ACD-521D

Environment Test Report

Report NO: 12P020009

Summary	☑ **Pass**
	☐ **Fail**
	Note : There is/are ___ defect(s) not list in the report, please check it in the DTS Website.
	☐ **Pass with Deviation**
	Comment : _____

Issue date	Approval	Test Engineer
2012-06-13	**Vincent Chen**	**Clement Chien**

Test item list

Testing Result

Num	Test item list	Result	Remark
1	Temperature rise test	Pass	
2	Temperature cycle operation test	Pass	
3	High temperature storage test	Pass	
4	Low temperature storage test	Pass	
5	Humidity test	Pass	
6	Cold start and hot start test	Pass	

Configuration of EUT

Num	Item	Spec
1.	Fanless Touch Panel	ACD-521D A0.1
	1. LCD	21.5".AUO. M215HW03 v1 1920x1080 250nits
	2. Touch Screen	MT9D215C55115 2048x2048
	3. A/D Board	S2523BVL Rev. DV
	4. Inverter	SAMPO YPWBGL2941DG
	5. I/O board	PER-T219 Rev. A0.3
	8. Test Software	Windows 7 / Run one Microsoft media player simultaneously
2.	Adapter	FSP FSP084-DMAA1

Temperature rise test

Test Date: 06-12-2012

Test Product: ACD-521D

Test Site: AAEON QE Internal Lab.

Test Standard: Reference EN 61131-2(94), UL508 (94)

Temperature Measurement:

          40 Channel Thermal Recorder:

          YOKOGAWA Inc,

          Model: ACD-521D

          Date of Calibration: 10/12/2011
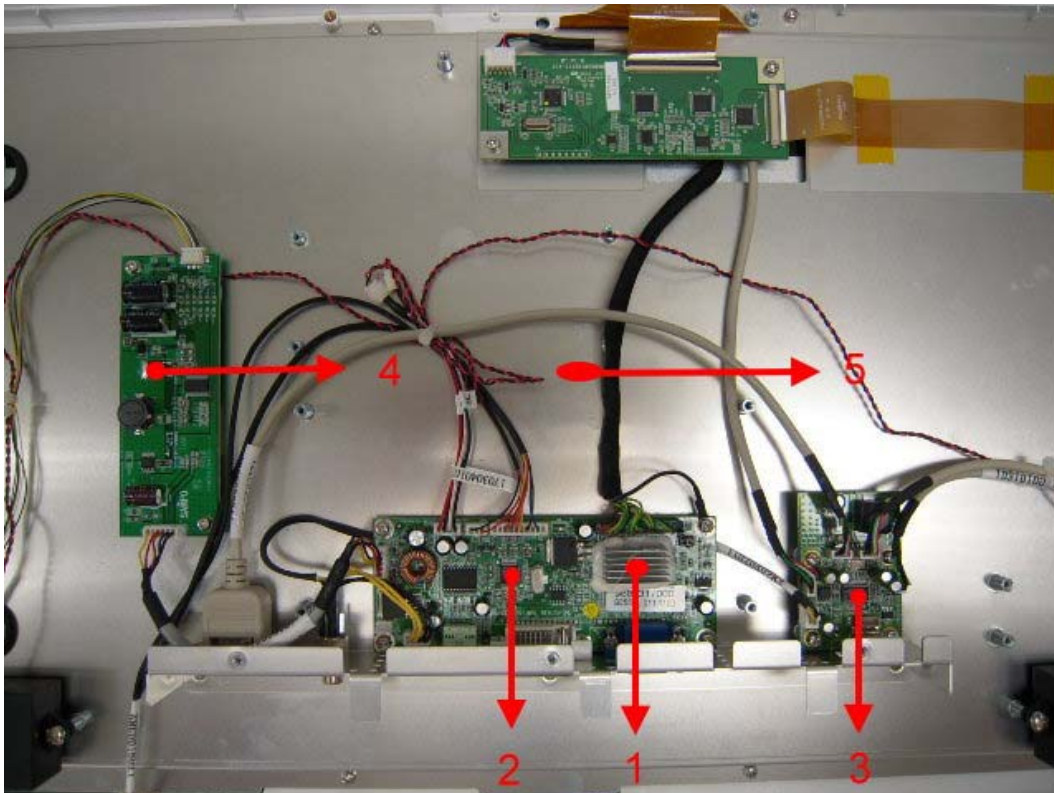   Serial Number: 12A323190

Test Condition:

          Ambient temperature: 40℃
          Continuous running till thermal stability (within less than 1℃)

Test Software:

          Windows 7 / Run one Microsoft media player simultaneously.

