AHP-1081

With 2.5” SATA HDD

Environment Test Report

Report NO: 10P020008

Issued by:	Rex Chang	/	*08/18/2010*
	Test Engineer		**Date**
Reviewed by:	Jansin Lee	/	*08/18/2010*
	Sr. Manager		**Date**

Test item list

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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	Temperature variation operation test	Pass	
6	Cold start and hot start test	Pass	

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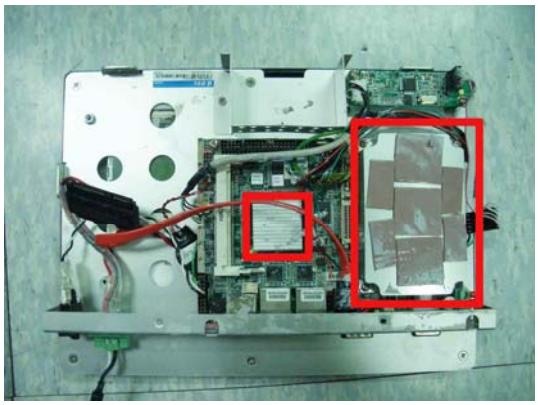
Configuration of EUT

Num	Item	Spec
1.	Fanless Panel PC	AHP-1081
	1. Main Board	AAEON GENE-9455 Rev. B1.0 (BIOS AHP-1081 Ver: 0.12)
	2. CPU	Intel Atom N270 / 1.6GHz
	3. Memory	DSL 1GB * 1 / DDR2 667 / ELPIDA E5108AJBG-6E-E
	4. Industrial SATA HDD	Seagate ST989017SM / 80GB
	5. Test Software	Windows XP / Run PassMark Burn In Test 5.1 Pro
	5. Test Software	LG084SN052
2.	Adapter	FSP FSP036-1AD101C

Heat Sink



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Temperature rise test

Test Date: 08-17-2010

Test Product: AHP-1081

Test Site: AAEON QE 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:

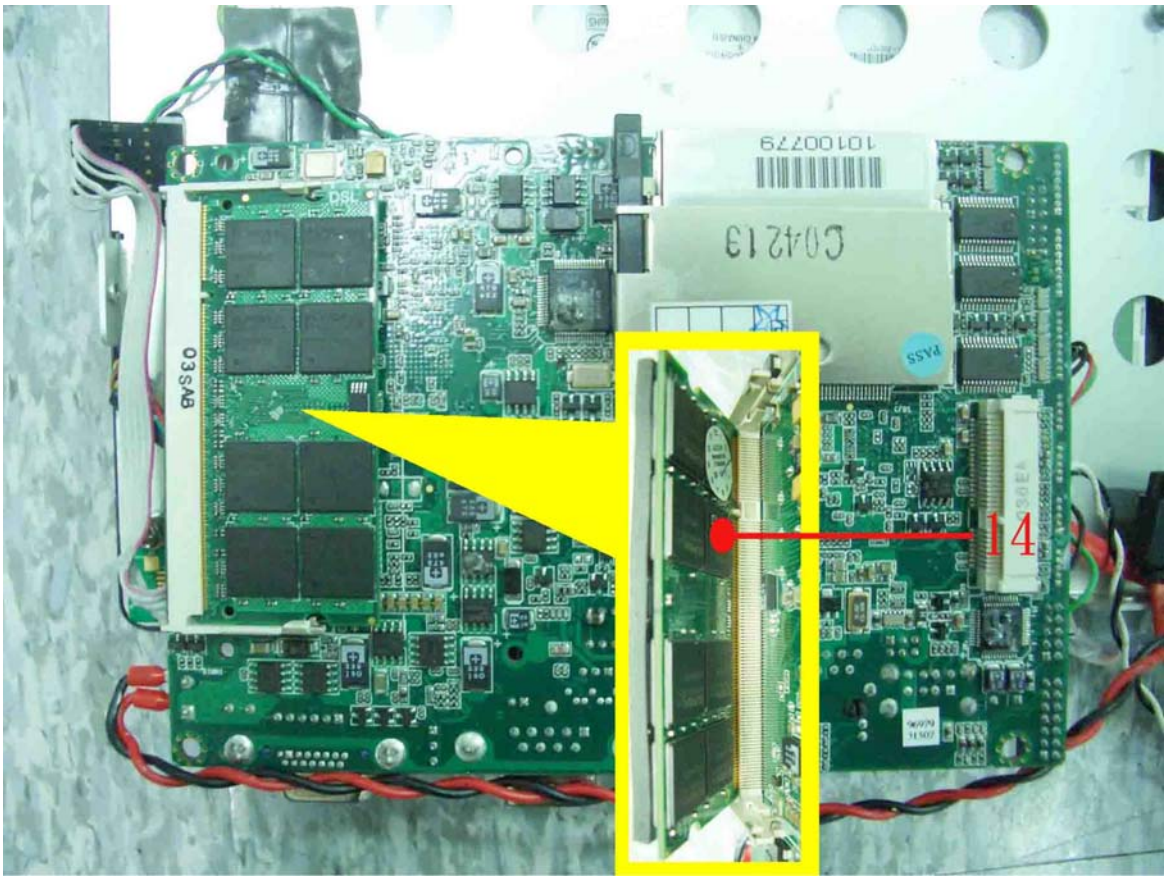
Ambient temperature: 50℃
Continuous running till thermal stability (within less than 1℃)

