

EN 62311:2008  
ASSESSMENT REPORT

For

**Hangzhou Hikvision Digital Technology Co., Ltd.**

No. 555 Qianmo Road, Binjiang District, Hangzhou 310052, China

**Tested Model: DS-PD1-MC-WWS**

<b>Report Type:</b> Amended Report	<b>Product Type:</b> Wireless Magnetic Contact
<b>Test Engineer:</b> Alisa Gao	<i>Alisa. Gao</i>
<b>Report Number:</b> RKSA180727004-01C	
<b>Report Date:</b> 2018-08-06	
<b>Reviewed By:</b> Oscar Ye RF Leader	<i>Oscar. Ye</i>
<b>Prepared By:</b> Bay Area Compliance Laboratories Corp. (Kunshan) No.248 Chenghu Road, Kunshan, Jiangsu province, China Tel: +86-0512-86175000 Fax: +86-0512-88934268 <a href="http://www.baclcorp.com.cn">www.baclcorp.com.cn</a>	

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**TABLE OF CONTENTS**

**DOCUMENT REVISION HISTORY .....3**

**EXHIBIT A - EUT PHOTOGRAPHS.....4**

EUT – TOP VIEW .....4

EUT – BOTTOM VIEW.....4

EUT – FRONT VIEW .....5

EUT – REAR VIEW.....5

EUT – LEFT VIEW.....6

EUT – RIGHT VIEW .....6

EUT – PCB TOP VIEW .....7

EUT – PCB BOTTOM VIEW .....7

EUT – BATTERY TOP VIEW .....8

EUT – BATTERY BOTTOM VIEW.....8

EUT – COVER OFF VIEW -1.....9

EUT – COVER OFF VIEW -2.....9

**BELOW IS THE ORIGINAL REPORT.....10**

FINAL

**DOCUMENT REVISION HISTORY**

Revision Number	Report Number	Description of Revision	Date of Issue
1	RKSA180418003-01C	Original Report	2018-05-10
2	RKSA180727004-01C	Amended Report	2018-08-06

**Note:**

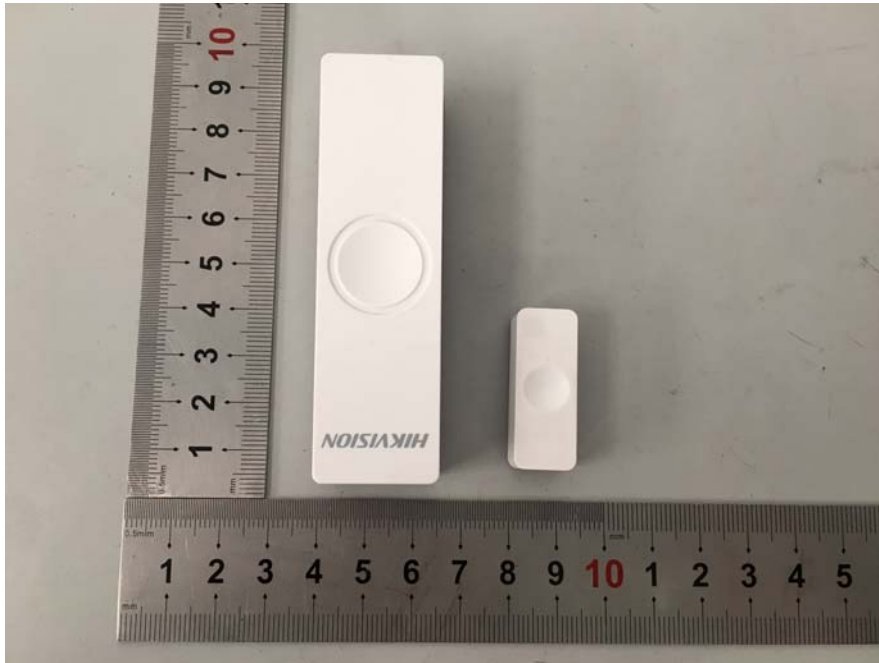
This is an amended report application based on RKSA180418003-01C, the details as below:

1. Add two capacitances on the PCB;
2. Change the LED chip.

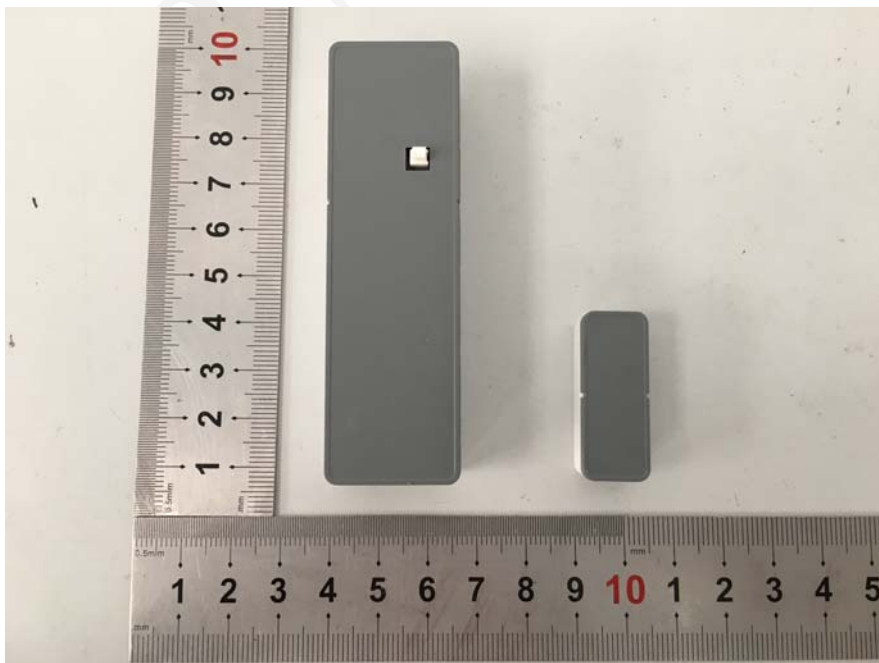
For above difference, all the test data refers to the original report RKSA180418003-01C that issued on 2018-05-10.

