TEST REPORT

CTK Co., Ltd.	**CTK Co., Ltd.** (Ho-dong) 113, Yejik-ro, Cheoin-gu, Yongin-shi Gyeonggi-do KOREA, REPUBLIC OF Tel: +82-31-339-9970 Fax: +82-31-624-9501	REPORT No.: CTK-2017-01928 Page (1) / (40) pages	

1. Applicant

◦ Name ..... : Hanwha Techwin Co., Ltd.

◦ Address ..... : Hanwha Techwin R&D center, 6 Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, 13488 KOREA

◦ Date of Receipt ..... : 2017-08-03

2. Manufacturer

◦ Name ..... : HANWHA TECHWIN (TIANJIN) CO.,LTD.

◦ Address ..... : No.11 Weiliu Rd,Micro-Electronic Industrial Park,TEDA,Tianjin,300385,People's Republic of China

3. Use of Report ..... : Quality control

4. Test sample / Model ..... : NETWORK CAMERA / XNF-8010RVM* (*N:NT/P:PAL)

5. Date(s) of test ..... : 2017-08-15 to 2017-09-20

6. Test Standard (Method) used .. : EN 50155: 2007

Section 12.2.11 Vibration, Shock and bump test

Section 12.2.3 Cooling test(T3)

Section 12.2.4 Dry heat test(T2, TX)

7. Testing Environment ..... : Temperature : (25.0 ± 10.0) °C, Humidity : (50 ± 25) %R.H.
Air Pressure: (99.0 ± 2) kPa

8. Results ..... : Reference test results

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
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Approval	Tested by: WonHyeon Choi	(Signature)	Technical Manager: KwangWon Lee	(Signature)

CTK Co., Ltd.

2017-10-13

0. Test items and results

NO	TEST ITEM	TEST RESULT	ETC
1	**Simulated long life test** **(EN 50155: 2007(Section 12.2.11) / EN 61373: 2010(Category 1 Class A)**	**Pass**	
2	**Shock test** **EN 61373: 2010** **(Category 1 Class A)**	**Pass**	
3	**Functional random test** **EN 50155: 2007(Section 12.2.11) / EN 61373: 2010** **(Category 1 Class A)**	**Pass**	
4	**Cooling test** **EN 50155: 2007** **(Section 12.2.3 Class T3 # Column 1)**	**Pass**	
5	**Dry heat test(T2)** **EN 50155: 2007** **(Section 12.2.4 Class T2 # Column 2)**	**Pass**	
6	**Dry heat test(TX)** **EN 50155: 2007** **(Section 12.2.4 Class TX # Column 2)**	**Pass**	

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1. Simulated long life test
EN 50155: 2007(Section 12.2.11) / EN 61373: 2010(Category 1 Class A)

1.1 Test Equipment

Equipment	Model	Manufacturer	Serial
Vibration Test System	J260 / SA7M	GU	14101675
Vibration System	I250 / SA5M	GU	14101709
Accelerometer	17725	-	-
Accelerometer	18139	-	-

1.2 Test Conditions

- Test type : Random
- Test time : Total 15 h (5 h in each axis)
- Test axis : Vertical (Z), Transverse (X), longitudinal (Y)
- Frequency : (5 ~ 150) Hz
- Acceleration : Z – 4.25 m/s^2 r.m.s.
  X – 2.09 m/s^2 r.m.s.
  Y – 2.83 m/s^2 r.m.s.
- Sample condition : Unpackaged product / Non-operation
- Sample quantity : 1EA
- Test Method : Perform a visual inspection and an operational check for the specimen.
  Fix the specimen on the vibration table.
  Operate the vibration tester.
  Repeat from steps 1) to step 3) for each required axis.
  Perform a final visual inspection and an operational check for the specimen.

1.3 Check Item

- Checked normal operation before/ After test (Video output check)
- Visual inspection (crack, deformation, separating, etc)

1.4 Test Result

- Pass

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2. Shock test (EN 61373: 2010(Category 1 Class A)

2.1 Test Equipment

Equipment	Model	Manufacturer	Serial
Vibration Test System	J260 / SA7M	GU	14101675
Vibration System	I250 / SA5M	GU	14101709
Accelerometer	17725	-	-
Accelerometer	18139	-	-

2.2 Test Conditions

- Test type : Half sine
- Duration : 30 ms
- Test time : 18 times in total(6 times in each axis : positive 3 / negative 3)
- Test axis : Vertical (Z), Transverse (X), Longitudinal (Y)
- Frequency : (5 ~ 150) Hz
- Acceleration : Z – 30 m/s^2
  X – 30 m/s^2
  Y – 50 m/s^2
- Sample condition : Unpackaged product / Non-operation
- Sample quantity : 1EA
- Test Method : Perform a visual inspection and an operational check for the specimen.
  Fix the specimen on the vibration table.
  Operate the vibration tester.
  Repeat from steps 1) to step 3) for each required axis.
  Perform a final visual inspection and an operational check for the specimen.

2.3 Check Item

- Checked normal operation before/ After test (Video output check)
- Visual inspection (crack, deformation, separating, etc)

2.4 Test Result

- Pass

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3. Functional random test
EN 50155: 2007(Section 12.2.11) / EN 61373: 2010(Category 1 Class A)

3.1 Test Equipment

Equipment	Model	Manufacturer	Serial
Vibration Test System	J260 / SA7M	GU	14101675
Vibration System	I250 / SA5M	GU	14101709
Accelerometer	17725	-	-
Accelerometer	18139	-	-

3.2 Test Conditions

- Test type : Random
- Test time : Total 30 min (10 min in each axis)
- Test axis : Vertical (Z), Transverse (X), Longitudinal (Y)
- Frequency : (5 ~ 150) Hz
- Acceleration : Z – 0.75 m/s^2 r.m.s.
  X – 0.37 m/s^2 r.m.s.
  Y – 0.5 m/s^2 r.m.s.
- Sample condition : Unpackaged product / operation
- Sample quantity : 1EA
- Input voltage : DC 12 V
- Test Method : Perform a visual inspection and an operational check for the specimen.
  Fix the specimen on the vibration table.
  Operate the vibration tester.
  Repeat from steps 1) to step 3) for each required axis.
  Perform a final visual inspection and an operational check for the specimen.

3.3 Check Item

- Checked normal operation fore/ During / After test (Video output check)
- Visual inspection (crack, deformation, separating, etc)

3.4 Test Result

- Pass

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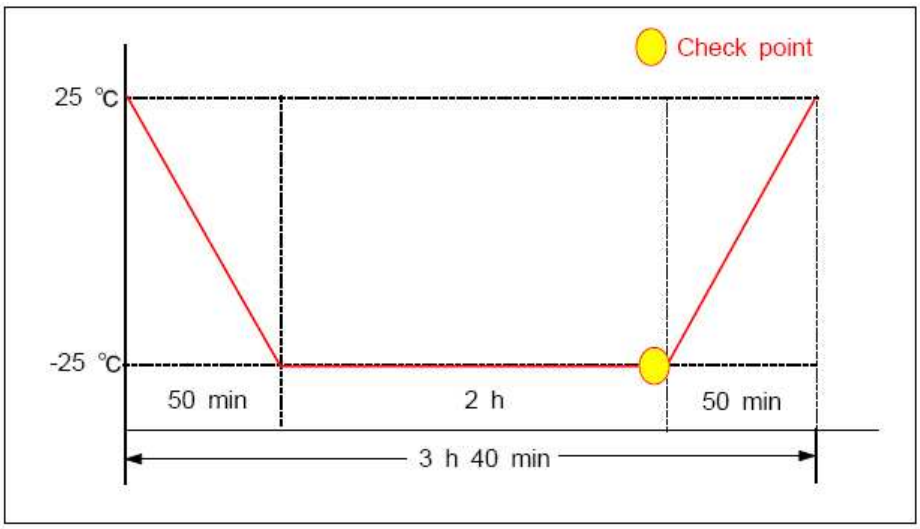
4. Cooling test
EN 50155: 2007(Section 12.2.4 Class T2 # Column 2)

4.1 Test Equipment

Equipment	Model	Manufacturer	Serial
Chamber	S31-3	ESPEC	15011741

4.2 Test Conditions

-
- Test temperature : -25 °C
- Test time : 3 h 40 min
- Status of product : ① Unpacked product ② Non-operation(Check point power on)
- Sample quantity : 1EA
- Input voltage : DC 12 V & PoE
- Test profile : After installing sample in the chamber, conduct a test as in "Temperature profile". (Profile reference)
- Before the test : Check the condition and the normal operation of sample.
- During the test : Perform an operational check of the test item.
- After the test : After leaving the specimen at room temperature, check the specimen's visual inspection and operation.



(Profile)

4.3 Check Item

- Checked normal operation fore/ During / After test (Video output check)
- Visual inspection (crack, deformation)

4.4 Test Result

- Pass

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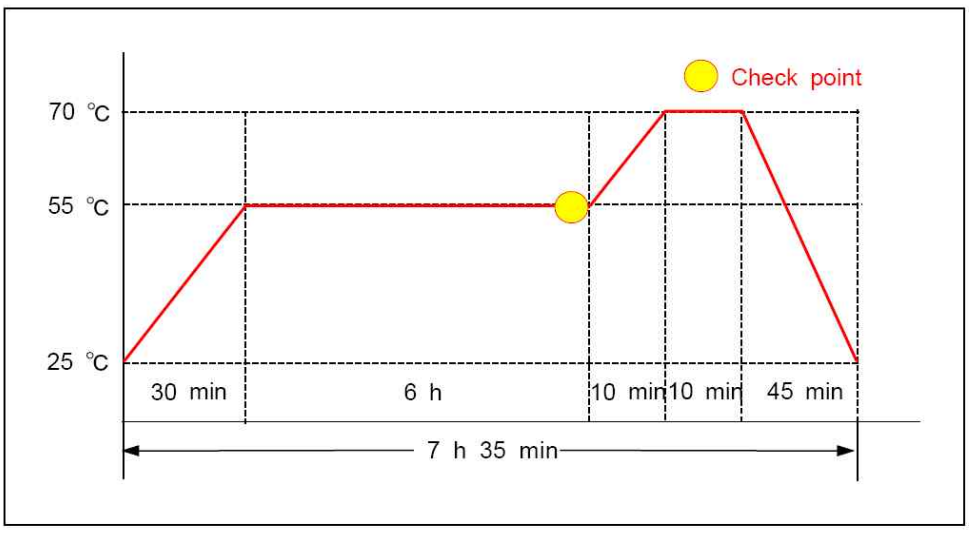
5. Dry heat test(T2)
EN 50155: 2007(Section 12.2.4 Class T2 # Column 2)

5.1 Test Equipment

Equipment	Model	Manufacturer	Serial
Chamber	S31-3	ESPEC	15011741

5.2 Test Conditions

- Standard : EN 50155: 2007(Section 12.2.4 Class T2 # Column 2)
- Test temperature : (25 ~ 70) ˚C
- Test time : 7 h 35 min
- Status of product : ① Unpacked product ② Non-operation(Check point power on)
- Sample quantity : 1EA
- Input voltage : DC 12 V & PoE
- Test profile : After installing sample in the chamber, conduct a test as in "Temperature profile". (Profile reference)
- Before the test : Check the condition and the normal operation of sample.
- During the test : Perform an operational check of the test item.
- After the test : After leaving the specimen at room temperature, check the specimen's visual inspection and operation.



(Profile)

5.3 Check Item

- Checked normal operation fore/ During / After test (Video output check)
- Visual inspection (crack, deformation)

5.4 Test Result

- Pass

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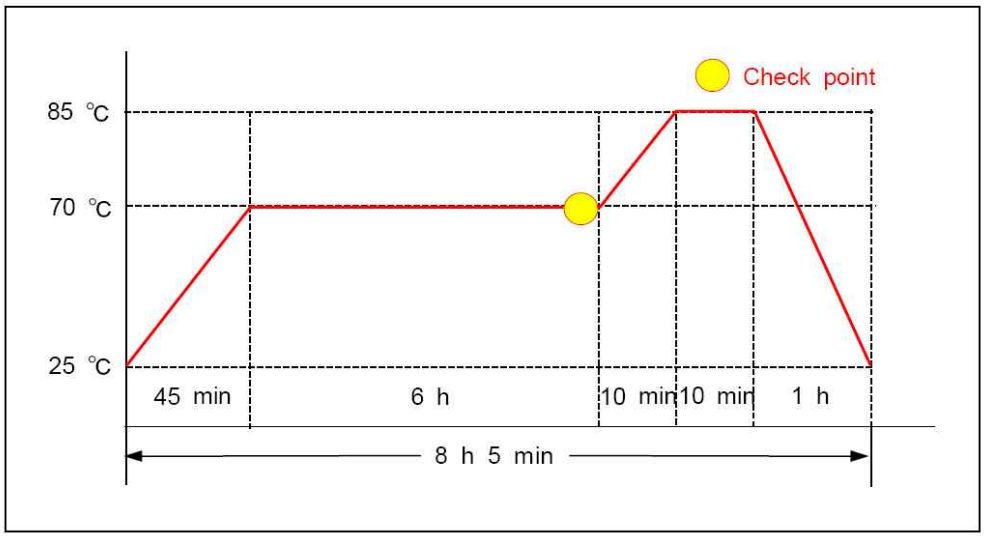
6. Dry heat test (TX)
(EN 50155: 2007(Section 12.2.4 Class TX # Column 2))

6.1 Test Equipment

Equipment	Model	Manufacturer	Serial
Chamber	S31-3	ESPEC	15011741

6.2 Test Conditions

- Test temperature : (25 ~ 85) °C
- Test time : 8 h 5 min
- Status of product : ① Unpacked product ② Non-operation(Check point power on)
- Sample quantity : 1EA
- Input voltage : DC 12 V & PoE
- Test profile : After installing sample in the chamber, conduct a test as in "Temperature profile". (Profile reference)
- Before the test : Check the condition and the normal operation of sample.
- During the test : Perform an operational check of the test item.
- After the test : After leaving the specimen at room temperature, check the specimen's visual inspection and operation.



(Profile)

6.3 Check Item

- Checked normal operation fore/ During / After test (Video output check)
- Visual inspection (crack, deformation)

6.4 Test Result

- Pass

Model description

Basic Model ..... :	XNF-8010RVM* (*N:NT/P:PAL)
Series model ..... :	XNF-8010R*(*N:NT/P:PAL), XNF-8010RV*(*N:NT/P:PAL)
Model differences ..... :	Use of the same external shape and materials (case, finishing material, PCB, cable, etc.), differences in electronic parts inside the product.