Terminal Recorder:

Temperature rise test

Temperature rise test

Thermal profile data:

Point / Temp. Stage(℃)	Spec	40	Note
A/D board			
01. U8 - REALTEK RTD2555 LH	85	79.9	
02. U4 - REALTEK RTD2120L A6M2002	85	74.6	
I/O board			
03. U2 - GL850G HH1GD08G22	85	63.9	
Inverter board			
04. Q2	125	74.3	
05. Control Box Inside Air Temperature	N/A	56.3	
06. Chamber Air Temperature	N/A	40.1	
07. Control Box Surface Temperature	N/A	44.8	

Note(*):
1. "Tc" indicates the component's case maximum temperature value specified in its datasheet.
2. "Tm" indicates the measured Tc value under working environmental temperature within product specification.
3. Judgment Criteria:
  - Fail   **:** Tm > Tc; The measured value is over specification.
  - Margin Pass : Tc > Tm > Tc-5℃; The measured value is within specification with margin.
        It is strongly recommended to add thermal dissipation design for better reliability.
  - Pass   **:** Tm < Tc-5℃; The measured value is with safety margin.

Sample Configuration & Quantity Under Test:
   Quantity: 1 (ACD-521D)

Test Result:
    No problem was found during the temperature rise operation test.

Temperature cycle test

Test Date: 06-09 ~ 11-2012

Test Product: ACD-521D

Test Site: AAEON QE Internal Lab.
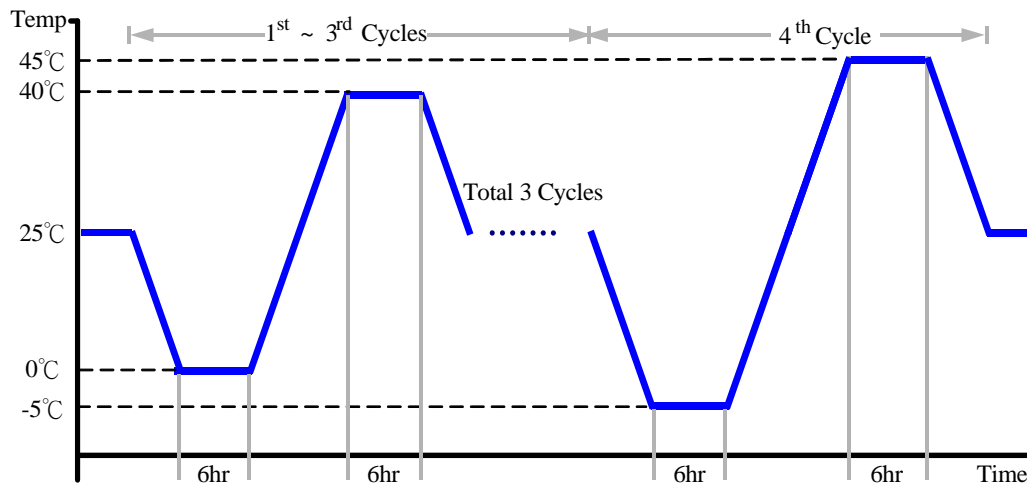
Test Standard: Reference IEC68-2-14 Testing procedures

                    Test N: Change of temperature Test

Test Equipment:

        Programmable Temperature & Humidity Chamber

        K.SON. INS. TECH. CORP.

        Model: THS-D75-100+LN2

        Date of Calibration: 10/13/11

        Serial Number: 6487KT

Test Condition:

      1. Test Low Temperature: 0℃ (1~3 cycles)

                               -5℃ (4th cycle)

      2. Test High Temperature: 40℃ (1~3 cycles)

                               45℃ (4th cycle)

      3. Test dwell time: 6Hrs

      4. Temperature slope: 2℃/min

      5. Test cycle: 4 cycles

      6. Test Environment Curve:

Sample Configuration & Quantity Under Test:

      Quantity: 1 (ACD-521D)

Test Result:

      No problem was found during the temperature operation cycle test.

High temperature storage test

Test Date: 06-01 ~ 02-2012

Test Product: ACD-521D

Test Site: AAEON QE Internal Lab.

