

ACP-1103

(with mSATA)

Environment Test Report

Report NO: 13P020008

Summary	<p><input type="checkbox"/> Pass</p> <p><input type="checkbox"/> Fail</p> <p>Note : There is/are ____ defect(s) not list in the report, please check it in the DTS Website.</p> <p><input checked="" type="checkbox"/> Pass with Deviation</p> <p>Comment: _____</p>
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Issue date

2013-07-08

Approval

Tom Lin

Test Engineer

Rex Chang

Test item list

1. <i>Test item list</i> -----	2
2. <i>Configuration of EUT</i> -----	3
3. <i>Temperature rise test</i> -----	4
4. <i>Temperature cycle operation test</i> -----	5
5. <i>High temperature storage test</i> -----	8
6. <i>Low temperature storage test</i> -----	9
7. <i>Humidity test</i> -----	10
8. <i>Cold start and hot start test</i> -----	11

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 :	ACP-1103
	1. 10.1" LCD	CHIMEI EJ1011A-01F / 1280*800; 350nits / LED Backlight
	2. Main board	PBA-CV02 A1.0
	3. BIOS	ACP-1103 R1.0 (1103AT01) (03/27/2013)
	4. CPU Type	Intel Atom N2600 / 1.6GHz
	5. Wide Temp. Memory	2GB / DDR3-1333 / Hynix H5TQ2G83CFR
	6. Wide Temp. mSATA	MEMORIGHT 29F64G08AFAAA / 16GB
	7. WiFi Module	VNT9271b6050
	8. Test Software	Windows 7 / Run BurnIn test 7.0 Pro
2.	Adapter	FSP FSP060-DBAE1

Heat Sink



Temperature rise test

Test Date: 07-05-2013

Test Product: ACP-1103

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: 10/08/12

Serial Number: 12A323190

Test Condition:

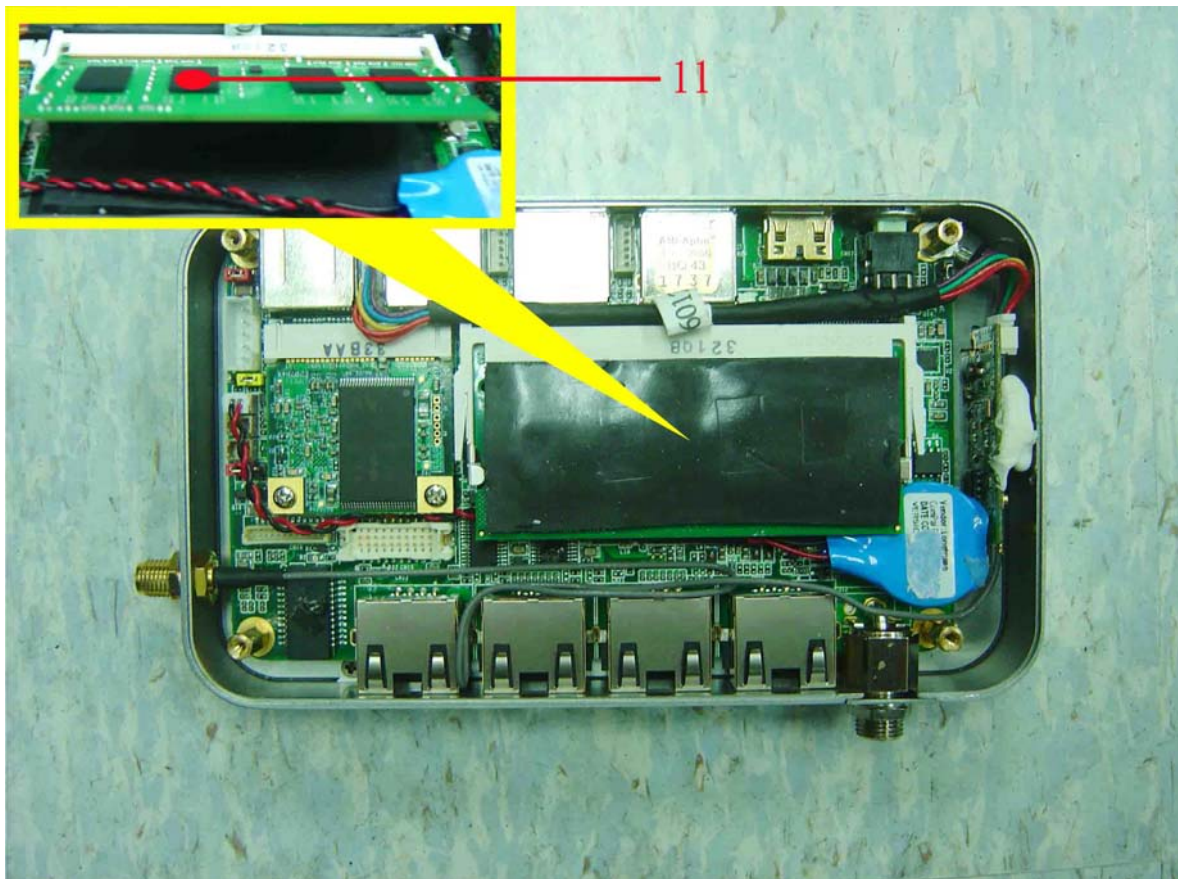
Ambient temperature: 45°C

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

