시 험 성 적 서
TEST REPORT

성적서 번호 Report No.		ICRT-TR-I250159-0A
신청자 Client	기관명 Name	Hanwha Vision Co., Ltd.
	주 소 Address	6 Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, 13488 KOREA
시험대상품목 Sample description		NETWORK CAMERA
모델명 Type designation		PNV-A9082RZ
정 격 Ratings		-
시험장소 Place of test		■ 고정시험(Inside test) □ 현장시험(Field test) 주소지(Address) : ICR, 112, Hwanggeum 3-ro 7beon-gil, Yangchon-eup, Gimpo-si, Gyeonggi-do
시험기간 Date of test		2025. 03. 04
시험방법/항목 Test Method/Item		ISO 20653 : 2013 (IP6K9K)
시험결과 Test Results		Test Results Reference
확 인 Affirmation	작성자 Tested by	성 명 나 준 수 Name J. S. Na (Signature)
	기술책임자 Technical Manager	성 명 권 상 혁 Name S. H. Gwon (Signature)

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2025. 03. 13

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1. Test Overview

This test is carried out according to the specimen and specifications requested by the applicant.

2. Specimen information

2.1 Details information of specimen

Applicant	:	Hanwha Vision Co., Ltd.
manufacturer	:	Hanwha Vision Co., Ltd.
Product Name	:	NETWORK CAMERA
Model name	:	PNV-A9082RZ
Derivative Name	:	PNV-A7082RZ
Quantity	:	1 EA
Ratings	:	-
Note	:	-

2.2 Product photo

figure 1) Test product

3. Environmental conditions

3.1 Environmental standards

standard conditions	Temperature (℃)	Humidity (% R.H.)	Atmospheric Pressure (hPa)	Environmental standards	Temperature (℃)	Humidity (% R.H.)	Atmospheric Pressure (hPa)
	15 ~35	25 ~ 75	Site pressure		25	37	Site pressure

Table 1) Environmental standards

4. Test conditions

4.1 1st characteristic numeral (Protection of the human body approaching the danger area.)

4.1.1 Test standard : ISO 20653 : 2013 (IP6KX)

4.1.2 Exam Schedule : 2025. 03. 04

4.1.3 Test method

a) The test access probes and conditions are conducted according to Table 2).

4.1.4 Test judgment

a) An approach probe with a diameter of 1.0 mm shall not pass through.

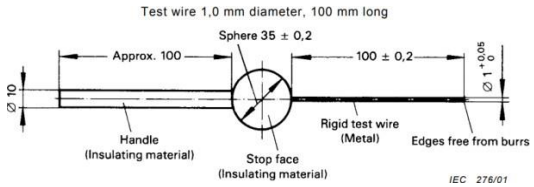
First numeral	access probe	Test force
6K		1 N±10 %

Table 2) Test conditions (human protection approaching dangerous areas)

4.2 1st characteristic numeral (Protection against external dust)

4.2.1 Test standard : ISO 20653 : 2013 (IP6KX)

4.2.2 Exam Schedule : 2025. 03. 04

4.2.3 Test method

a) Set the test product in the dust tester.

b) Test will be conducted according to the conditions in Table 3).

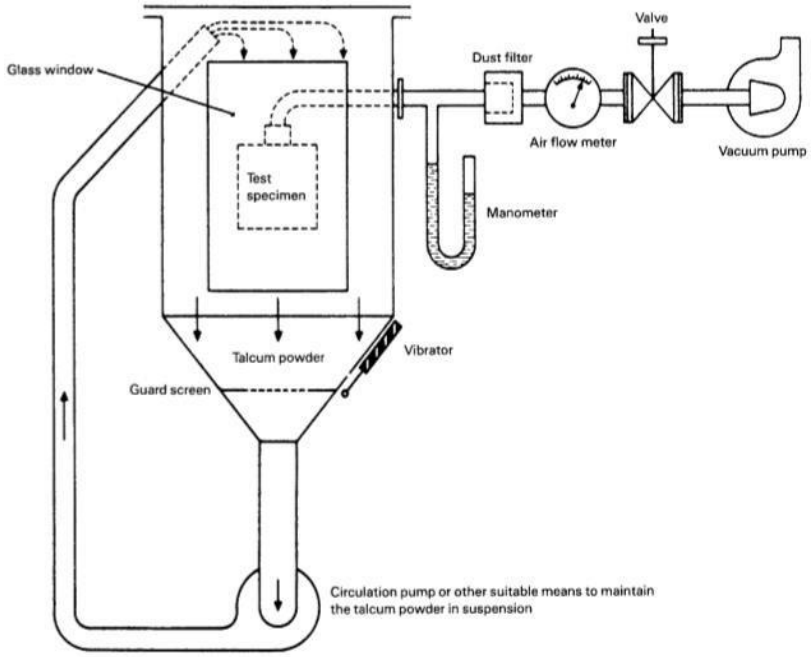
c) Remove dust from the outer part of the test product after the test.

