AEC-6821

With 2.5” IDE HDD

Environment Test Report

Report NO: 09P020002

Issued by:	Rex-Chang	/	*02/11/2009*
	Test Engineer		**Date**
Reviewed by:	Wenyuan Yang	/	*02/11/2009*
	Manager		**Date**

Test item list

Test Configuration:

Num	Item	Spec
1.	Control Box:	AEC- 6821
	1. Main Board	AAEON ETX-700 Rev.A1.0 (BIOS: AEC-6821 BIOS Rev: A R0.25)
	2. CPU	AMD Geode LX-800 / 500MHz
	3. Industrial Memory	5121MB / V58C2512804SAI5I
	5. Industrial HDD	Fujitsu MHW2040AC / 40GB / IDE
	6. I/O Board	AAEON T118 A0.2
	7. Power Board	AAEON E102 A1.1
	8. Adapter	FSP FSP036-1AD101C

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Temperature rise test

Test Date: 02-06-2009

Test Product: AEC-6821

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: 12/07/08
Serial Number: 12A323190

Test Condition:

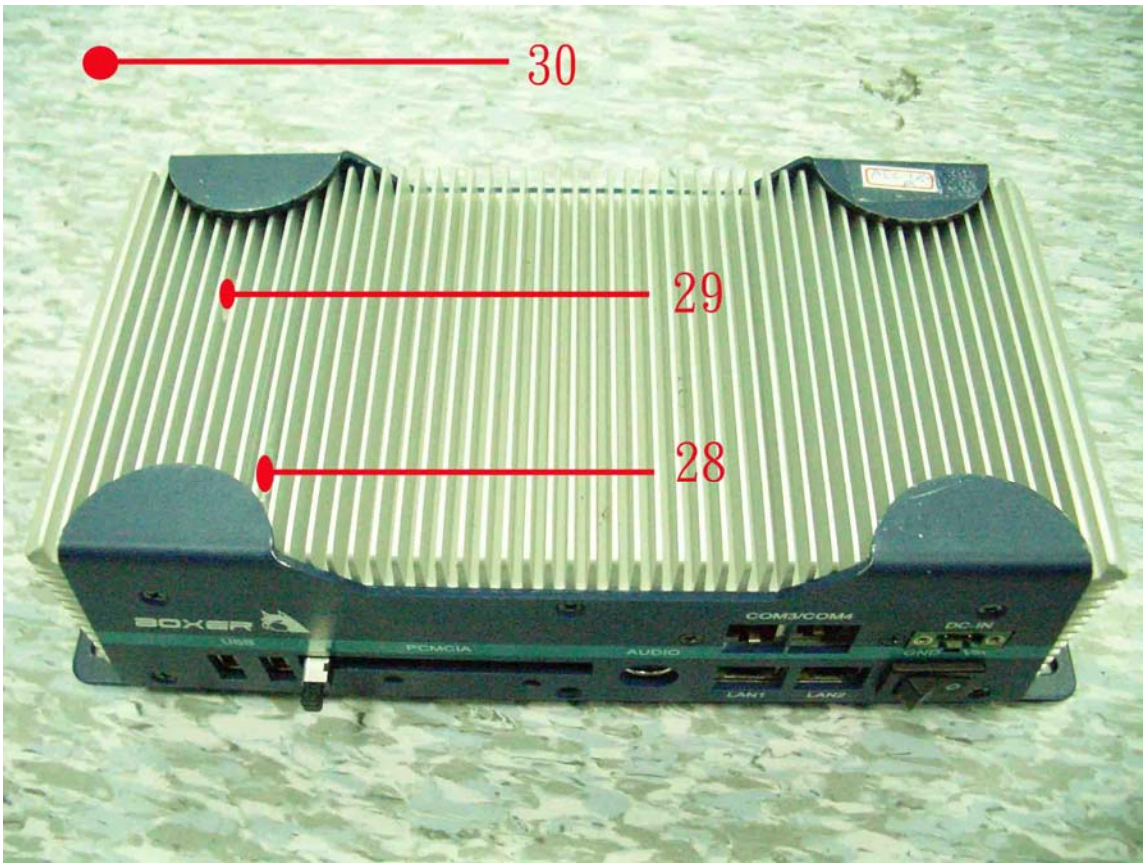
Ambient temperature: 50dC
Continuous running till thermal stability (within less than 1℃)