Test Software:

Windows XP / Run PassMark Burn In Test 5.1 Pro

Terminal Recorder:

Measuring Thermal Couple Position：



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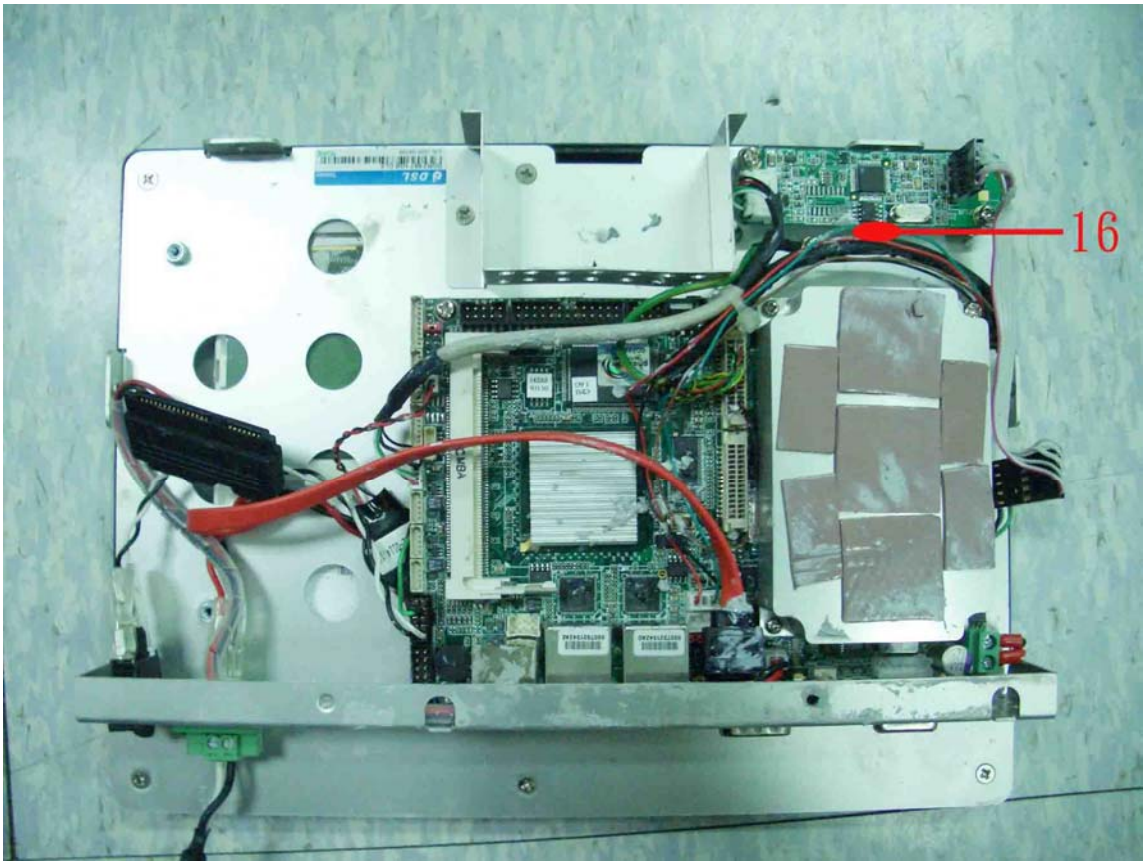
