



TEST REPORT



DT&C Co., Ltd.

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1. Report No. : DRCKREL1901-0042

2. Customer

• Name : HANYOUNGNEX CO., LTD

• Address : 28, Gilpa-ro 71 beon-gil, Nam-gu, Incheon, Korea

3. Use of Report : Validation

4. Product Name / Model Name : LED Sign Tower / STL060-F-C51-5-M

5. Test Method Used : IEC 60529 : 2013

6. Date of Test : January 22, 2019 ~ January 24, 2019

7. Testing Environment : Temperature (23 ± 2) °C, Humidity (38 ± 5) % R.H.

8. Test Result : Refer to the attached document

The test results presented in this test report are limited only to the sample supplied by applicant and the use of this test report is inhibited other than its purpose. This test report shall not be reproduced except in full, without the written approval of DT&C Co., Ltd.

Affirmation	Tested by	Technical Manager
	Name : GyuJin Lim (Signature)	Name : JaeHan Jung (Signature)

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

2019. 01. 29.

DT&C Co., Ltd.

Accredited by KOLAS, Republic of KOREA

* This laboratory is not accredited for the test results marked

If this report is required to confirmation of authenticity, please contact to report@dtnc.net



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1. Overview

This test is performed in accordance with requirement of the customer along with the test specifications and the test product submitted by the customer.

