

# TEST REPORT

**Report No.** : SGS-R13-1289-EN  
**Applicant** : SAMSUNG TECHWIN Co., Ltd.  
**Address** : Samsungtechwin R&D Center, 701, Sampyeong-dong,  
Bundang-gu, Seongnam-si, Gyeonggi-do 463-400, Korea  
**Product** : Mobile NVR  
**Model** : SRM-872  
**Environment** : Temp. (23 ± 5) °C, Humidity (35 ± 8) % R.H.  
**Test Date** : October 31, 2013 ~ November 04, 2013  
**Standard** : EN 50155: 2007  
Section 12.2.3 Cooling test (T3)  
Section 12.2.4 Dry heat test(T2, TX)  
Section 12.2.9.1 Insulation measurement test  
**Test Result** : Refer to the attached document  
**Use of report** : Validation

This is certified that the above mentioned products have been tested for the sample provided by client.

<b>Confirmation</b>	<b>Tested by</b> <b>Name : Jun, ki-hwan</b>	<b>Approved by</b> <b>Name : Kim, in-kee</b>
---------------------	--	---

- ※ The test results is based on the test conducted on the test sample, which was requested by the client.
- ※ No part of this document may be duplicated or reproduced by any means without the express written permission.

November 04, 2013

## SGS KOREA Co., Ltd.

## Summary of Test Results

Mobile NVR / SRM-872	
TEST ITEM	TEST RESULT
Cooling test(T3)	No abnormal was found.
Dry heat test(T2)	No abnormal was found.
Dry heat test(TX)	No abnormal was found.
Insulation measurement test	No abnormal was found.

# Contents

1. Overview.....	4
2. Product.....	4
2.1 Description.....	4
2.2 Photograph.....	4
3. Test Process.....	5
3.1 Operating Test.....	5
3.2 Non-operating Test.....	5
4. Test Condition & Test Result.....	5
4.1 Cooling test.....	6
4.2 Dry heat test (T2).....	11
4.3 Dry heat test (TX).....	16
4.4 Insulation measurement test.....	21

## 1. Overview

As requested by the client, this test was conducted on test sample according to the test specification presented by the client.

## 2. Product

### 2.1 Description

Applicant : SAMSUNG TECHWIN Co., Ltd.  
Manufacturer : SAMSUNG TECHWIN Co., Ltd.  
Product : Mobile NVR  
Model : SRM-872  
S.N : N/A  
Input voltage : AC 220 V (Adaptor)

### 2.2 Photograph

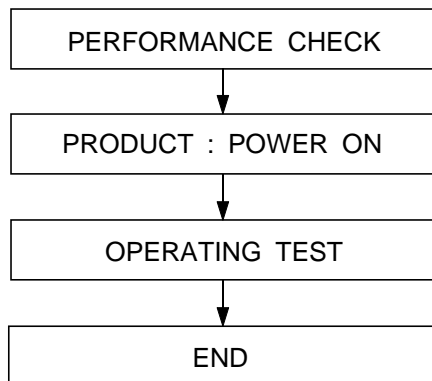


### 3. Test Process

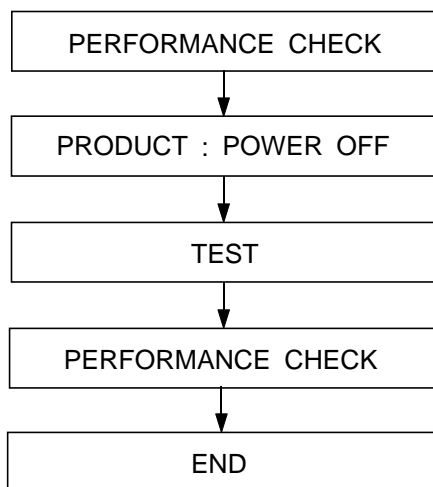
Refer to each test report.

