

ACD-110D

Environment Test Report

Report NO: 14P020020

Summary	<input type="checkbox"/> Pass <input type="checkbox"/> Fail <input checked="" type="checkbox"/> Pass with Deviation Comment: <u>Temperature at one component was estimated to be in marginal temperature point in comparison with component datasheet.</u>			
Test Result Summary				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	1
Defect Unsolved	0	0	0	1

Issue date

2014-11-18

Approval

Tom Lin

Issued by

Jerry Chen

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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.	Model Name	ACD-110D Ver. 0.1
	1. LCD / Panel	10.1", 1280*800 LCD, LED backlight
	2. Touch Screen	ONation Corporation / Projective Capacitive Touch
	3. A/D Board	ACD-110D Ver. A0.1
	4. Adapter	FSP FSP060-DBAB1 / 12V 5A MAX
2.	Use System	AEC-6643
	1. BIOS Ver.	AEC-6643A R1.2(6643AM12)(09/02/2013)
	2. CPU Type	Intel Atom D2550 1.86GHz
	3. Memory	DSL DDR3 2GB (ELPIDA / J1108BDSE-DJ-F)*2
	4. 2.5" HDD	Hitachi 250GB / HTS543225A7A384
	5. Test Software	Windows 7/ Run Windows Media Player
	6. Adapter	FSP FSP060-DBAE1 / 12V 5A MAX

Photos



Temperature rise test

Test Date: 09-29 ~ 30-2014

Test Product: ACD-110D

Test Site: AAEON QE Dept.

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

Temperature Measurement:

40 Channel Thermal Recorder: (YOKOGAWA Inc.)

Model: DA100-13-1D

Date of Calibration: 10/01/13

Serial Number: 12A323190

IR Scanner: Infrared Camera

NEC Avio Infrared Technologies Co., Ltd.

Model: Thermo GEAR G100W2-D

Date of Calibration: 12/29/13

Serial Number: 1051444

Test Condition:

Ambient temperature: 45°C

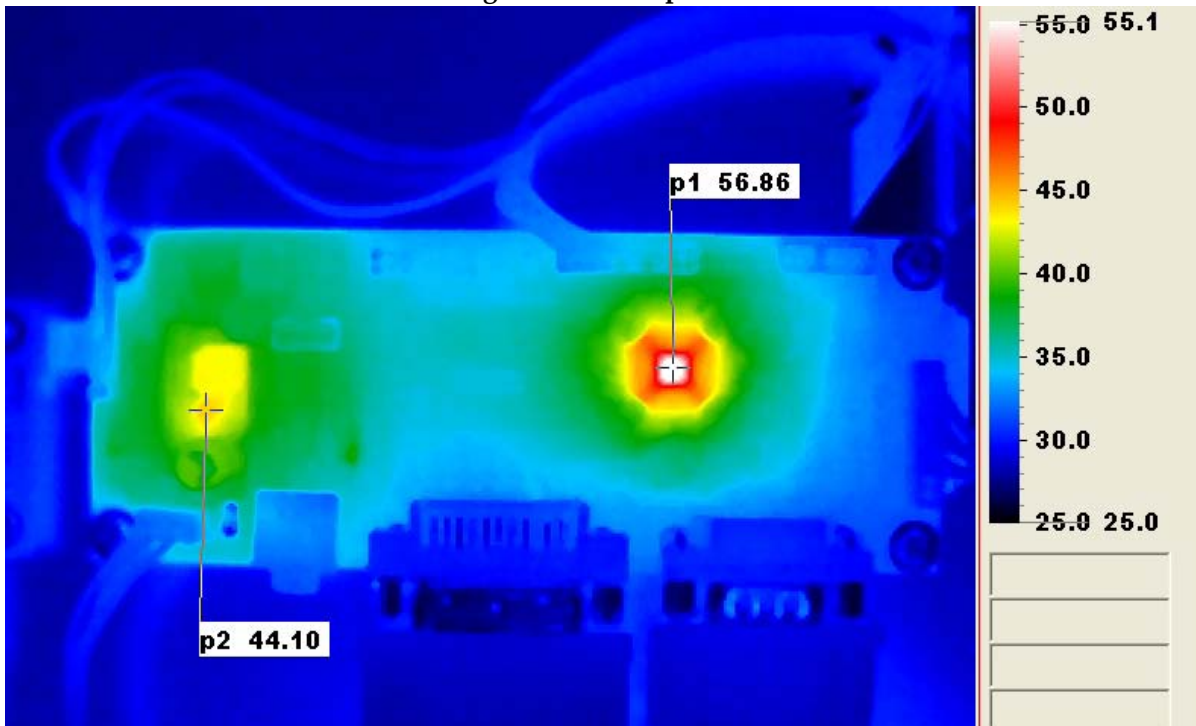
Continuous running till thermal stability (within less than 1°C)