**EXHIBIT A - EUT PHOTOGRAPHS**

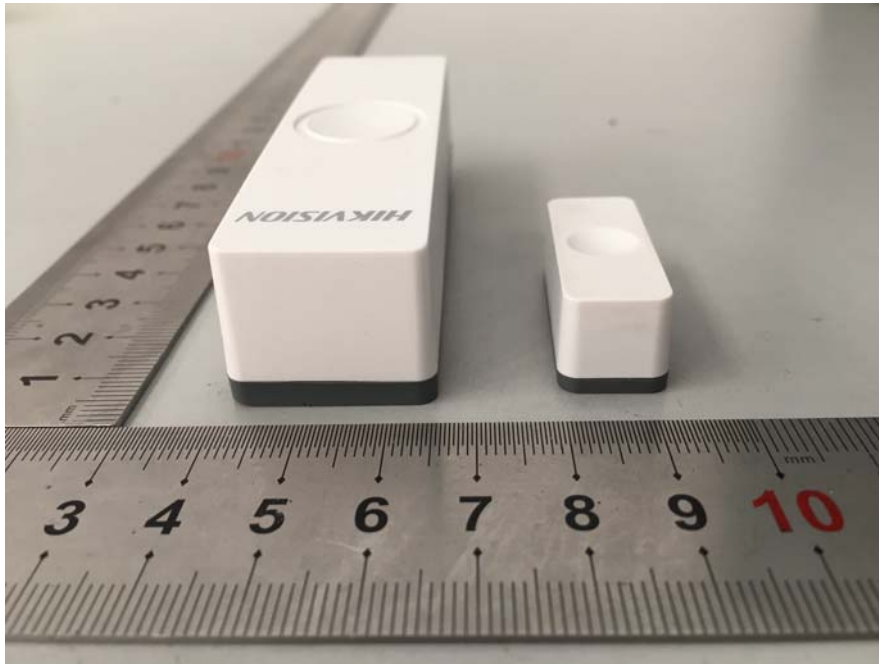
**EUT – Top View**



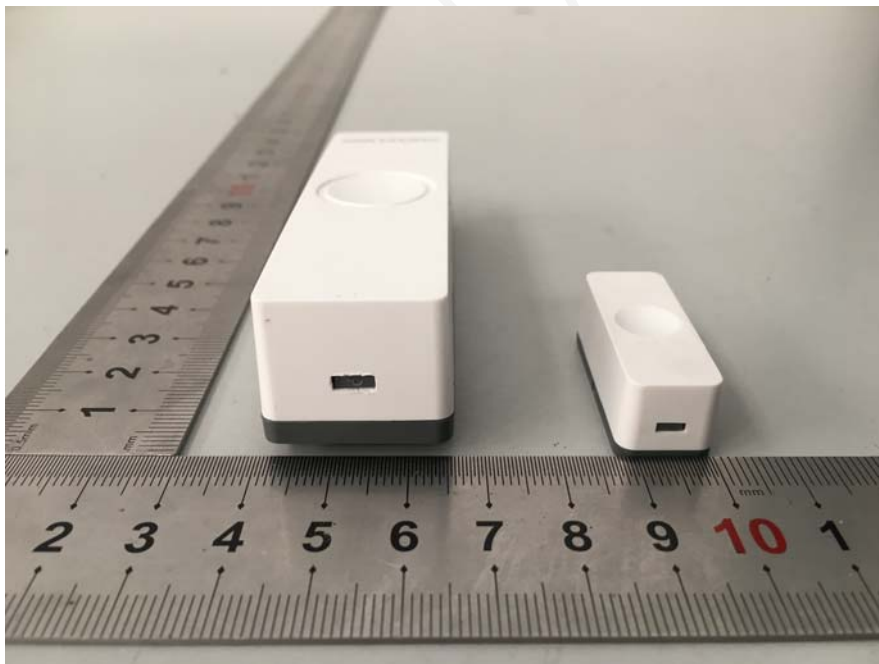
**EUT – Bottom View**



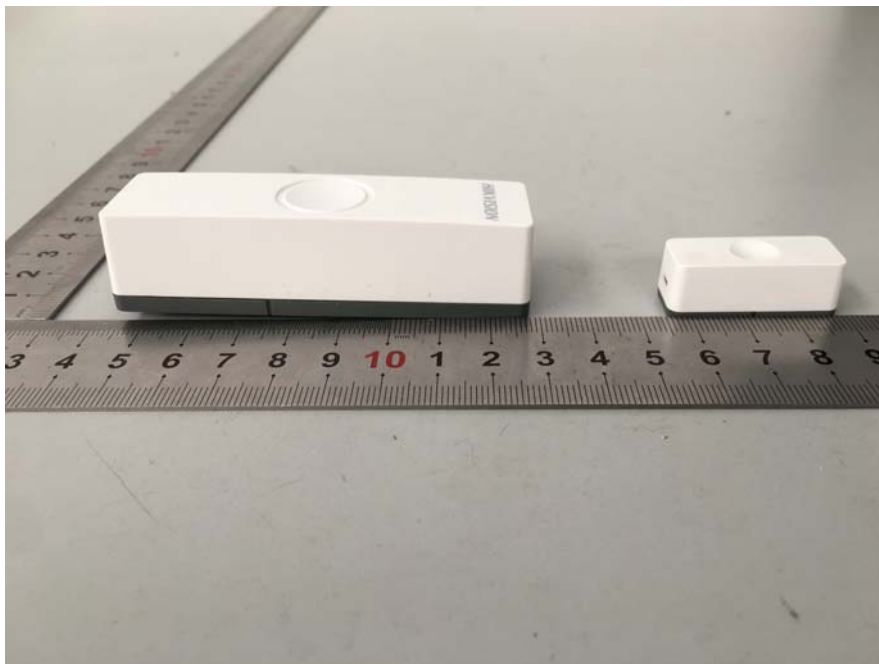
**EUT – Front View**



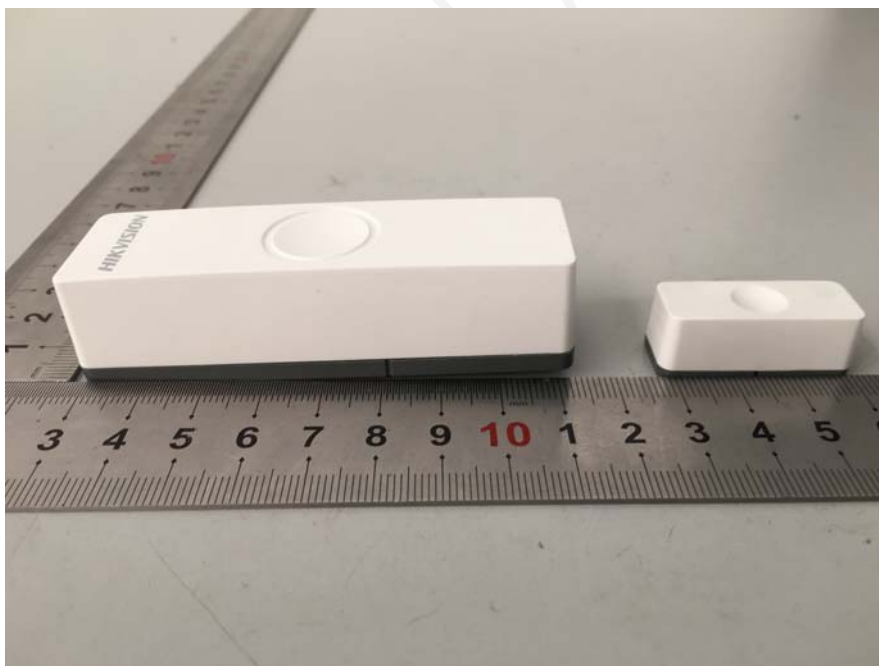
**EUT – Rear View**



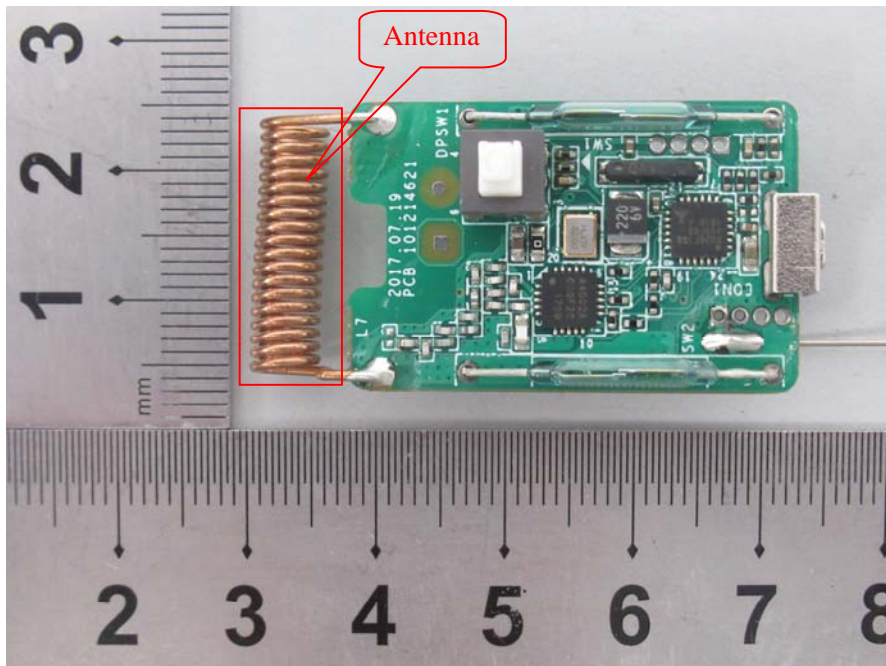
**EUT – Left View**



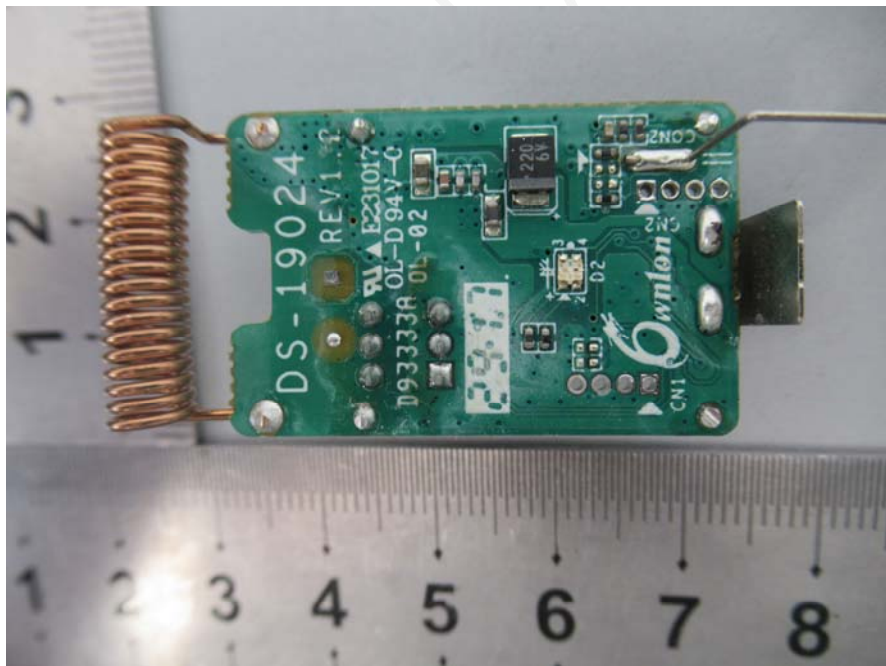
**EUT – Right View**



**EUT – PCB Top View**



**EUT – PCB Bottom View**





**EUT – Battery Top View**

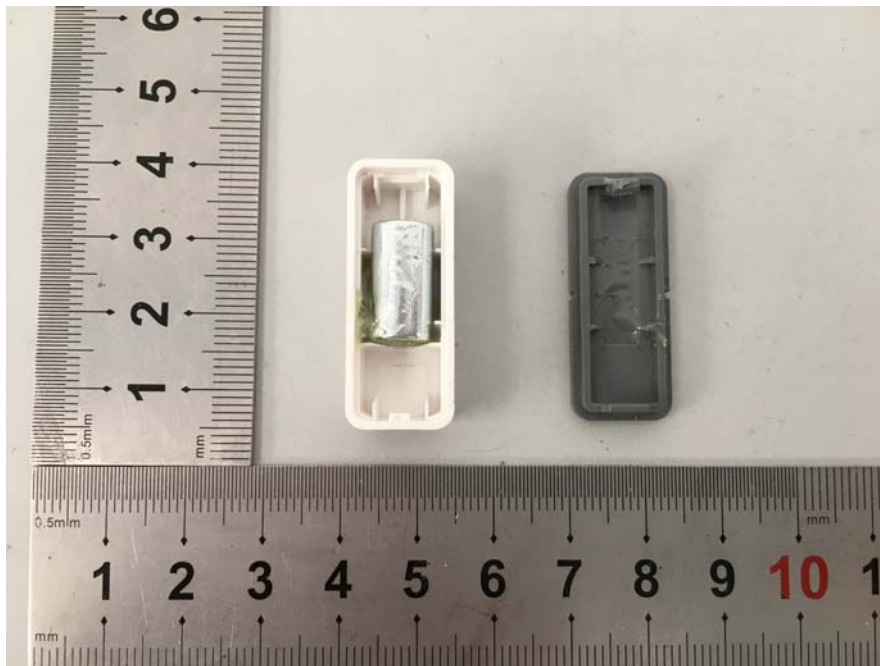


**EUT – Battery Bottom View**

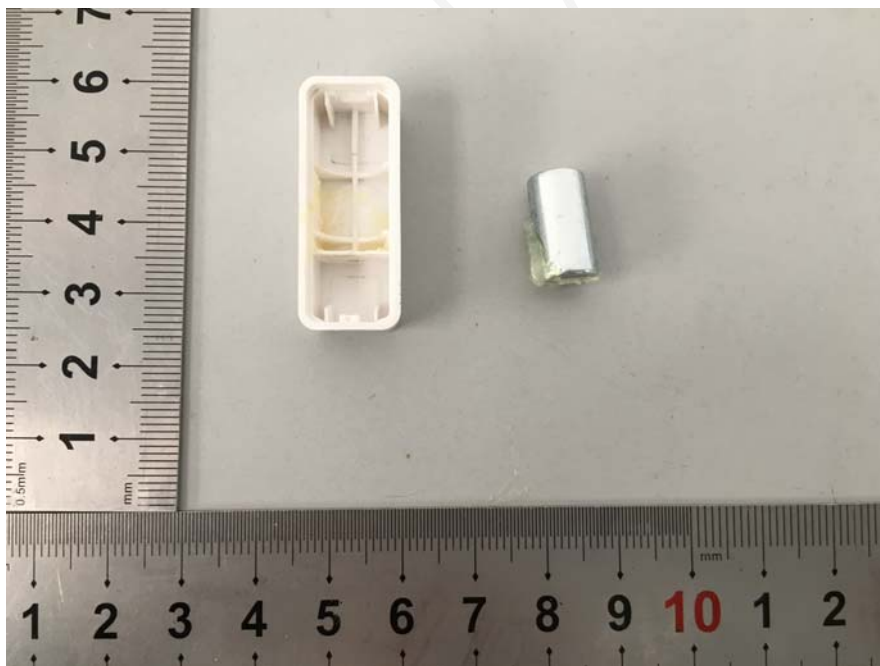




**EUT – Cover off View -1**



**EUT – Cover off View -2**



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ASSESSMENT REPORT

For

**Hangzhou Hikvision Digital Technology Co., Ltd.**

No. 555 Qianmo Road, Binjiang District, Hangzhou 310052, China

**Tested Model: DS-PD1-MC-WWS**

<b>Report Type:</b> Original Report	<b>Product Type:</b> Wireless Magnetic Contact