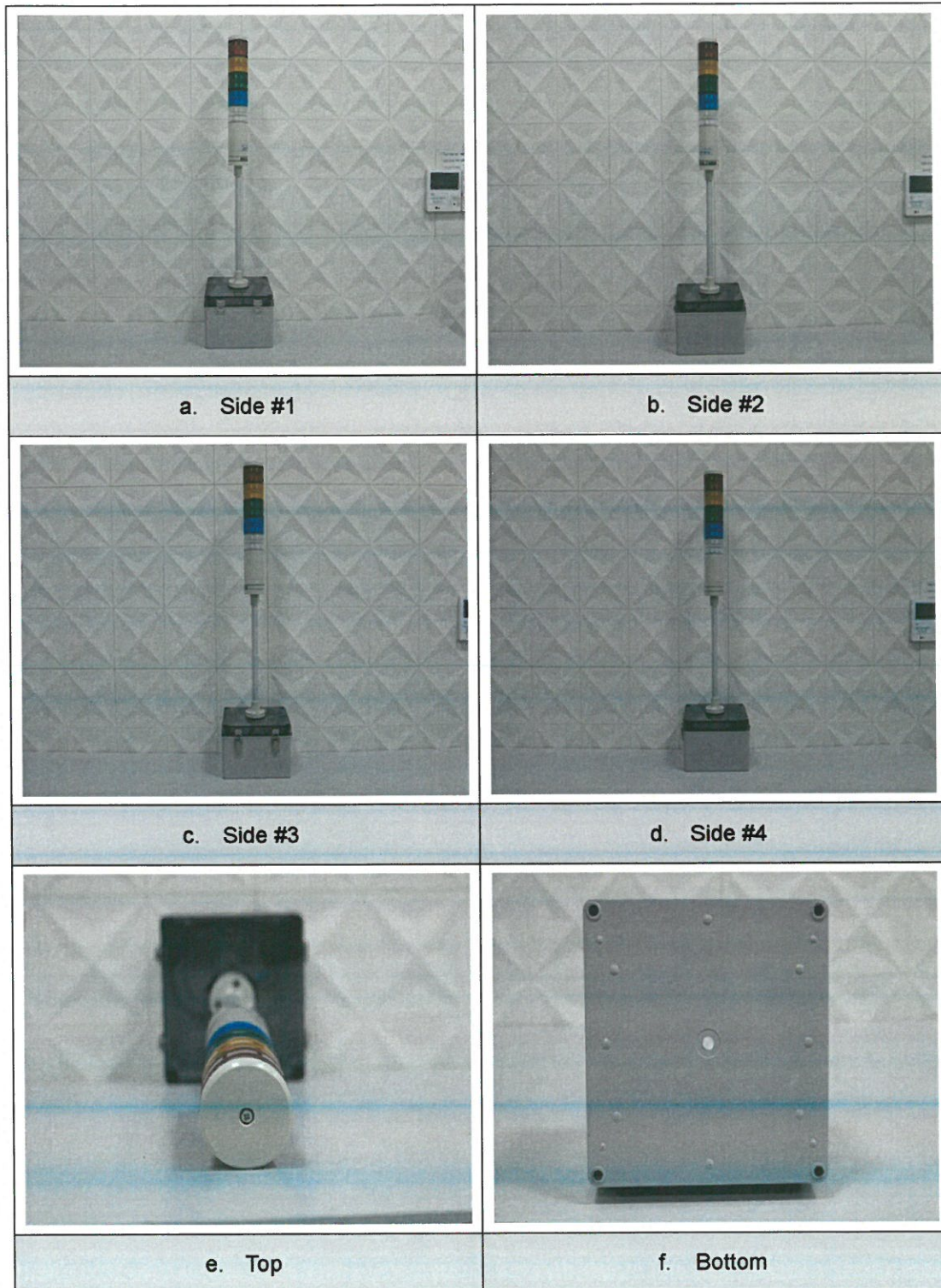
2. Product

2.1. Description

- (1) Customer & Manufacturer : HANYOUNGNUX CO., LTD
- (2) Product name : LED Sign Tower
- (3) Model name : STL060-F-C51-5-M



2.2. Photograph



[Photo 1] LED Sign Tower



3. Test condition & Test result

3.1. IP5X

<Table 1> Product information

Customer	HANYOUNGNUX CO., LTD	Date of Test	January 23, 2019 ~ January 24, 2019
Product name	LED Sign Tower	Model name	STL060-F-C51-5-M
Test standard	IEC 60529 : 2013 (IP Code)		

(1) Test conditions

- 1) IP Code : IP5X (Dust-protected) – Category 2.
- 2) Talcum powder(mesh) : wire diameter of which is 50 μm and the nominal width of
a gap between wires 75 μm
- 3) Amount of talcum powder of the test chamber : 2 kg/m³
- 4) Test time : 8 h
- 5) Product check : Observation of dust penetration
- 6) Product condition : ① Unpackaged ② Non-operation
- 7) Product quantity : 1 EA