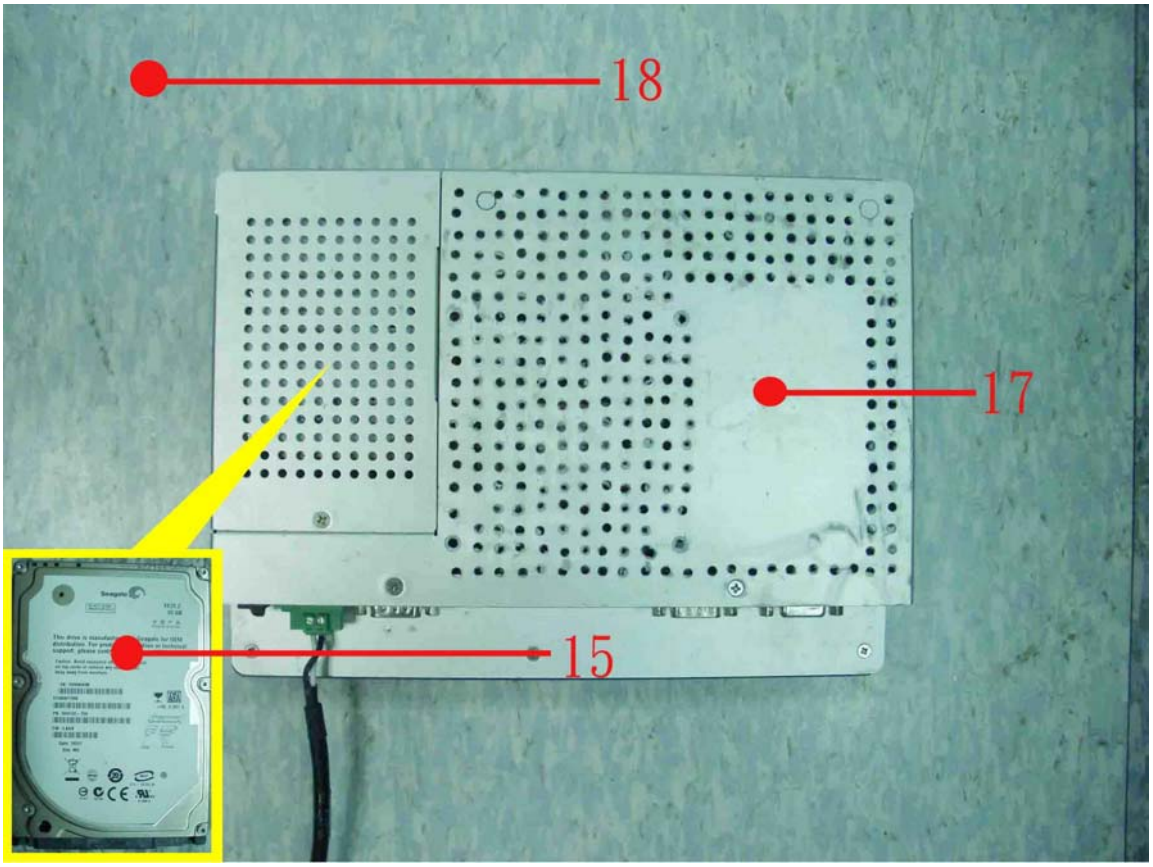
Temperature rise test





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Temperature rise test

Thermal profile data:

AHP-1081 (GENE-9455 B1.0)