Test Software:

Windows XP / Run PassMark Burn In Test 5.1

Terminal Recorder:

Measuring Thermal Couple Position：



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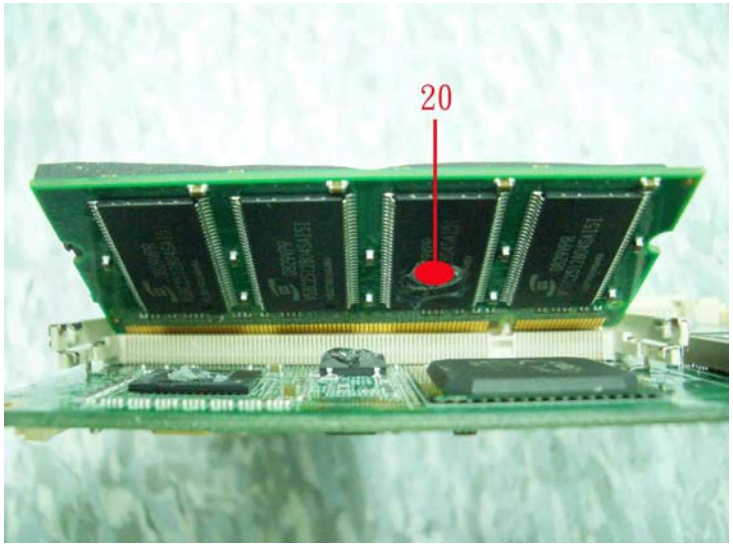