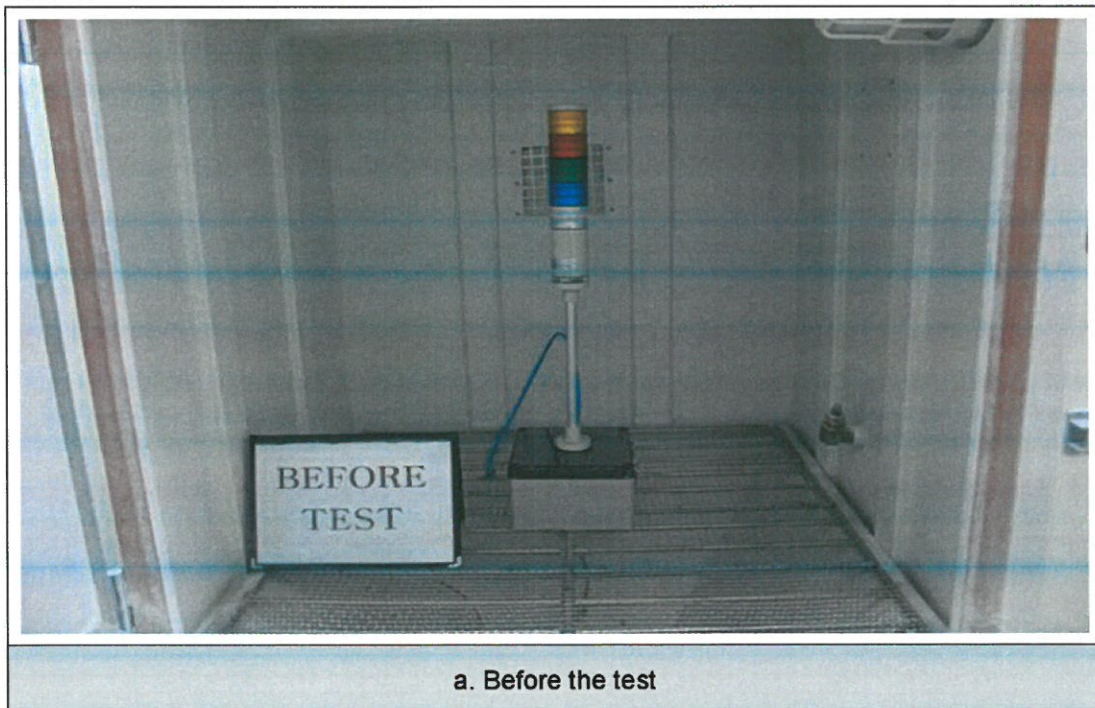


(2) List of used equipment

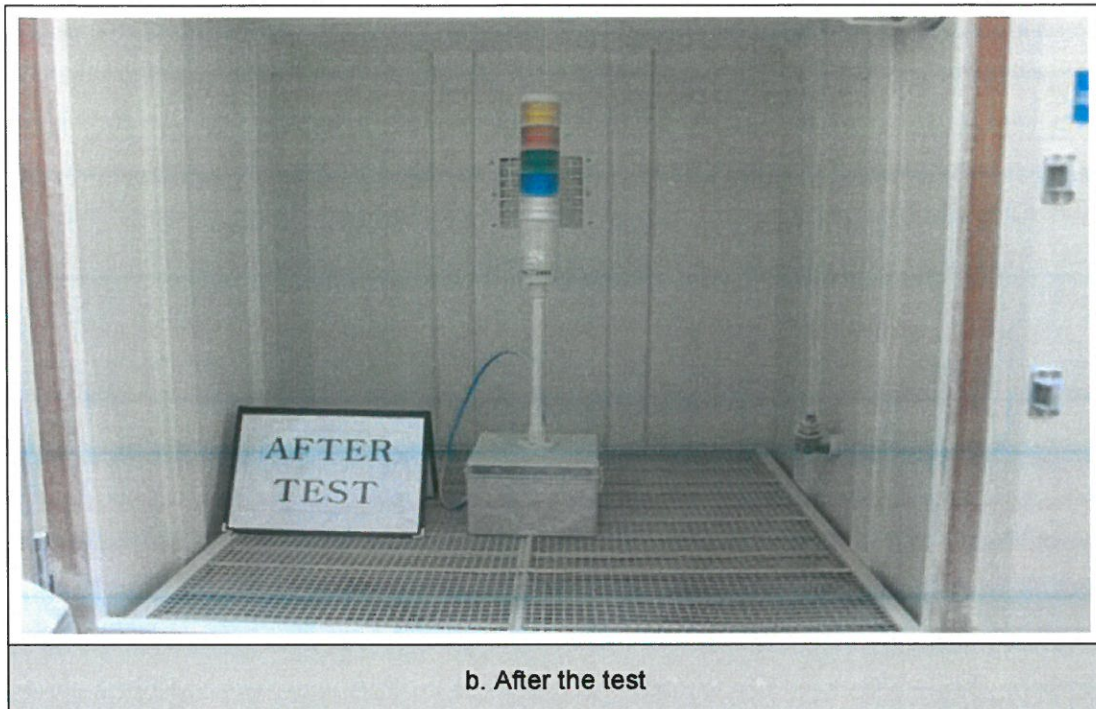
<Table 2> List of used equipment

Description	Model / Manufacturer	Serial number	The next scheduled calibration date	Calibration laboratory
Dust chamber (Timer)	EN-DCT-1000F / Enex (LE3S / AUTONICS)	20150420-03 (14-16764)	- (March 28, 2019)	- (HCT)
Standard sieve	75 μ m / Chung Gye Sang Gong Sa	E9	February 21, 2019	SICT
Thermo- hygrometer	PC-5000TRH-2 / SATO	#3	August 16, 2019	SICT

(3) Test photograph



(Continue)



[Photo 2] Test photograph

(4) Test result

<Table 3> Test result

Check list	Test result
Observation of dust penetration	No dust penetration is observed. (Refer to * Appendix 1.)



