G4B(www.g4b.go.kr)진위확인코드 : vlNb6GMQFY
정부시점확인센터 확인본 2026-07-29 14:16:01 KST

시 험 성 적 서
TEST REPORT

성적서 번호 Report No.		ICRT-TR-I260471-0A
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		TNO-A9084ER
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		IP6KX : 2026. 07. 26 IPX9K : 2026. 07. 23
시험방법/항목 Test Method/Item		ISO 20653 : 2023 Road vehicles — Degrees of protection (IP code) — Protection of electrical equipment against foreign objects, water and access (IP6K9K)
시험결과 Test Results		Test Results Reference
확 인 Affirmation	작성자 Tested by	성 명 이 우 신 (서명) Name W. S. Lee (Signature)
	기술책임자 Technical Manager	성 명 권 상 혁 (서명) Name S. H. Gwon (Signature)

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The result shown in this test report refer only to the sample(s) tested unless otherwise stated and this laboratory is not accredited for the test results marked *.

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The above test report is related to accreditation by KS Q ISO/IEC 17025 and Korea Laboratory Accreditation scheme.

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

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2026. 07. 29

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The head of INTERNATIONAL CERTIFICATION REGISTRAR

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G4B(www.g4b.go.kr)진위확인코드 : vlNb6iqMOFY=

1. Test Overview

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

2. Specimen information

2.1 Specimen information

Applicant	:	Hanwha Vision Co., Ltd.
manufacturer	:	Hanwha Vision Co., Ltd.
Product Name	:	NETWORK CAMERA
Model name	:	TNO-A9084ER
Quantity	:	1 EA
Ratings	:	-
Note	:	-

2.2 Product photo



Figure 1) Photo of the specimen

3. Environmental comditions

3.1 Environmental standards

Standard conditions	Temperature(°C)	Humidity(% R.H.)	Atmospheric Pressure(hPa)	Environmental standards	Temperature (°C)	Humidity (% R.H.)	Atmospheric Pressure(hPa)
	15 ~35	25 ~ 75	Site pressure		34	56	Site pressure

Table 1) Environmental standards

G4B(www.g4b.go.kr)진위확인코드 : vlNb6iqMOFY=

4. Test conditions

4.1 1st characteristic numeral (IP6KX, Protection against access.)

4.1.1 Test standard : ISO 20653 : 2023 Road vehicles - Degrees of protection (IP code) – Protection of electrical equipment against foreign objects, water and access (IP6KX)

4.1.2 Date of test : 2026. 07. 26

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.

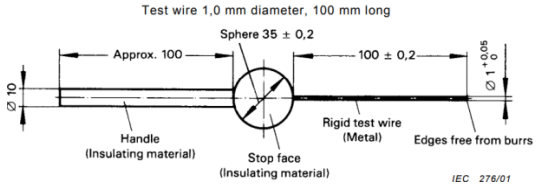
1st characteristic numeral	Extra character	Access probe	Test force
6K	D		1 N ± 10 %

Table 2) Test conditions (Human protection approaching dangerous areas

4.1.5 Test photos - 1st characteristic number (IP5X, Protection against access)



Figure 2) Test measurement probe photo



Figure 3) Test measuring equipment (Push pull gauge)

G4B(www.g4b.go.kr)진위확인코드 : vlNb6iqMOFY=

4.2 1st characteristic numeral (IP6KX, Protection against foreign objects.)

4.2.1 Test standard : ISO 20653 : 2023 Road vehicles - Degrees of protection (IP code) – Protection of electrical equipment against foreign objects, water and access (IP6KX)

4.2.2 Date of test : 2026. 07. 26

4.2.3 Test method

a) Set the test product in the dust tester.

