FWS-2300

Socket CPU

Environment Test Report

Report NO: 10I020001

Issued by:	Rex-Chang	/	*02/09/2010*
	Test Engineer		**Date**
Reviewed by:	Wenyuan Yang	/	*02/09/2010*
	Manager		**Date**

Test item list

1. *Test item list* ---------- 2
2. *Temperature rise test* ---------- 3
3. *Temperature cycle operation test* ---------- 6
4. *High temperature storage test* ---------- 7
5. *Low temperature storage test* ---------- 8
6. *Humidity test* ---------- 9
7. *Cold start and hot start test* ---------- 10

Test Configuration:

Num	Item	Spec
1.	Mounting Chassis:	FWS-2300
	1. PCB / CPU	FWB-7300 A1.0 (BIOS: 1.0) / Intel Pentium M 775 / 2.0GHz
	3. Memory	DSL DDR2-667 1GB / ELPIDA E5108AJBG-6E-E * 2
	4. 2.5” SATA HDD	Seagate ST9120823AS / 120GB
	5. Test Software	Windows XP / Run PassMark Burn In Test 5.3 Pro
2.	Power Supply	FSP130-5DD01
3.	Adapter	FSP FSP096-AHA
4.	System Fan	KDE 1204PKV1 * 2

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056
http://www.aaeon.com.tw

Temperature rise test

Test Date: 02-09-2010

Test Product: FWS-2300

Test Site: AAEON QA Internal Lab.

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

Temperature Measurement:

40 Channel Thermal Recorder:
YOKOGAWA Inc,
Model: DA100-13-1D
Date of Calibration: 12/08/09
Serial Number: 12A323190

Test Condition:

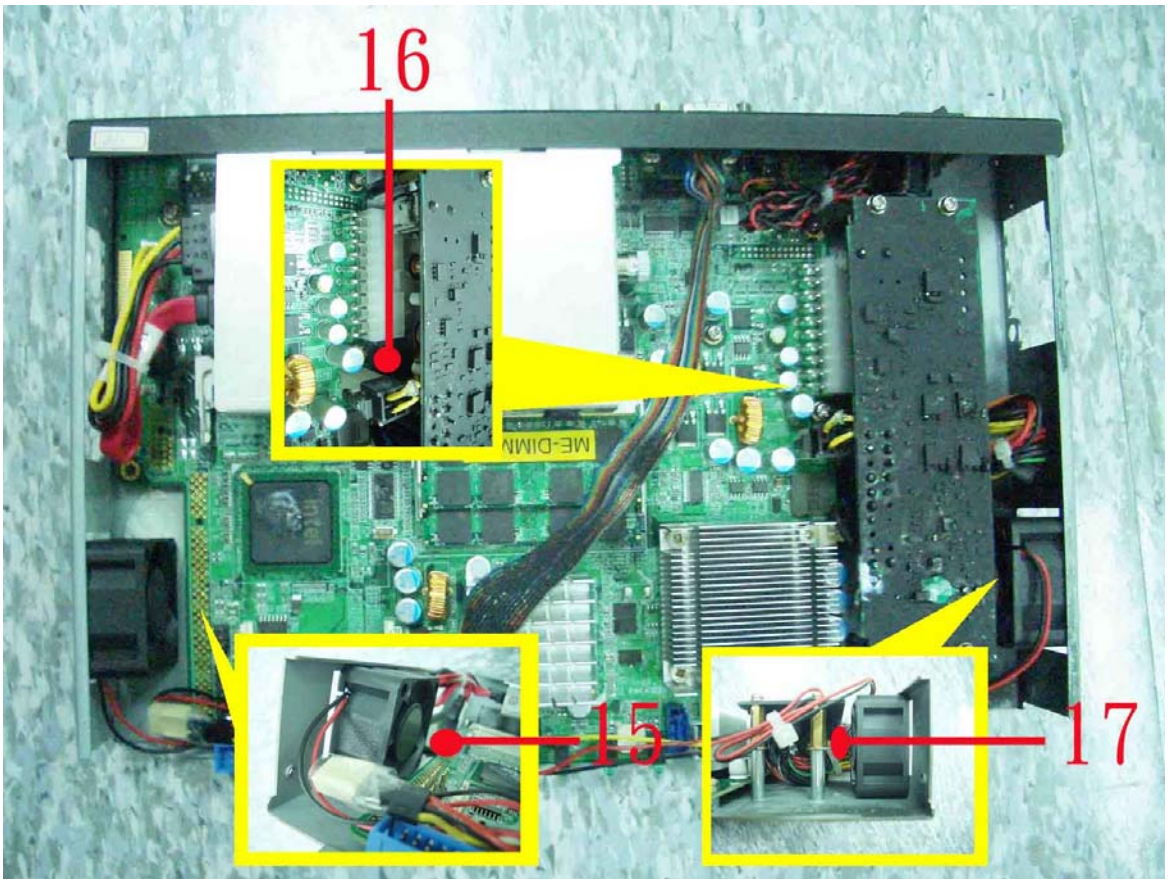
Ambient temperature: 40dC
Continuous running till thermal stability (within less than 1℃)