Test Standard: Reference IEC 68-2-2 Testing procedures
Test Bb: Dry Heat Test   (Non-operation)

Test Equipment:

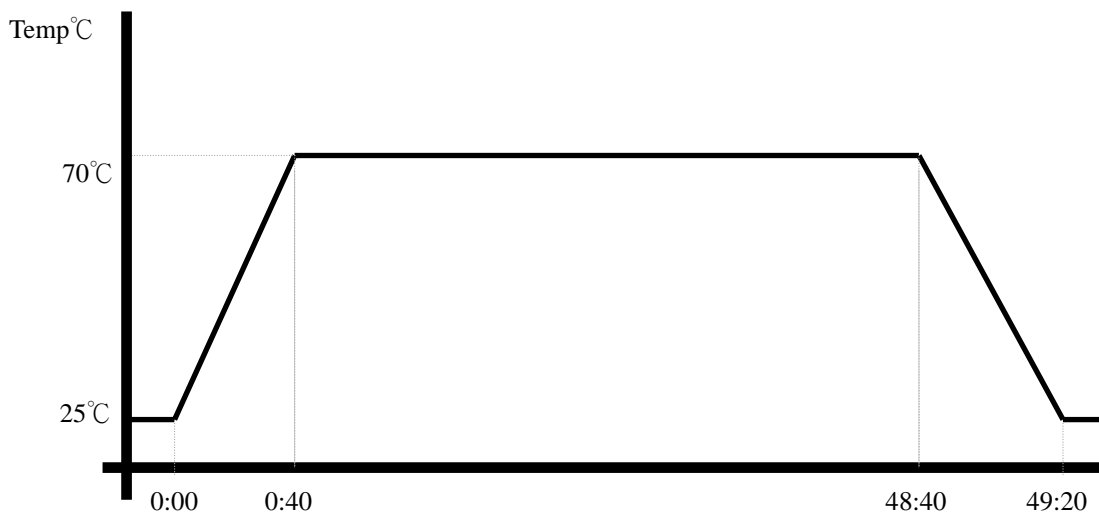Programmable Temperature & Humidity Chamber

K.SON. INS. TECH. CORP.

Model: THS-D75-100+LN2

Date of Calibration: 10/13/11
Serial Number: 6487KT

Testing Item:

1. Test Temperature: 70℃

2. Test Times: 48Hrs

3. Test Software: Windows 7 / Run one Microsoft media player simultaneously.

4. Test Environment Curve:

Sample Configuration & Quantity Under Test:
Quantity: 1 (ACD-521D)

Test Result:

No problem was found after the high temperature storage test.

Low temperature storage test

Test Date: 06-03 ~ 04-2012

Test Product: ACD-521D

Test Site: AAEON QE Internal Lab.

Test Standard: Reference IEC 68-2-1 Testing procedures
                    Test Ab: Cold Test (Non-operation)

Test Equipment:

   Programmable Temperature & Humidity Chamber
   K.SON. INS. TECH. CORP.

   Model: THS-D75-100+LN2
   Date of Calibration: 10/13/11
   Serial Number: 6487KT

Testing Item:

   1. Test Temperature: -20℃

   2. Test Times: 48Hrs

   3. Test Software: Windows 7 / Run one Microsoft media player simultaneously.

   4. Test Environment Curve:

Sample Configuration & Quantity Under Test:
   Quantity: 1 (ACD-521D)

Test Result:
   No problem was found after the low temperature storage test.

Humidity test

Test Date: 06-05 ~ 06-2012

Test Product: ACD-521D

Test Site: AAEON QE Internal Lab.

Test Standard: Reference IEC 68-2-3 Testing procedures
                        Test Ca: Damp heat, steady state (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber

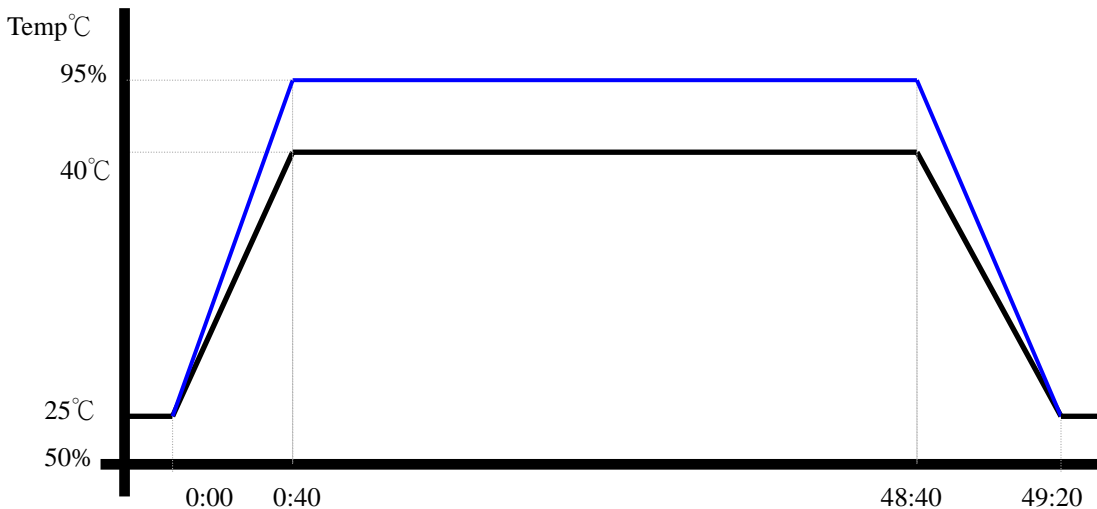K.SON. INS. TECH. CORP.

Model: THS-D75-100+LN2

Date of Calibration: 10/13/11
Serial Number: 6487KT

Testing Item:

1. Test Temperature: 40℃

2. Test Humidity: 95%RH

3. Test Times: 48Hrs

4. Test Software: Windows 7 / Run one Microsoft media player simultaneously.

5. Test Environment Curve:

Humidity %

Sample Configuration & Quantity Under Test:
Quantity: 1 (ACD-521D)

Test Result:

No problem was found after the humidity storage test.

Cold start and hot start test
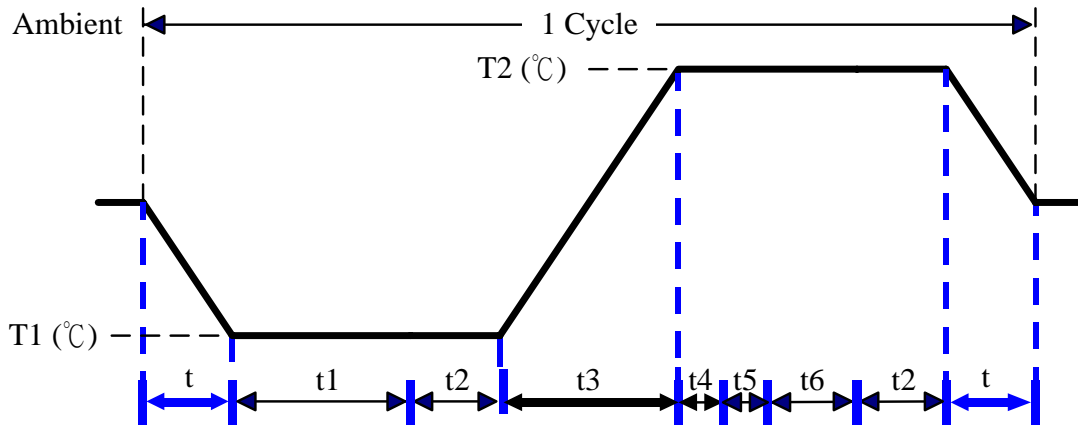
Test Date: 06-07 ~ 08-2012

Test Product: ACD-521D

Test Site: AAEON QE Internal Lab.

Test Standard: Reference IEC 68-2-14 Testing procedures

Test N: Change of temperature Test

Test Equipment:

Programmable Temperature & Humidity Chamber

K.SON. INS. TECH. CORP.

Model: THS-D75-100+LN2

Date of Calibration: 10/13/11
Serial Number: 6487KT

Test Condition:

Parameters	Description
T1	-5℃
T2	45℃
t1	4 hrs
t2, t6	2 hrs
t4, t5	1hrs
t, t3	2℃/min
n (Cycle)	1

t = temprature slope
t , t1, t6: Power Off
t2: Power on/off test 10 times (on 2 min / off 5min)
t3, t4: Run media player
 t5: Win 7 Software restart test 3 times
Test Software: Windows 7

Test Result:

a. No problem was found during the cold start test.

b. No problem was found during the hot start test.