7. APPENDIX

7.1 Product Appearance

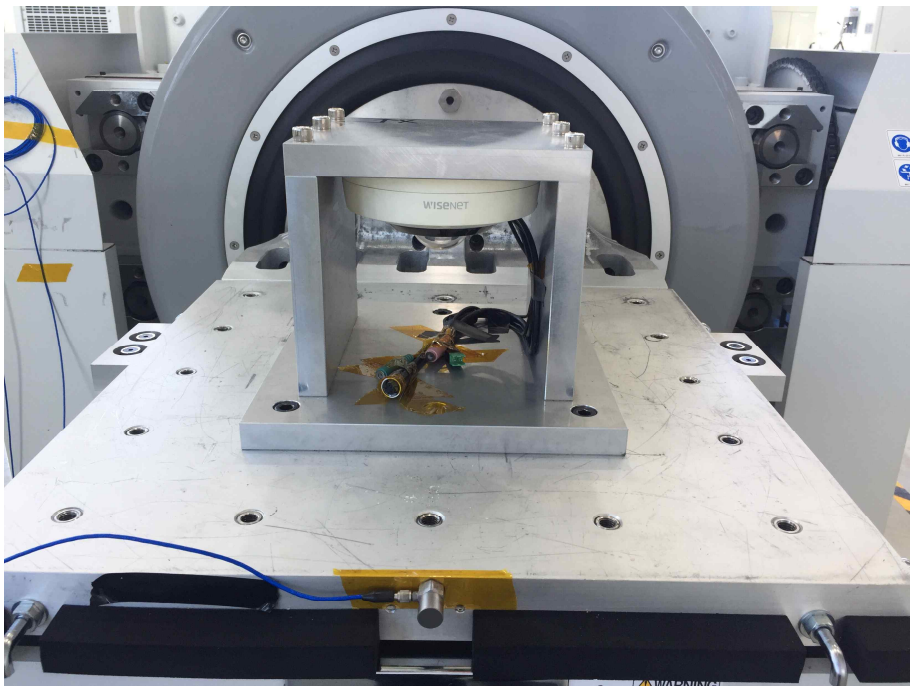




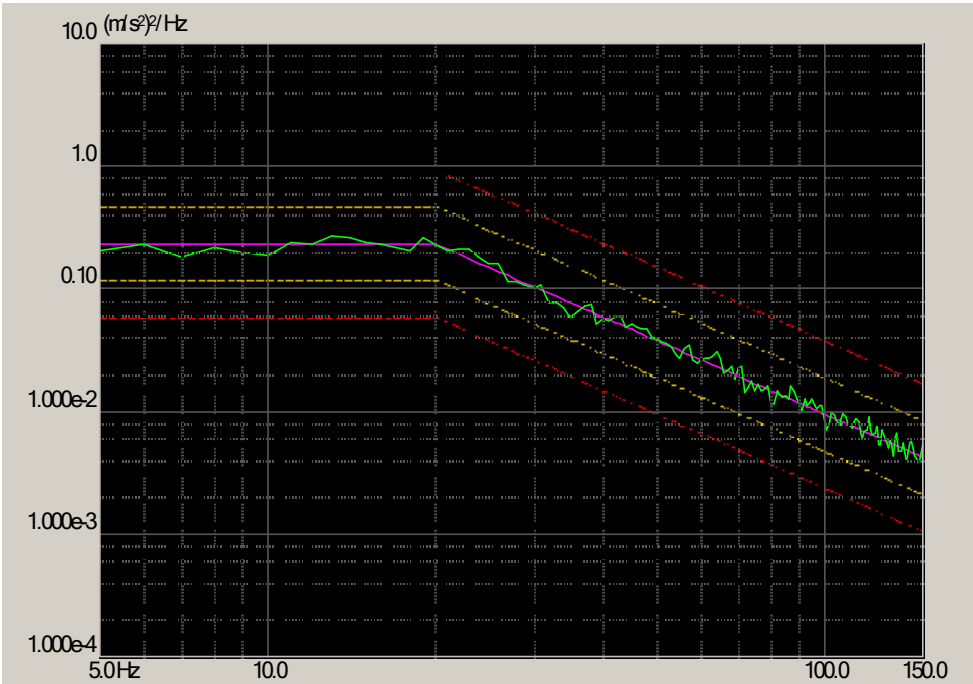
7.2 Test photos and Data

7.2.1 Simulated long life test

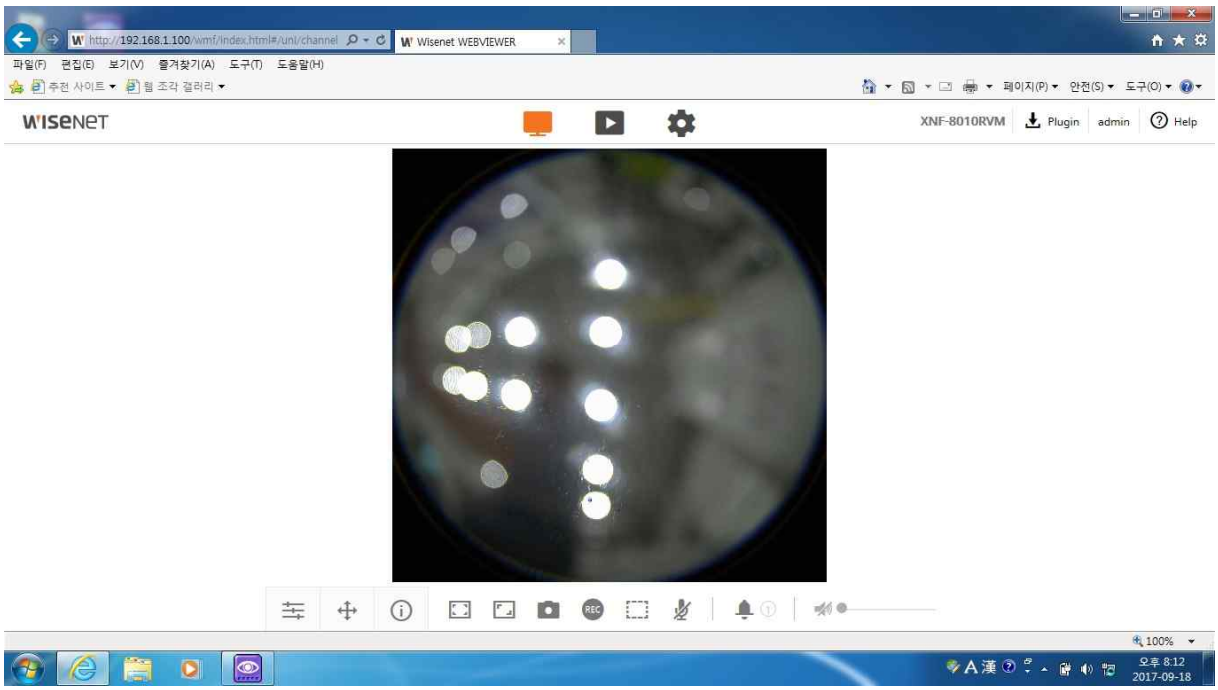
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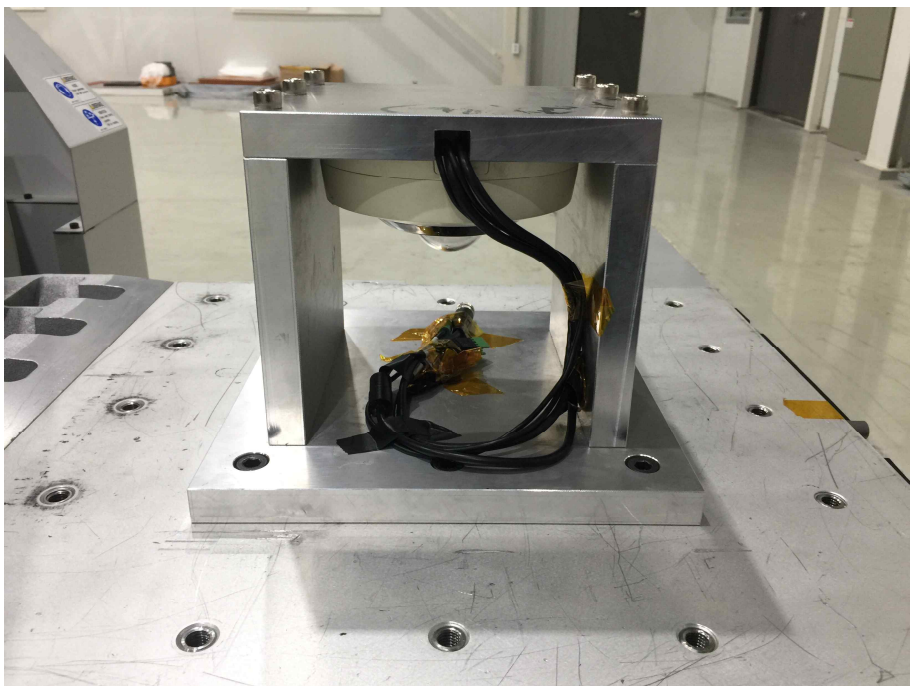
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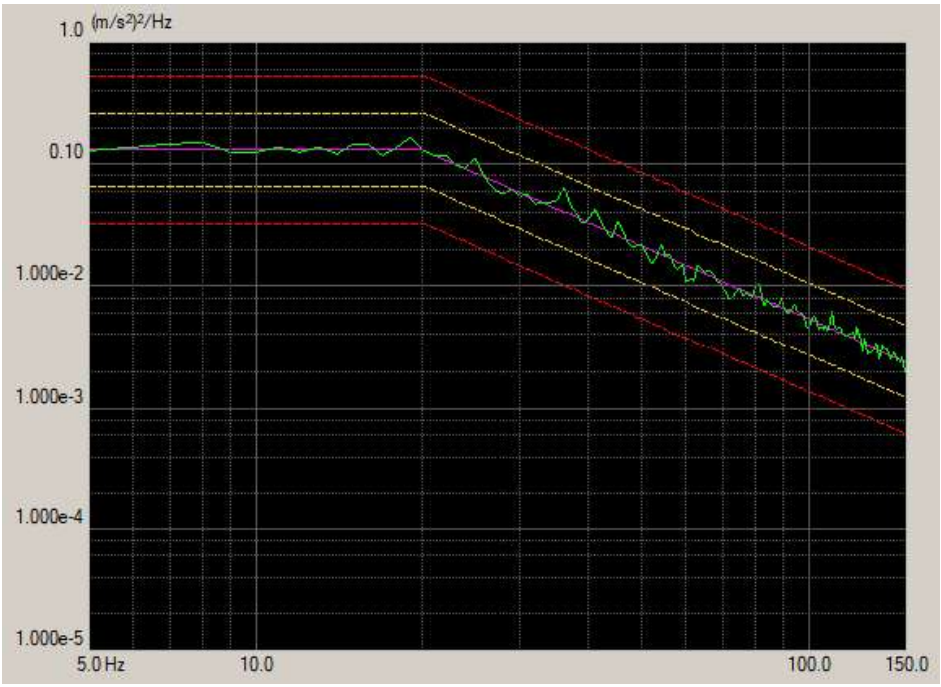
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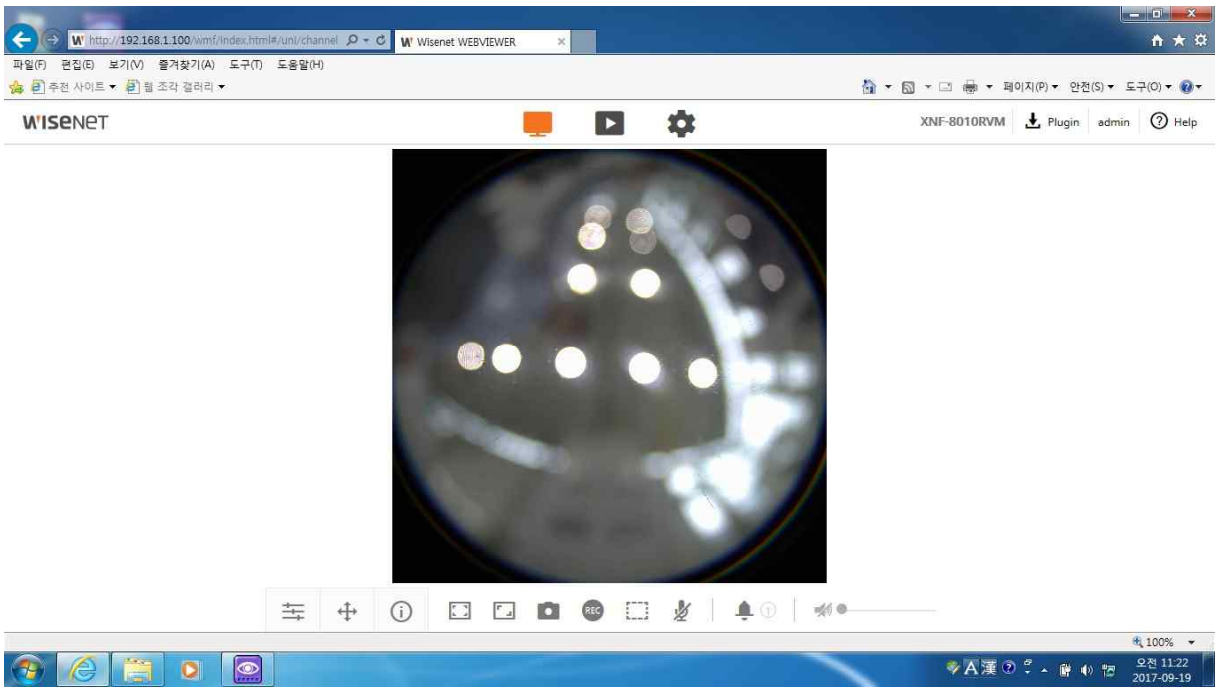
[Y axis]



[Y axis]


1.0
(m/s²)²/Hz
0.10
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1.000e-3
1.000e-4
1.000e-5
5.0 Hz
10.0
100.0
150.0