Test Software:

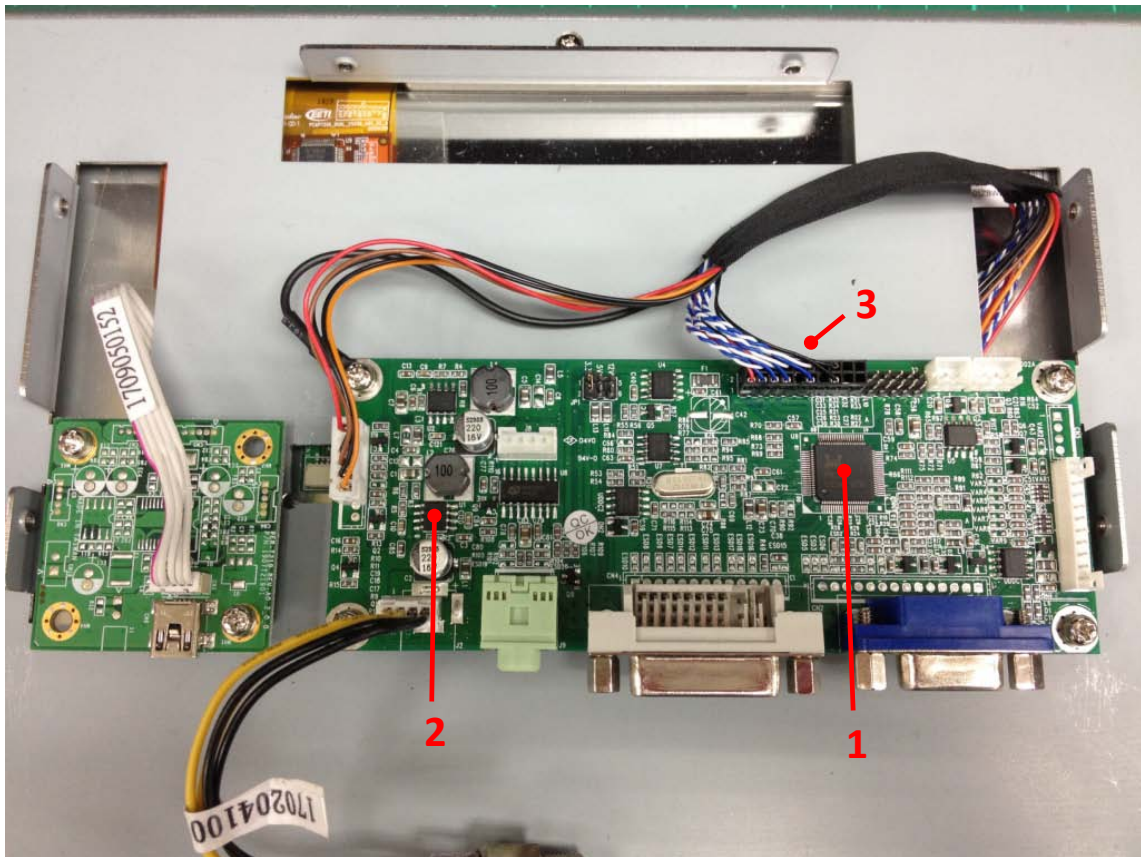
Windows 7 / Run PassMark Burn In Test 7.1 Pro