3.2. IPX4

<Table 4> Product information

Customer	HANYOUNGNUX CO., LTD	Date of Test	January 22, 2019
Product name	LED Sign Tower	Model name	STL060-F-C51-5-M
Test standard	IEC 60529 : 2013 (IP Code)		

(1) Test conditions

- 1) IP Code : IPX4 (Protected against splashing water)
- 2) Water flow rate : $10 \times (1 \pm 5 \%)$ L/min
- 3) Test pressure : (50 ~ 150) kPa
- 4) Spray distance : (300 ~ 500) mm
- 5) Test time : 5 min
- 6) Product check : Observation of water penetration
- 7) Product condition : ① Unpackaged ② Non-operation
- 8) Product quantity : 1 EA

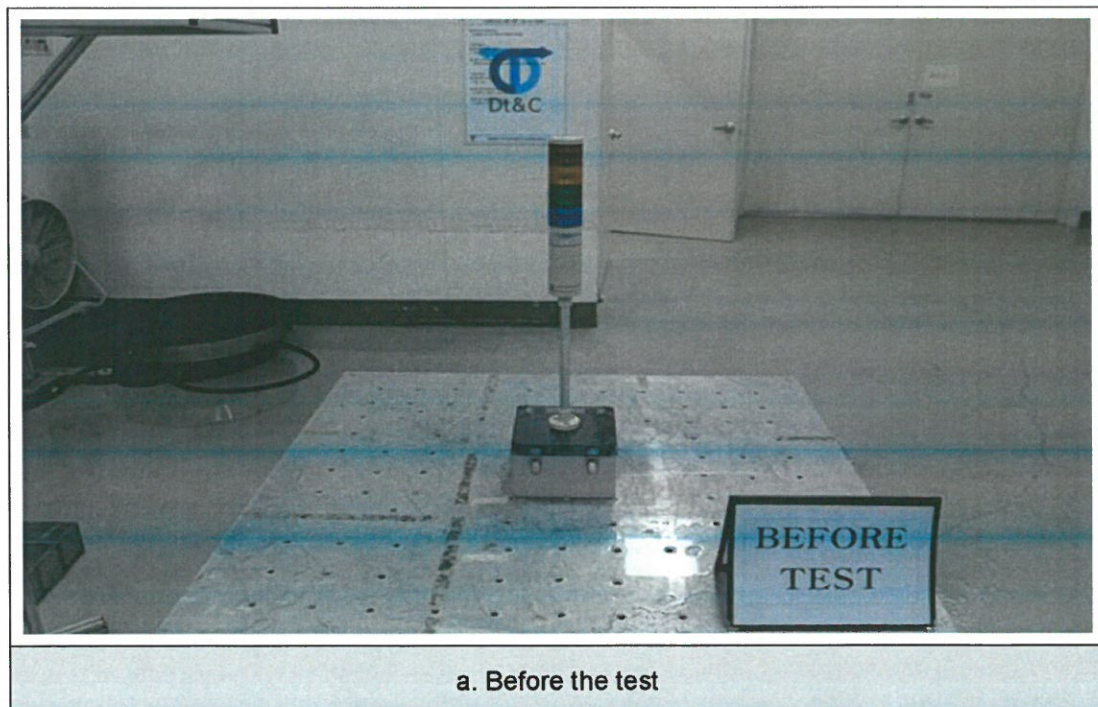


