



TEST REPORT



KCTL Eurofins KCTL Co.,Ltd.

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www.kctl.co.kr

Report No.:
KR23-YYP0943-A
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1. Client

- Name : SJIT Co.,Ltd
- Address : 54-11, Dongtanhana 1-gil, Hwaseong-si, Gyeonggi-do, Republic of Korea
- Date of Receipt : 2024-06-12

2. Use of Report : For Quality evaluation

3. Name of Product / Model : Sigfox asset tracker / IET20W

4. Manufacturer / Country of Origin : SJIT Co.,Ltd / Korea

5. Date of Test : 2023-08-22 to 2023-08-23

6. Location of Test : ☒ Permanent Testing Lab ☐ On Site Testing
(Address: 52-20, Sinjeong-ro 41 beon-gil, Giheung-gu, Yongin-si, Gyeonggi-do 17093, Korea)

7. Test method used : IEC 60529: 2013 (IP56)

8. Test Result : Refer to the test result in the test report

This laboratory is not accredited for the test results marked. *

Affirmation	Tested by	Technical Manager
	Name : Sungjae Kim (Signature)	Name : Kyunghoon Ahn (Signature)

The above testing certificate is the accredited test result by Korea Laboratory Accreditation Scheme, which signed the ILAC-MRA.

2024-07-31

Accredited by KOLAS, Republic of KOREA

Eurofins KCTL Co.,Ltd.

As a test result of the sample which was submitted from the client, this report does not guarantee the whole product quality. This test report should not be used and copied without a written agreement by Eurofins KCTL Co.,Ltd.

REPORT REVISION HISTORY

Date	Revision	Page No
2023-08-28	Originally issued (KR23-YYP0943)	-
2024-07-31	Reissue with changes in client's name, address and manufacturer due to merger at the request of the client (Client's name and Manufacturer: SJI Co.,Ltd -> SJIT Co.,Ltd, Address: 54-33, Dongtanhana 1-gil, Hwaseong-si, Gyeonggi-do, Republic of Korea -> 54-11, Dongtanhana 1-gil, Hwaseong-si, Gyeonggi-do, Republic of Korea)	1

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General remarks for test reports

- None

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1. Test Laboratory

1.1 General

Name of Test Laboratory	Eurofins KCTL Co., Ltd.
Address	52-20, Sinjeong-ro 41 beon-gil, Giheung-gu, Yongin-si, Gyeonggi-do 446-599, Korea
TEL	82 31-326-6700
FAX	82 505-299-8311
Home page	www.kctl.co.kr

1.2 Certificate of Designated Testing Laboratory

Mark.	Registration No.
NRRA	KR0040
KOLAS	No. KT231
IEC(CB-Scheme)	TL512
TUV-SUD	CARAT 15 08 93040 001
VCCI Council	R-3327, C-3706, T-1849, G-198
DSP Research, Inc.	G039
FCC	Test Firm Registration No. 687132
INDUSTRY CANADA	Company Address Code: 8035A

2. Specification

2.1 Specification

Division	Specification
Product Name	Sigfox asset tracker
Basic Model	IET20W
Series Model	IET21W, IET30W, IET31W
Sample Quantity	Total 2 EA (#1: Dustproof_IP5X, #2: Waterproof_IPX6)

- The basic model and series model are identical hardware.
- The model "IET20W" was conducted tests representatively.

2.2 Test Photograph



[Product Photograph 01]



[Product Photograph 02]

3. Test Method and Result

3.1 Protection against access to hazardous parts (IP5X)

3.1.1 Test Equipment

Instrument description	Model	Manufacturer	Serial number	Due Cal
Test Probe D	N/A	CERTIC	N/A	2024-01-28
Push pull Scale	FB-50K	IMADA	428830	2023-11-23

3.1.2 Date of test / Environment of test

- 1) 2023-08-22
- 2) Temperature (25 ± 2) °C, Humidity (52 ± 3) % R.H., Air pressure (99 ± 2) kPa

3.1.3 Test Conditions

Item	Description
Test standard	IEC 60529: 2013 (IP5X)
First characteristic numeral	IP5X (Protected against access to hazardous parts with a wire)
Test condition	1. Access probe: 1.0 mm ø, 100 mm length 2. Test force: 1 N ± 10 %
Test location	All of the outside openings
Definition	The access probe of 1.0 mm ø shall not penetrate

3.1.4 Test Result

Check List	Test Result
Protected against access to hazardous parts with a wire	No abnormality was found

3.1.5 Test photograph



[During the test]

3.2 Protection against solid foreign objects test (IP5X)

3.2.1 Test Equipment

Instrument description	Model	Manufacturer	Serial number	Due Cal
Dust Chamber	ABC-DT-1000	ABCMTS	N/A	N/A
Vacuum gauge	(0.2, ~5 ~ 0) kPa	WISE	P220205668	2024-02-20
Digital Timer	DUAL	ACUBA	N/A	2025-01-05