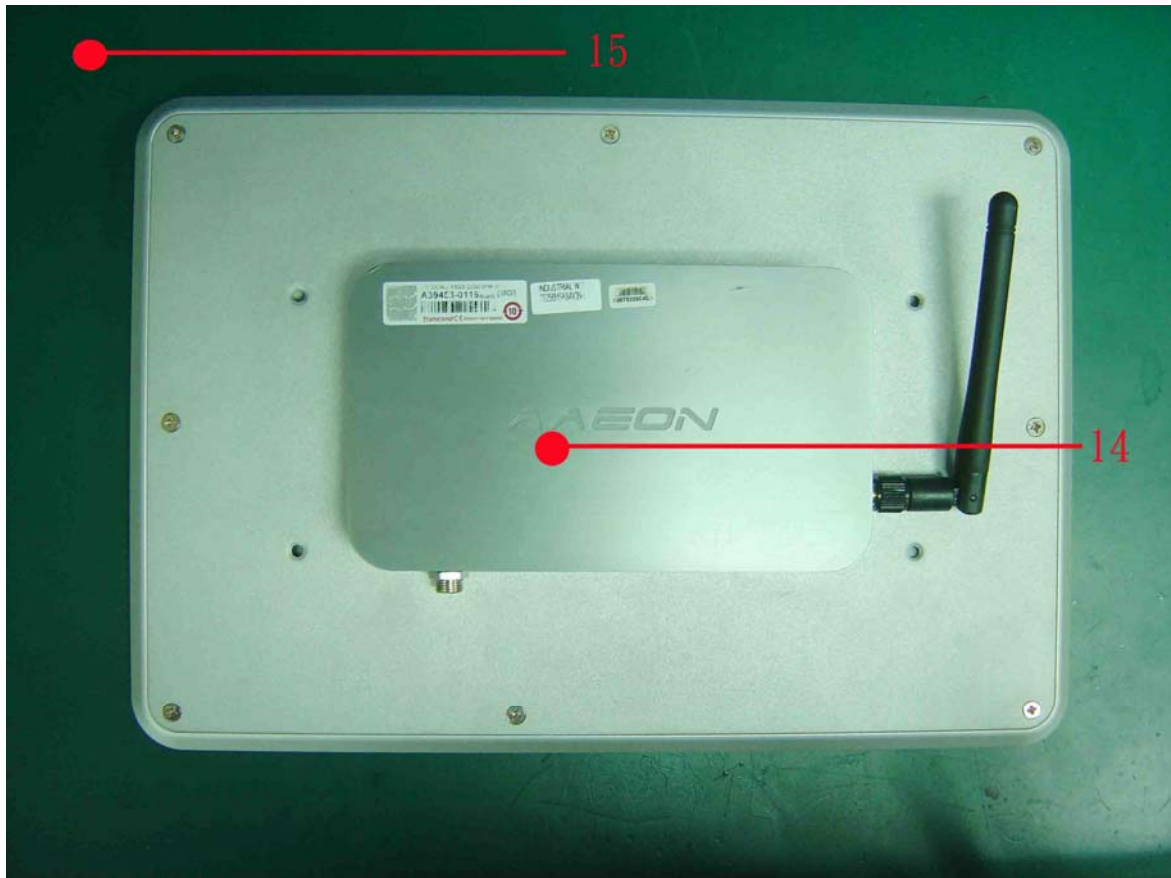
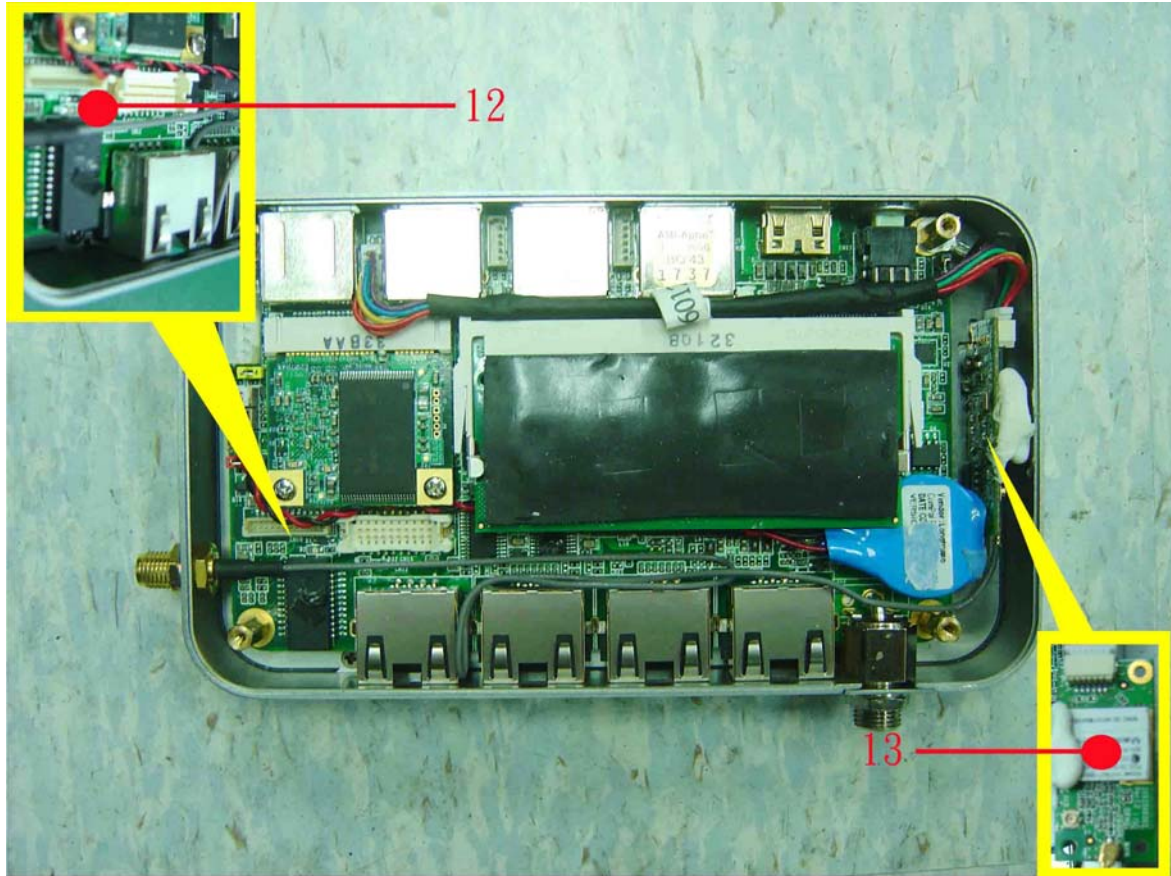
Test Software:

Windows 7 / Run PassMark Burn In Test 7.0 Pro

Terminal Recorder:



Temperature rise test



Temperature rise test

Thermal profile data:

ACP-1103

Point	Temp. Stage(°C)	Spec	45	25	Note
01. U9 - (TF) INTEL CPU.Cedarview.1.6GHz.N2600		100	74.0	54.0	
02. U3 - (TF) NM10 Express Chipset.INTEL.CG82NM10		115	75.6	55.6	
03. L3 - (TF) COIL.2.2uH.TRIO.EM-22AM01V01		125	86.2	66.2	
04. U8 - (TF) CLOCK GEN. MLF.IDT.9VRS4339BKLFT		115	82.0	62.0	
05. U5 - (TF) Super I/O.Fintek.F81801U-I		127	79.2	59.2	
06. U16 - (TF) Digital Video Level Shifter.for DP to HDMI.PERICOM.PI3VDP411LSZBE		85	77.7	57.7	
07. Q18 - (TF) PWR.Dual N-Channel. MOSFET.SMD.SO-8.IR.IRF8313PbF		150	85.4	65.4	
08. U10 - (TF) Dual Single-Phase PWM.Richtek.RT8167AGQW		100	79.4	59.4	
9. U7 - (TF) Low dropout Linear Regulator.GMT.G9731F11U		100	77.5	57.5	
10. U35 - (TF) RS-232/RS-485/RS-422 transceiv.Fintek.F81438G		100	78.7	58.7	
11. Memory		85	76.1	56.1	
12. Control Box Inside Air Temperature (mSATA Ambient)		85	78.2	58.2	
13. Wi-Fi Module – VIA VT9271		80	74.1	54.1	
14. Chassis Surface Temperature - 1		N/A	71.1	51.1	
15. Chamber Air Temperature		N/A	45.2	25.2	

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.

Sample Configuration & Quantity Under Test:

Quantity: 1 (ACP-1103)

Test Result:

No issues were found during the temperature rise operation test.

Temperature cycle test

Test Date: 06-24 ~ 28-2013

Test Product: ACP-1103

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.)

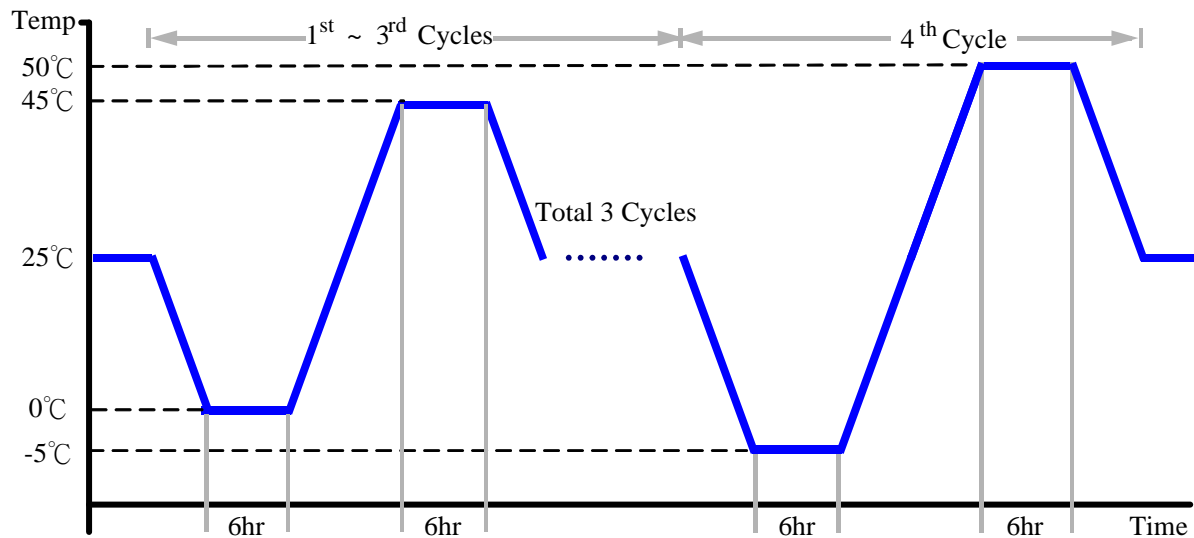
Model: THS-D7TS-100+LN2

Date of Calibration: 09/27/12

Serial Number: A0004

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 (ACP-1103)

Test Result:

No issues were found during the temperature operation cycle test.