Point \ Temp. Stage(℃)	Spec	50	25
01. U10 - (TF) Intel 945GSE Express Chipset.Intel.QG82945GSE SLB2R	105	83.1	58.1
02. U15 - (TF) Intel CPU.Diamondville.N270.1.6GHz/FSB 533MHz.	90	84.9	59.9
03. U22 - (TF) TSSOP-28.Dual Synchronous Controller.NS.LM5642XMH	100	82.7	57.7
04. L8 - (TF) COIL.2.2uH.GOTREND.GSTC104P-2R2MN	125	83.6	58.6
05. U26 - (TF) PWR. SO-8.P-Channel MOSFET.ANPEC.APM4463KC-TRL	125	80.8	55.8
06. U29 - (TF) VGA ESD Protection Array.CMD.CM2009-02QR	85	79.4	54.4
07. U12 - (TF) CLOCK GENERATOR.IDT.9LPRS501PGLF	100	95.4	70.4
08. U14 - (TF) .Chipset ICH7M.Intel.NH82801GBM SL8YB	99	87.7	62.7
09. U24 - (TF) PCI-E GigaBit Ethernet Chipset.Intel.WG82574L SLBA8	109	85.2	60.2
10. U23 - (TF) PCI-E GigaBit Ethernet Chipset.Intel.WG82574L SLBA8	109	83.3	58.3
11. U55 - (TF) 6 Channel AC'97 Audio Codec.REALTEK.ALC655-LF	N/A	83.5	58.5
12. U43 - (TF) LVDS Transmitter.CHRONTEL.CH7308B-TF	100	91.2	66.2
13. U52 - (TF) PWR.SO8.N-Channel MOSFET 30V 15A.FAIRCHILD.FDS8896	125	82.0	57.0
14. Memory	95	80.8	55.8
15. HDD Surface	85	73.2	48.2
16. Control Box Inside Air Temperature	N/A	76.9	51.9
17. Control Box External Surface - 1	N/A	75.7	50.7
18. Chamber Air Temperature	N/A	49.8	24.8
Any Tm value showed in red words which meaning the value over the Tc degree C of this device specification.			

Temperature Measurement Table:

TA=50.0℃ / **Location**	**Temp. Rise (Thermal Couple)**	**SpeedFan 4.31 (Read from BIOS)**
CPU	84.9℃	84.0℃
System Temp. 1 (North Bridge)	83.1℃	84.0℃
System Temp. 2	N/A	77.0℃

Sample Configuration & Quantity Under Test:

Quantity: 1 (AHP-1081)

Test Result:

No problem was found during the temperature rise operation test.

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Temperature cycle test

Test Date: 08-13~16-2010

Test Product: AHP-1081

Test Site: AAEON QE Internal Lab.

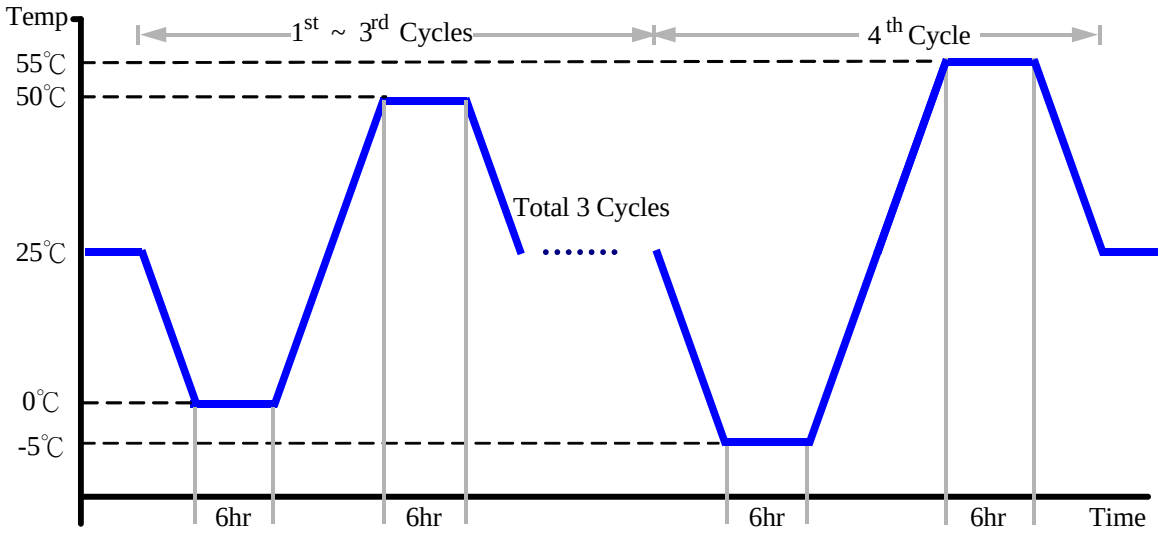
Test Standard: Reference IEC68-2-14 Testing procedures
Test N: Change of temperature Test

