AEC-6410

Environment Test Report

Report NO: 08P020022

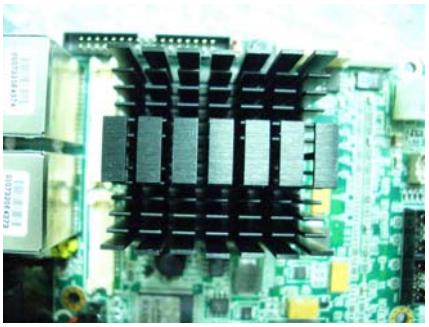
Issued by:	Rex-Chang	/	*10/27/2008*
	Test Engineer		**Date**
Reviewed by:	Wenyuan Yang	/	*10/27/2008*
	Manager		**Date**

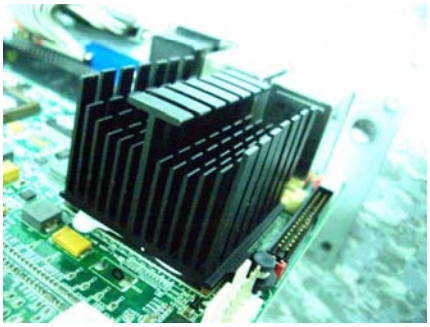
Test item list

Test Configuration:

Num	Item	Spec
1.	Control Box:	AEC- 6410
	1. Main Board	AAEON EPIC-5536 Rev. A1.0 (BIOS: 1.0)
	2. CPU	AMD Geode LX800 / 500MHz
	3. Industrial Memory	Apacer 512MB / V58C2512804SAI5I
	5. Industrial CFD	Transcend 4GB
	6. Adapter	FSP FSP036-1AD101C

Heat Sink





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Temperature rise test

Test Date: 10-24-2008

Test Product: AEC-6410

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: 12/13/07
Serial Number: 12A323190

Test Condition:

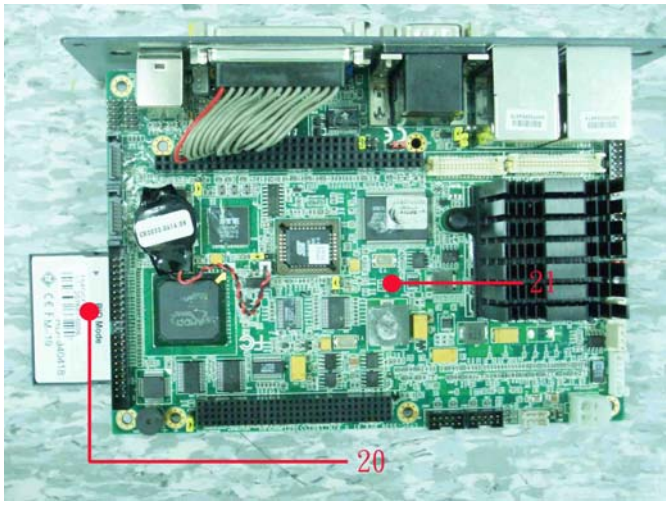
Ambient temperature: 40dC
Continuous running till thermal stability (within less than 1℃)

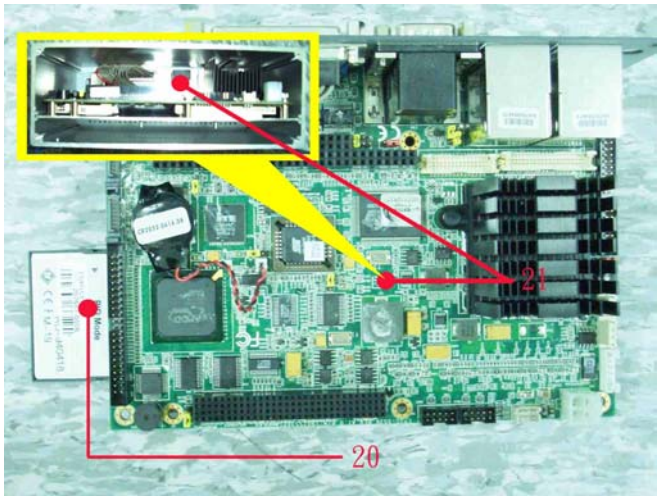
Test Software:

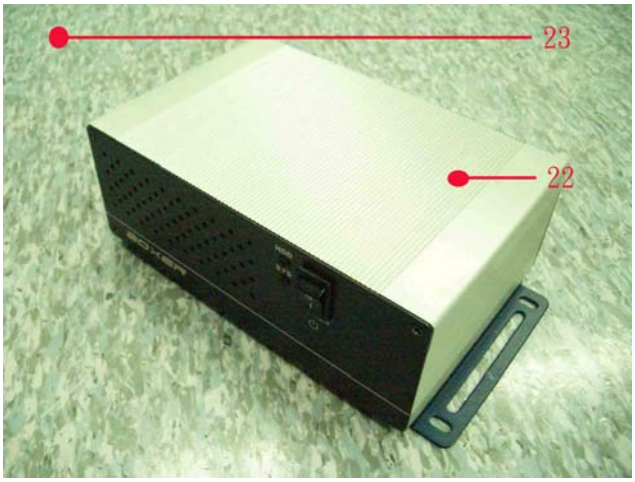
Windows XP / Run PassMark Burn In Test 5.1