Terminal Recorder:

Measuring Thermal Couple Position :



Temperature rise test



Temperature rise test

ACD-110D

Point		Temp. Stage(°C)	Spec	45°C	25°C	Note
01.	U9	1920 scaler, RTD2281L	85	80.2	60.2	Note4
02.	L2	power choke, CSMS0840D-100M-LRH	140	66.6	46.6	
03.	N/A	Control Box Inside Air Temperature	N/A	55.6	35.6	
04.	N/A	Control Box External Surface temperature	N/A	50.8	30.8	
05.	N/A	Chamber Air Temperature	N/A	45	25	

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** : $T_m > T_c$; The measured value is over specification.
- **Margin Pass** : $T_c > T_m > T_c - 5^\circ\text{C}$; The measured value is within specification with margin.
It is strongly recommended to add thermal dissipation design for better reliability.
- **Pass** : $T_m < T_c - 5^\circ\text{C}$; The measured value is with safety margin.

4. Defect NO. [P140904QED02](#)

Sample Configuration & Quantity Under Test:

Quantity: 1 (ACD-110D)

Test Result:

No issues were found during the temperature rise operation test.

Temperature cycle test

Test Date : 09-26 ~ 29-2014

Test Product : ACD-110D

Test Site: AAEON QE Dept.

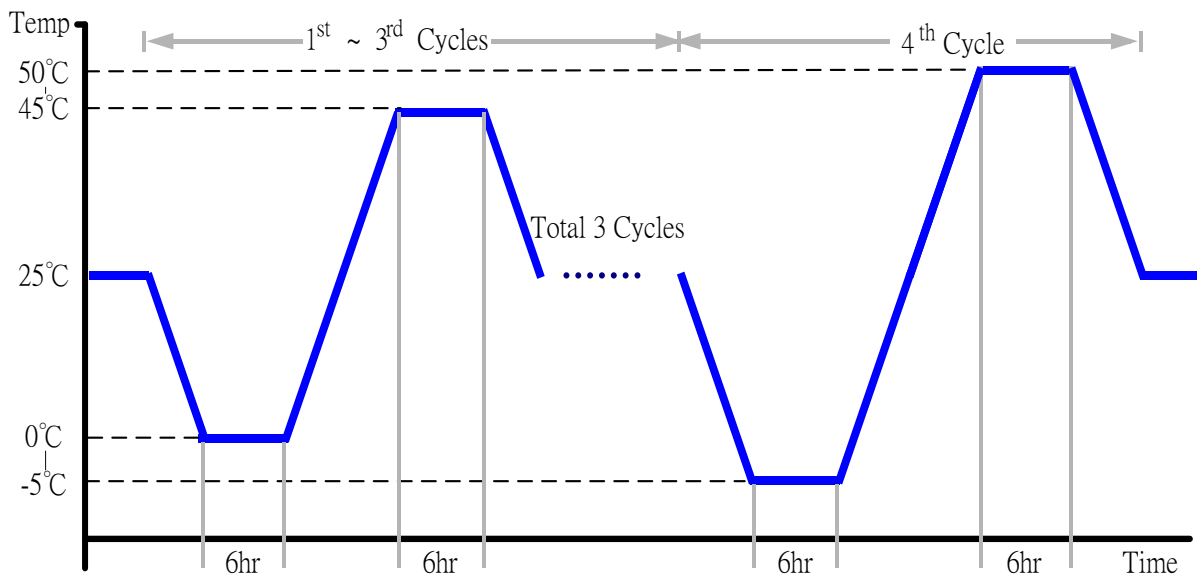
Test Standard: Refer to IEC68-2-14 Testing procedures
Test N: Change of temperature Test

Test Equipment:

Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-D7S-100+1 N2
Date of Calibration: 10/09/'13
Serial Number: 3898

Test Condition:

1. Test Low Temperature: 0°C (1~3 cycles)
-5°C (4th cycle)
2. Test High Temperature: 45°C (1~3 cycles)
50°C (4th cycle)
3. Test dwell time: 6Hrs
4. Temperature slope: 2°C/min
5. Test cycle: 4 cycles
6. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (ACD-110D)

Test Result:

No issues were found during the temperature operation cycle test.