(2) List of used equipment

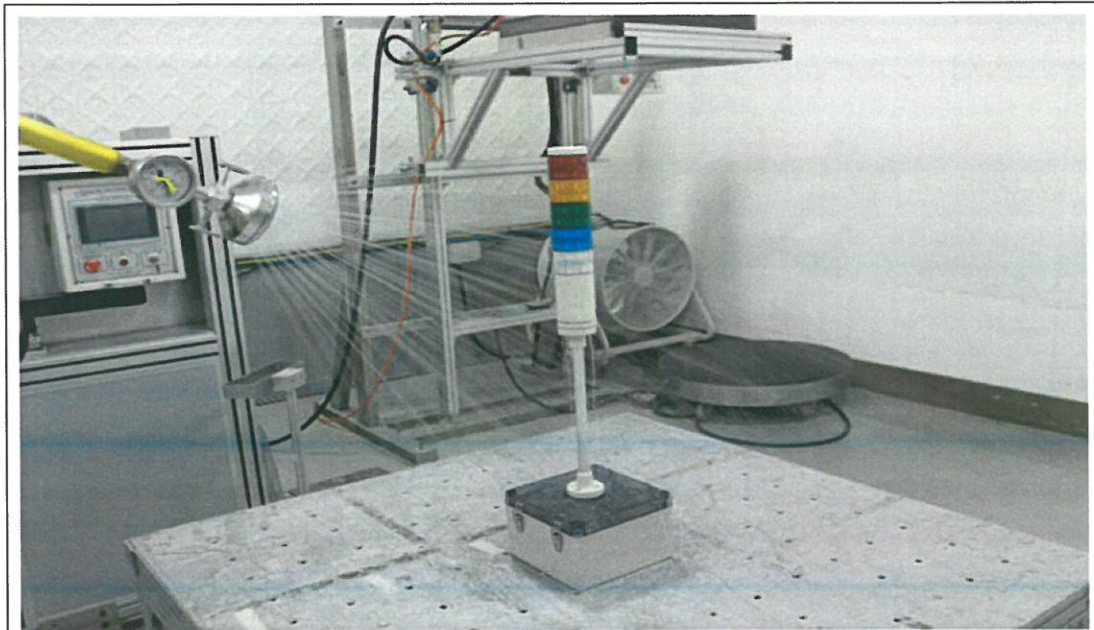
<Table 5> List of used equipment

Description	Model / Manufacturer	Serial number	The next scheduled calibration date	Calibration laboratory
IP tester	SOS-100 / SCM TECH	E1	-	-
Variable area flow meter	PA-601 / Kometer	P-1812063	December 12, 2019	Kometer
Pressure gauge	0.1 MPa / DREAM	603204	May 15, 2019	SICT
Stop watch	HS-70W-1DF / CASIO	412Q08R	February 14, 2020	SICT
Tapeline	SFGL25-75 / TAJIMA	E15	August 17, 2020	SICT
Thermo-hygrometer	PC-5000TRH-2 / SATO	#3	August 16, 2019	SICT

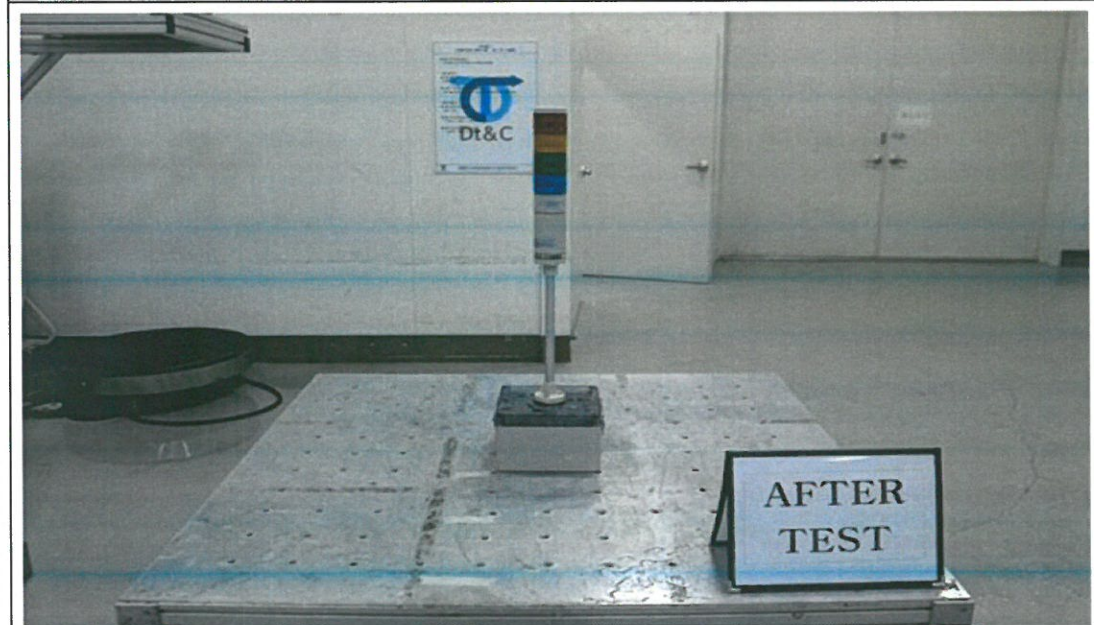
(3) Test photograph



(Continue)