4.2.4 Test judgment

a) Visually check if dust penetrates inside the test product.

1st characteristic numeral	Dust type	Tset conditions (1 cycle)		Test cycle
		Dust on time	Dust off time	
6K	A2 (Arizona dust)	6 s	15 min	20 cycles

Table 3) Test conditions (protection against external dust)



Equipment 1 - Test device for checking protection against dust (dust chamber)

4.3 2nd characteristic number (Protection against external water)

4.3.1 Test standard : ISO 20653 : 2013 (IPX9K)

4.3.2 Exam Schedule : 2025. 03. 04

4.3.3 Test Methods

a) Install the test product on the waterproof tester.

b) The test is carried out according to the conditions in Table 3).

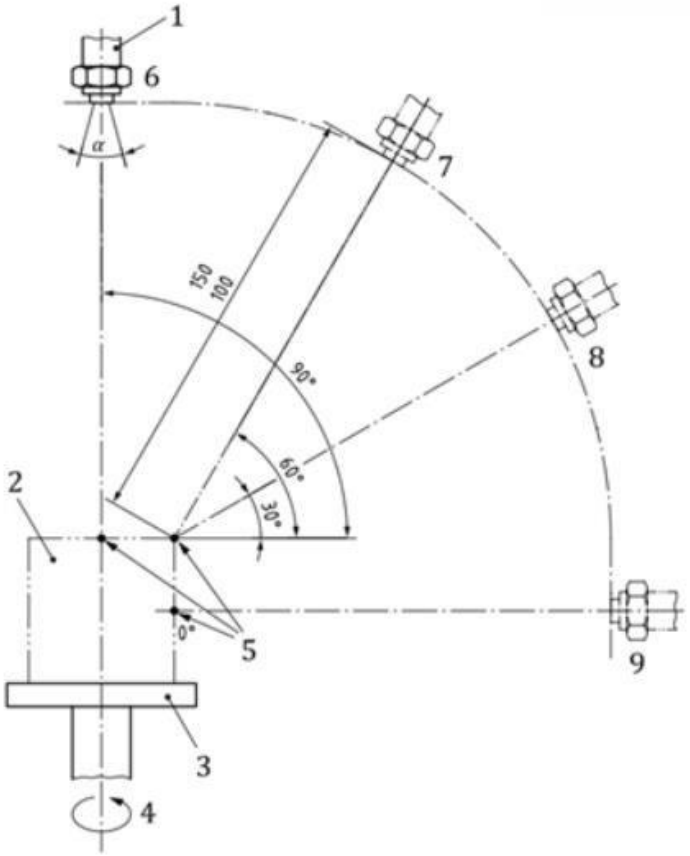
c) After the test, remove moisture from the outside of the test product.

4.3.4 Test judgment

a) Visually check if water penetrates the inside of the test product.

2nd characteristic number	Test conditions	Water flowrate	Water pressure	Water temperature	Test time
9K	Fan jet noozzle Turntable speed -(5±1) r/min Spray at 0º, 30º, 60º, 90º Distance (100 ~ 150) mm	(14 ~ 16) L/min	(8 000 ~ 10 000) kPa	(80 ± 5) ℃	30 s per position

Table 4) Test method and main test conditions for waterproof test



Key

1 fan jet nozzle
2 DUT
3 turntable/holder
4 swivel axis
5 reference points (0°, 30°, 60°, 90°) endorsing cylinder for DUT
6 position 1
7 position 2
8 position 3
9 position 4

$\alpha = (30 \pm 10)°$.