High temperature storage test

Test Date: 09-24 ~ 26-2014

Test Product: ACD-110D

Test Site: AAEON QE Dept.

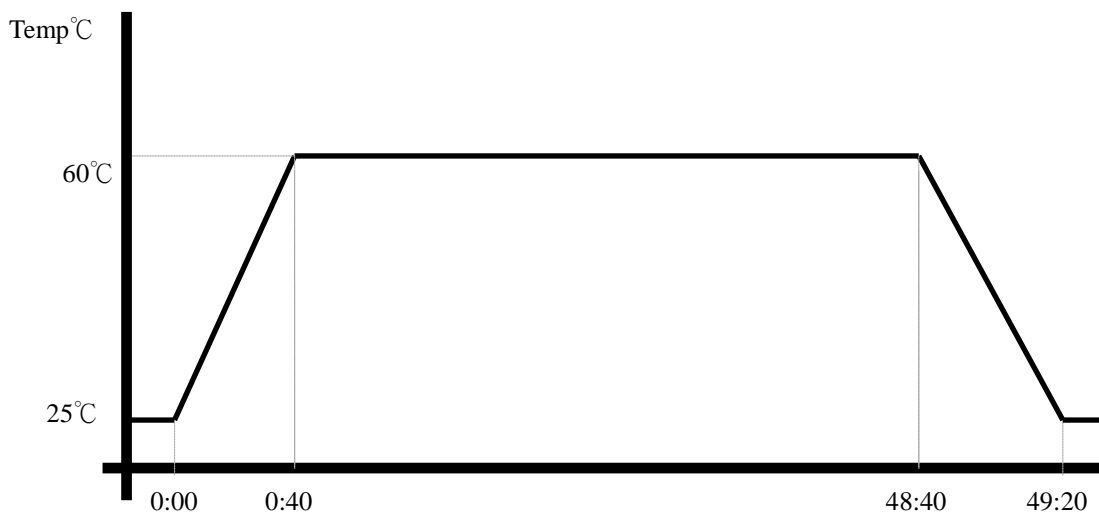
Test Standard: Refer to IEC 68-2-2 Testing procedures
Test Bb: Dry Heat Test (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-D7S-100+1 N2
Date of Calibration: 10/09/'13
Serial Number: 3898

Testing Item:

1. Test Temperature: 60°C
2. Test Times: 48Hrs
3. Test Software: Windows 7 / Run PassMark Burn In Test 7.1 Pro
4. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (ACD-110D)

Test Result:

No issues were found after the high temperature storage test.

Low temperature storage test

Test Date: 09-22~24-2014

Test Product: ACD-110D

Test Site: AAEON QE Dept.

Test Standard: Refer to 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-D7S-100+1 N2

Date of Calibration: 10/09/'13

Serial Number: 3898

Testing Item:

1. Test Temperature: -10°C
2. Test Times: 48Hrs
3. Test Software: Windows 7 / Run PassMark Burn In Test 7.1 Pro
4. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (ACD-110D)

Test Result:

No issues were found after the low temperature storage test.

Humidity test

Test Date: 09-19 ~ 22-2014

Test Product: ACD-110D

Test Site: AAEON QE Dept.