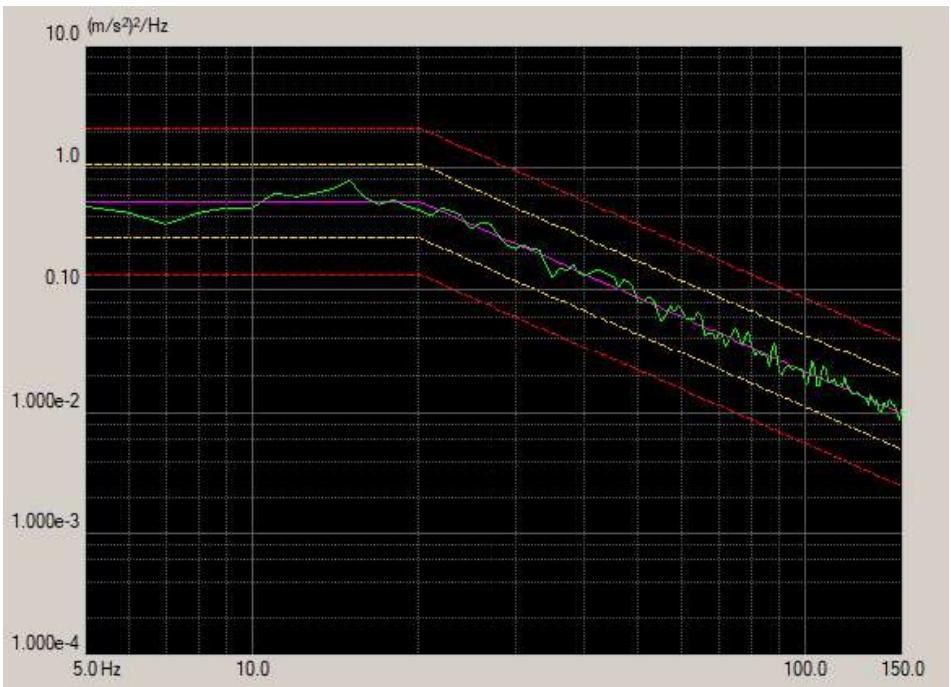
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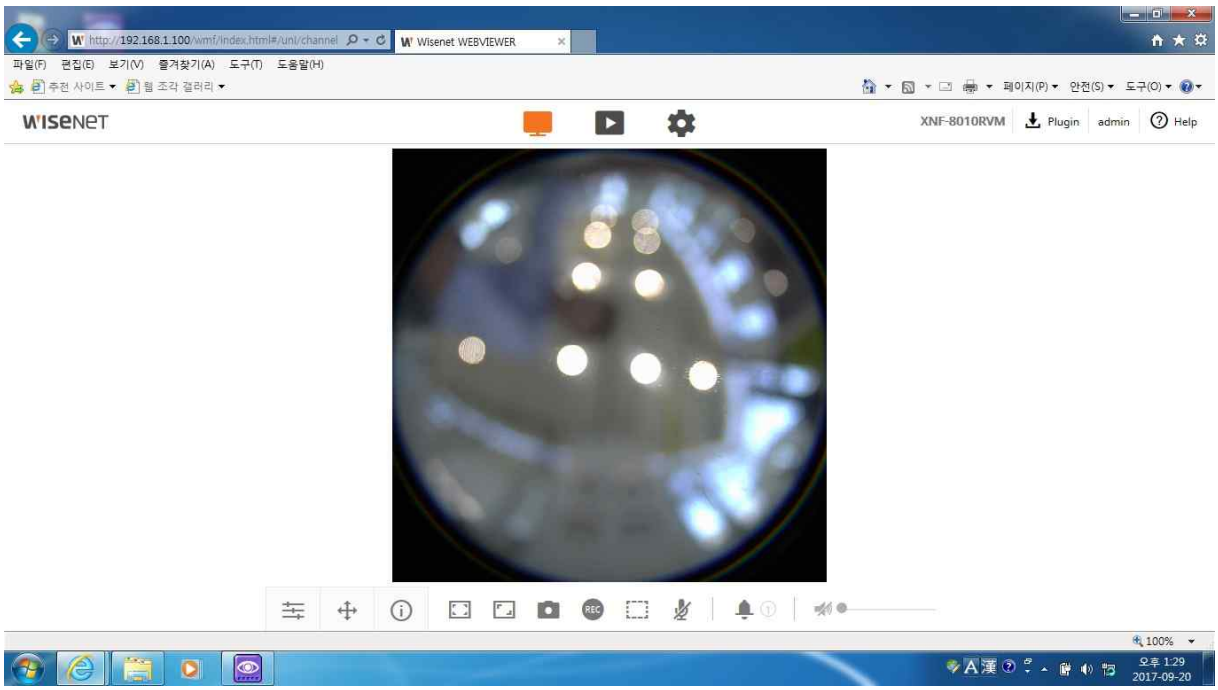
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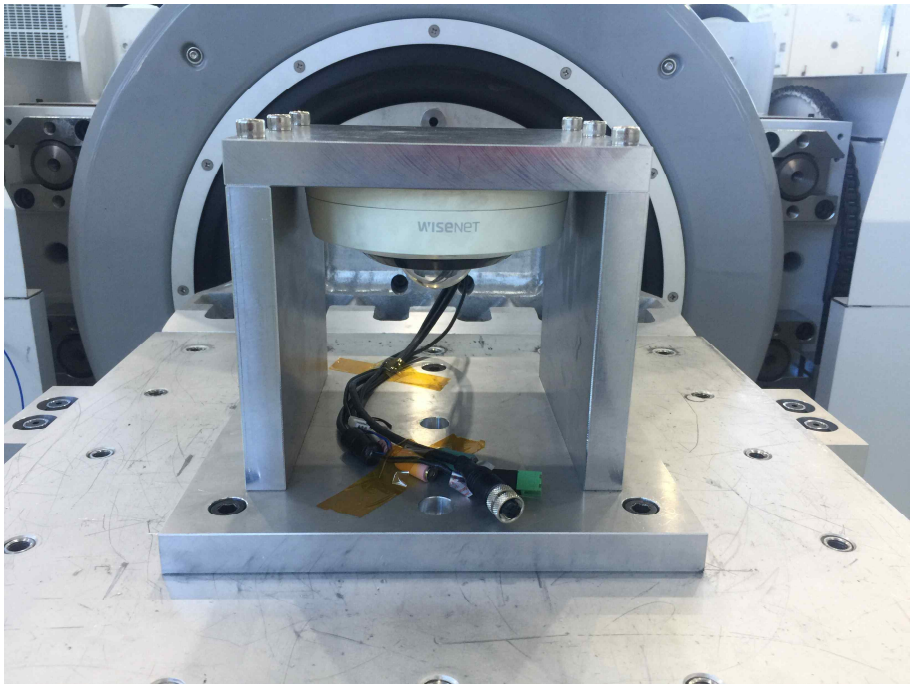


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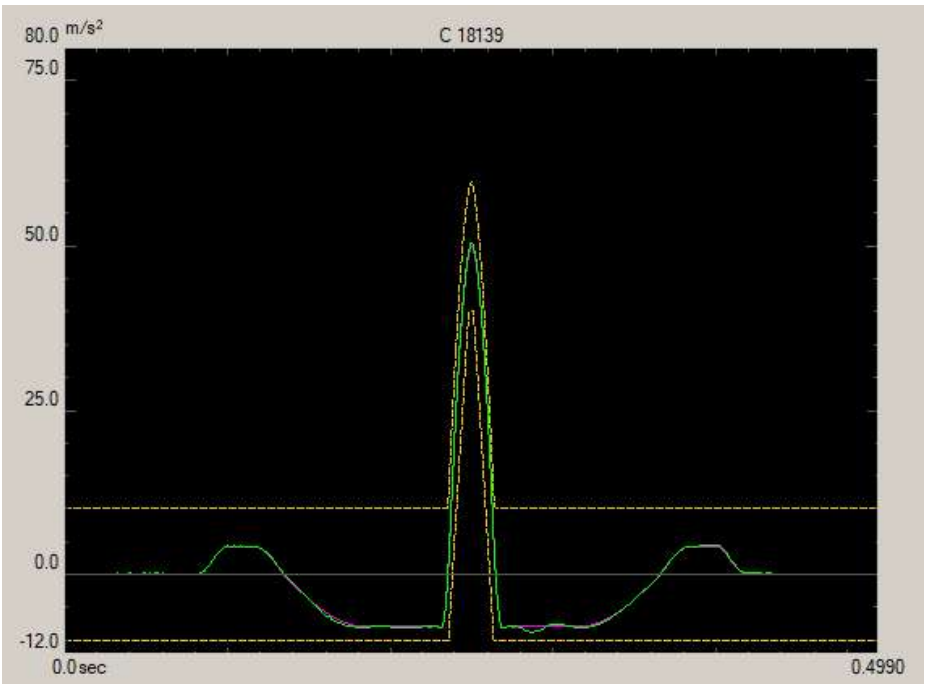

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7.2.2 Shock test

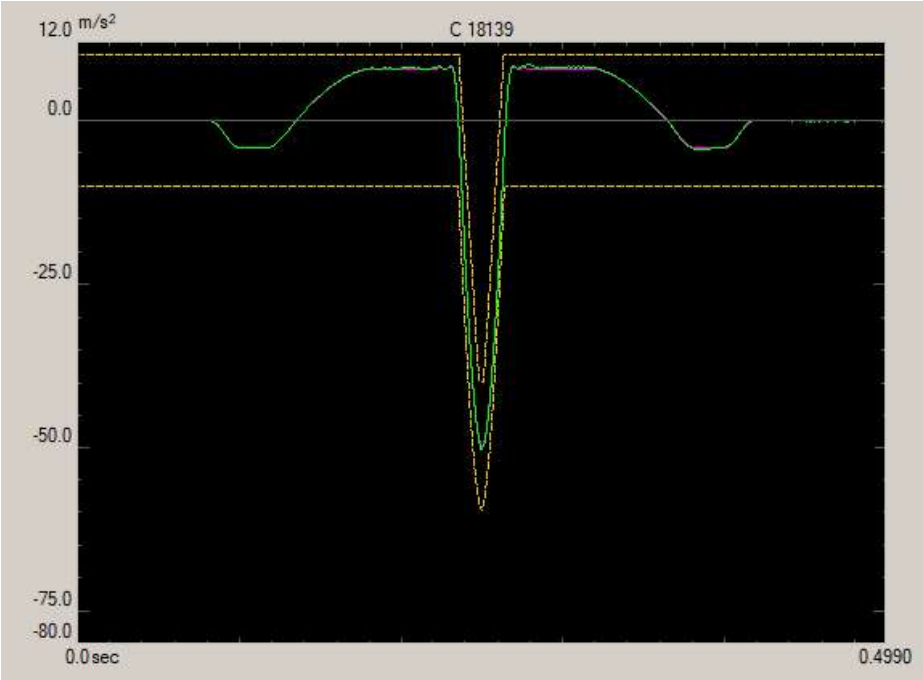
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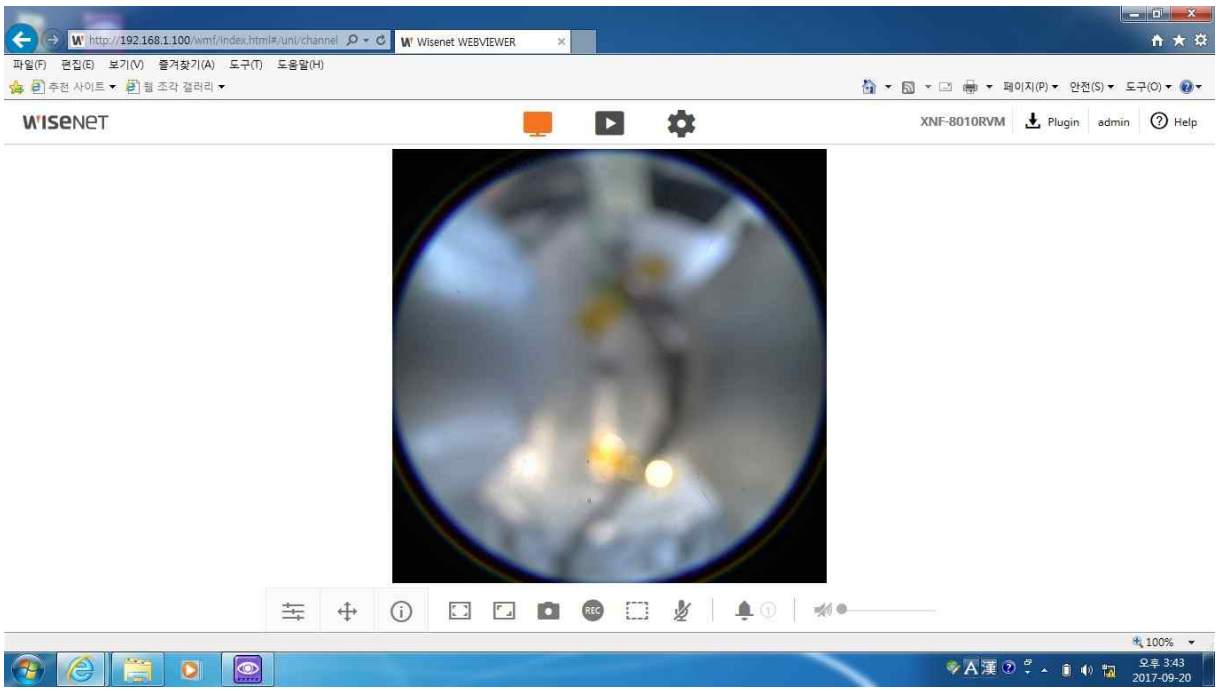
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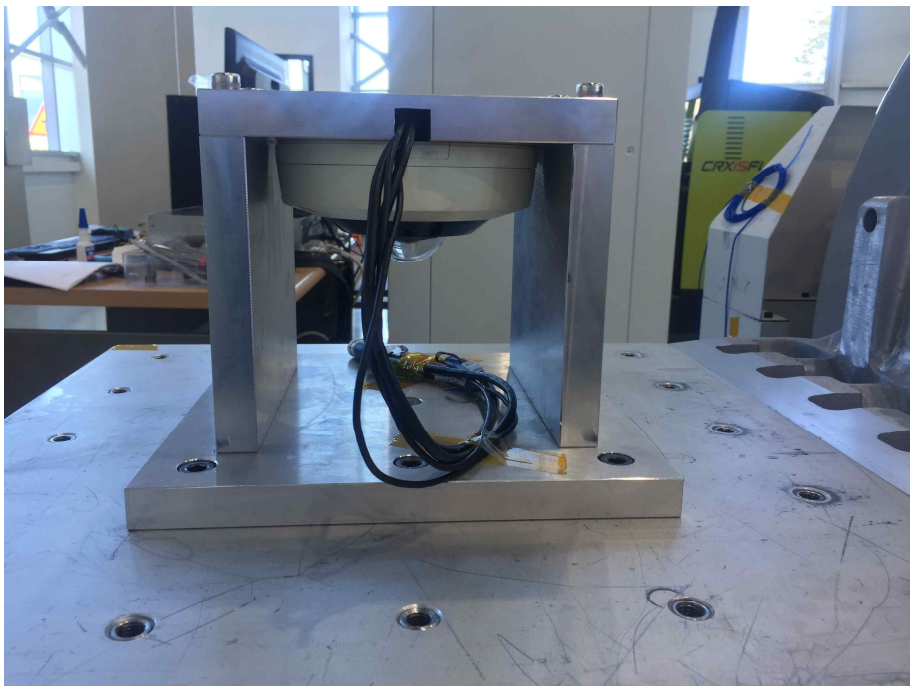

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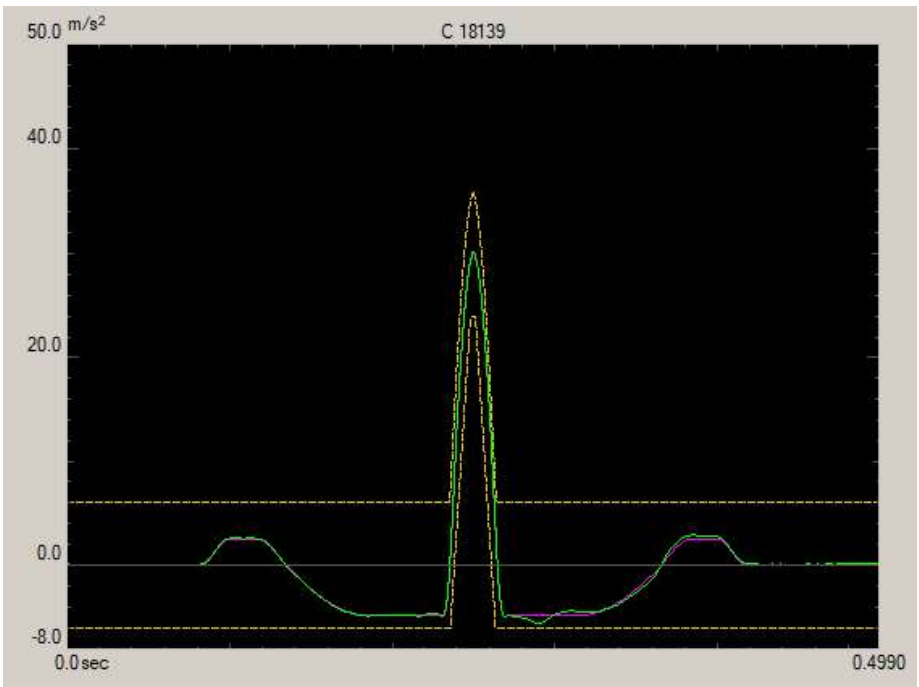