Equipment 2 - Test set-up for determining the protection against high-pressure/steam-jet cleaning; degree of protection against water 9K

5. Test progress photo

5.1 1st characteristic number (IP6KX, protection of human access to hazardous parts)

Figure 3) Photo of measuring probe

Figure 4) Photo of probe
(Push Pull Gauge)

5.2 1st characteristic number (IP6KX, protection against external dust)

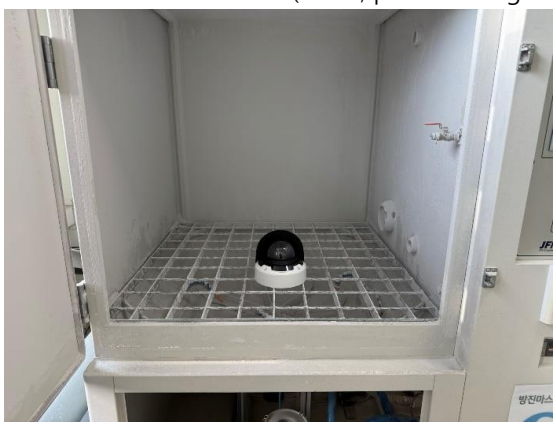


Figure 5) Photo of the specimen installation

Figure 6) Photo of the specimen installation (Enlarge)

Figure 7) Photo after the test

Figure 8) Photo after the test (Enlarge)

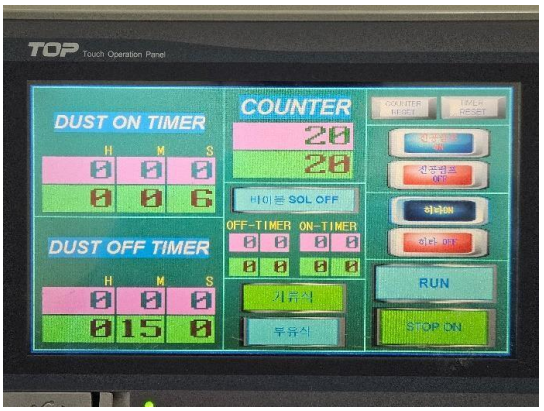


Figure 9) Photo of test condition (Test time)

5.3 2nd characteristic number (IPX9K, protection against external water)

Figure 10) Photo of specimen set up

Figure 11) Photo of specimens set up (Enlarge)

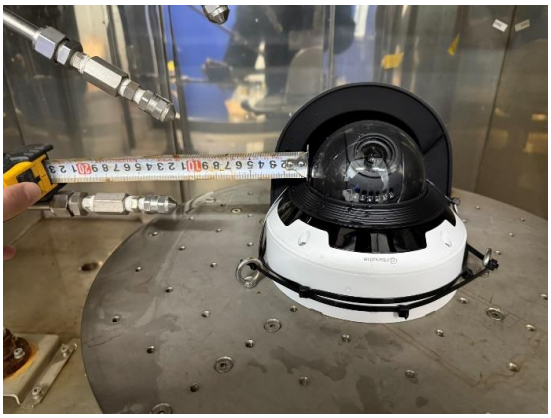


Figure 12) Photo of measuring distance (0 °)

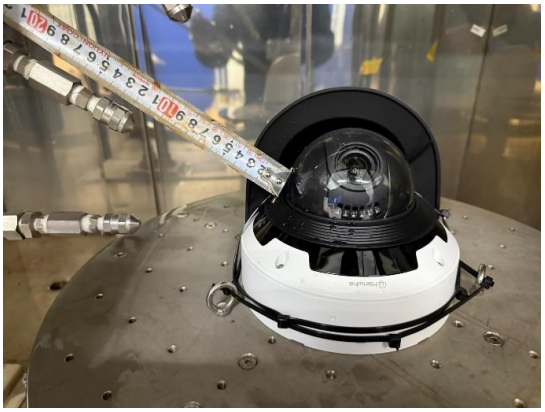


Figure 13) Photo of measuring distance (30 °)