<b>Test Engineer:</b> Alisa Gao	<i>Alisa. Gao</i>
<b>Report Number:</b> RKSA180418003-01C	
<b>Report Date:</b> 2018-05-10	
<b>Reviewed By:</b> Oscar Ye RF Leader	<i>Oscar. Ye</i>
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## TABLE OF CONTENTS

<b>GENERAL INFORMATION.....</b>	<b>3</b>
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT) .....	3
OBJECTIVE .....	3
RELATED SUBMITTAL(S)/GRANT(S).....	3
TEST METHODOLOGY .....	3
TEST FACILITY .....	3
TECHNICAL REQUIREMENTS SPECIFICATION IN EN 62311.....	4
TEST DATA .....	5
<b>EXHIBIT A - EUT PHOTOGRAPHS.....</b>	<b>6</b>
EUT-TOP VIEW .....	6
EUT-BOTTOM VIEW .....	6
EUT-FRONT VIEW .....	7
EUT-REAR VIEW .....	7
EUT-LEFT VIEW .....	8
EUT-RIGHT VIEW .....	8
EUT -COVER OFF VIEW -1 .....	9
EUT -COVER OFF VIEW -2 .....	9
EUT -PCB TOP VIEW.....	10
EUT -PCB BOTTOM VIEW .....	10
EUT -BATTERY TOP VIEW .....	11
EUT -BATTERY BOTTOM VIEW.....	11
EUT -COVER OFF VIEW -3 .....	12
EUT -COVER OFF VIEW -4 .....	12

## GENERAL INFORMATION

### Product Description for Equipment under Test (EUT)

Applicant	Hangzhou Hikvision Digital Technology Co., Ltd.
Tested Model	DS-PD1-MC-WWS
Product Type	Wireless Magnetic Contact
Dimension	84mm(L)*25mm(W)*21mm(H)
Power Supply	DC 3.0V from Lithium Battery

*\*All measurement and test data in this report was gathered from production sample serial number: 20180418003 (Assigned by the BACL. The EUT supplied by the applicant was received on 2018-04-18)*

### Objective

This report is prepared on behalf of *Hangzhou Hikvision Digital Technology Co., Ltd.* in accordance with EN 62311:2008, Generic standard to demonstrate the compliance of electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (0 Hz–300 GHz) is to demonstrate the compliance of apparatus with the basic restrictions or reference levels on exposure of the general public related to electric, magnetic, electromagnetic fields as well as induced and contact current.