(Using one process among next two kinds of process)

#### 3.1 Operating Test



#### 3.2 Non-operating Test



### 4. Test Condition & Test Result

Refer to each test report (Next page)

## 4.1 Cooling test

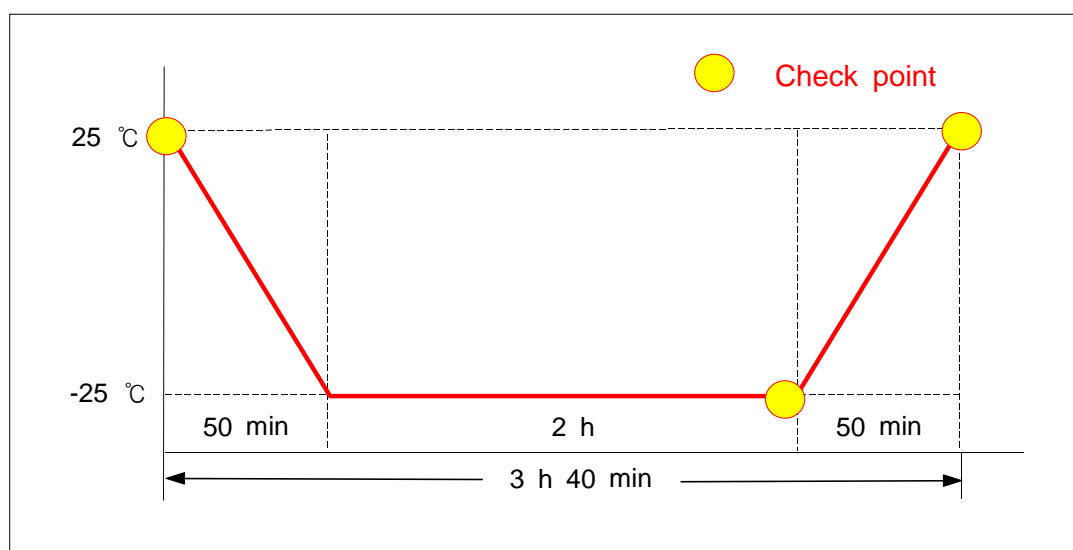
<b>Applicant</b>	SAMSUNG TECHWIN Co., Ltd	<b>Dept. in charge</b>	Reliability Test Team
<b>Product</b>	Mobile NVR	<b>Tester</b>	Jun, Ki-hwan (+82-31-240-6614)
<b>Model</b>	SRM-872	<b>Date</b>	October 30, 2013
<b>Serial No.</b>	N/A		
<b>Standard</b>	EN 50155: 2007 (Section 12.2.3 Class T3 # Column 1)	<b>No. of pages</b>	5

### (1) Test Conditions

- 1) Test temperature : -25 °C
- 2) Test time : 2 h
- 3) Check point : Before the test, During the test, After the test
- 4) Status of product : ① Unpacked product ② Non-operation(Check point power on)
- 5) Sample quantity : 1 EA

### (2) Test Method

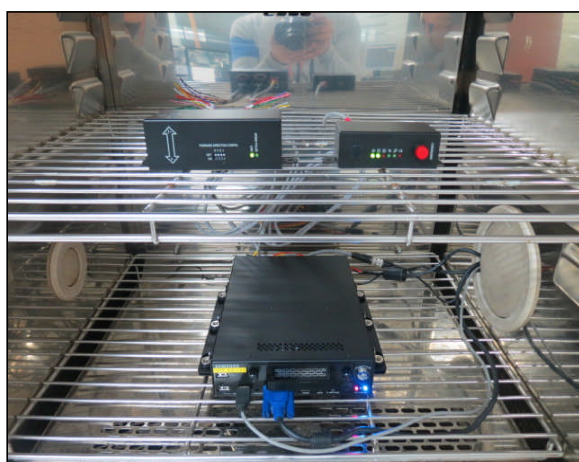
#### 1) Temperature profile



※ Temperature graph of the chamber is presented in appendix 2.

- 2) Before the test : Check the condition and the normal operation of sample.
- 3) After installing sample in the chamber, conduct a test as in "Temperature profile".
- 4) During the test : Check the condition and the normal operation of sample.
- 5) After the test : After leaving the sample at room temperature, check its visual inspection and operation.

### (3) Test Photograph



### (4) Test Result

Check Item	Test result
1. Check CCTV's screen output status.	Refer to the appendix 1.
2. Check sample's LED's operation status.	No abnormal was found.
3. Visual inspection.	No abnormal was found.