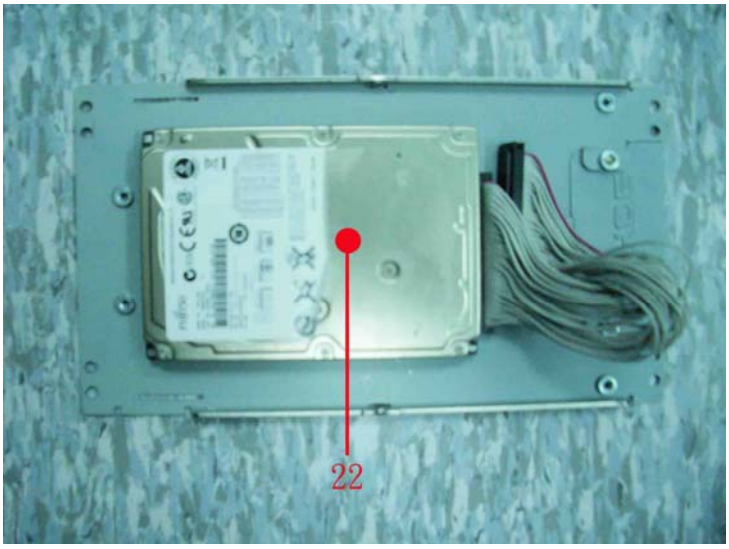

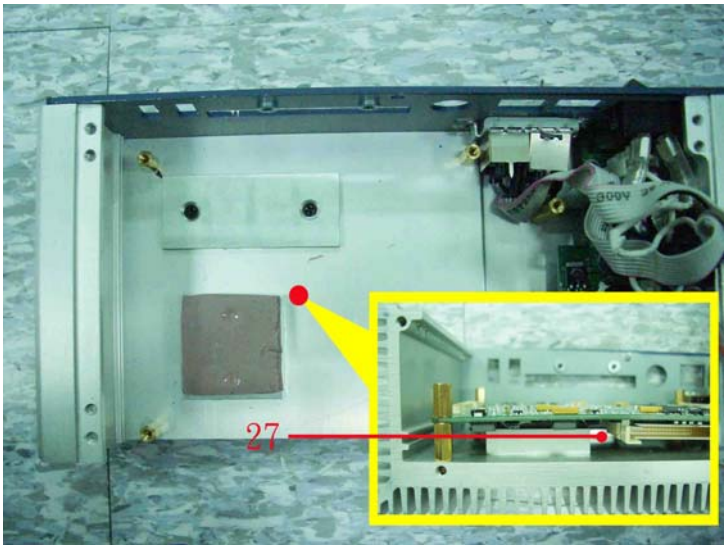

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Temperature rise test

Thermal profile data:

AEC-6821

Point \ Temp. Stage(℃)	Spec	50	25
ETX-700			
1. U12 - (TF)AMD LX-800 / 500MHz.	85	67.8	42.8
2. U17 - (TF)IC.SMD SOIC.8Pin.Extended Zero Delay Buffer.Cypress.CY2304SXC-1T	95	77.6	52.6
3. U39 - (TF)IC.SMD.SOP 16Pin PCI Arbiter.ITE.IT8208M	100	75.8	50.8
4. U22 - (TF)IC.SMD.SSOP28.Clock Generator.ICS.MK1491-09FLN	95	81.1	56.1
5. U20 - (TF)IC.SMD.QFP128P Super I/O.ITE.IT8712F-A/IX-L	95	77.6	52.6
6. U15 - (TF) South Bridge.AMD.CS5536AD	110	80.1	55.1
7. U25 - (TF) PCI to ISA Bridge Chip.ITE.IT8888G-L	95	77.3	52.3
8. Y1 - (TF)X'TAL.32.768KHz.SMD.4P.12.5pf/20ppm.32721.EPSON.MC306	100	72.3	47.3
9. U16 - (TF)Extended PCI Arbiter Buffer.ITE.IT8209R	100	70.8	45.8
10. Q7 - (TF)PWR. MOSFET.VISHAY.SI9933BDY-T1-E3	95	71.4	46.4
11. Q3 - (TF)Dual N-Channel. ANPEC.APM7313KC-TRL	130	76.2	51.2
12. U26 - (TF)MLPD-10.PWM BUCK CONTROLLER.IR.IR3624MTRPBF	125	74.0	49.0
13. U23 - (TF) PCI Ethernet Chip.RELTEK.RTL8139DL	95	63.1	38.1
14. U1 - (TF).SATA RAID CONTROLLER.VIA.VT6421A	85	85.0	60.0
15. U27 - (TF)REG. Dorpout Regulator.AMS.AMS1117-3.3	100	78.2	53.2
16. U6 - (TF)85MHz 24Bit.LVDS Transmitter.Thine.THC63LVDM83A-G	125	72.5	47.5
17.U37 - (TF)PWR.P-Channel MOSFET.APEC.AP6679GM	125	72.3	47.3
18. U21 - (TF) 2 Channel Audio Codec.Realtek.ALC203-LF	95	83.4	58.4
19. U36 - (TF) PHILIPS.74HCT14PW	100	77.2	52.2
20. Memory (Wide Temp.)	85	70.8	45.8
E102			
21. Q2	125	73.0	48.0
22. HDD (Wide Temp.)	80	68.1	43.1
T118			
23.U17 - (TF) REG.DD PAK.3A Linear	125	82.9	57.9
24.U19 - (TF) Super I/O.Winbond.W83977EG-AW. Rev:H	95	75.3	50.3
25.U13 - (TF) CardBus contorllor.TI.PCI1510ZGU	125	73.8	48.8
26.U11 - (TF) PCI Ethernet 10/100BaseT.Intel.LU82551ER	85	81.6	56.6
27. Control Box Inside Air Temperature	N/A	67.0	42.0
28. Control Box External Surface - 1	N/A	64.2	39.2
29. Control Box External Surface - 2	N/A	64.1	39.1
30.Chamber Air Temperature	N/A	50.0	25.0

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Temperature rise test

Sample Configuration & Quantity Under Test:

Quantity: 1 (AEC-6821)

Test Result:

No problem was found during the temperature rise operation test.