The objective is to determine the compliance of EUT with EN 62311:2008.

### Related Submittal(s)/Grant(s)

No related submittal(s).

### Test Methodology

All measurements contained in this report were conducted with EN 62311:2008.

### Test Facility

The test site used by Bay Area Compliance Laboratories Corp. (Kunshan) to collect test data is located on the No.248 Chenghu Road, Kunshan, Jiangsu province, China.

Bay Area Compliance Laboratories Corp. (Kunshan) Lab is accredited to ISO/IEC 17025 by A2LA (Lab code: 4323.01) and the FCC designation No. CN1185 under the FCC KDB 974614 D01. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2014.

## Technical Requirements Specification in EN 62311

### General Description of Applied Standards

EN 62311 Generic standard to demonstrate the compliance of electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (0 Hz–300 GHz) is to demonstrate the compliance of apparatus with the basic restrictions or reference levels on exposure of the general public related to electric, magnetic, electromagnetic fields as well as induced and contact current.

### RF Exposure Evaluation

#### Limit:

According to EN 62311, the criteria listed in the below table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified table 2 of Council Recommendation 1999/519/EC.

Reference levels for electric, magnetic and electromagnetic fields  
(0 Hz to 300 GHz, unperturbed rms values)

Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field ( $\mu\text{T}$ )	Equivalent plane wave power density $S_{\text{eq}}$ ( $\text{W}/\text{m}^2$ )
0-1 Hz	—	$3,2 \times 10^4$	$4 \times 10^4$	—
1-8 Hz	10 000	$3,2 \times 10^4/f^2$	$4 \times 10^4/f^2$	—
8-25 Hz	10 000	$4\,000/f$	$5\,000/f$	—
0,025-0,8 kHz	$250/f$	$4/f$	$5/f$	—
0,8-3 kHz	$250/f$	5	6,25	—
3-150 kHz	87	5	6,25	—
0,15-1 MHz	87	$0,73/f$	$0,92/f$	—
1-10 MHz	$87/f^{1/2}$	$0,73/f$	$0,92/f$	—
10-400 MHz	28	0,073	0,092	2
400-2 000 MHz	$1,375 f^{1/2}$	$0,0037 f^{1/2}$	$0,0046 f^{1/2}$	$f/200$
2-300 GHz	61	0,16	0,20	10

#### Notes:

1.  $f$  as indicated in the frequency range column.

## Test method

The antenna of the product, under normal use condition is at least 20cm away from the body of the user. Warning statement of the user for keeping 20cm separation distance and the prohibition of operating to a person has been printed on the user manual. So, this product under normal use is located on electromagnetic far field between the human body.

### Far Field Calculation Formula

$$E = \frac{\sqrt{30PG(\theta, \phi)}}{r}$$

$G$  = antenna gain relative to an isotropic antenna  
 $\theta, \phi$  = elevation and azimuth angles to point of investigation  
 $r$  = distance from observation point to the antenna

## Test Data

### Environmental Conditions

Temperature:	24.1 °C
Relative Humidity:	50 %
ATM Pressure:	101.0 kPa

The testing was performed by Alisa Gao on 2018-05-03.

Frequency Range (MHz)	ERP (dBm)	ERP (mW)	E-Field Strength (V/m)	E-Field Limit (V/m)	Result
433.60	-11.29	0.07	0.23	28.63	Pass

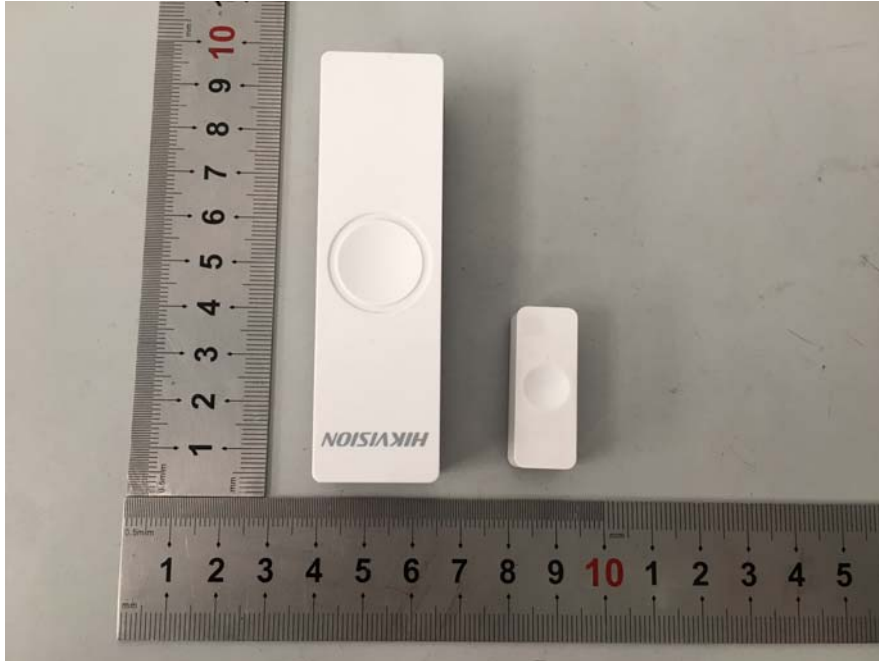
Note: Antenna Gain (numeric): -9.85dBi (0.1) for 433.60MHz channel.