### (5) Test Equipment

Description	Manufacturer & Model	Serial number	The due date of next calibration	Calibration laboratory
Chamber	Vötsch PL-2KPH	35090020	July 08, 2014	SICT
PC Monitor	Samsung GH19PS	N705HVDP202198J	N/A	N/A

## ※ Appendix 1. Performance check

- Check CCTV's screen output status.



(CCTV's screen output status before the test.)



(CCTV's screen output status during the test.)

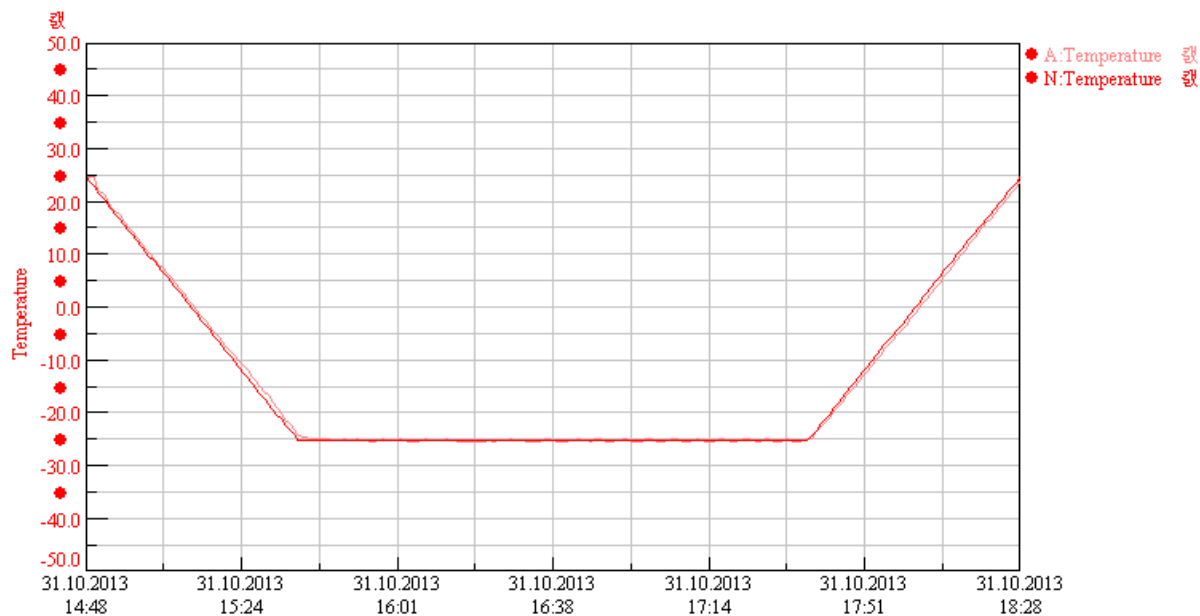




(CCTV's screen output status after the test.)

※ Appendix 2. Chamber temperature graph

VC7018\_9 [no2] prog.:삼성테크원(-25)\_1031 arch.:삼성테크원(-25)\_1031 start:superuser 31.10.2013 14:48 stop: AUTOM. 31.10.2013