Terminal Recorder:

Measuring Thermal Couple Position：







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Temperature rise test

Thermal profile data:

AEC-6410

Point / Temp. Stage(℃)	Spec	40	25
01. AMD Geode LX-800 / 500MHz.CPU..	85	78.9	63.9
02. U41 - (TF) SOIC 8P.2.5V 1K bits.Microchip.93LC46B/SN	85	83.2	68.2
03. U20 - (TF) MLPD-10.PWM BUCK CONTROLLER.IR.IR3624MTRPBF	125	90.4	75.4
04. U42 - (TF) PCI Ethernet Chip 10/100BaseT.REALTEK.RTL8100C-LF	100	79.7	64.7
05. L2 - (TF) COIL.GOTREND.GSTC135P-3R3MF	100	90.5	75.5
06. U28 - (TF) IC.SMD.SSOP28.Clock Generator.ICS.MK1491-09FLN	100	91.1	76.1
07. U14 - (TF) PWR.N-Channel MOSFET 30V 15A.FAIRCHILD.FDS8896	125	104.0	89.0
08. U18 - (TF) Switching PWM Controller.Richtek.RT9214PS	100	93.3	78.3
09. U36 - (TF) Extended PCI Arbiter Buffer.ITE.IT8209R	100	83.8	68.8
10. U31 - (TF) I/O Companion.Multi-Function South	85	79.4	64.4
11. U46 - (TF) PCI to ISA Bridge Chip.ITE.IT8888G-L	100	79.7	64.7
12. U56 - (TF) RENESAS.HD74LV2G125A	115	88.9	73.9
13. U63 - (TF) 2 Channel Audio Codec.Realtek.ALC203-LF	100	74.6	59.6
14. U21 - (TF) REG.SMD.SOT-223.1A Dorpout Regulator.AMS.AMS1117-2.5	100	85.6	70.6
15. U24 - (TF) REG.SMD.SOT-223.1A Dorpout Regulator.AMS.AMS1117-3.3	100	90.3	75.3
16. U72 - (TF)PWR.P-Channel MOSFET.ANPEC.APM4429KC-TRL	125	92.1	77.1
17. U15 - (TF)PWR.N-Channel MOSFET 30V 15A.FAIRCHILD.FDS8896	125	88.8	73.8
18. U62 - (TF) TSSOP56.FlatLink Transmitter.TI.SN75LVDS83	100	86.9	71.9
19. Memory	85	80.7	65.7
20. CFD	85	72.6	57.6
21. Control Box Internal Air Temperature	N/A	70.3	55.3
22. Control Box External Surface	N/A	54.2	39.2
23. Chamber Air Temperature	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.			

Sample Configuration & Quantity Under Test:

Quantity: 1 (AEC-6410)

Test Result:

No problem was found during the temperature rise operation test.

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Temperature cycle test

Test Date: 10-20~22-2008

Test Product: AEC-6410

Test Site: AAEON QA Internal Lab.

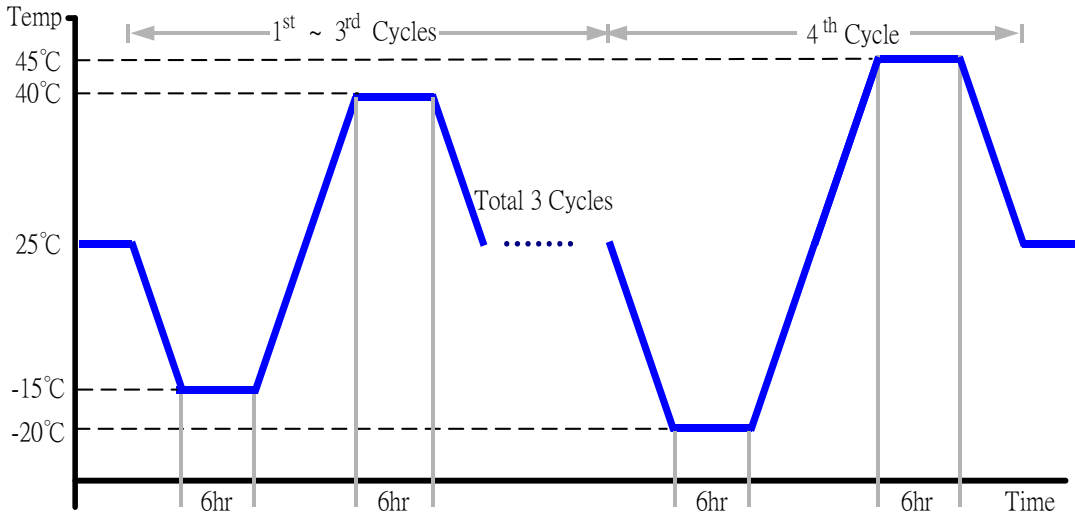
Test Standard: Reference IEC68-2-14 Testing procedures
Test N: Change of temperature Test

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-A4C-100
Date of Calibration: 06/18/08
Serial Number: 3188

Test Condition:

1. Test Low Temperature: -15℃ (1~3 cycles)
   -20℃ (4th cycle)
2. Test High Temperature: 40℃ (1~3 cycles)
   45℃ (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-6410)

Test Result:

No problem was found during the temperature operation cycle test.