Test Software:

Windows XP / Run PassMark Burn In Test 5.3 Pro

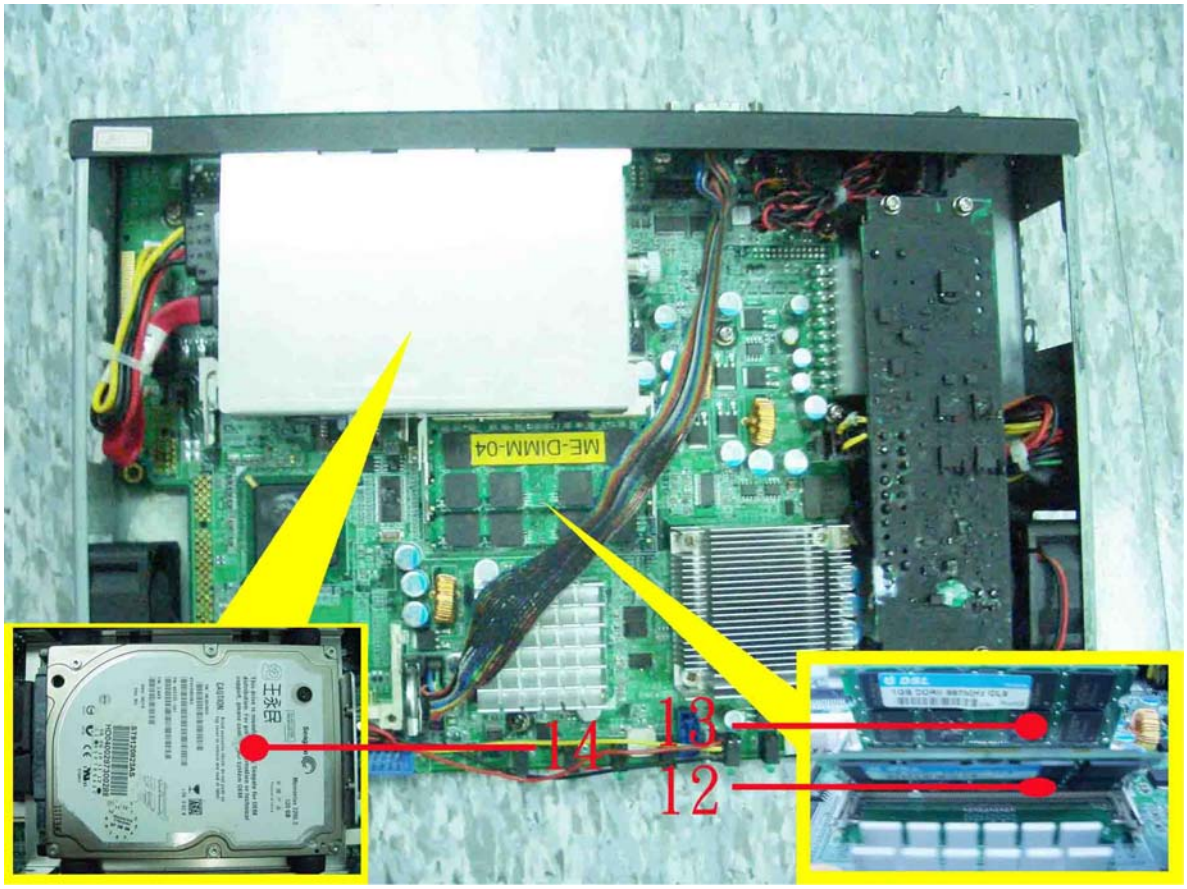
Terminal Recorder:

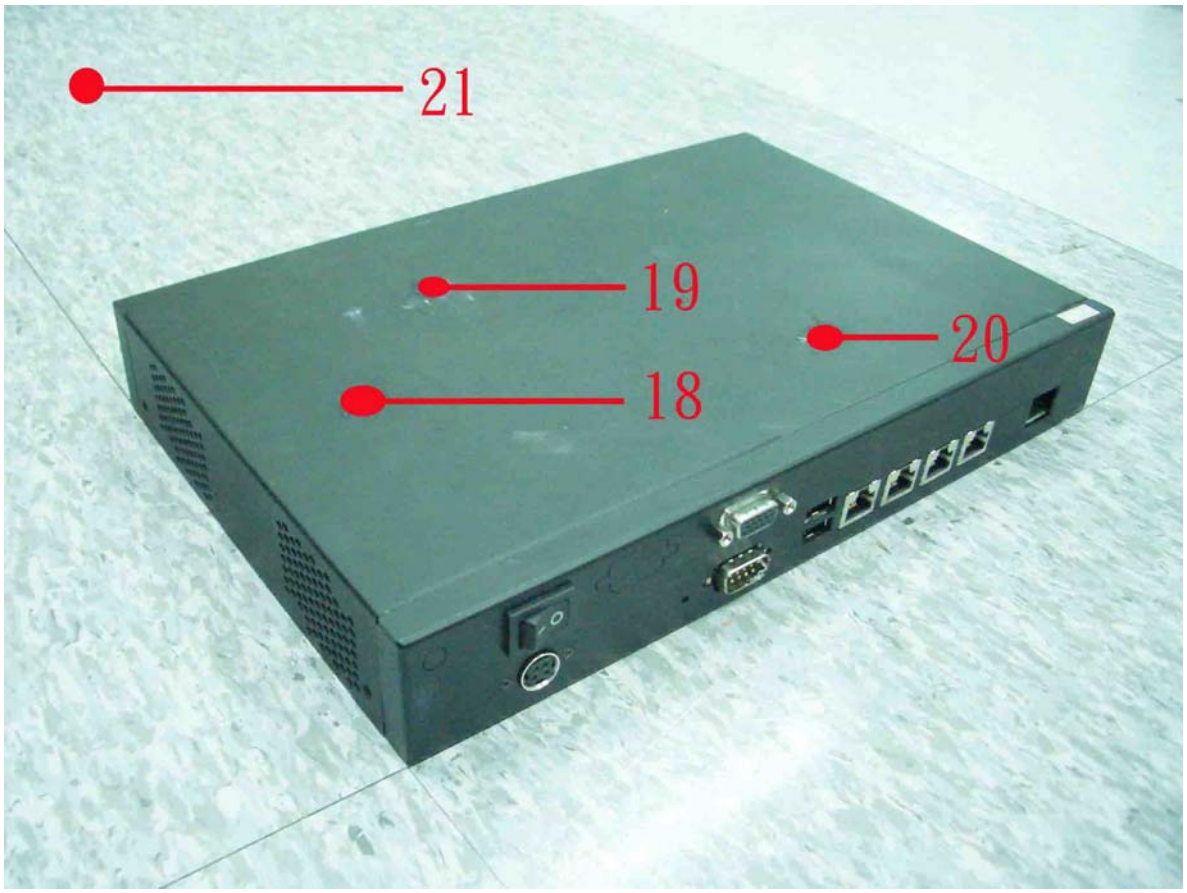
Measuring Thermal Couple Position：



AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056
http://www.aaeon.com.tw

Temperature rise test





AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056
http://www.aaeon.com.tw

Temperature rise test

Thermal profile data:

FWS-2300

Point / Temp. Stage(℃)	Spec	40	25
1. CPU	100	82.9	67.9
2. U3 - (TF)Chipset Alviso 910GMLE.Intel.QG82910GMLE SLA9L	99	64.2	49.2
3. U8 - (TF)Chipset ICH6M.Intel.NH82801FBM SL89K B2	95	72.2	57.2
4. U21 - (TF)Power Controller.for Dual Channel DDR.Intersil.ISL6537CRZ	100	53.9	38.9
5. U18 - (TF)GigaBit Ethernet Chipset.INTEL.LU82541PI	95	55.2	40.2
6. U19 - (TF)GigaBit Ethernet Chipset.INTEL.LU82541PI	95	59.6	44.6
7.U22 - (TF)GigaBit Ethernet Chipset.INTEL.LU82541PI	95	59.1	44.1
8.U23 - (TF)GigaBit Ethernet Chipset.INTEL.LU82541PI	95	58.5	43.5
9. U20 - (TF)REG.SMD.TO-263 5A Linear Regulator.ATC.AP-1084KLA	125	52.5	37.5
10.U11 - (TF)CLOCK GENERATOR.ICS.ICS954206AGLFT	95	80.5	65.5
11.U13 - (TF)Clock Output Buffer.ICS.ICS9112M-16LF-T	95	82.1	67.1
12. Memory - 1	95	59.1	44.1
13. Memory - 2	95	57.2	42.2
14.HDD	60	53.5	38.5
15.Control Box Internal Air Temperature - 1	N/A	52.1	37.1
16.Power Supply - Ambient Temperature	N/A	42.6	27.6
17.Control Box Internal Air Temperature - 2	N/A	40.1	25.1
Any Tm value showed in red words which meaning the value over the Tc degree C of this device specification.			

Temperature Measurement Table:

T_A=49.7℃ / Location	**Temp. Rise (Thermal Couple)**	**SpeedFan 4.31 (Read from BIOS)**
CPU	82.9℃	66.0℃
System Temp. 1 (North Bridge)	64.2℃	64.0℃
System Temp. 2	N/A	58.0℃

Sample Configuration & Quantity Under Test:

Quantity: 1 (FWS-2300)

Test Result:

No problem was found during the temperature rise operation test.

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056
http://www.aaeon.com.tw

Temperature cycle test

Test Date: 02-06~08-2010

Test Product: FWS-2300

Test Site: AAEON QA Internal Lab.

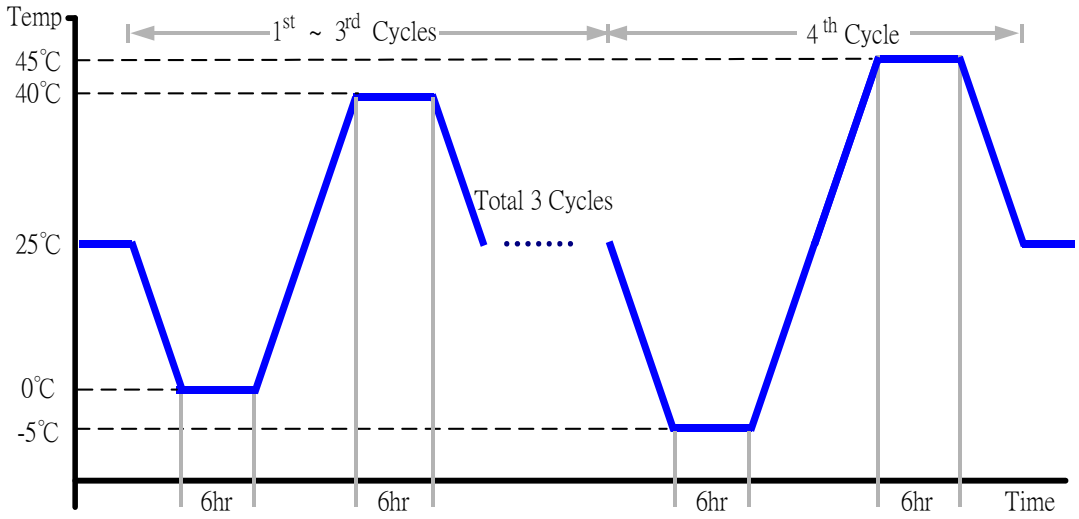
Test Standard: Reference IEC68-2-14 Testing procedures
Test N: Change of temperature Test

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-A4C-100
Date of Calibration: 06/17/09
Serial Number: 3188

Test Condition:

1. Test Low Temperature: 0℃ (1~3 cycles)
   -5℃ (4^{th} cycle)
2. Test High Temperature: 40℃ (1~3 cycles)
   45℃ (4^{th} 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 (FWS-2300)

Test Result:

No problem was found during the temperature operation cycle test.