## 4.2 Dry heat test (T2)

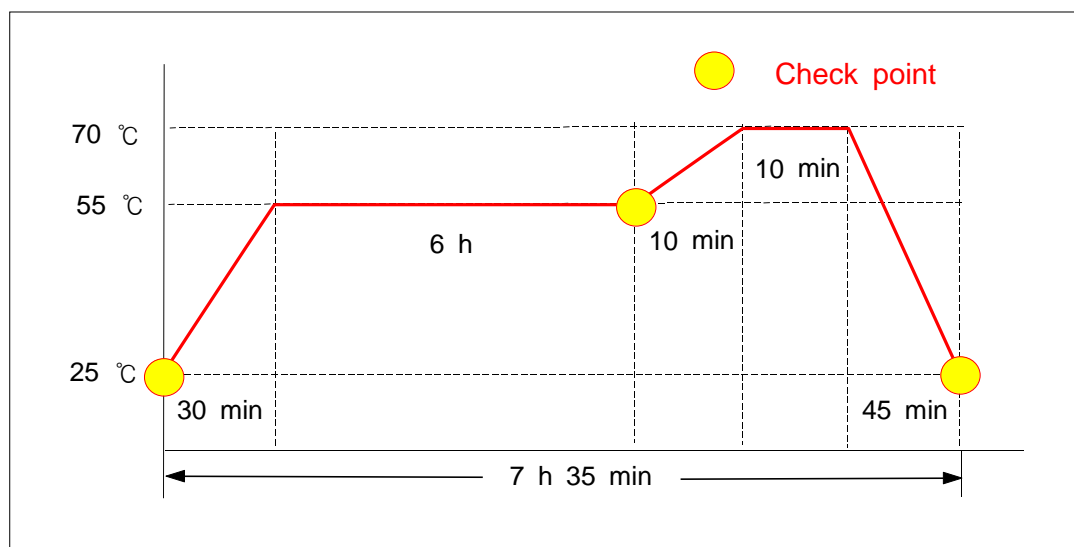
<b>Applicant</b>	SAMSUNG TECHWIN Co., Ltd	<b>Dept. in charge</b>	Reliability Test Team
<b>Product</b>	Mobile NVR	<b>Tester</b>	Jun, Ki-hwan (+82-31-240-6614)
<b>Model</b>	SRM-872	<b>Date</b>	November 01, 2013
<b>Serial No.</b>	N/A		
<b>Standard</b>	EN 50155: 2007 Section 12.2.4 Class T2 # Column 2)	<b>No. of pages</b>	5

### (1) Test Conditions

- 1) Test temperature : (55 ~ 70) °C
- 2) Test time : 6 h 10 min
- 3) Check point : Before the test, During the test, After the test
- 4) Status of product : ① Unpacked product ② Non-operation(Check point power on)
- 5) Sample quantity : 1 EA

### (2) Test Method

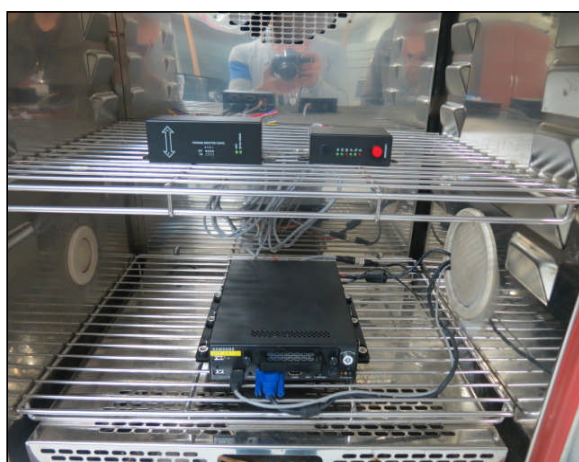
#### 1) Temperature profile



※ Temperature graph of the chamber is presented in appendix 2.

- 2) Before the test : Check the condition and the normal operation of sample.
- 3) After installing sample in the chamber, conduct a test as in "Temperature profile".
- 4) During the test : Check the condition and the normal operation of sample.
- 5) After the test : After leaving the sample at room temperature, check its visual inspection and operation.

### (3) Test Photograph



### (4) Test Result

Check item	Test result
1. Check CCTV's screen output status.	Refer to the appendix 1.
2. Check sample's LED's operation status.	No abnormal was found.
3. Visual inspection.	No abnormal was found.