High temperature storage test

Test Date: 06-26 ~ 28-2013

Test Product: ACP-1103

Test Site: AAEON QE Dept.

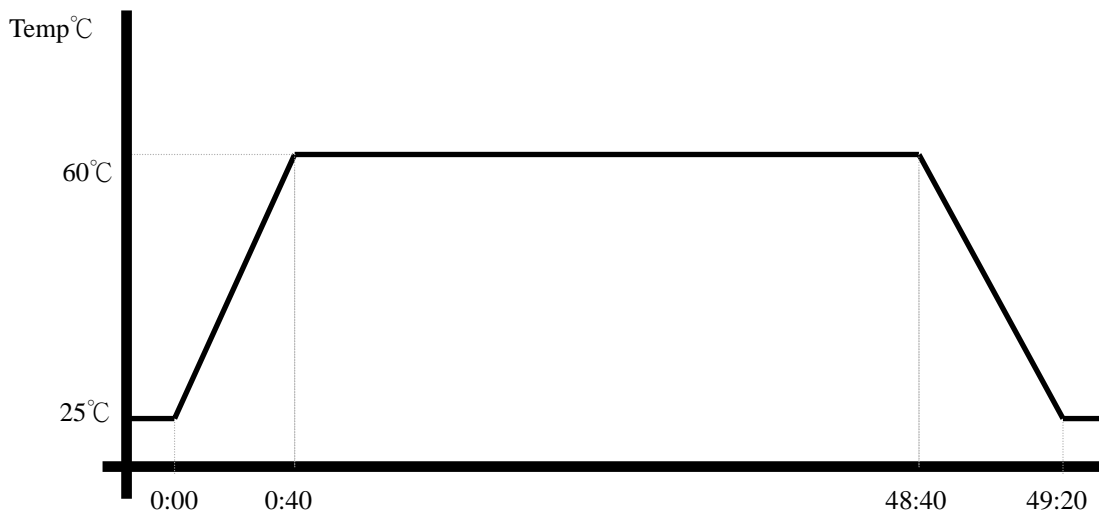
Test Standard: Refer to IEC 68-2-2 Testing procedures
Test Bb: Dry Heat Test (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-D7TS-100+LN2
Date of Calibration: 09/27/12
Serial Number: A0004

Testing Item:

1. Test Temperature: 60°C
2. Test Times: 48Hrs
3. Test Software: Windows 7 / Run PassMark Burn In Test 7.0 Pro
4. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (ACP-1103)

Test Result:

No issues were found after the high temperature storage test.

Low temperature storage test

Test Date: 07-01 ~ 03-2013

Test Product: ACP-1103

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-D7TS-100+LN2
Date of Calibration: 09/27/12
Serial Number: A0004

Testing Item:

1. Test Temperature: -10°C
2. Test Times: 48Hrs
3. Test Software: Windows 7 / Run PassMark Burn In Test 7.0 Pro
4. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (ACP-1103)

Test Result:

No issues were found after the low temperature storage test.

Humidity test

Test Date: 06-28-2013 ~ 07-01-2013

Test Product: ACP-1103

Test Site: AAEON QE Dept.