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056
http://www.aaeon.com.tw

High temperature storage test

Test Date: 01-27~29-2010

Test Product: FWS-2300

Test Site: AAEON QA Internal Lab.

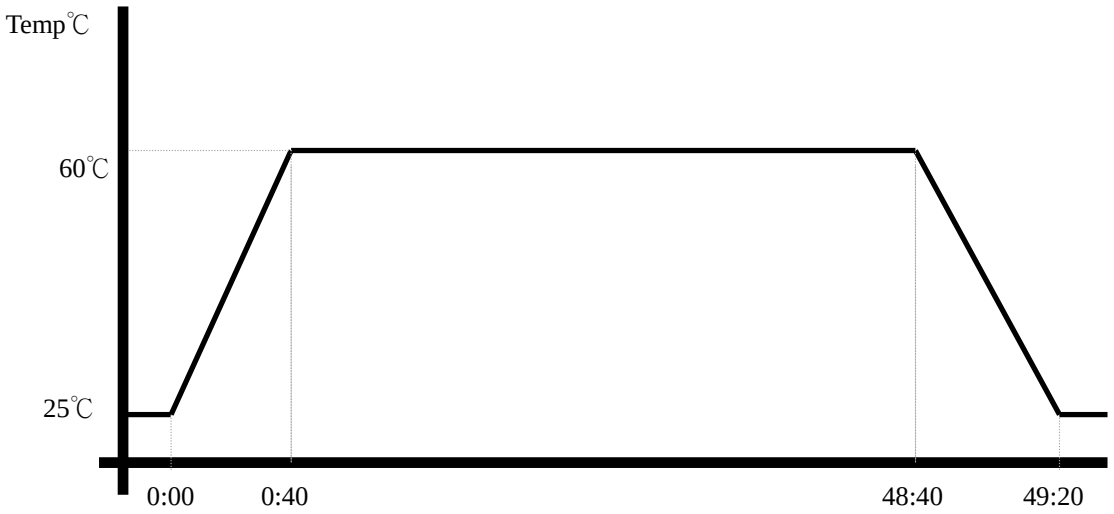
Test Standard: Reference IEC 68-2-2 Testing procedures
Test Bb: Dry Heat Test (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-A4C-100
Date of Calibration: 06/17/09
Serial Number: 3188

Testing Item:

1. Test Temperature: 60℃
2. Test Times: 48Hrs
3. Test Software: Windows XP / Run PassMark Burn In Test 5.3 Pro
4. Test Environment Curve:



Sample Configuration & Quantity Under Test:
Quantity: 1 (FWS-2300)

Test Result:

No problem was found after the high temperature storage test.

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056
http://www.aaeon.com.tw

Low temperature storage test

Test Date: 02-01~03-2010

Test Product: FWS-2300

Test Site: AAEON QA 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-A4C-100
Date of Calibration: 06/17/09
Serial Number: 3188

Testing Item:

1. Test Temperature: -20℃
2. Test Times: 48Hrs
3. Test Software: Windows XP / Run PassMark Burn In Test 5.3 Pro
4. Test Environment Curve:

Sample Configuration & Quantity Under Test:
Quantity: 1 (FWS-2300)

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

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056
http://www.aaeon.com.tw

Humidity test

Test Date: 01-29~31-2010

Test Product: FWS-2300

Test Site: AAEON QA Internal Lab.