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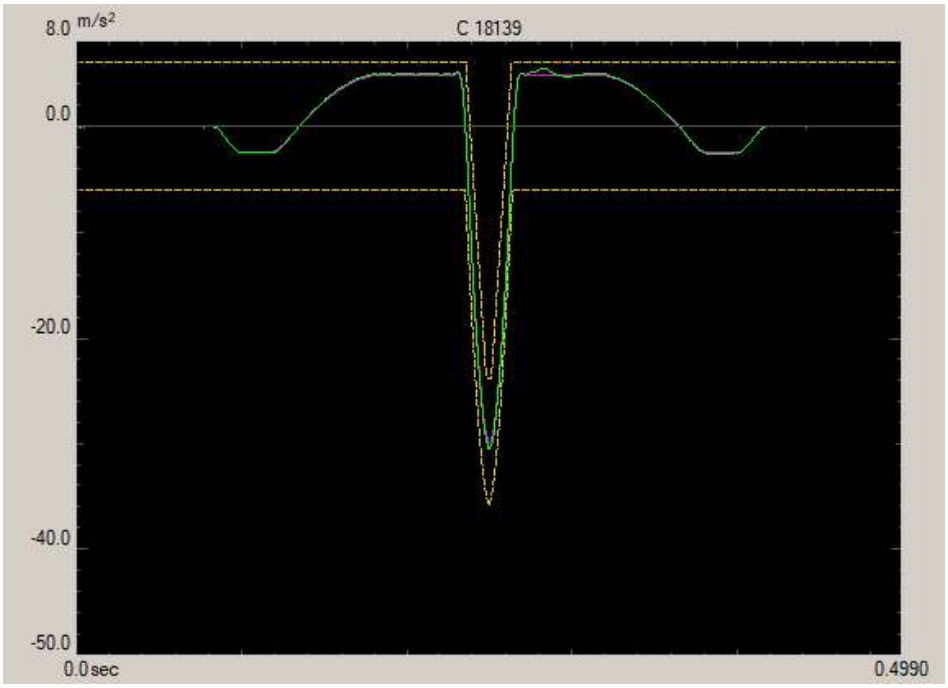


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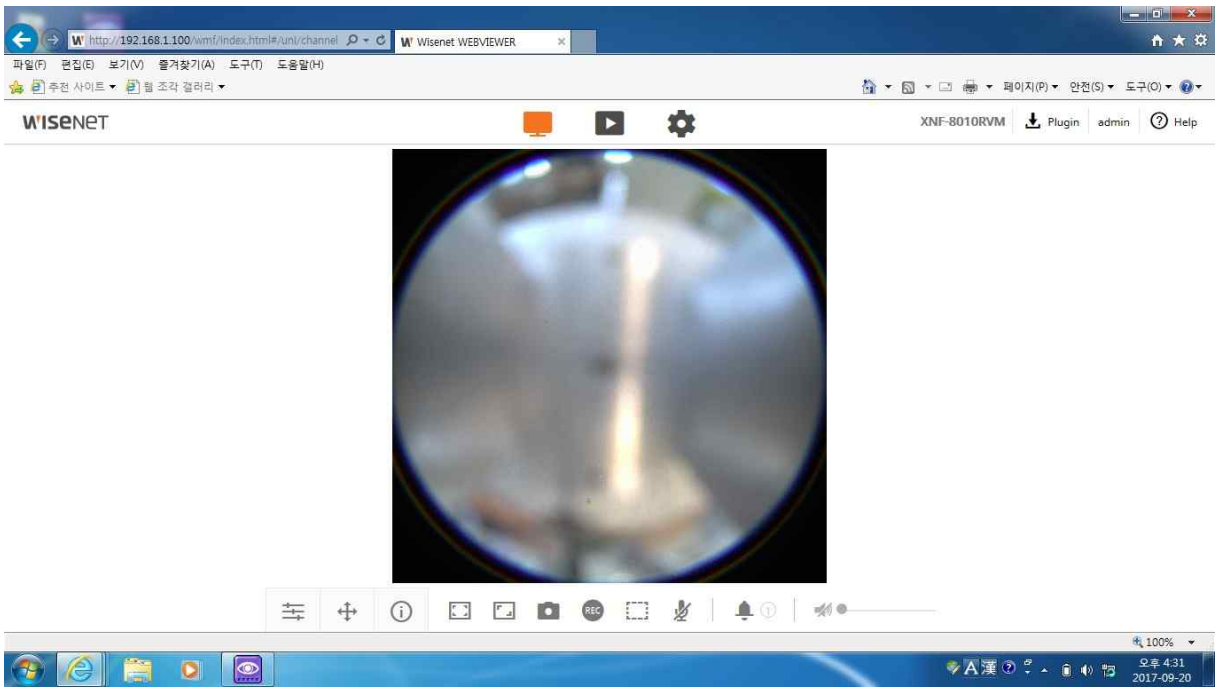


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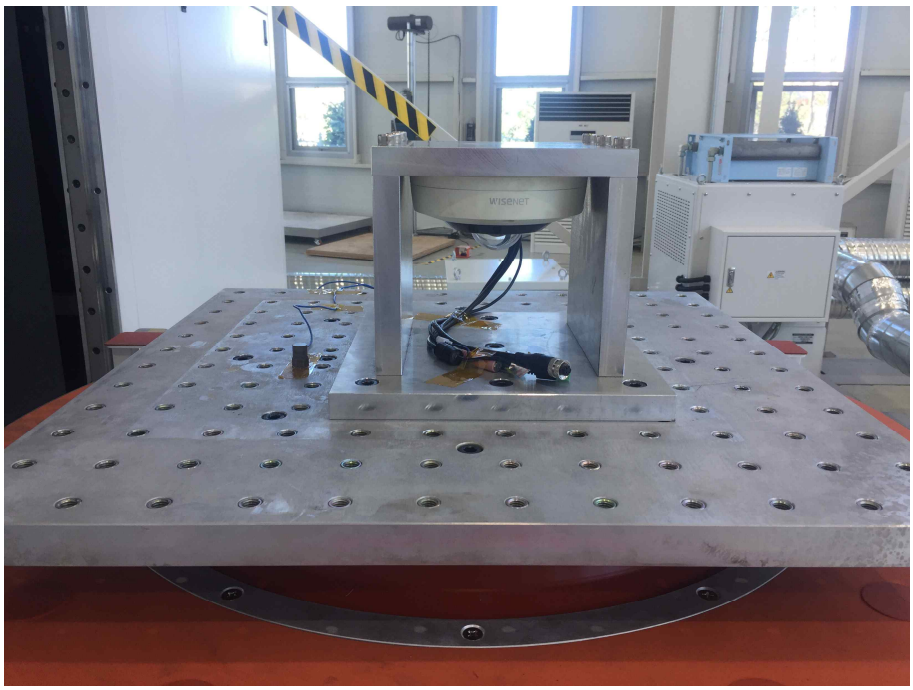
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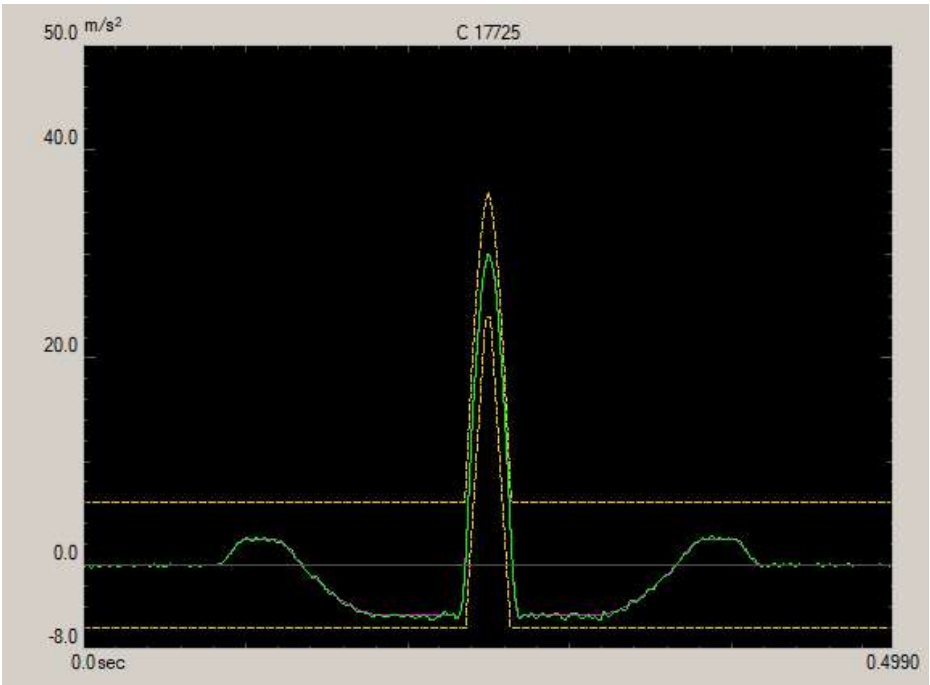
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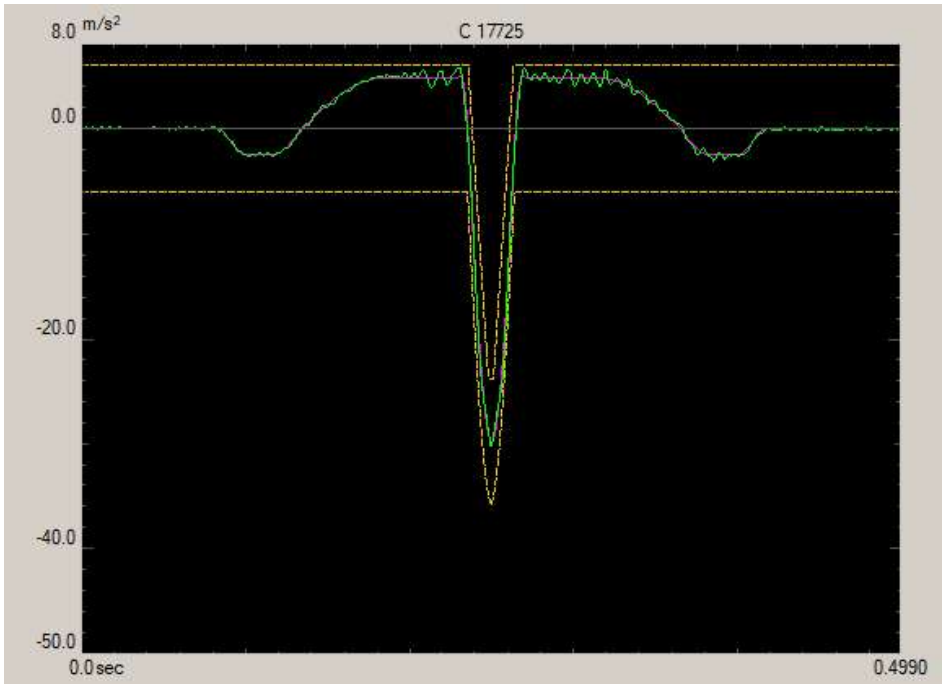
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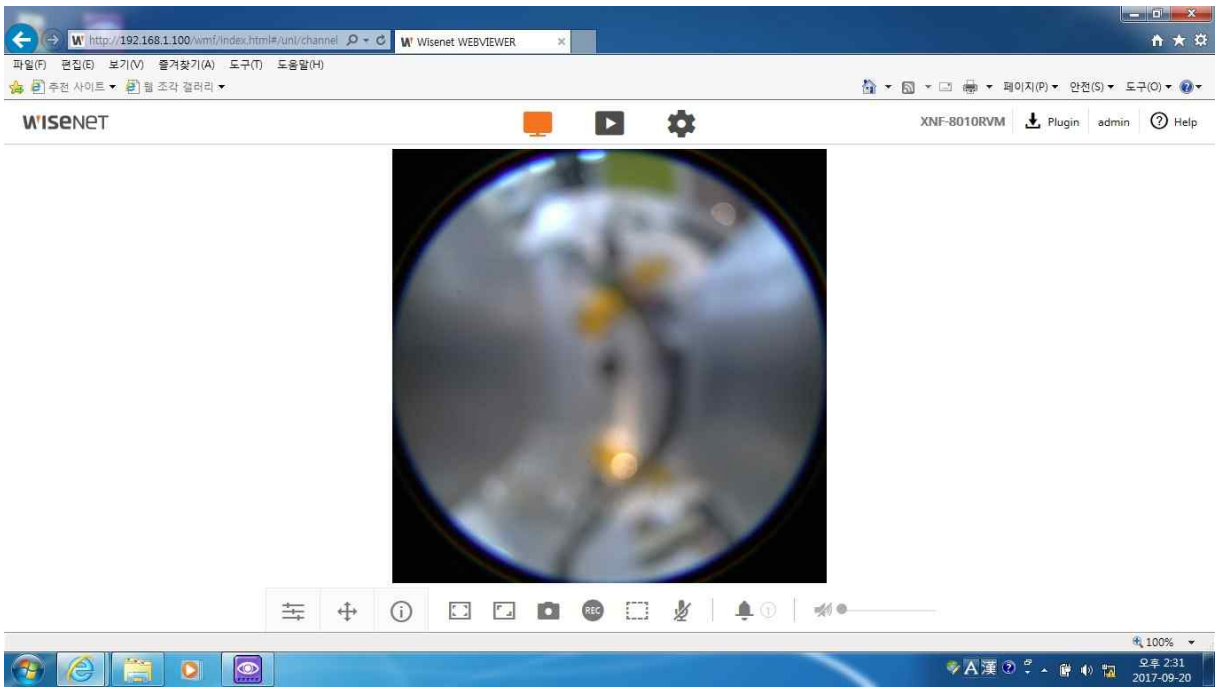
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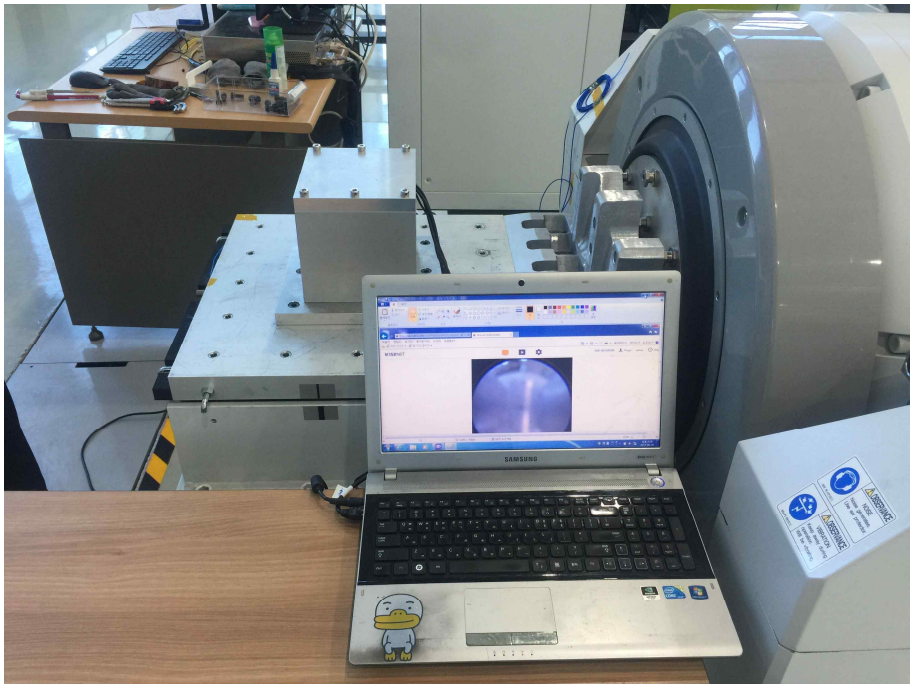