b. During the test



c. After the test

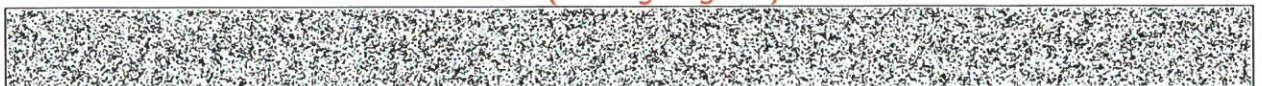
[Photo 3] Test photograph



(4) Test result

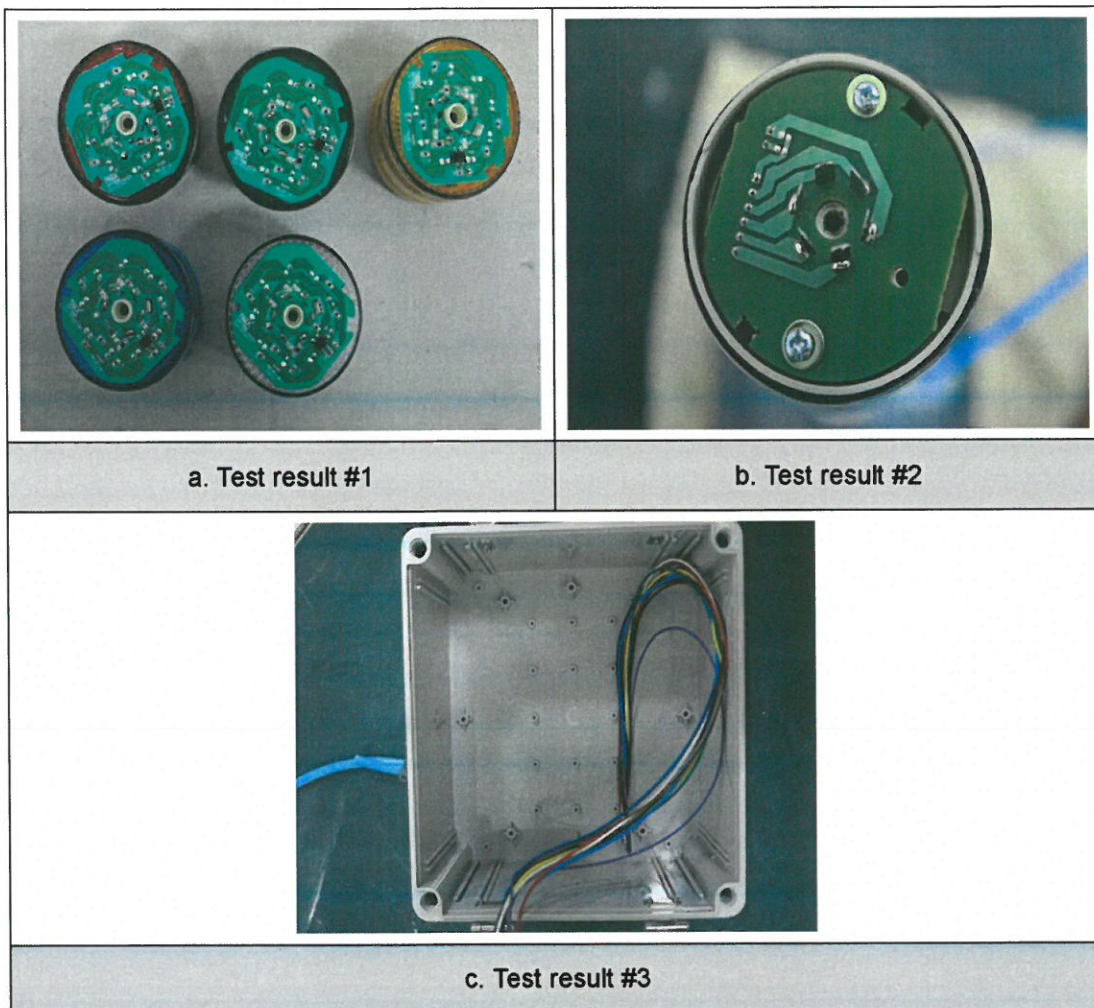
<Table 6> Test result

Check list	Test result
Observation of water penetration	No water penetration is observed. (Refer to * Appendix 1.)



