEL | N/A                            |
| APPLICANT        | Xiamen Milesight IoT Co., Ltd. |
| STANDARDS        | FCC Part 2 (Section 2.1091)    |
|                  | KDB 447498 D01                 |
|                  | IEEE C95.1                     |

For trading purposes, the product is available in three different exterior colors

## 2. RF EXPOSURE LIMIT

### LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

| FREQUENCY RANGE (MHz)                                 | ELECTRIC FIELD STRENGTH (V/m) | MAGNETIC FIELD STRENGTH (A/m) | POWER DENSITY (mW/cm <sup>2</sup> ) | AVERAGE TIME (minutes) |
|---|-------------------------------|-------------------------------|-------------------------------------|------------------------|
| LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE |                               |                               |                                     |                        |
| 300-1500  | ...                           | ...                           | F/1500                              | 30                     |
| 1500-100,000  | ...                           | ...                           | 1.0                                 | 30                     |

F = Frequency in MHz

## 3. MPE CALCULATION FORMULA

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

$G$  = gain of antenna in linear scale

$\pi$  = 3.1416

$R$  = distance between observation point and center of the radiator in cm

## 4. CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

## 5. ANTENNA GAIN

The antennas provided to the EUT, please refer to the following table:

| Transmitter Circuit | Peak Gain (dBi) | Antenna Type   |
|---------------------|-----------------|----------------|
| Chain 0             | 1               | Spring Antenna |

## 6. CALCULATION RESULT OF MAXIMUM CONDUCTED AV POWER

The tuned conducted Average Power (declared by client)

| Mode | Frequency (MHz) | Target Power (dBm) | Tolerance (dBm) | Lower Tolerance (dBm) | Upper Tolerance (dBm) |
|------|-----------------|--------------------|-----------------|-----------------------|-----------------------|
| DR0  | 902.3-914.9     | 6                  | +1              | 5                     | 7                     |
| DR8  | 903.0-914.2     | 6                  | +1              | 5                     | 7                     |

The measured conducted Average Power(worse case)

| Mode | Frequency (MHz) | Averaged Power (dBm) |
|------|-----------------|----------------------|
| DR0  | 902.3           | 5.73                 |
| DR8  | 914.2           | 5.72                 |

| FREQUENCY BAND (MHz) | MAX AVERAGE POWER (dBm) | ANTENNA GAIN (dBi) | DISTANCE (cm) | POWER DENSITY (mW/cm <sup>2</sup> ) | LIMIT (mW/cm <sup>2</sup> ) |
|----------------------|-------------------------|--------------------|---------------|-------------------------------------|-----------------------------|
| 902.3-914.9          | 7                       | 1                  | 20            | 0.00126                             | 0.602                       |
| 903.0-914.2          | 7                       | 1                  | 20            | 0.00126                             | 0.602                       |



## Important

- (1) The test report is valid with the official seal of the laboratory and the signatures of Test engineer, Author and Reviewer simultaneously.
- (2) The test report is invalid if altered.
- (3) Any photocopies or part photocopies in the test report are forbidden without the written permission from the laboratory.
- (4) Objections to the test report must be submitted to the laboratory within 15 days.
- (5) Generally, commission test is responsible for the tested samples only.
- (6) Any photocopies or part photocopies of the test report are forbidden without the written permission from CVC;

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