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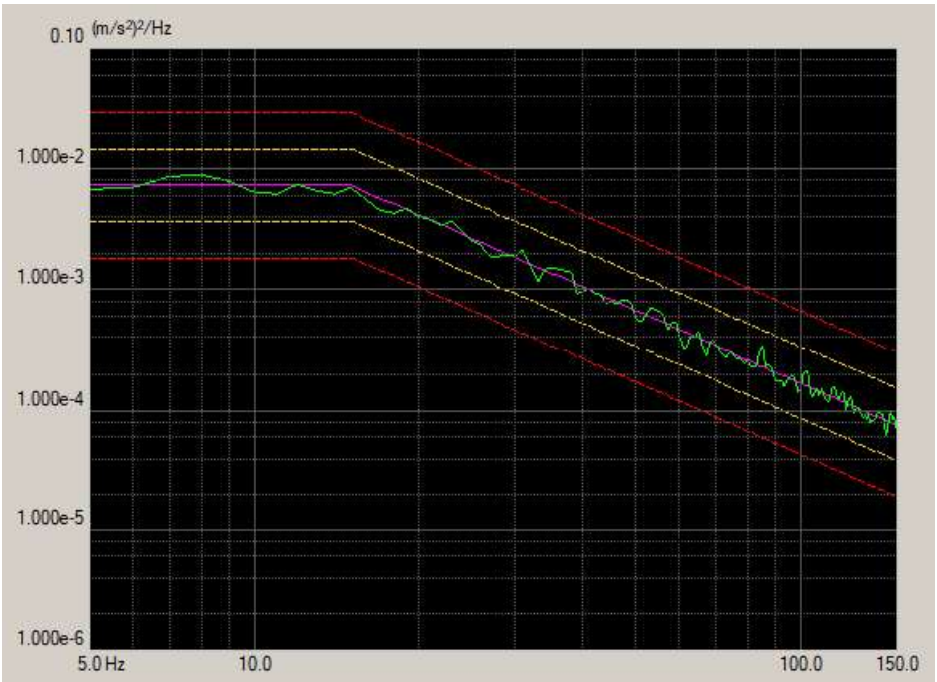

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7.2.3 Functional random test

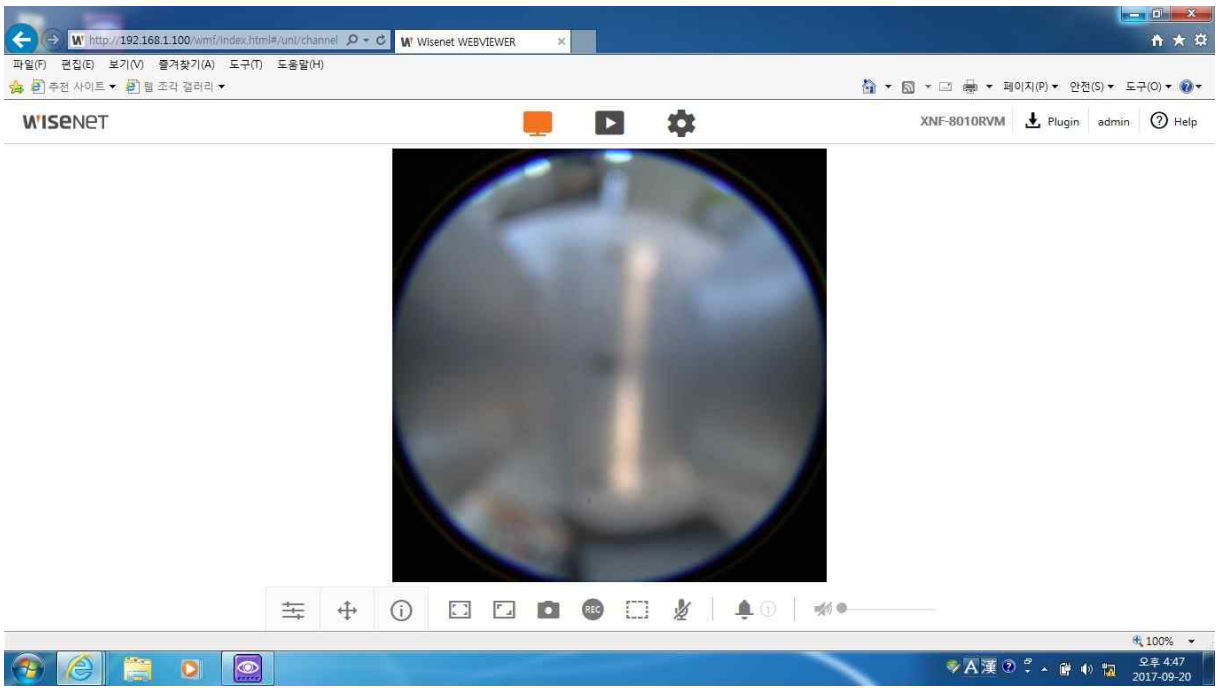
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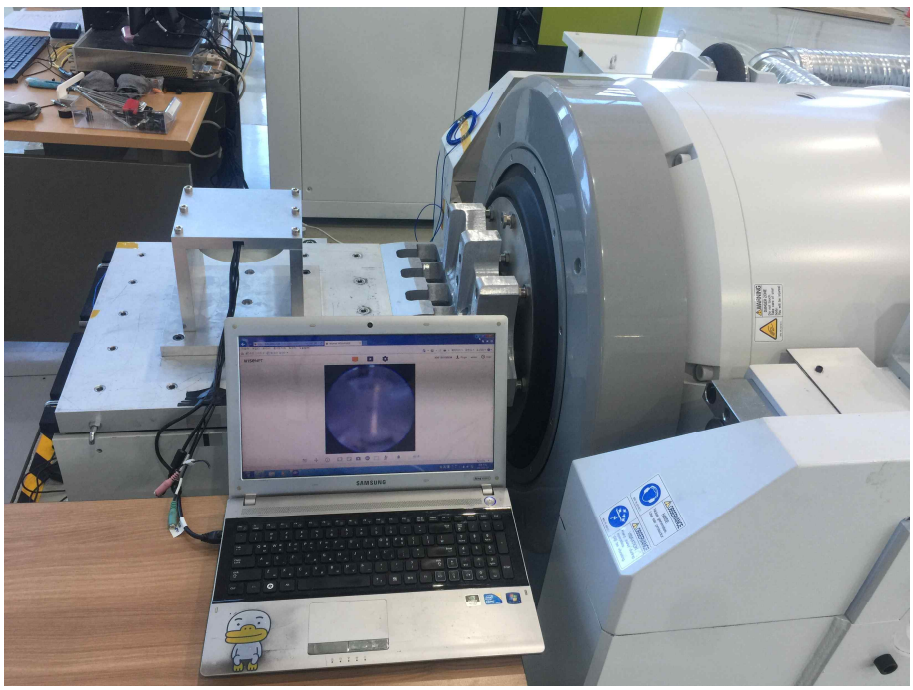
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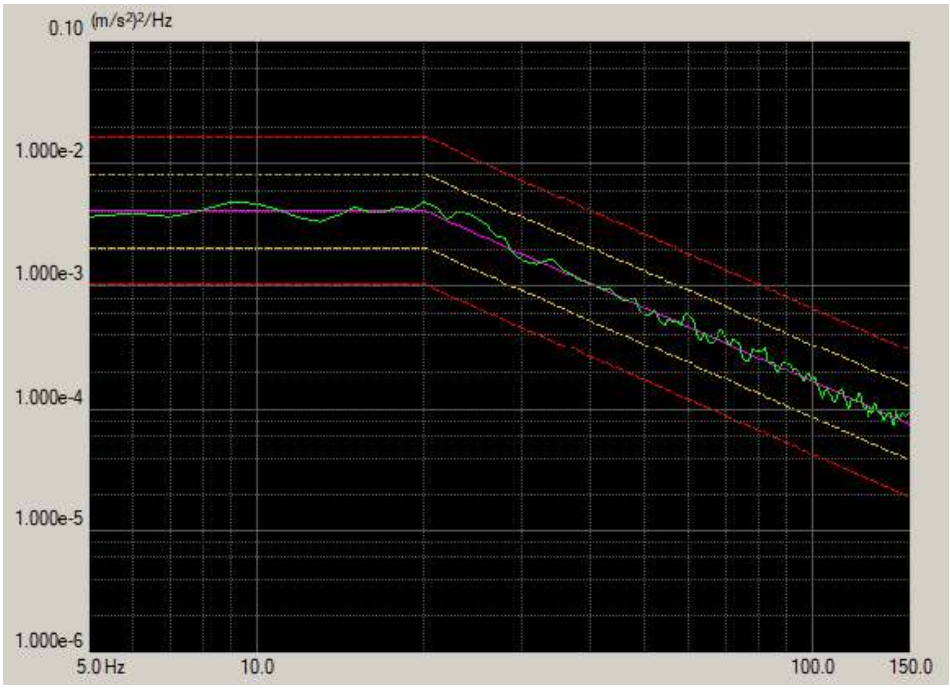

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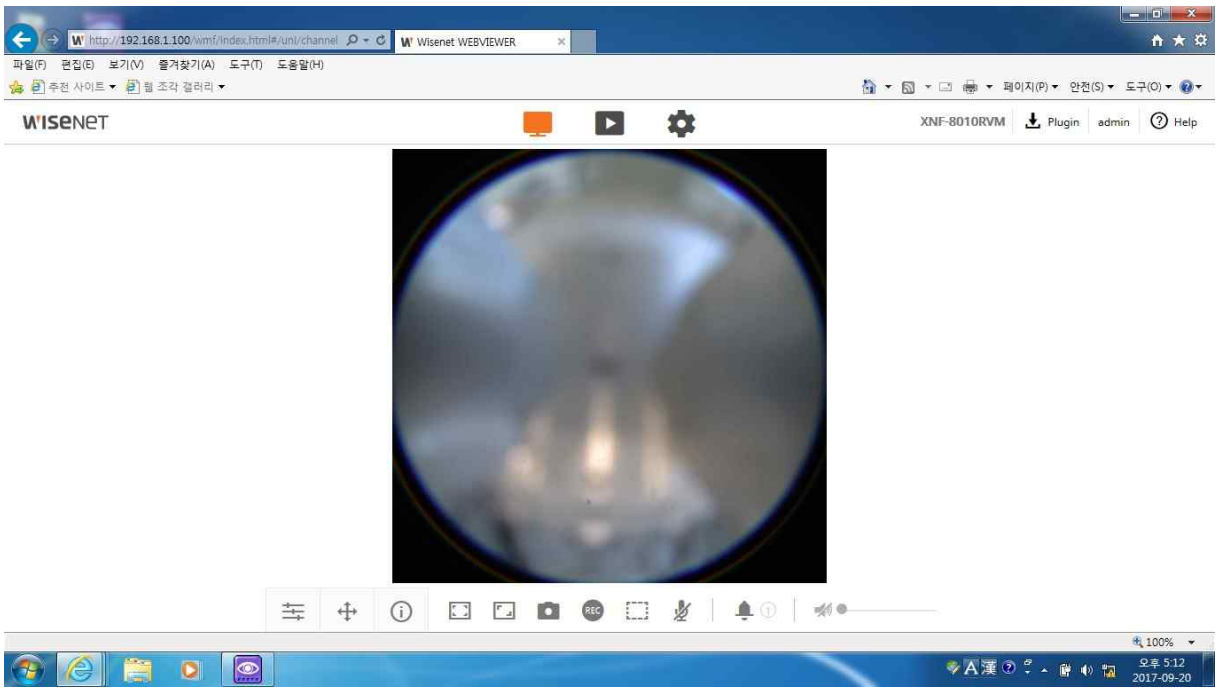


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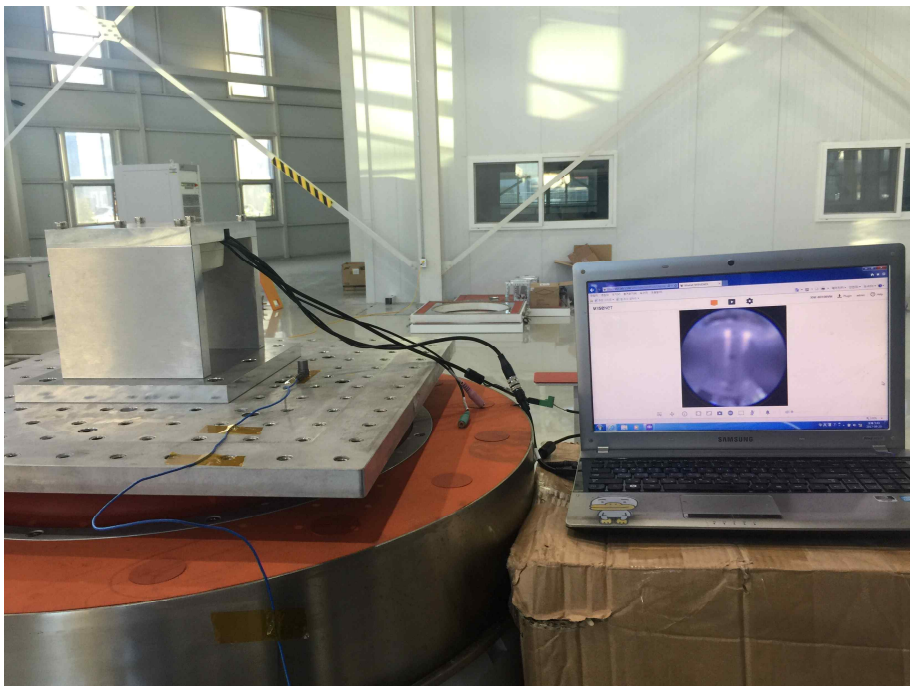
[Y axis]



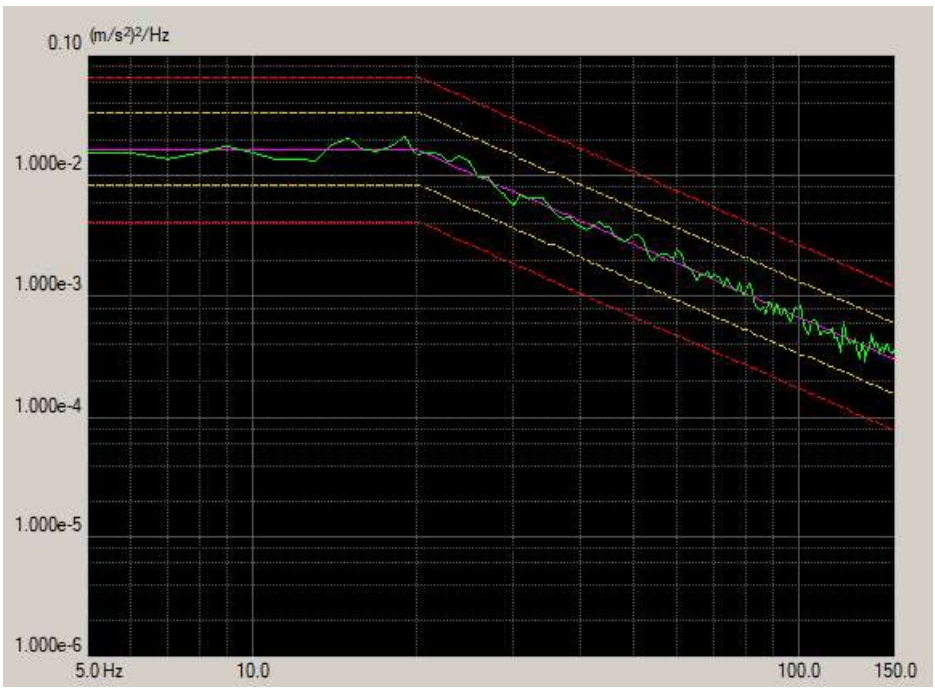
[Y axis]