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Temperature cycle test

Test Date: 02-02~04-2009

Test Product: AEC-6821

Test Site: AAEON QA Internal Lab.

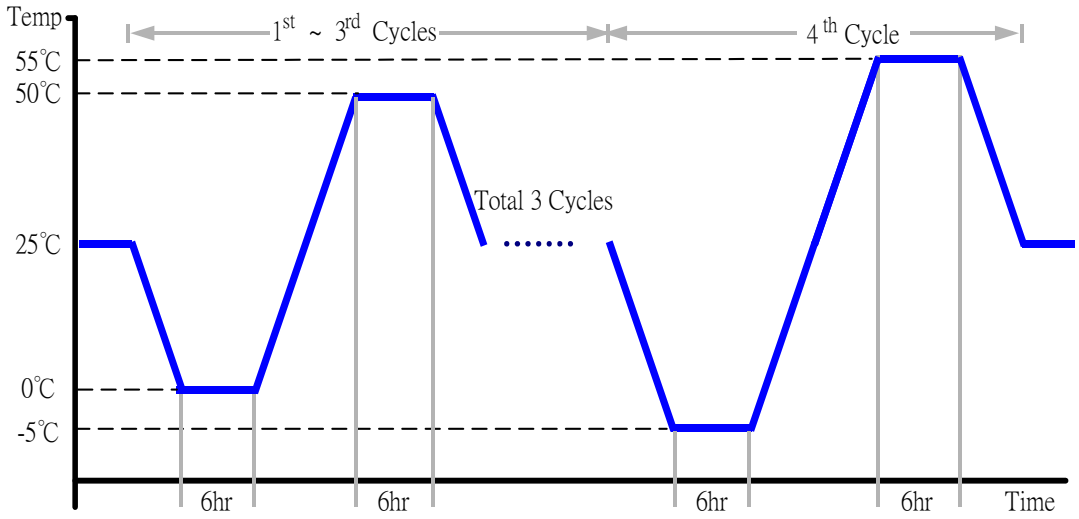
Test Standard: Reference IEC68-2-14 Testing procedures
Test N: Change of temperature Test

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-B6T-150+LN2
Date of Calibration: 04/17/08
Serial Number: 6488KT

Test Condition:

1. Test Low Temperature: 0℃ (1~3 cycles)
   -5℃ (4th cycle)
2. Test High Temperature: 50℃ (1~3 cycles)
   55℃ (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 (AEC-6821)

Test Result:

No problem was found during the temperature operation cycle test.

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High temperature storage test

Test Date: 01-25~27-2009

Test Product: AEC-6821

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-B6T-150+LN2
Date of Calibration: 04/17/08
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 (AEC-6821)

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

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Low temperature storage test

Test Date: 01-28~30-2009

Test Product: AEC-6821

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-B6T-150+LN2
Date of Calibration: 04/17/08
Serial Number: 6488KT

Testing Item:

1. Test Temperature: -30℃
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 (AEC-6821)

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

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Humidity test

Test Date: 01-30-2009 ~ 02-01-2009

Test Product: AEC-6821

Test Site: AAEON QA Internal Lab.