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

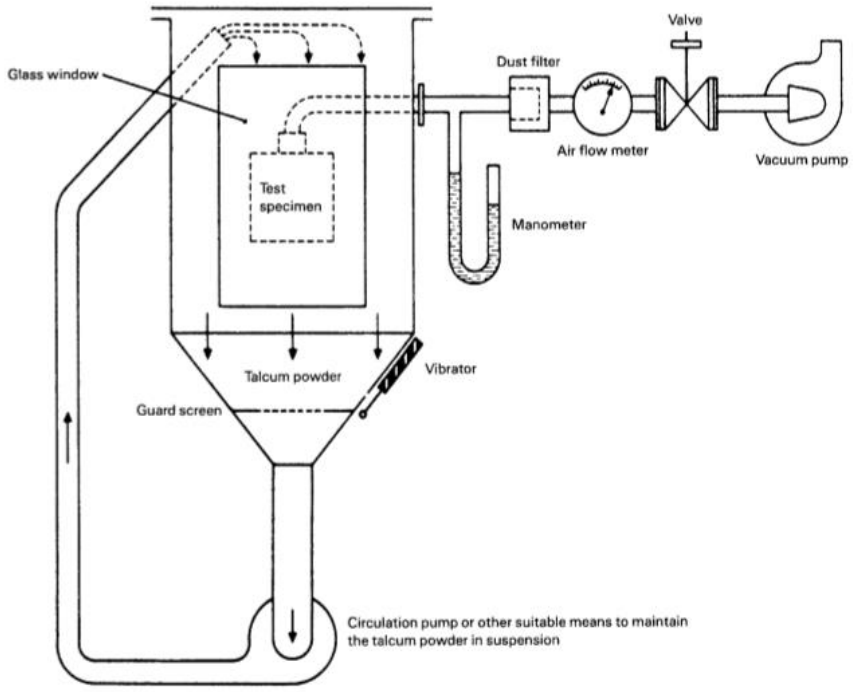
c) Remove dust from the outer part of the test product after the test.

4.2.4 Test judgment

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

1st characteristic numeral	Dust type	Test conditions (1 cycle)		Test cycles
		movement of the air – dust mixture	Break 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)

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4.2.5 Test photos - 1st characteristic number (IP6KX, Protection against foreign objects)



Figure 4) Specimen installation photo



Figure 5) Specimen installation photo (Enlarge)



Figure 6) Photo after the test



Figure 7) Photo after the test (Enlarge)

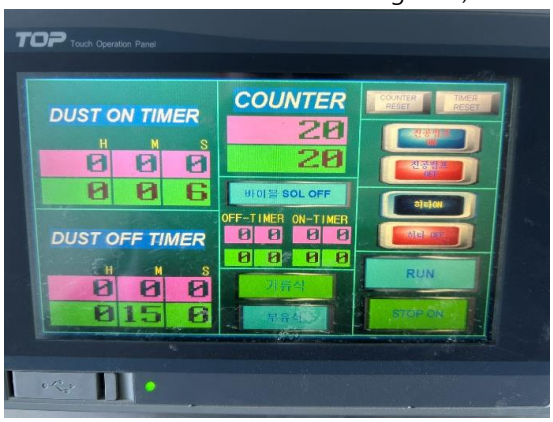


Figure 8) Test condition (Test time)

G4B(www.g4b.go.kr)진위확인코드 : vlNb6iqMOFY=

4.3 2nd characteristic number (IPX9K, Protection against water)

4.3.1 Test standard : ISO 20653 : 2023 Road vehicles - Degrees of protection (IP code) – Protection of electrical equipment against foreign objects, water and access (IPX9K)

4.3.2 Date of test : 2026. 07. 23

4.3.3 Test Methods

a) Before the test, measure the impact force of the water.

b) Install the specimen on the waterproof tester.

c) The test is carried out according to the conditions in Table 4).

d) After the test, remove moisture from the outside of the specimen.

4.3.4 Test judgment

a) Visually check whether or not water has penetrated the inside of the specimen.

2nd characteristic numeral	Test methods	Water flow rate	Water pressure	Water temperature	test time
9K	Fan jet noozzle Turntable speed - (5±1) r/min Spray at 0°, 30°, 60°, 90° 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



Figure 9) Photo of the measuring the impact force of the water (Test set-up)