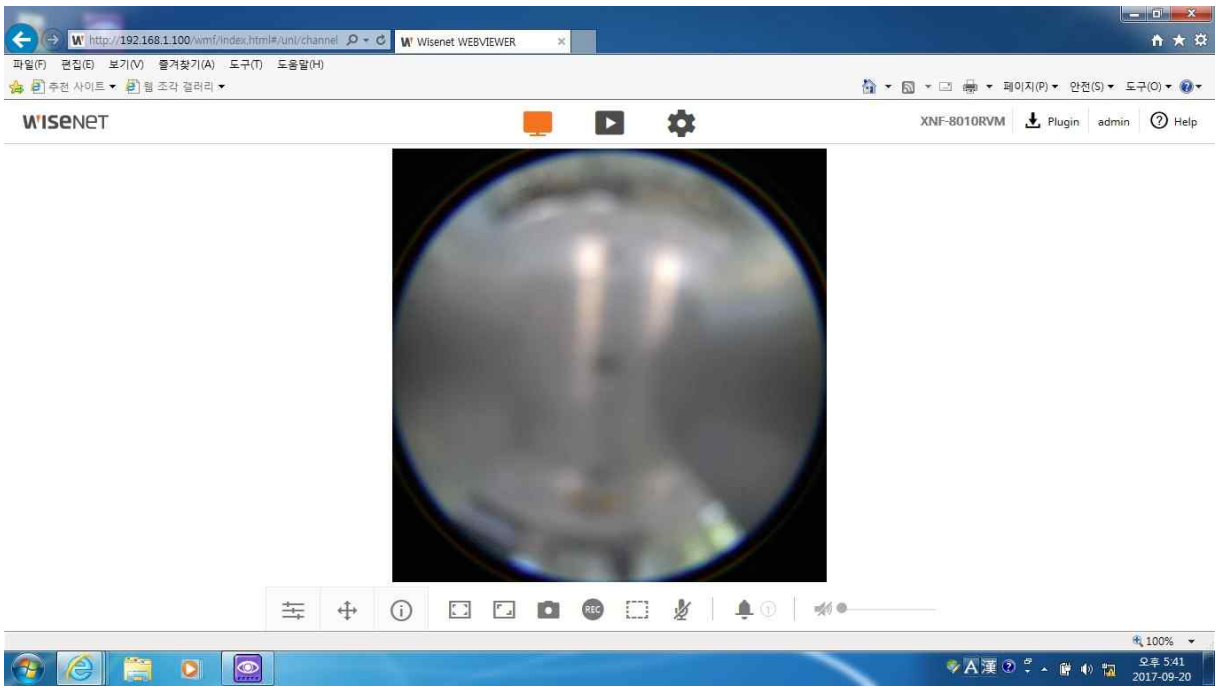
[Z axis]



[Z axis]


0.10
(m/s²)²/Hz
1.000e-2
1.000e-3
1.000e-4
1.000e-5
1.000e-6
5.0 Hz
10.0
100.0
150.0

[Z axis]

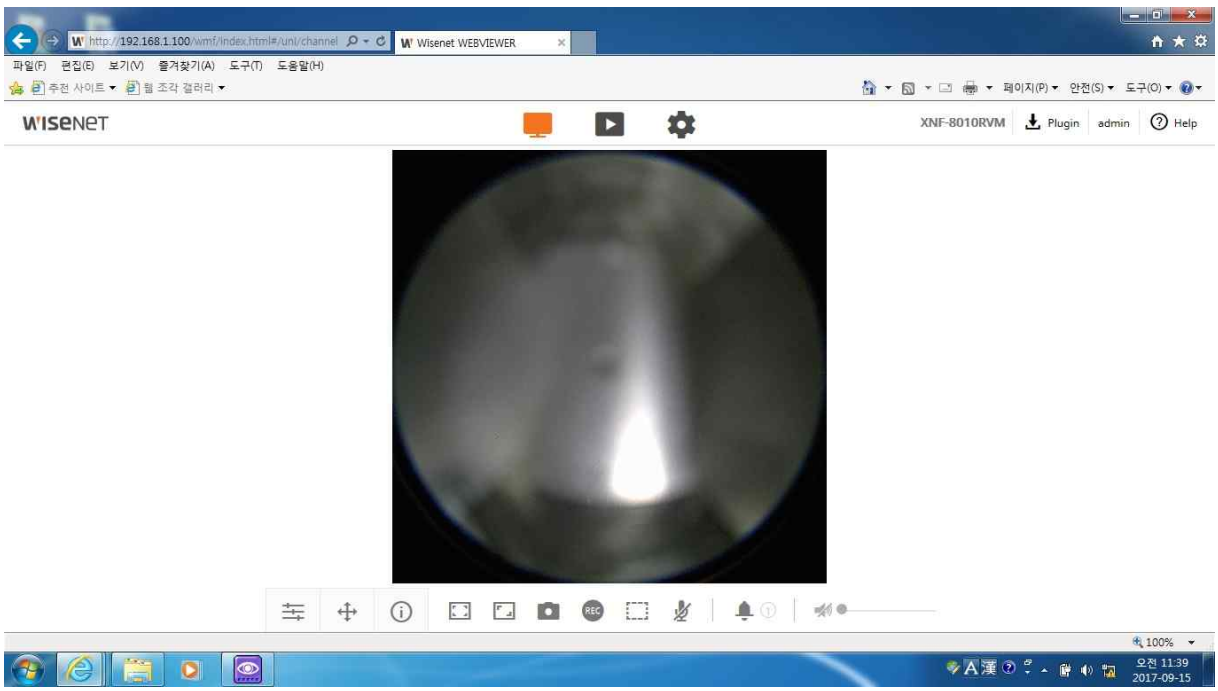

Wisenet WEBVIEWER
WISENET
XNF-8010RVM
Plugin
admin
Help
100%
오후 5:41
2017-09-20

7.2.4 Cooling test

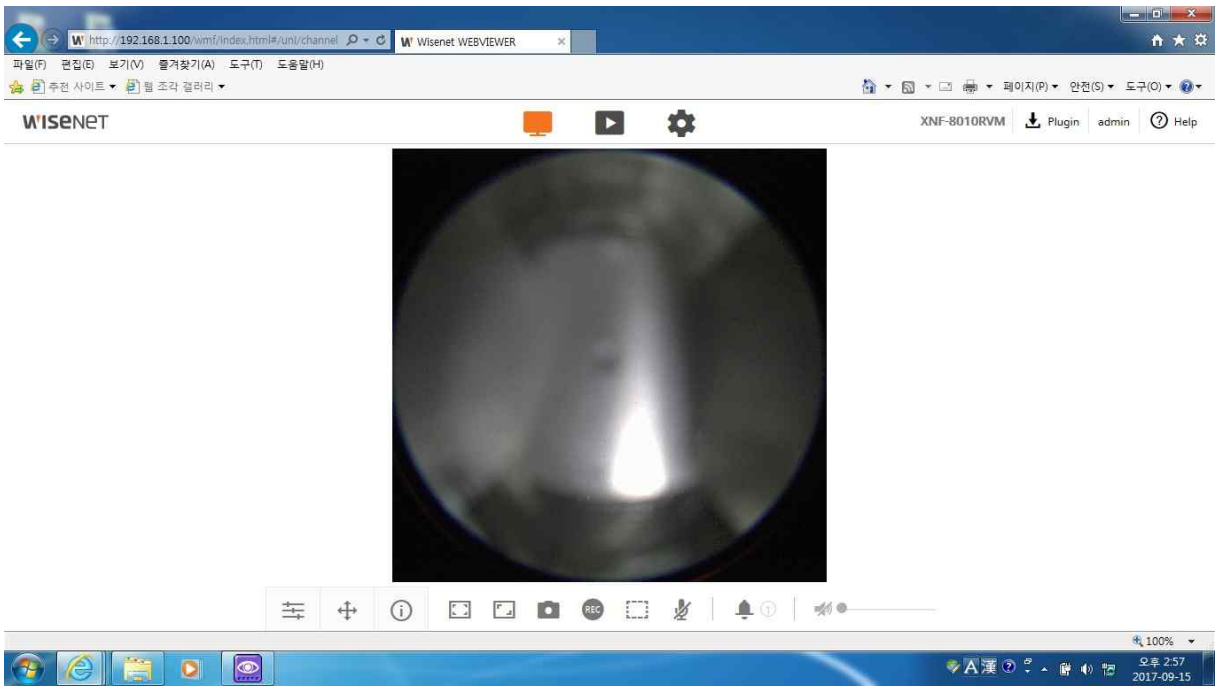
[Cooling test]



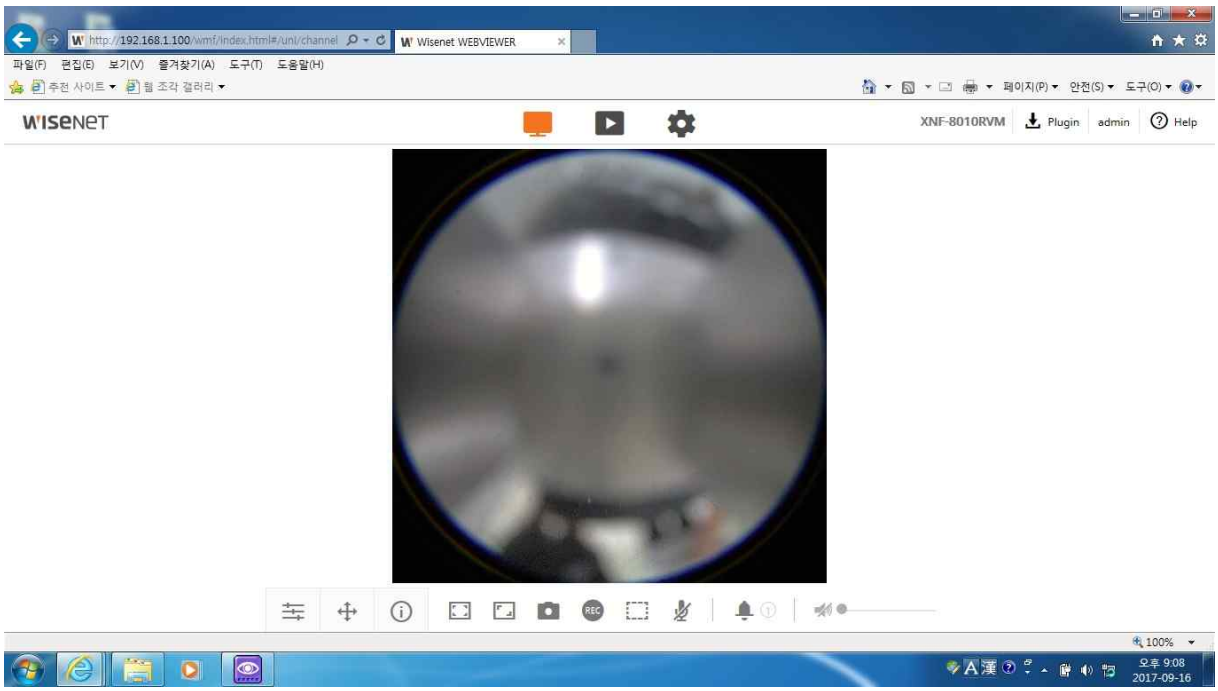
[Cooling Before Test]



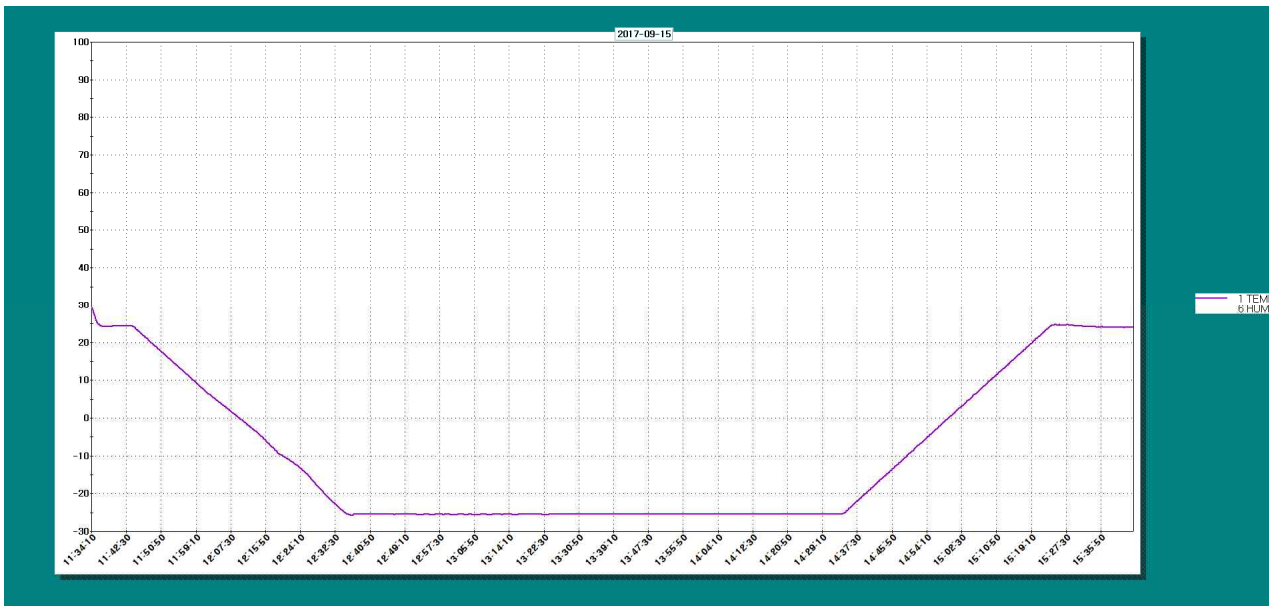
[Cooling During Test]



[Cooling After Test]



[Cooling test]