### (5) Test Equipment

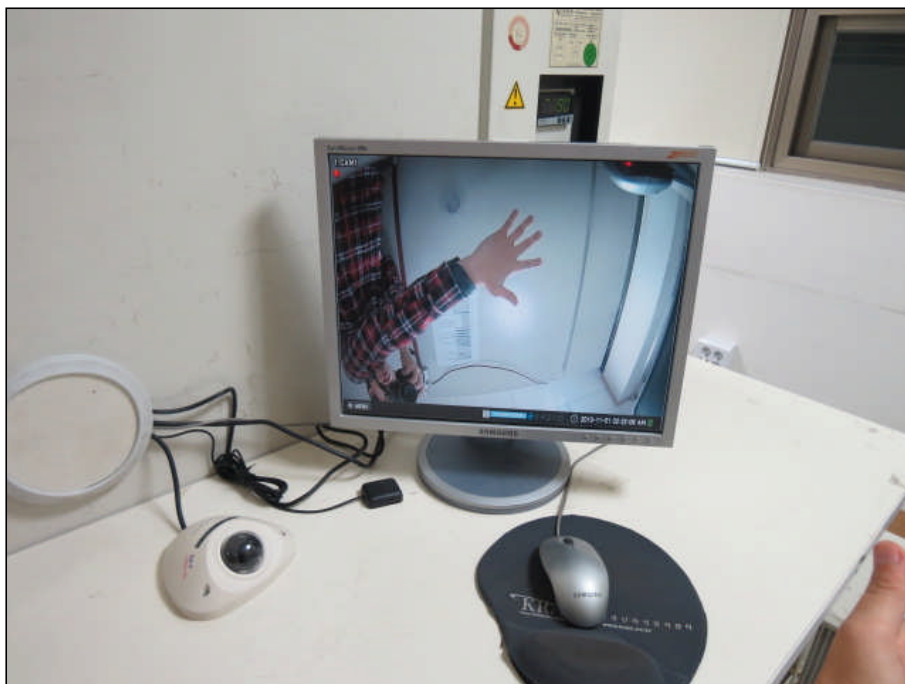
Description	Manufacturer & Model	Serial number	The due date of next calibration	Calibration laboratory
Chamber	Vötsch PL-2KPH	35090020	July 08, 2014	SICT
PC Monitor	Samsung GH19PS	N705HVDP202198J	N/A	N/A

※ Appendix 1. Performance check

- Check CCTV's screen output status.



(CCTV's screen output status before the test.)



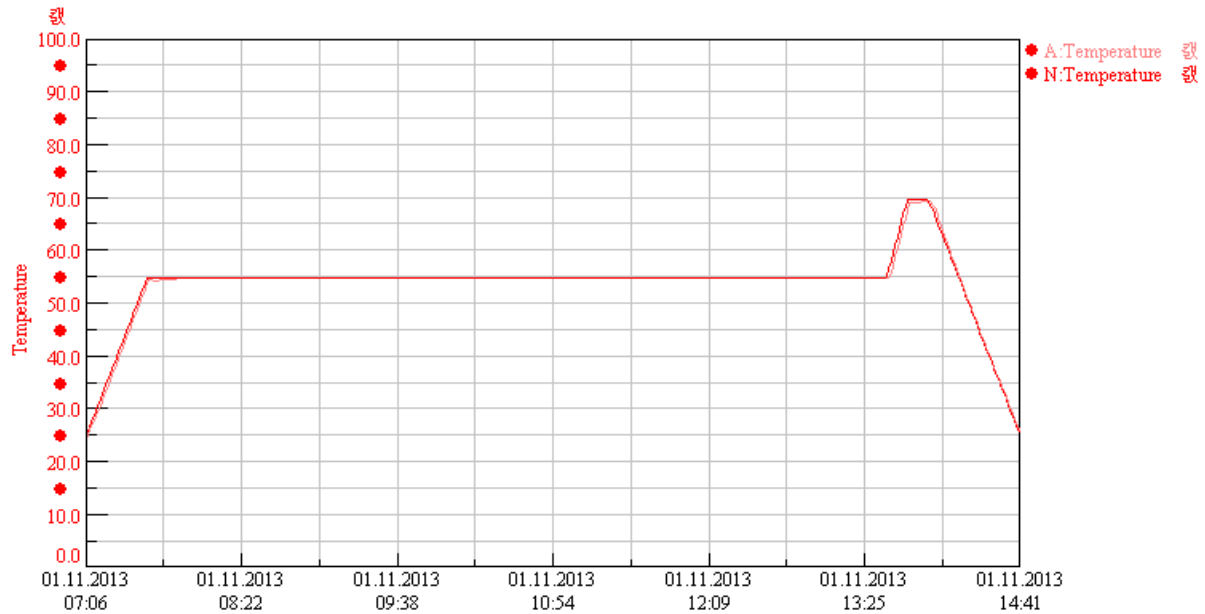
(CCTV's screen output status during the test.)



(CCTV's screen output status after the test.)