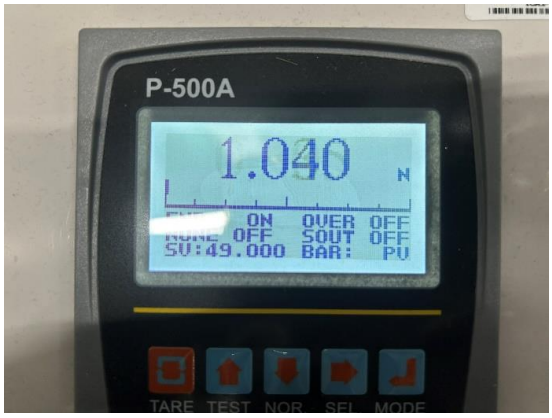
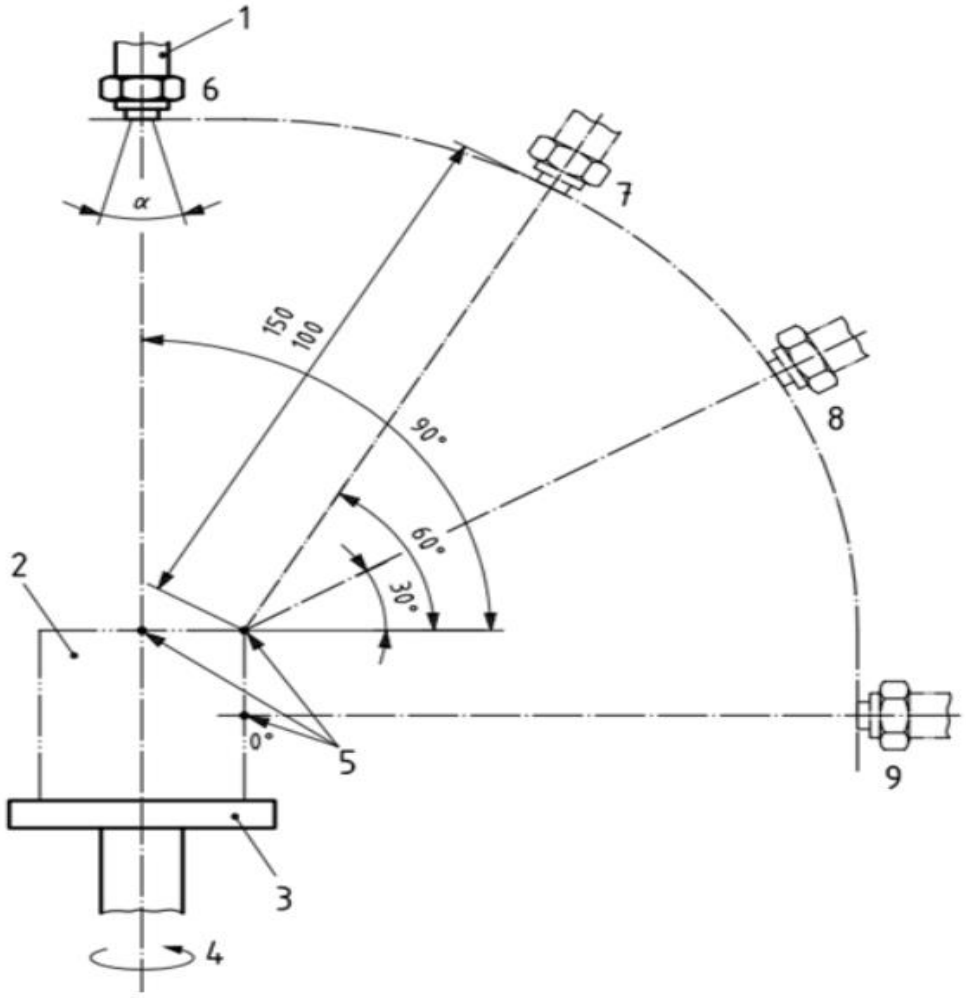


Figure 10) Check the impact force of the water (0.9 ~ 1.2) N

G4B(www.g4b.go.kr)진위확인코드 : vlNb6iqMOFY=



Key

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

Equipment 2 - Test set-up for determining the protection against high-pressure/steam-jet cleaning

G4B(www.g4b.go.kr)진위확인코드 : vlNb6iqMOFY=

4.3.5 Test photos – 2nd characteristic number (IPX9K, Protection against water)



Figure 11) Specimen installation photo

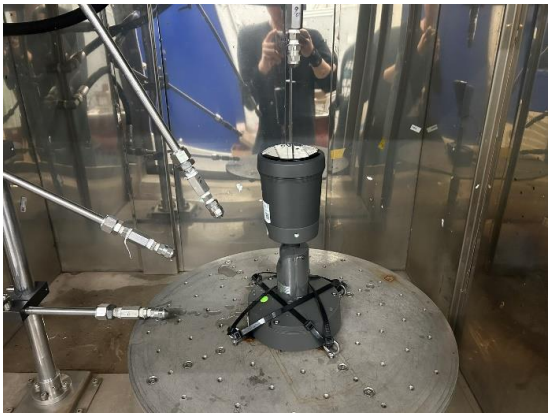


Figure 12) Specimen installation photo (Enlarge)



Figure 13) Test condition photo (0°)



Figure 14) Test condition photo (30°)