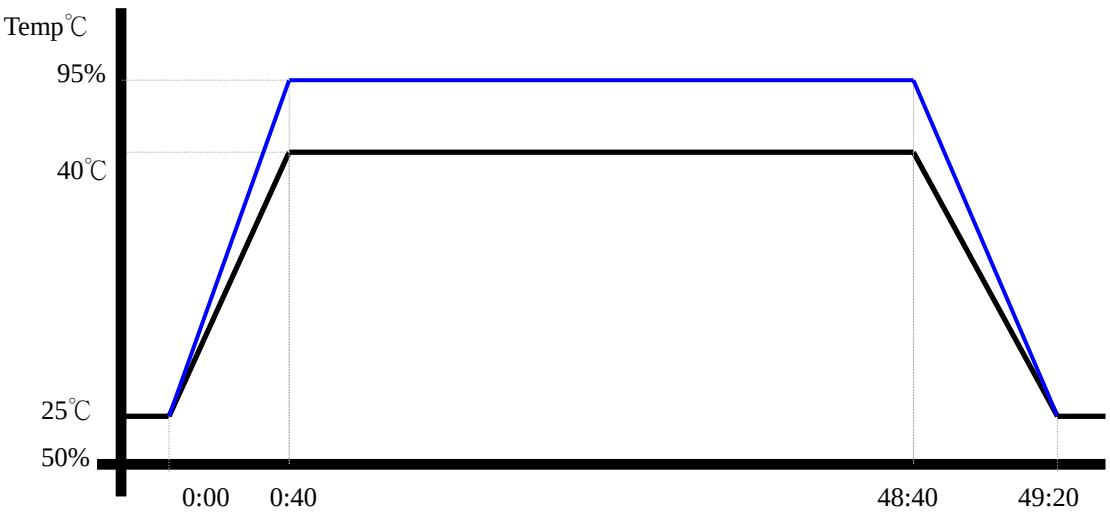
Test Standard: Reference IEC 68-2-3 Testing procedures
Test Ca: Damp heat, steady state (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-A4C-100
Date of Calibration: 06/17/09
Serial Number: 3188

Testing Item:

1. Test Temperature: 40℃
2. Test Humidity: 95%RH
3. Test Times: 48Hrs
4. Test Software: Windows XP / Run PassMark Burn In Test 5.3 Pro
5. Test Environment Curve:



Sample Configuration & Quantity Under Test:
Quantity: 1 (FWS-2300)

Test Result:

No problem was found after the humidity storage test.

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056
http://www.aaeon.com.tw

Cold start and hot start test

Test Date: 02-04~05-2010

Test Product: FWS-2300

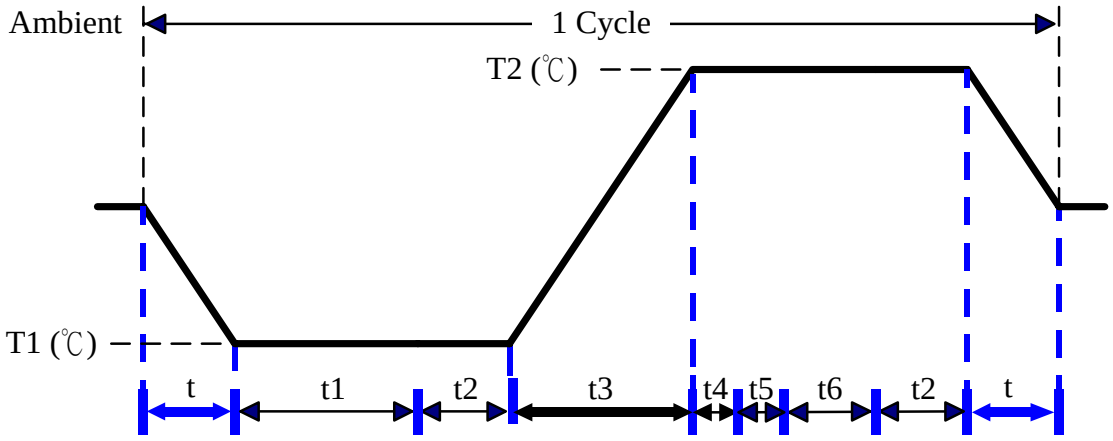
Test Site: AAEON QA Internal Lab.

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-A4C-100
Date of Calibration: 06/17/09
Serial Number: 3188

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 PassMark Burn In Test
t5: Win XP Software restart test 3 times
Test Software:Windows XP

Test Result:

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

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

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056
http://www.aaeon.com.tw