※ Appendix 2. Chamber temperature graph

VC7018\_9 [no2] prog.:삼성테크원(고온T2)\_1031 arch.:삼성테크원(고온T2)\_1101 start:superuser 1.11.2013 7:06 stop: AUTOM. 1.11



### 4.3 Dry heat test (TX)

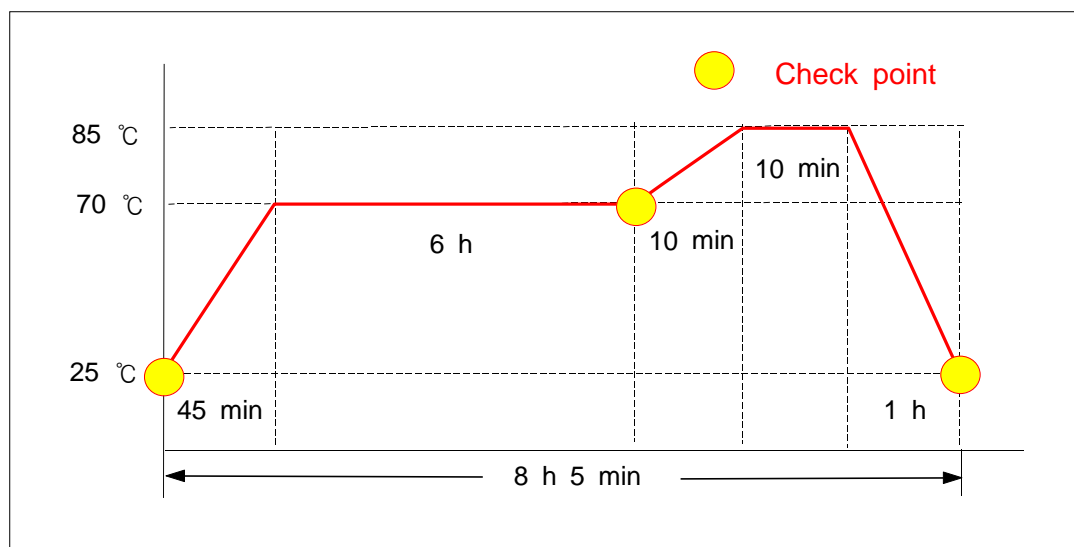
<b>Applicant</b>	SAMSUNG TECHWIN Co., Ltd	<b>Dept. in charge</b>	Reliability Test Team
<b>Product</b>	Mobile NVR	<b>Tester</b>	Jun, Ki-hwan (+82-31-240-6614)
<b>Model</b>	SRM-872	<b>Date</b>	November 01, 2013
<b>Serial No.</b>	N/A		
<b>Standard</b>	EN 50155: 2007 Section 12.2.4 Class TX # Column 2)	<b>No. of pages</b>	5

#### (1) Test Conditions

- 1) Test temperature : (70 ~ 85) °C
- 2) Test time : 6 h 10 min
- 3) Check point : Before the test, During the test, After the test
- 4) Status of product : ① Unpacked product ② Non-operation(Check point power on)
- 5) Sample quantity : 1 EA

#### (2) Test Method

##### 1) Temperature profile



※ Temperature graph of the chamber is presented in appendix 2.



- 2) Before the test : Check the condition and the normal operation of sample.
- 3) After installing sample in the chamber, conduct a test as in "Temperature profile".
- 4) During the test : Check the condition and the normal operation of sample.
- 5) After the test : After leaving the sample at room temperature, check its visual inspection and operation.

### (3) Test Photograph



### (4) Test Result

Check item	Test result
1. Check CCTV's screen output status.	Refer to the appendix 1.
2. Check sample's LED's operation status.	No abnormal was found.
3. Visual inspection.	No abnormal was found.

### (5) Test Equipment

Description	Manufacturer & Model	Serial number	The due date of next calibration	Calibration laboratory
Chamber	Vötsch PL-2KPH	35090020	July 08, 2014	SICT
PC Monitor	Samsung GH19PS	N705HVDP202198J	N/A	N/A

※ Appendix 1. Performance check

- Check CCTV's screen output status.



(CCTV's screen output status before the test.)