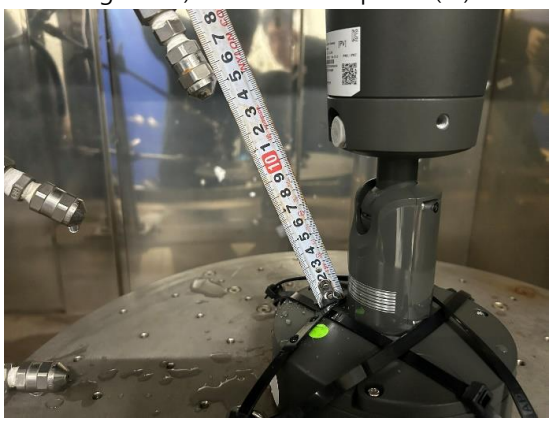


Figure 15) Test condition photo (60°)

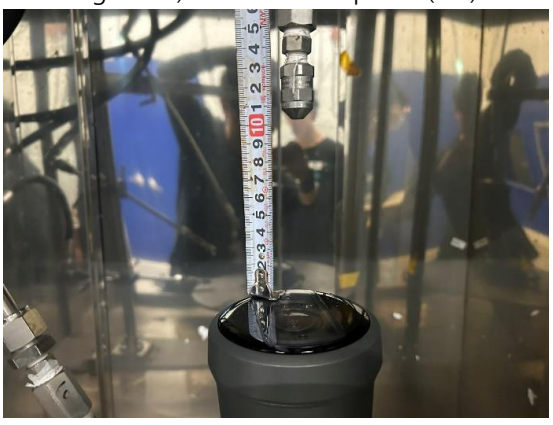


Figure 16) Test condition photo (90°)

G4B(www.g4b.go.kr)진위확인코드 : vlNb6iqMOFY=



Figure 17) S Photo after the test



Figure 18) Photo after the test (Enlarge)

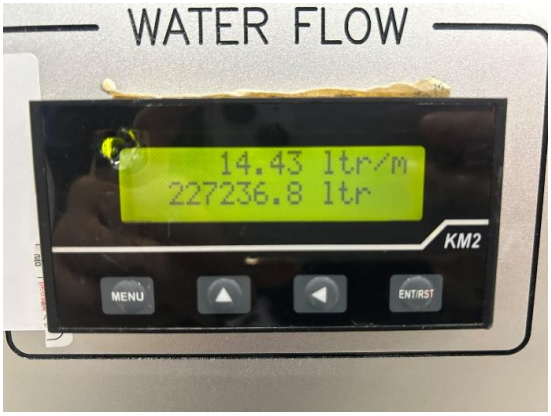


Figure 19) Test condition (Flow rate)

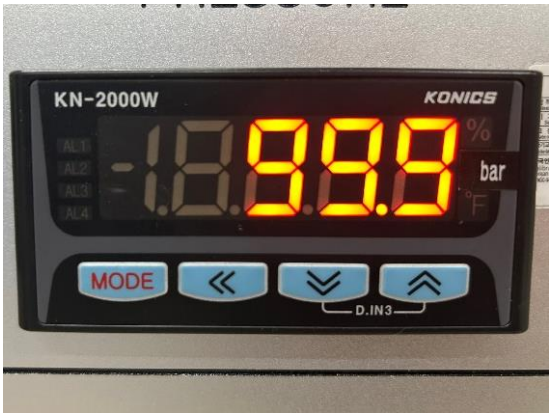


Figure 20) Photo during the test (Pressure)



Figure 21) Test condition (Temperature)



Figure 22) Test condition photo (Test time)

G4B(www.g4b.go.kr)진위확인코드 : vlNb6iqMOFY=

5. Test result

5.1 1st characteristic number (IP6KX, Protection against access)



Figure 23) Test photo (Measurement 1)



Figure 24) Test photo (Measurement 2)

5.2 1st characteristic number (IP6KX, Protection against foreign objects)



Figure 25) Photo after the test (Body #1)



Figure 26) Photo after the test (Cover #1)



Figure 27) Photo after the test (Body #2)



Figure 28) Photo after the test (Cover #2)

G4B(www.g4b.go.kr)진위확인코드 : vlNb6iqMOFY=

5.3 2nd characteristic number (IPX9K, Protection against water)



Figure 29) Photo after the test (Body #1)



Figure 30) Photo after the test (Cover #1)



Figure 31) Photo after the test (Body #2)



Figure 32) Photo after the test (Cover #2)

G4B(www.g4b.go.kr)진위확인코드 : vlNb6iqMOFY=

Test Class	Test Checklist	Test result	note
1st characteristic number (IP6KX)	Check whether probe passing through the hazardous area.	There's no passing through of the probe.	Check visually
	After the test, check whether the dust penetrated into the specimen.	There's no penetrate of the dust.	
2nd characteristic number (IPX9K)	After the test, check whether the water penetrated into the specimen.	There's no penetrate of the water.	Check visually