The distance from observation point to the antenna is 20cm.

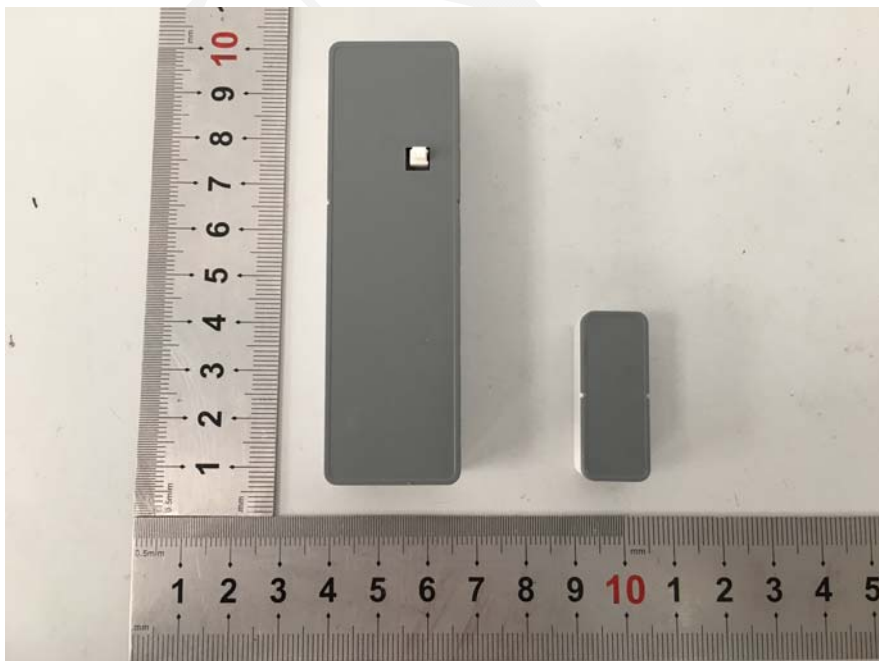


**EXHIBIT A - EUT PHOTOGRAPHS**

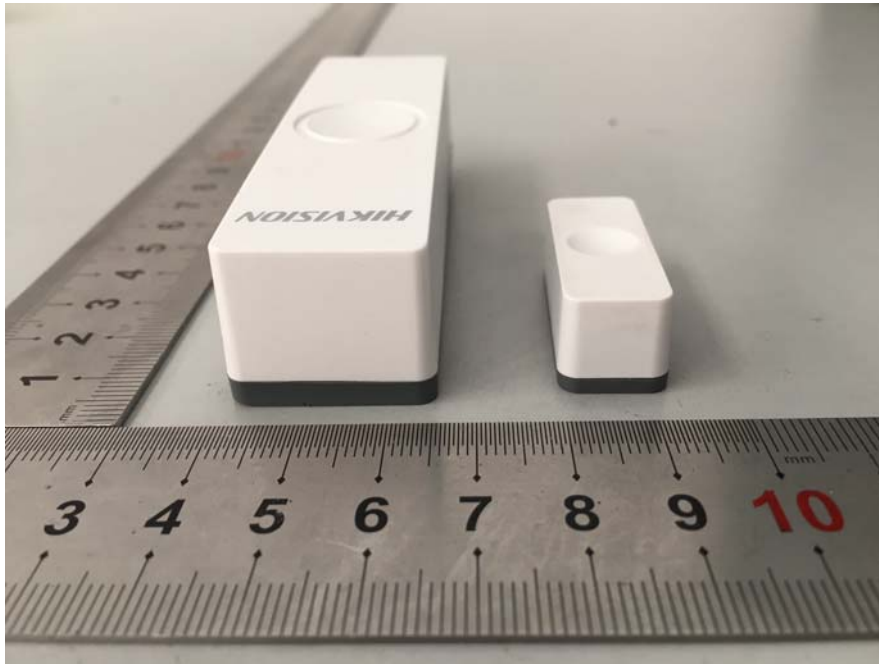
**EUT-Top View**



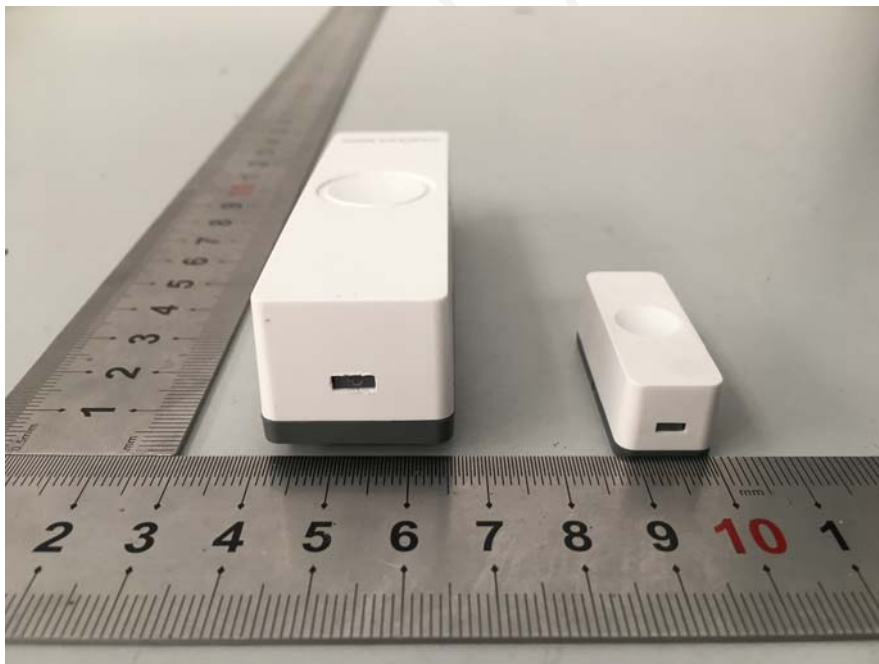
**EUT-Bottom View**



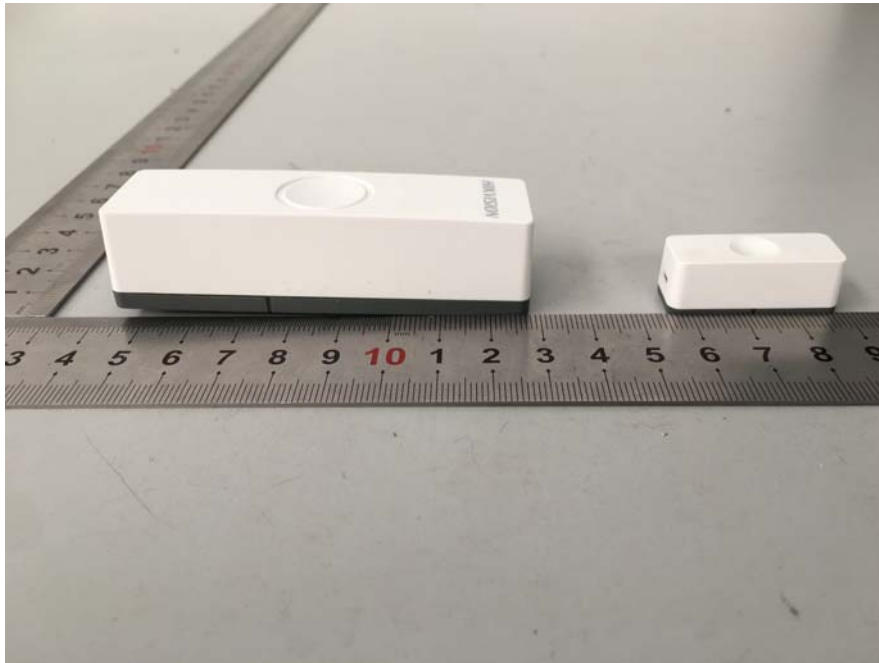