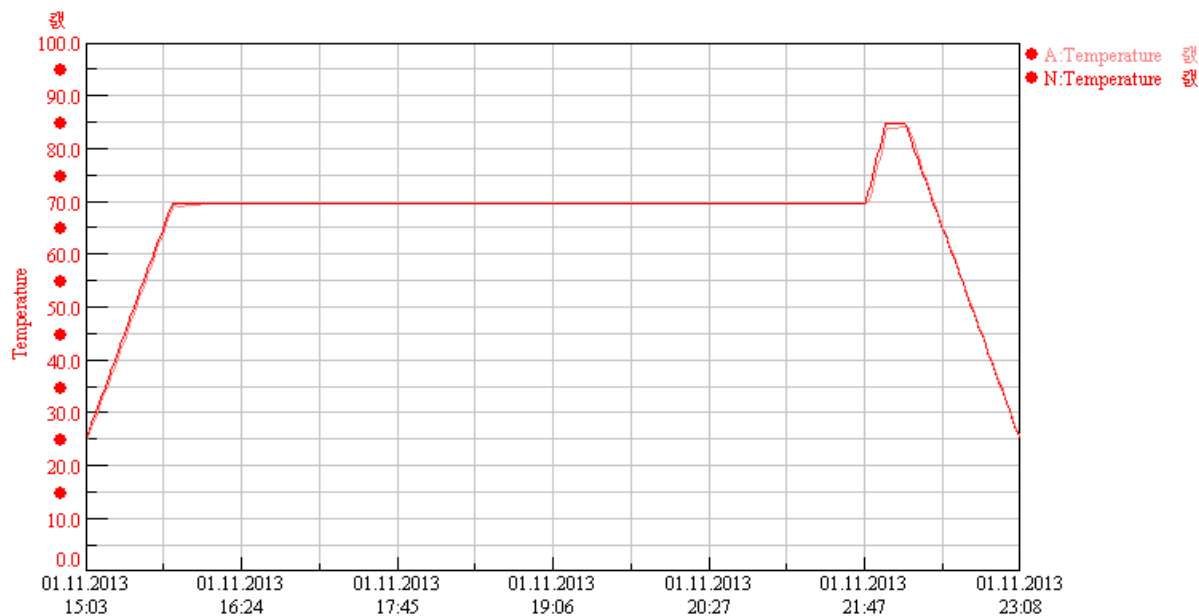
(CCTV's screen output status during the test.)



(CCTV's screen output status after the test.)

※ Appendix 2. Chamber temperature graph

VC7018\_9 [no2] prog.:삼성테크원(고온TX)\_1101 arch.:삼성테크원(고온TX)\_1101 start:superuser 1.11.2013 15:03 stop: AUTOM. 1



#### 4.4 Insulation measurement test

<b>Applicant</b>	SAMSUNG TECHWIN Co., Ltd	<b>Dept. in charge</b>	Reliability Test Team
<b>Product</b>	Mobile NVR	<b>Tester</b>	Jun, Ki-hwan (+82-31-240-6614)
<b>Model</b>	SRM-872	<b>Date</b>	November 04, 2013
<b>Serial No.</b>	N/A		
<b>Standard</b>	EN 50155: 2007 Section 12.2.9.1 Insulation measurement test	<b>No. of pages</b>	3

##### (1) Test Conditions

- 1) Test temperature : (25 ± 5) °C
- 2) Test humidity : (35 ± 10) % R.H
- 3) Test level : DC 500 V
- 4) Test time : 1 min
- 5) Status of product : ① Unpacked product ② Non-operation
- 6) Sample quantity : 1 EA

##### (2) Test Method

- 1) Before the test : Check the condition and the normal operation of sample.
- 2) Check the Insulation of L1·L2 + G
- 3) After the test : Check the condition and the normal operation of sample.

### (3) Test Photograph



### (4) Test Result







Check item	Test result
1. Insulation resistance check	Refer to the appendix 2.
2. Visual inspection.	No abnormal was found.

### (5) Test Equipment

Description	Manufacturer & Model	Serial number	The due date of next calibration	Calibration laboratory
Insulation Withstand voltage tester	KIKUSUI TOS9200	JK003963	March 21, 2014	SICT



※ Appendix 1. Insulation resistance check (DC 500 V, 1 min)

	
<p>L1 + GND</p>	<p>71.5 GΩ</p>
	
<p>L2 + GND</p>	<p>99.9 GΩ</p>
	
<p>L1 + L2 + GND</p>	<p>62.5 GΩ</p>