Table 5) Test results

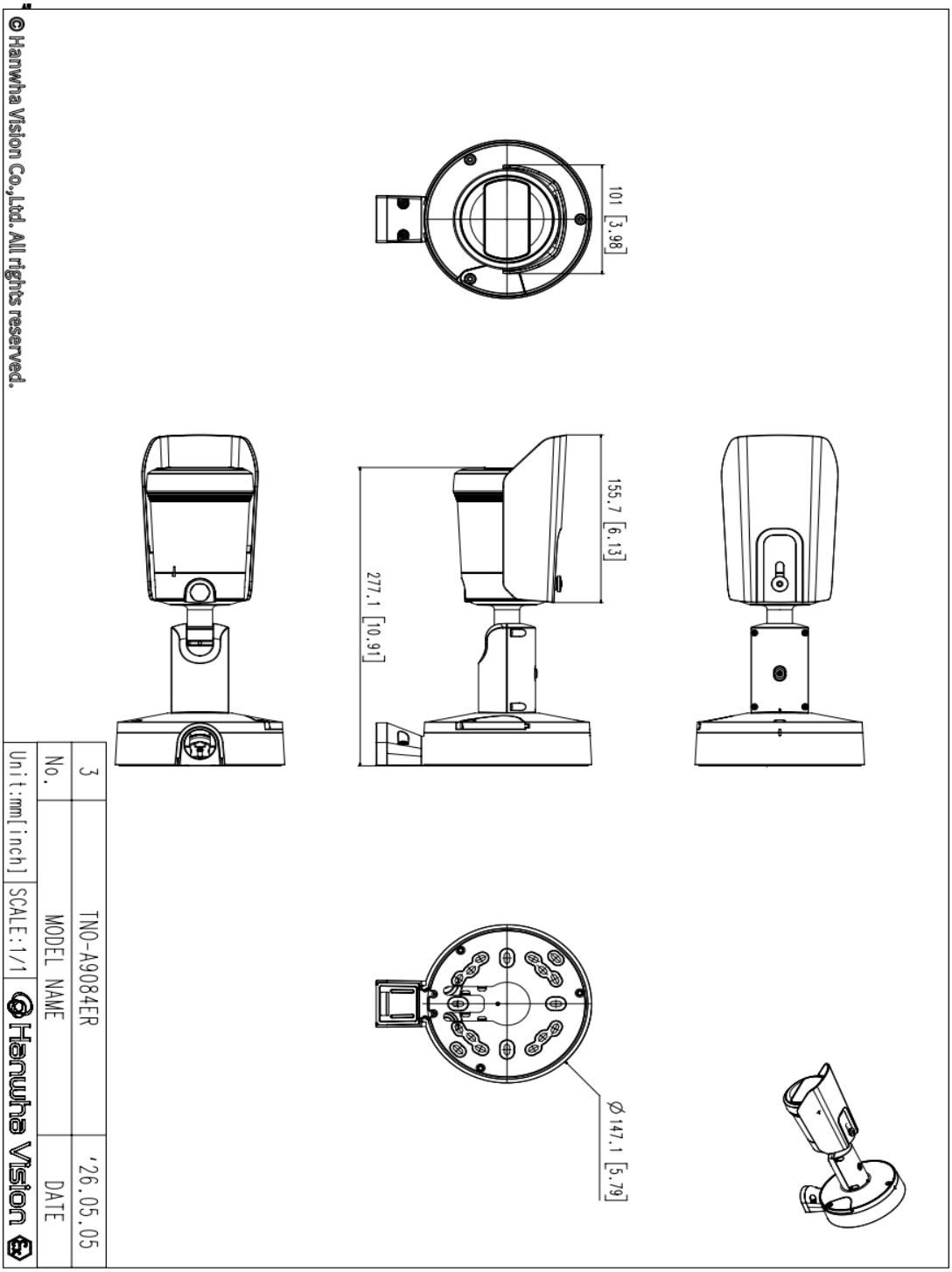
6. Test Equipment List

Equipment name	Model name	Manufacturing company	Next calibration date
Dust test Chamber	JFMD-0005	JFMTECH	2027. 03. 04
Waterproof tester	JFMB-008-9K	JFMTECH	2027. 01. 14
Push Pull Gauge	DST-20N	IMADA	2026. 10. 16
Tape measure	KMC-34(5.5 m * 19 mm)	KOMELON	2026. 10. 21
Probe Kit	TRK-05	JFMTECH	2028. 12. 05

Table 6) Test equipment

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***Appending 1. product blueprint.**



The End.