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-B6T-150+LN2
Date of Calibration: 04/01/10
Serial Number: 6488KT

Test Condition:

1. Test Low Temperature: 0℃ (1~3 cycles)
   -5℃ (4^{th} cycle)
2. Test High Temperature: 50℃ (1~3 cycles)
   55℃ (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 (AHP-1081)

Test Result:

No problem was found during the temperature operation cycle test.

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High temperature storage test

Test Date: 08-10~12-2010

Test Product: AHP-1081

Test Site: AAEON QE Internal Lab.

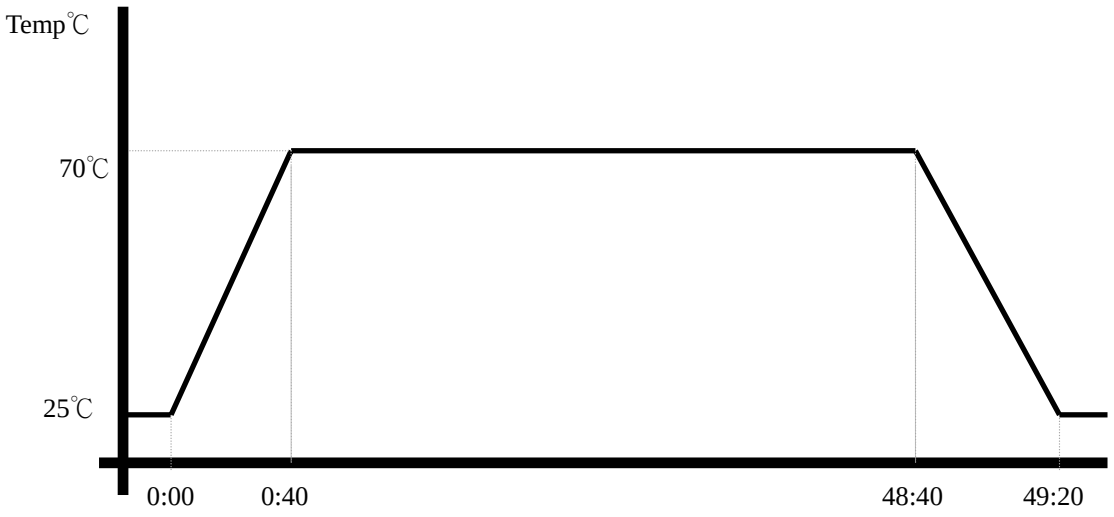
Test Standard: Reference IEC 68-2-2 Testing procedures
Test Bb: Dry Heat Test (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-B6T-150+LN2
Date of Calibration: 04/01/10
Serial Number: 6488KT

Testing Item:

1. Test Temperature: 70℃
2. Test Times: 48Hrs
3. Test Software: Windows XP / Run PassMark Burn In Test 5.1 Pro
4. Test Environment Curve:



Sample Configuration & Quantity Under Test:
Quantity: 1 (AHP-1081)

Test Result:

No problem was found after the high temperature storage test.

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Low temperature storage test

Test Date: 08-04~06-2010

Test Product: AHP-1081

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-B6T-150+LN2
Date of Calibration: 04/01/10
Serial Number: 6488KT

Testing Item:

1. Test Temperature: -20℃
2. Test Times: 48Hrs
3. Test Software: Windows XP / Run PassMark Burn In Test 5.1 Pro
4. Test Environment Curve:

Sample Configuration & Quantity Under Test:
Quantity: 1 (AHP-1081)

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

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Humidity test

Test Date: 08-06~09-2010

Test Product: AHP-1081

Test Site: AAEON QE Internal Lab.