3.2.2 Date of test / Environment of test

- 1) 2023-08-22 to 2023-08-23
- 2) Temperature (25 ± 10) °C, Humidity (50 ± 25) % R.H, Air pressure (96 ± 10) kPa

3.2.3 Test Conditions

Item	Description
Test standard	IEC 60529: 2013 (IP5X)
First characteristic numeral	IP5X (Dust-protected)
Enclosures	Category 1
Maximum Depression	Less than 2 kPa
Test condition	1, Standard sieve wire nominal diameter of talc dust for test: 50 µm 2. Standard talc wire spacing: 75 µm 3. The amount of talc dust per unit volume: 2 kg/m ³
Test time	8 h
Definition	Ingress of dust is not totally prevented, but dust shall not penetrate in a quantity to interfere with satisfactory operation of the apparatus or to impair safety

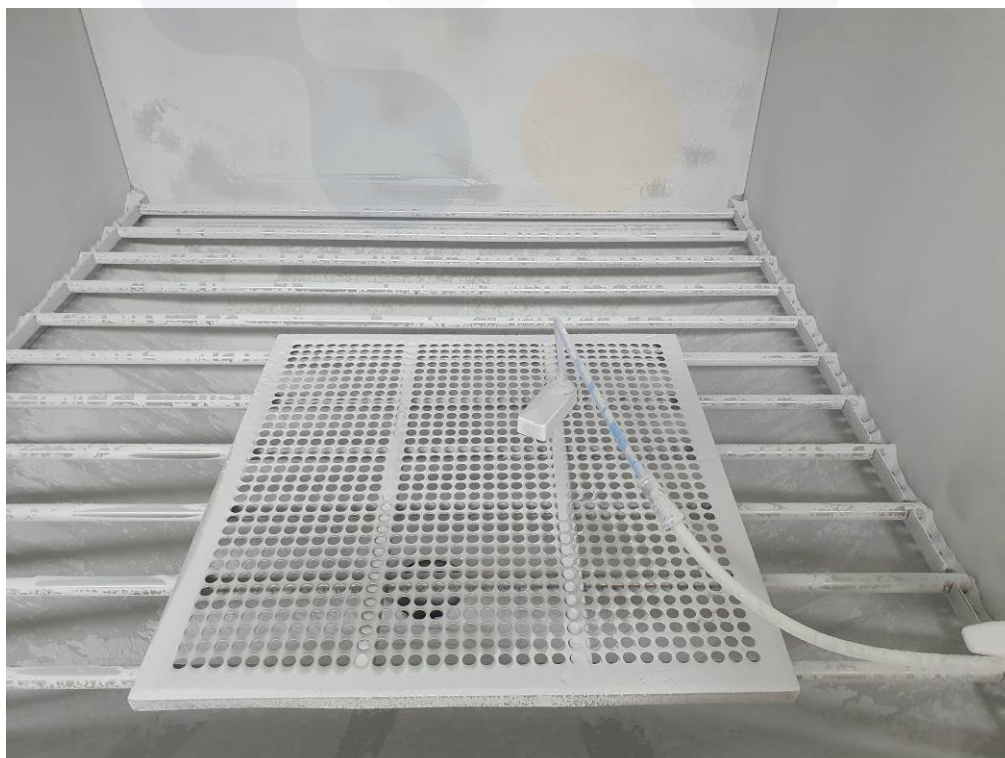
3.2.4 Test Result

Check List	Test Result
Protection against solid foreign objects	No ingress of dust

3.2.5 Test photograph



[During test]



[After test]

3.2.6 Test Result Photograph



[Test result confirmation]

3.3 Protection against water test (IPX6)

3.3.1 Test Equipment

Instrument description	Model	Manufacturer	Serial number	Due Cal
Spray Nozzle	IP06-N	ELEX POLYTECH	0160054	2024-02-09
Flow Meter	F-1000-RT	BLUE-WHITE	001281667	2024-01-30
Measuring Tape	KMC-32D_7.5 m	KOMELON	N/A	2024-09-22
Digital Timer	DUAL	ACUBA	N/A	2025-01-05

3.3.2 Date of test / Environment of test

- 1) 2023-08-22
- 2) Temperature (25 ± 2) °C, Humidity (52 ± 3) % R.H., Air pressure (99 ± 2) kPa

3.3.3 Test Conditions

Item	Description
Test standard	IEC 60529: 2013 (IPX6)
Second characteristic numeral	IPX6 (Protected against powerful water jets)
Test condition	1. Water jet hose nozzle Figure 6, Nozzle 12.5 mm diameter 2. Water flow rate: 100 L/min \pm 5 % 3. Distance: 2.5 to 3.0 m
Test time	1 min/m ² , at least 3 min
Definition	Water projected in powerful jets against the enclosure from any direction shall have no harmful effects.

3.3.4 Test Result

Check List	Test Result
Protected against powerful water jets	No inflow of water

3.3.5 Test photograph



[Water flow rate check]



[During test]