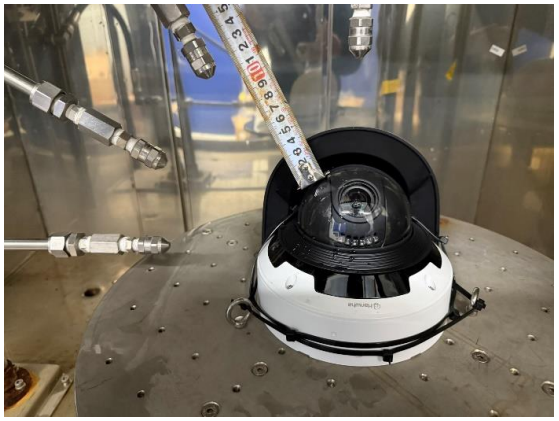


Figure 14) Photo of measuring distance (60 °)

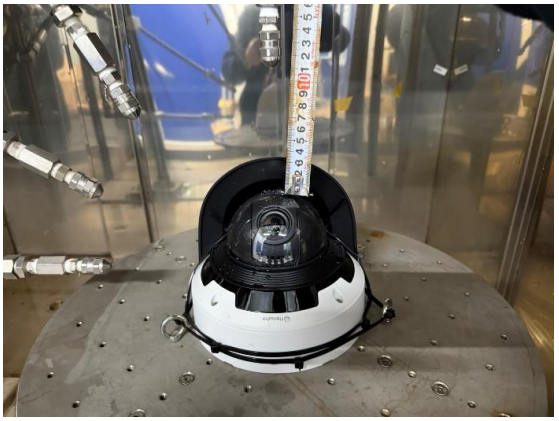


Figure 15) T Photo of measuring distance (90 °)

Figure 16) Photo of test condition
(Water temperature)

Figure 17) Photo of test condition
(Water pressure)

Figure 18) Photo of test condition (Test time)

6. Test result

6.1 1st characteristic number (IP6KX, protection of human access to hazardous parts)

Figure 19) Photo of test result (Probe kit)

Figure 20) Photo of test result (Probe kit)

6.2 1st characteristic number (IP6KX, protection against external dust)

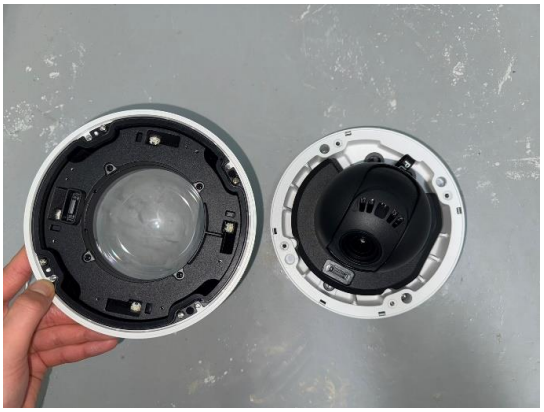


Figure 21) Photo after the test (Inside)

Figure 22) Photo after the test (Inside #1, Enlarge)

Figure 23) Photo after the test (Inside #2, Enlarge)

6.3 2nd characteristic number (IPX9K, protection against external water)

Figure 24) Photo after the test (Inside)

Figure 25) Photo after the test (Inside #1, Enlarge)

Figure 26) Photo after the test (Inside #2, Enlarge)

Test Class	Test result	note
1st characteristic number (IP6KX)	No probe passing through the hazardous area.	Check visually.
	After the test, there was no trace of dust penetration as a result of internal inspection.	
2nd characteristic number (IPX9K)	After the test, there was no trace of water penetration as a result of internal inspection.	Check visually.

Table 5) Test results

7. Test Equipment List

Equipment name	Model name	Manufacturing company	Next calibration date
Dust proof tester	JFMD-0004	JFMTECH	2025. 07. 24
Waterproof tester	JFMB-008-9K	JFMTECH	2026. 01. 20
Push Pull Gauge	DST-20N	IMADA	2025. 10. 11
Tape measure	KMC-34(5.5 m * 19 mm)	KOMELON	2026. 04. 12
Probe Kit	TRK-05	JFMTECH	2026. 01. 17

-End

※ Appendix

* product floor plan