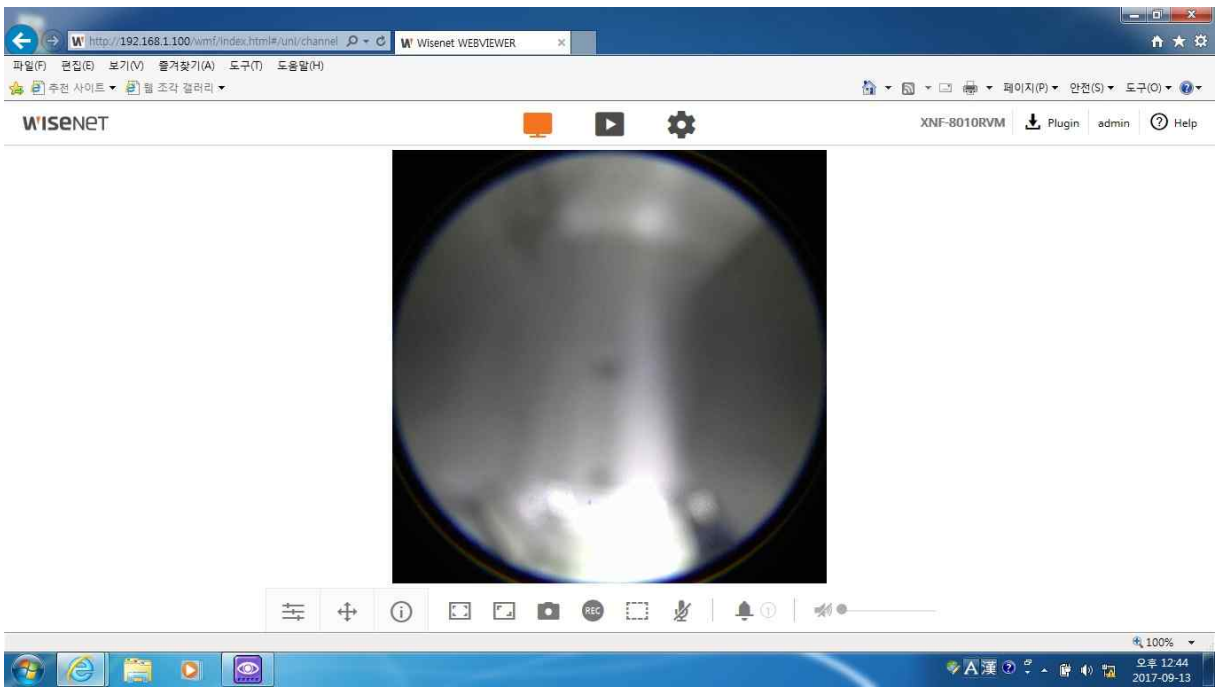


7.2.5 Dry heat (T2)

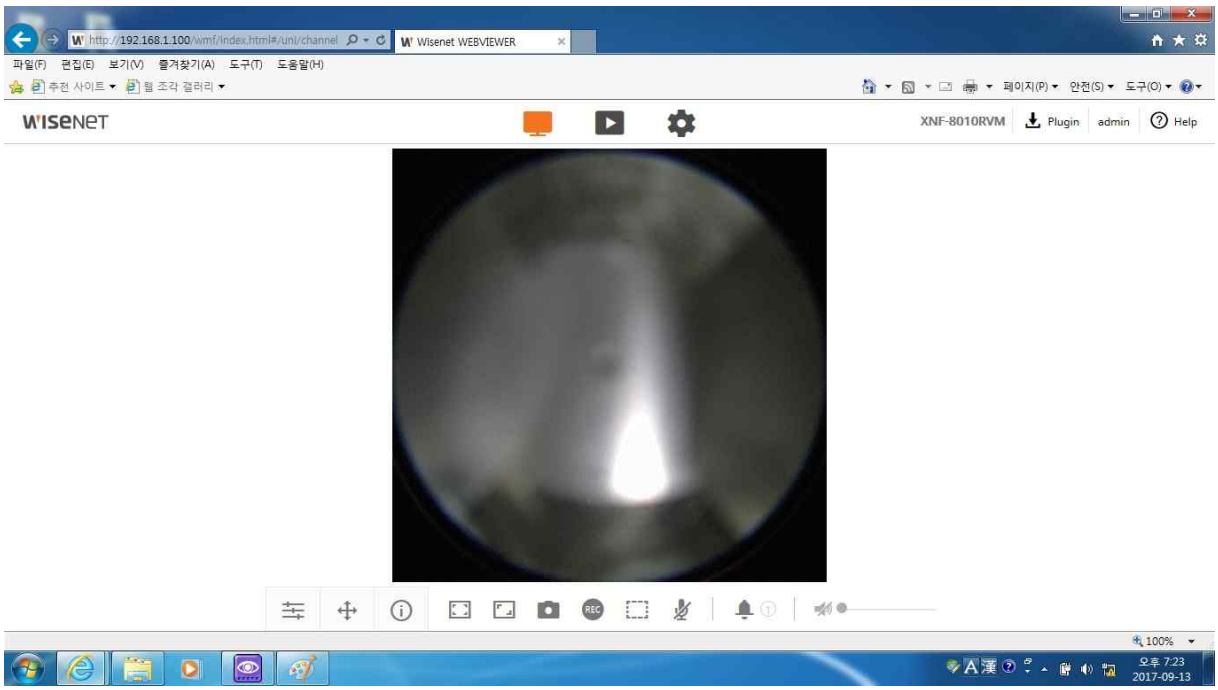
[Dry heat(T2)]



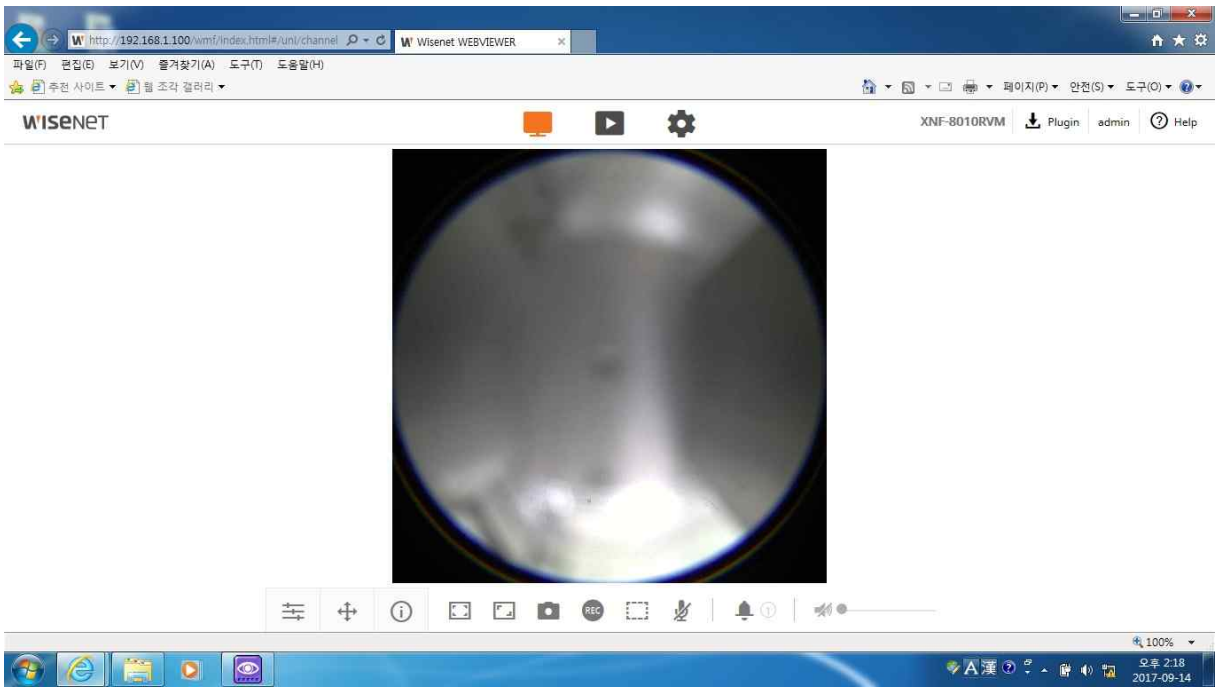
[Dry heat Before Test(T2)]



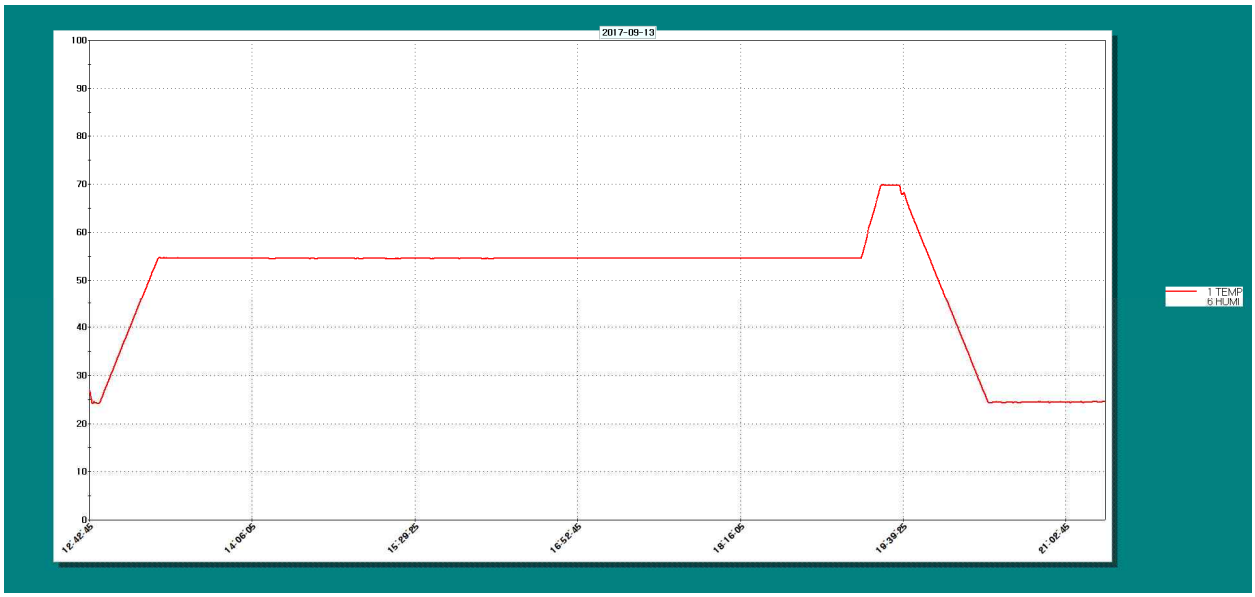
[Dry heat During Test(T2)]



[Dry heat After Test(T2)]

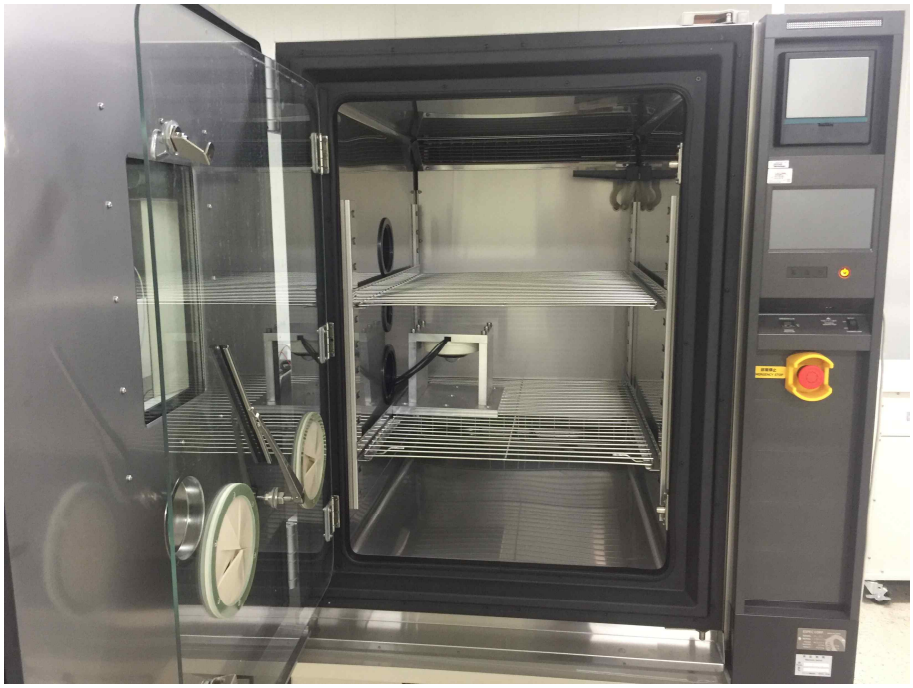


[Dry heat(T2)]

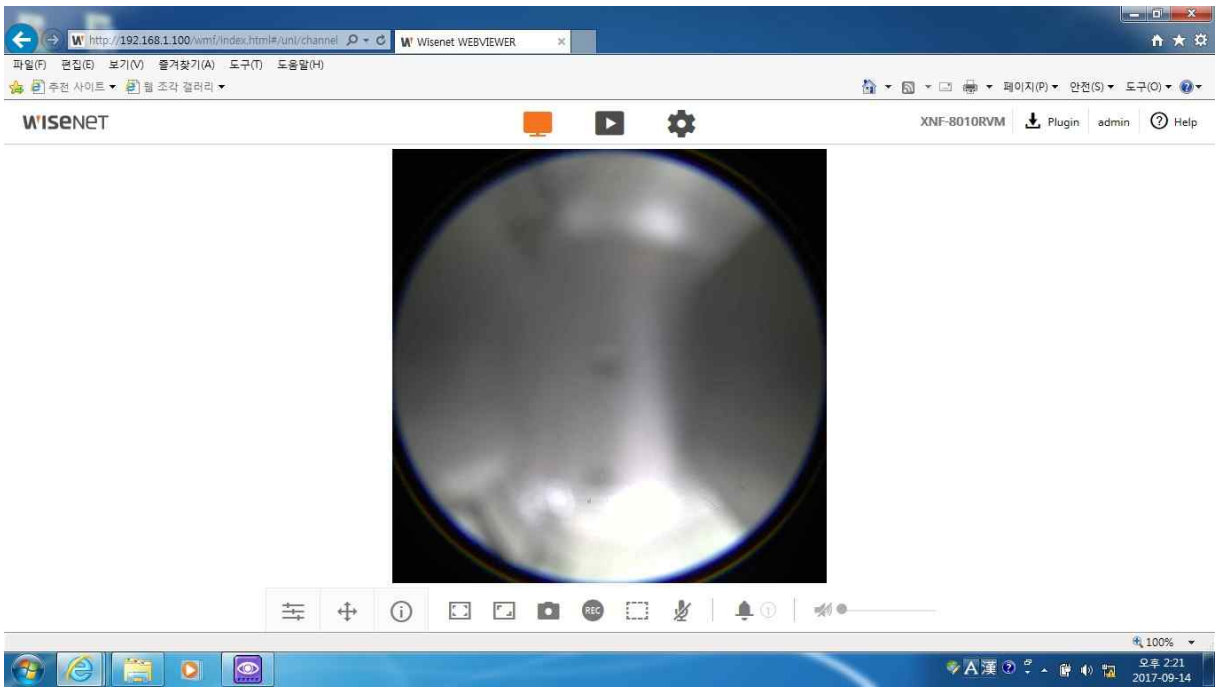

2017-09-13
100
90
80
70
60
50
40
30
20
10
0
12:48:45
14:06:05
15:23:25
16:40:45
18:16:05
19:33:25
21:02:45
1 TEMP
6 HUMI

7.2.6 Dry heat test (TX)]

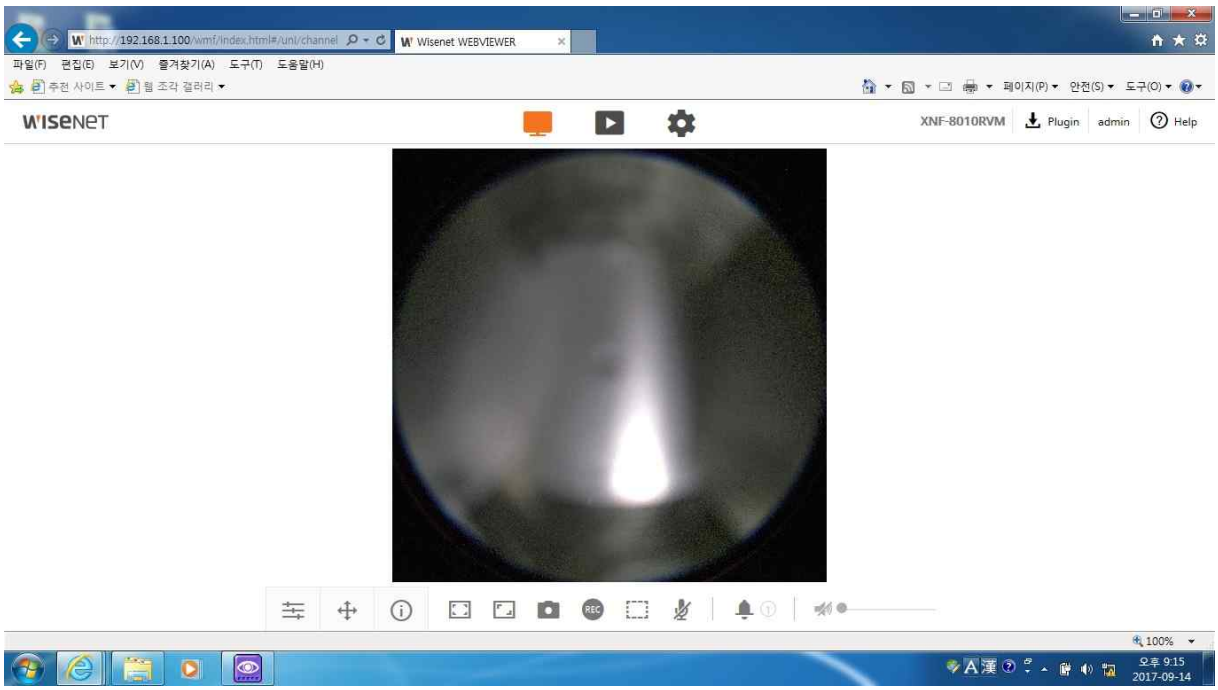
[Dry heat test (TX)]