*** Appendix 1. Test result**

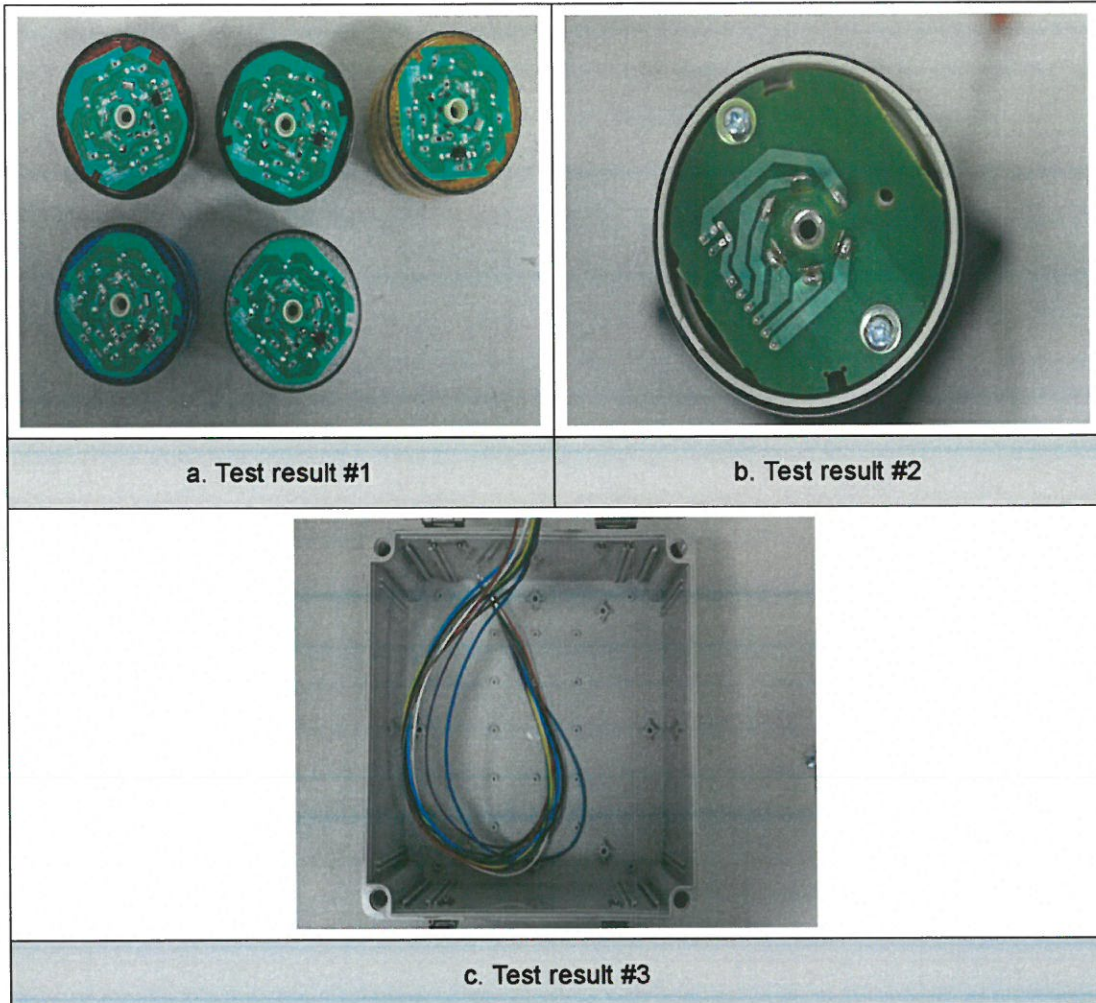
(1) IP5X



[Photo 4] IP5X test result photograph



(2) IPX4



[Photo 5] IPX4 test result photograph

-End-