**EUT-Front View**



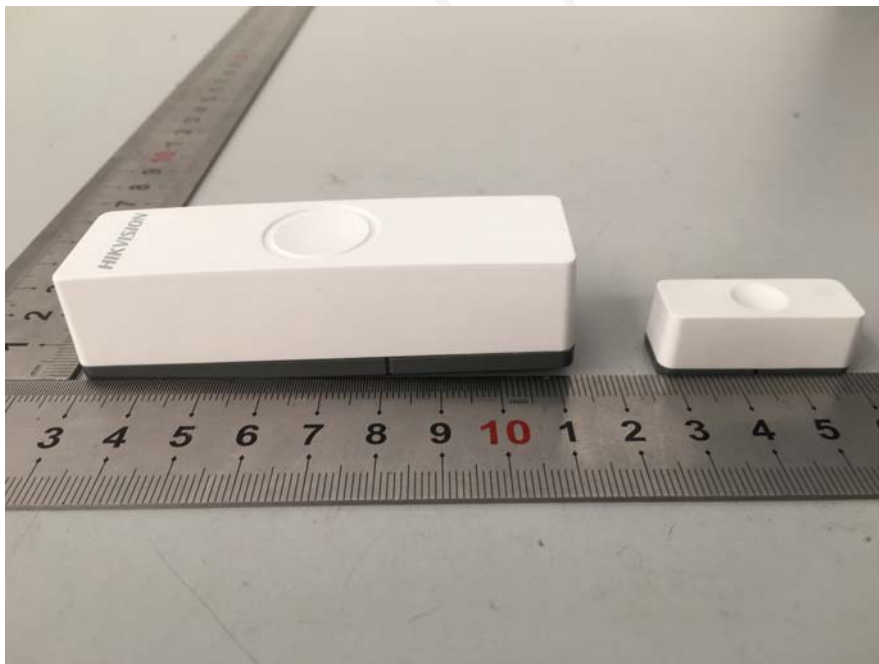
**EUT-Rear View**



**EUT-Left View**



**EUT-Right View**



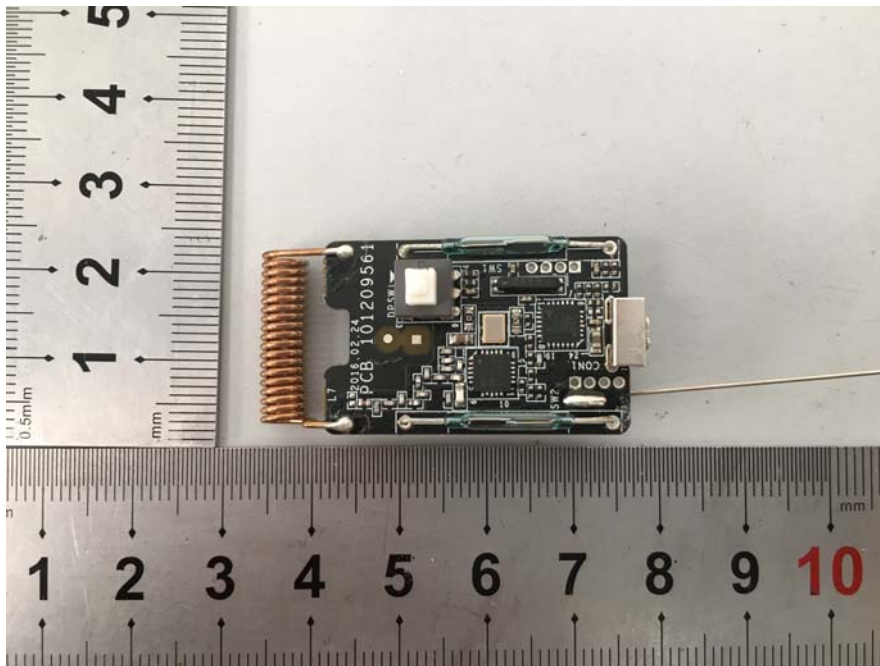
**EUT –Cover off View -1**



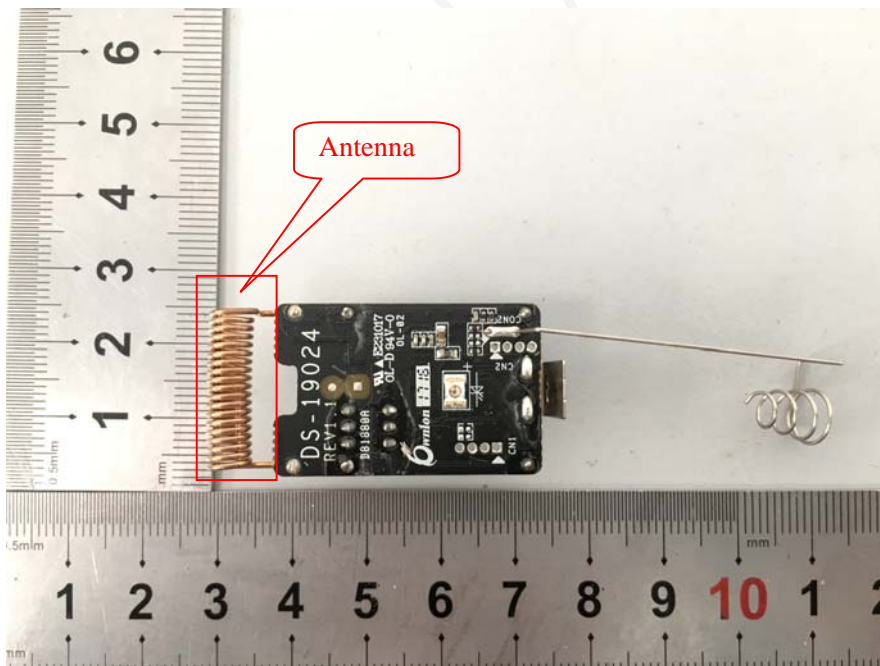