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

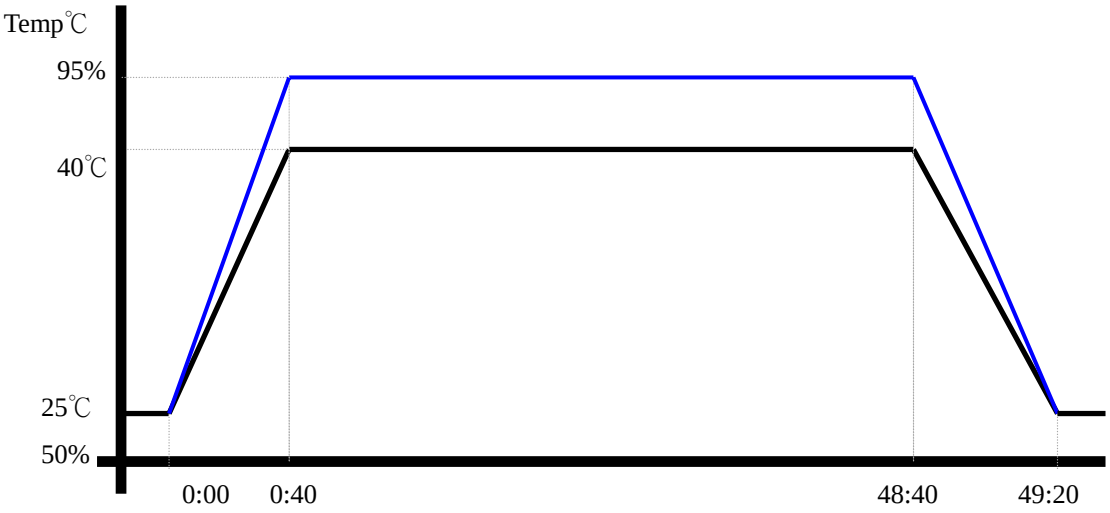
Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-B6T-150+LN2
Date of Calibration: 04/01/10
Serial Number: 6488KT

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 5.1 Pro
5. Test Environment Curve:

Humidity %



Sample Configuration & Quantity Under Test:
Quantity: 1 (AHP-1081)

Test Result:

No problem was found after the humidity storage test.

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Cold start and hot start test

Test Date: 08-12~13-2010

Test Product: AHP-1081

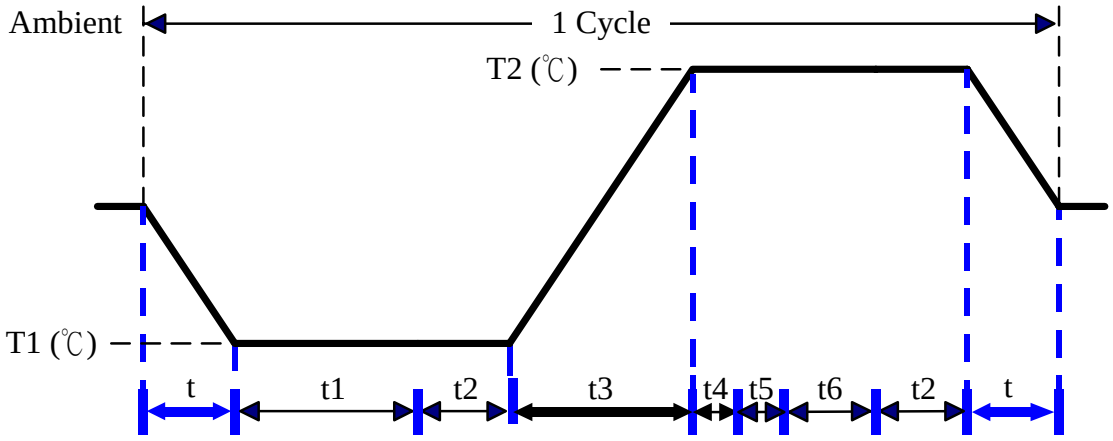
Test Site: AAEON QE Internal Lab.

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-B6T-150+LN2
Date of Calibration: 04/01/10
Serial Number: 6488KT

Test Condition:



Parameters	Description
T1	-5℃
T2	55℃
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.

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