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

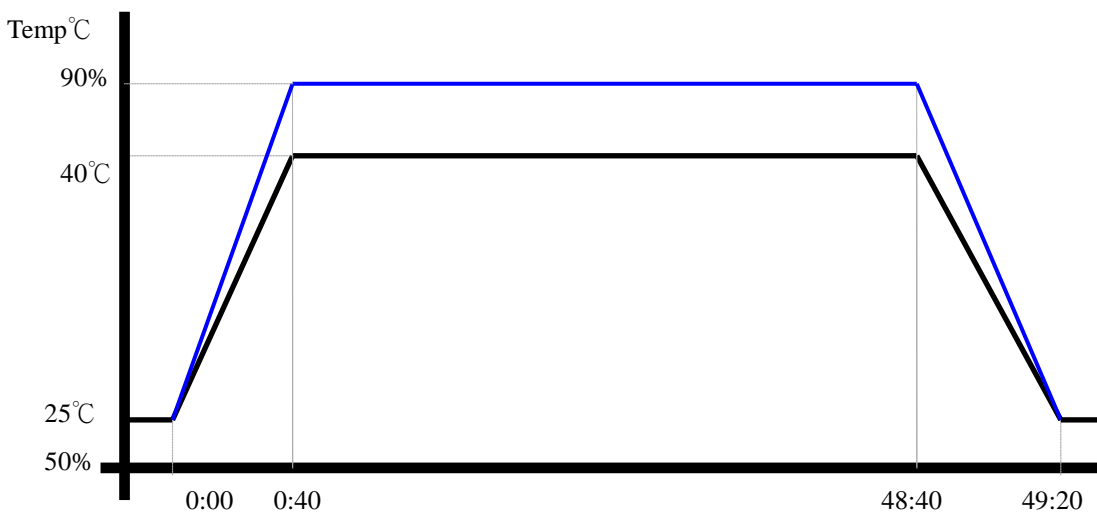
Test Equipment:

Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-D7S-100+1 N2
Date of Calibration: 10/09/'13
Serial Number: 3898

Testing Item:

1. Test Temperature: 40°C
2. Test Humidity: 90%RH
3. Test Times: 48Hrs
4. Test Software: Windows 7 / Run PassMark Burn In Test 7.1 Pro
5. Test Environment Curve:

Humidity %



Sample Configuration & Quantity Under Test:

Quantity: 1 (ACD-110D)

Test Result:

No issues were found after the humidity storage test.

Cold start and hot start test

Test Date: 09-18 ~ 19-2014

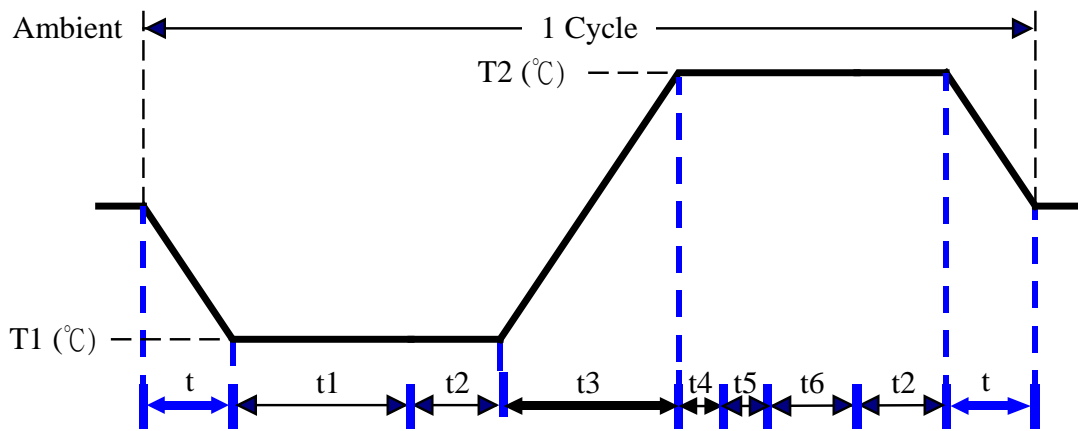
Test Product: ACD-110D

Test Site: AAEON QE Dept.

Test Standard: Refer to 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-D7S-100+1 N2
 Date of Calibration: 10/09/'13
 Serial Number: 3898

Test Condition:



Parameters	Description
T1	-5°C
T2	50°C
t1	4 hrs
t2, t6	2 hrs
t4, t5	1hrs
t, t3	2°C/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 PassMark Burn In Test
 t5: Win 7 Software restart test 3 times
 Test Software:Windows 7

Test Result:

- a. No issues were found during the cold start test.
- b. No issues were found during the hot start test.