**EUT –Cover off View -2**



**EUT –PCB Top View**



**EUT –PCB Bottom View**





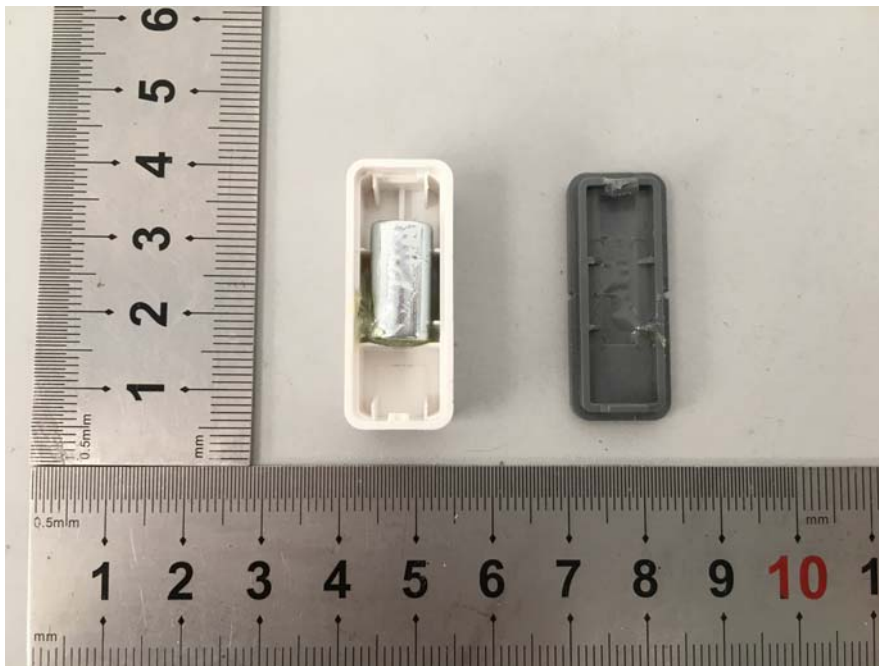
**EUT –Battery Top View**



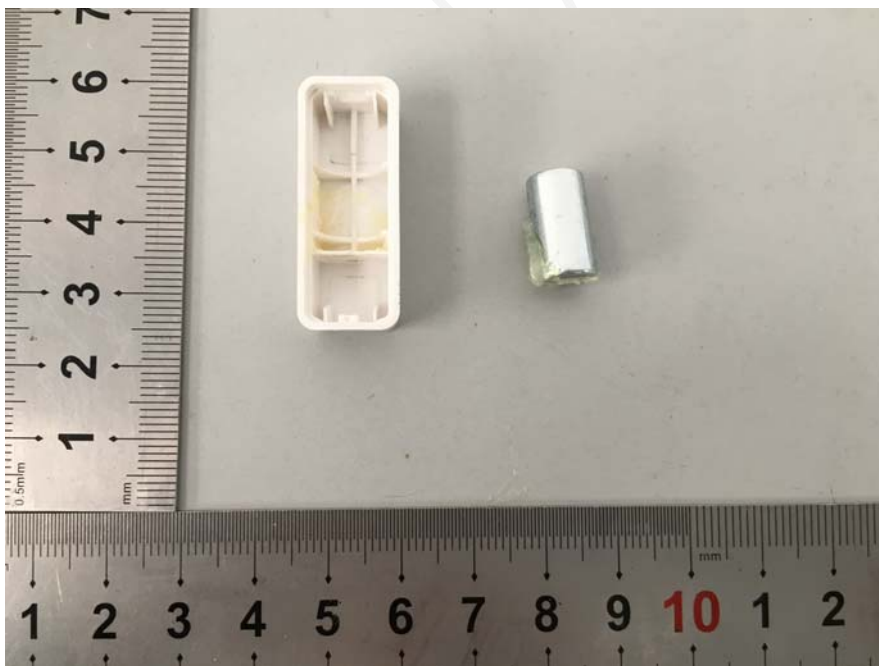
**EUT –Battery Bottom View**



**EUT –Cover off View -3**



**EUT –Cover off View -4**



**\*\*\*\* END OF REPORT \*\*\*\***