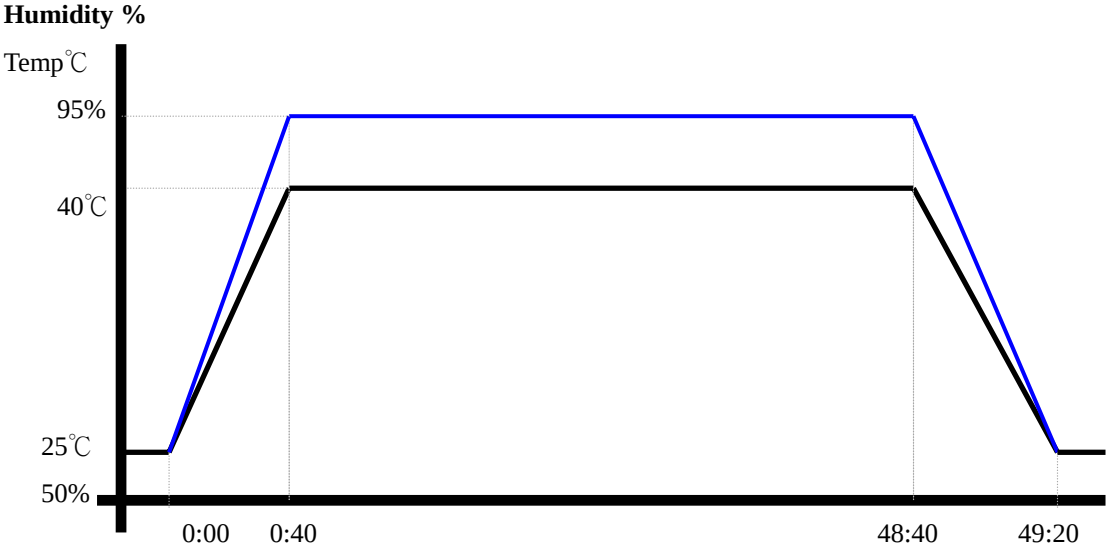
Test Standard: Reference IEC 68-2-3 Testing procedures
Test Ca: Damp heat, steady state (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-B6T-150+LN2
Date of Calibration: 04/17/08
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:



Sample Configuration & Quantity Under Test:
Quantity: 1 (AEC-6821)

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

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Cold start and hot start test

Test Date: 02-04~05-2009

Test Product: AEC-6821

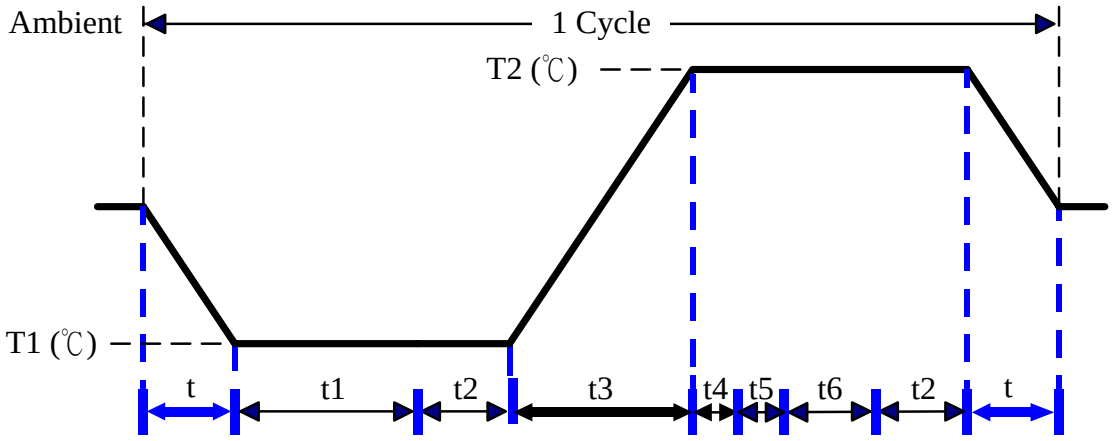
Test Site: AAEON QA Internal Lab.

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-B6T-150+LN2
Date of Calibration: 04/17/08
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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