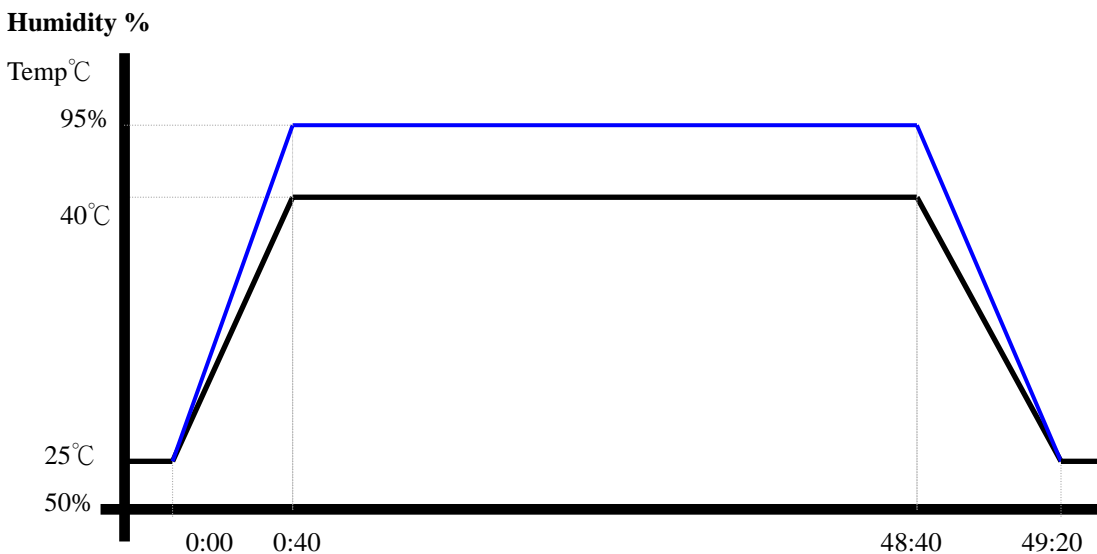
Test Standard: Refer to IEC 68-2-3 Testing procedures
Test Ca: Damp heat, steady state (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-D7TS-100+LN2
Date of Calibration: 09/27/12
Serial Number: A0004

Testing Item:

1. Test Temperature: 40°C
2. Test Humidity: 95%RH
3. Test Times: 48Hrs
4. Test Software: Windows 7 / Run PassMark Burn In Test 7.0 Pro
5. Test Environment Curve:



Sample Configuration & Quantity Under Test:
Quantity: 1 (ACP-1103)

Test Result:

No issues were found after the humidity storage test.

Cold start and hot start test

Test Date: 07-03~ 04-2013

Test Product: ACP-1103

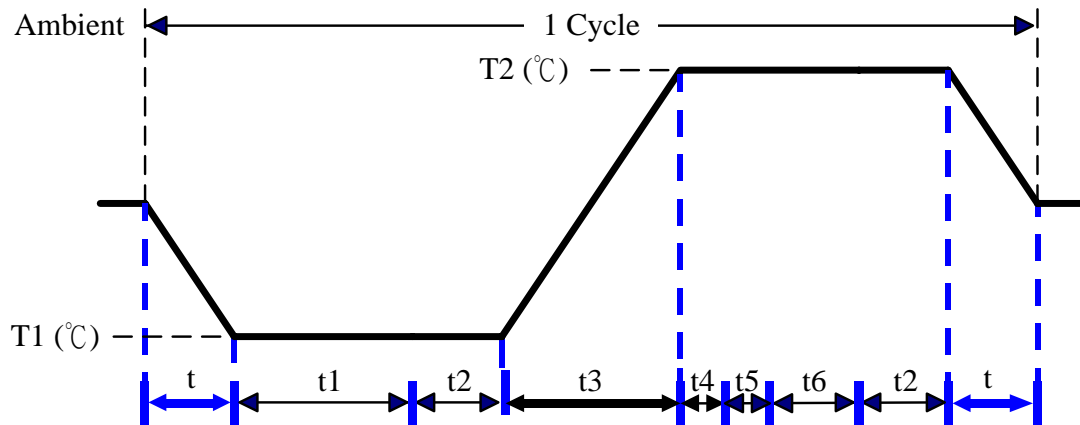
Test Site: AAEON QE Dept.

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-D7TS-100+LN2
 Date of Calibration: 09/27/12
 Serial Number: A0004

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 = temperature slope
 t, t1, t6: Power Off
 t2: Power on/off test 10 times (on 2 min / off 5min)
 t3, t4: Run burn in test 7.0
 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.