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High temperature storage test

Test Date: 10-15~17-2008

Test Product: AEC-6410

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: 06/18/08
Serial Number: 3188

Testing Item:

1. Test Temperature: 60℃
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-6410)

Test Result:

No problem was found after the high temperature storage test.

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Low temperature storage test

Test Date: 10-10~12-2008

Test Product: AEC-6410

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: 06/18/08
Serial Number: 3188

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 (AEC-6410)

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

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Humidity test

Test Date: 10-17~19-2008

Test Product: AEC-6410

Test Site: AAEON QA Internal Lab.

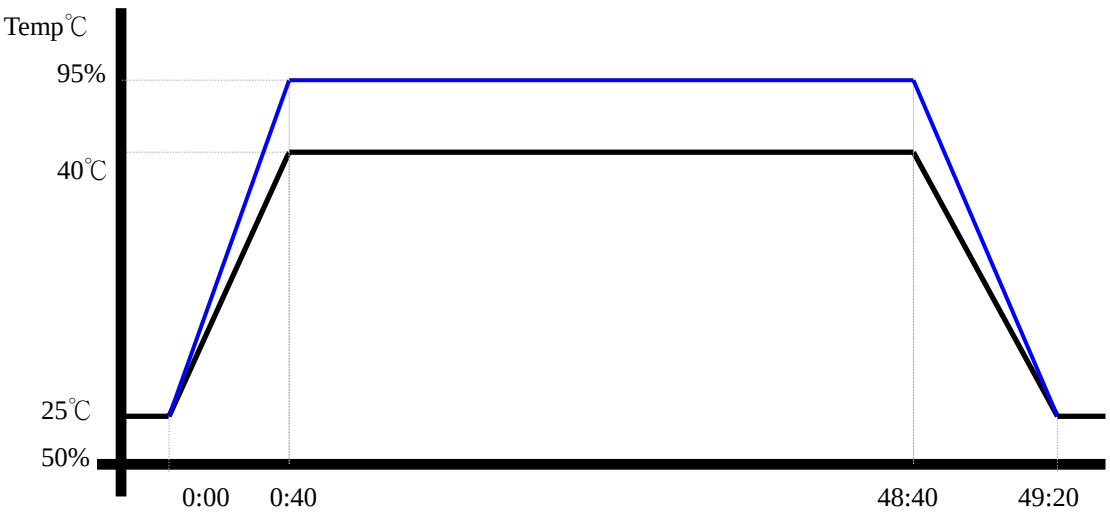
Test Standard: Reference IEC 68-2-3 Testing procedures
Test Ca: Damp heat, steady state (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-A4C-100
Date of Calibration: 06/18/08
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 5.1 Pro
5. Test Environment Curve:



Sample Configuration & Quantity Under Test:
Quantity: 1 (AEC-6410)

Test Result:

No problem was found after the humidity storage test.

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Cold start and hot start test

Test Date: 10-22~23-2008

Test Product: AEC-6410

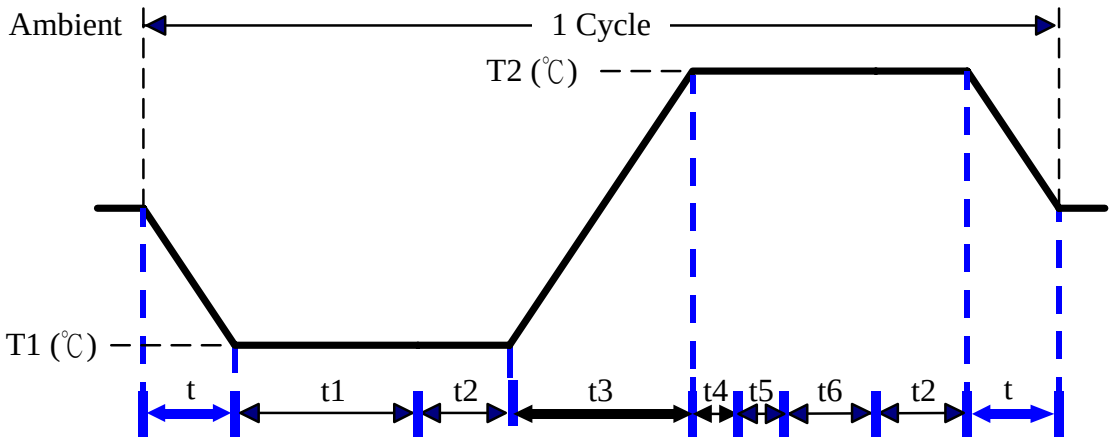
Test Site: AAEON QA Internal Lab.

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: 06/18/08
Serial Number: 3188

Test Condition:



Parameters	Description
T1	-15℃
T2	40℃
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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