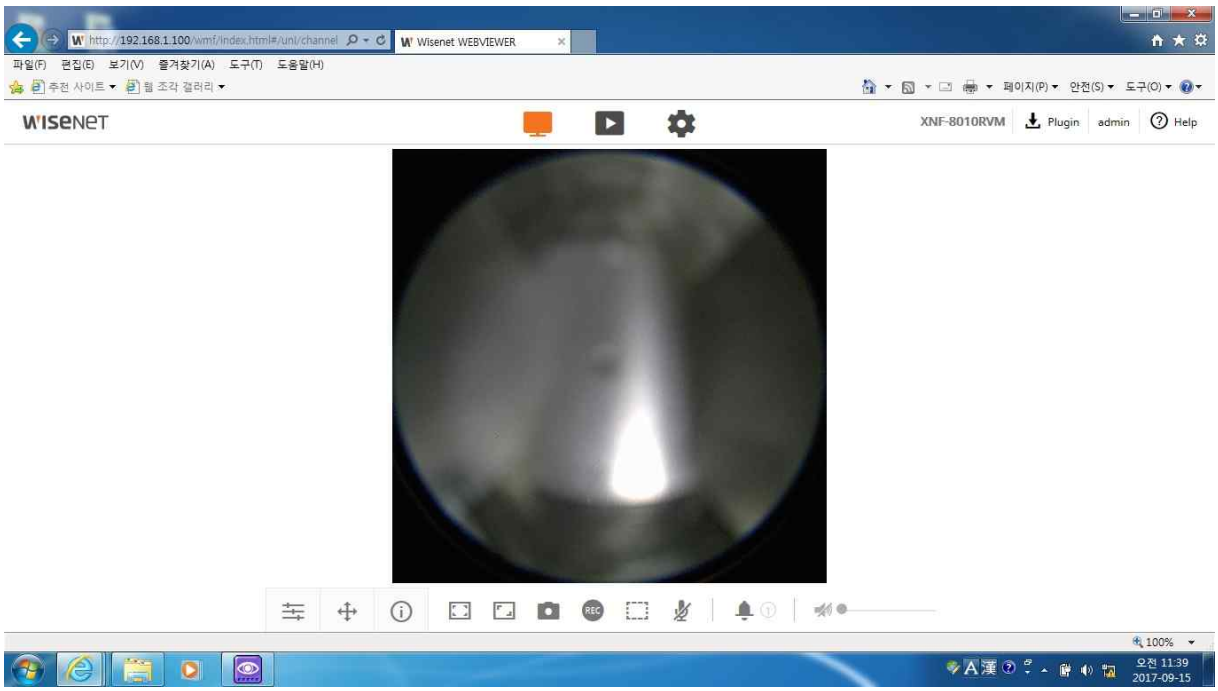
[Dry heat Before Test(TX)]



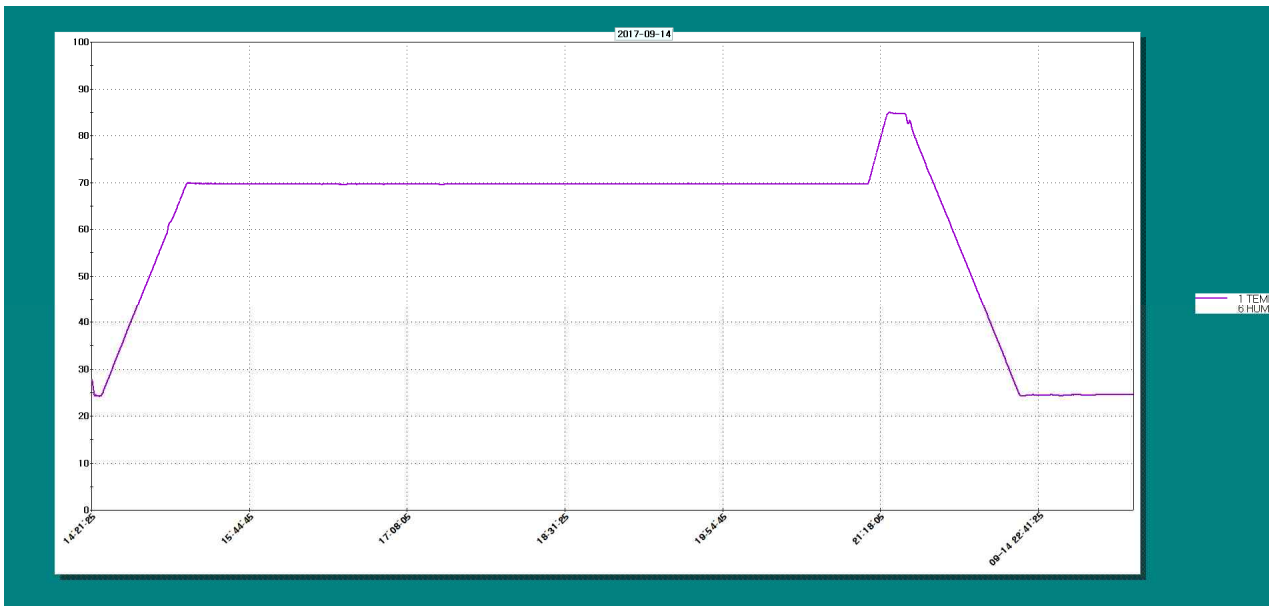
[Dry heat During Test(TX)]



[Dry heat After Test(TX)]

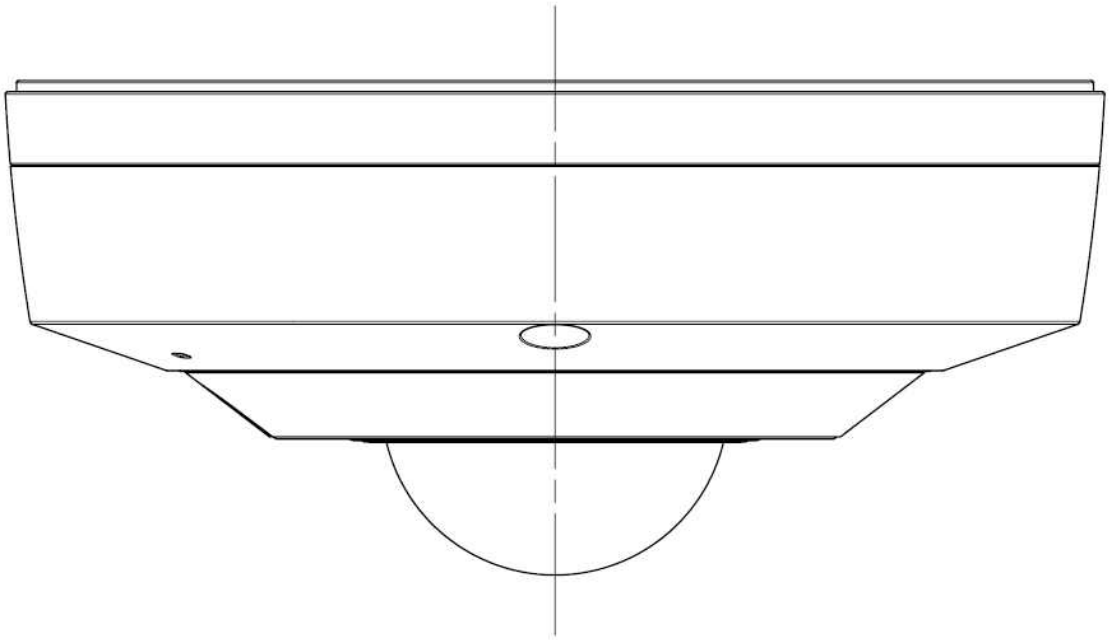


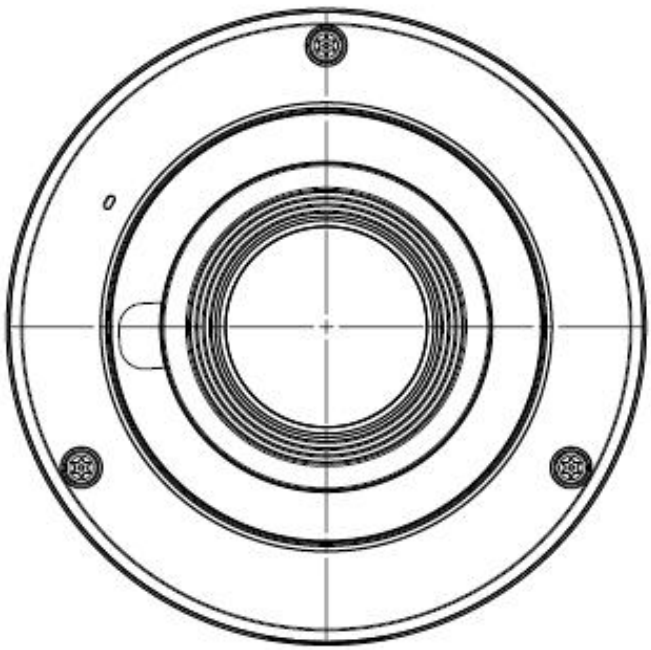
[Dry heat test (TX)]

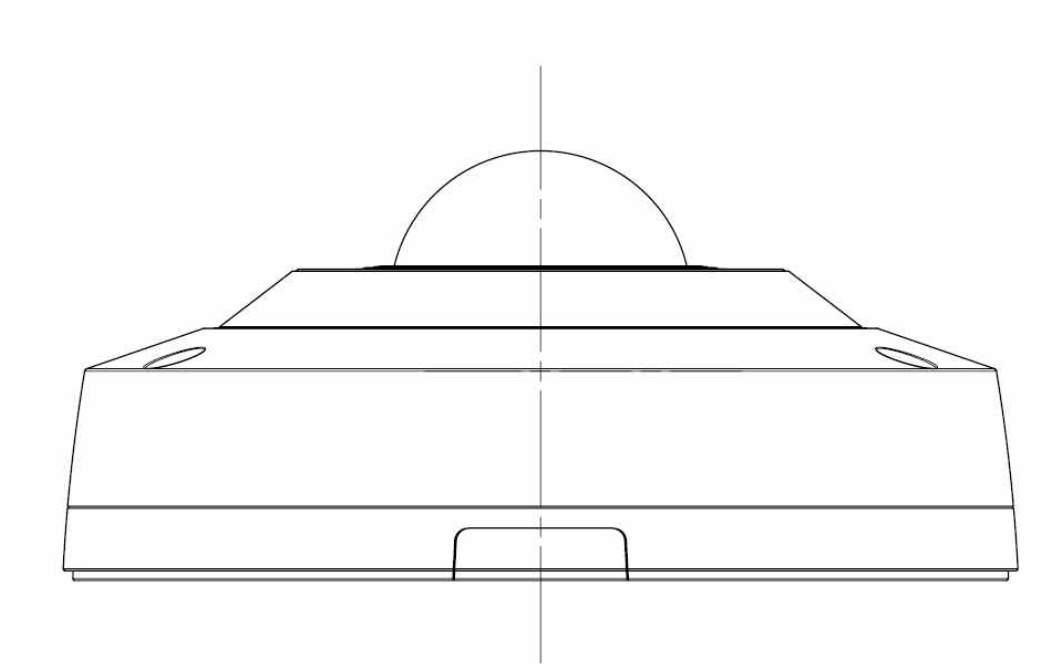


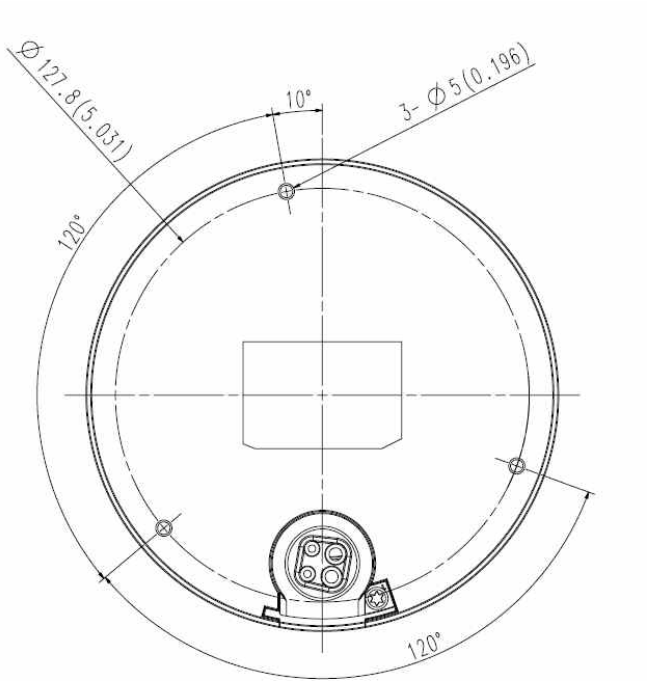
7.3 Product Appearance

Enclosure Dimensions [Unit: mm]








Ø127.8(5.031)
10°
3- Ø5(0.196)
120°
120°

CTK Co., Ltd.
(Ho-dong) 113, Yejik-ro, Cheoin-gu, Yongin-shi
Gyeonggi-do KOREA, REPUBLIC OF
Tel: +82-31-339-9970
Fax: +82-31-624-9501

