AEC-6520 (GENE-8310)

With CFD

Temperature Cycle Test Report

Report NO: 08P020006

Issued by:	Rex Chang	/	*04/10/2008*
	Test Engineer		**Date**
Reviewed by:	Wenyuan Yang	/	*04/10/2008*
	Manager		**Date**

Test item list

Num	Item	Spec
1.	Control Box:	AEC- 6520
	1. Main Board	AAEON GENE-8310 Rev. A1.1 Compact Board (BIOS: 1.73)
	2. CPU	Intel Celeron M / 1GHz
	3. Memory	Transcend 1GB / V58C2512804SAJ51
	4. Power Module	AAEON PO2D A1.1
	5. Industrial CFD	Transcend 4GB
	6. Adapter	FSP FSP036-1AD101C

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Temperature cycle test

Test Date: 03-27~31-2008

Test Product: AEC-6520

Test Site: AAEON QA Internal Lab.

Performed By: Rex Chang

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

Test Equipment:

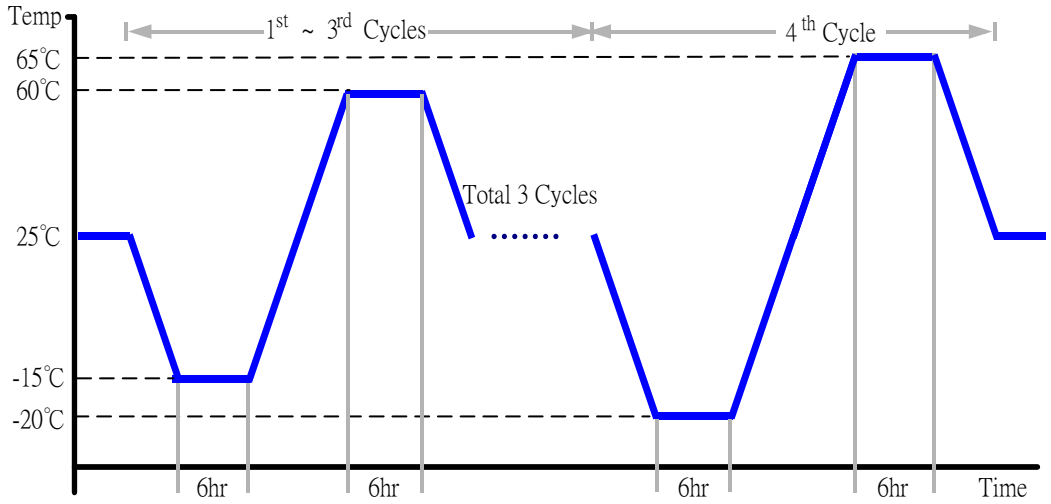
Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-A4C-100
Date of Calibration: 06/20/07
Serial Number: 3188

Temperature Measurement:

40 Channel Thermal Recorder:
YOKOGAWA Inc,
Model: DA100-13-1D
Date of Calibration: 12/13/07
Serial Number: 12A323190

Test Condition:

1. Test Low Temperature: -15℃ (1~3 cycles)
   -20℃ (4^{th} cycle)
2. Test High Temperature: 60℃ (1~3 cycles)
   65℃ (4^{th} cycle)
3. Test dwell time: 6Hrs
4. Temperature slope: 2℃/min
5. Test cycle: 4 cycles
6. Test Environment Curve:



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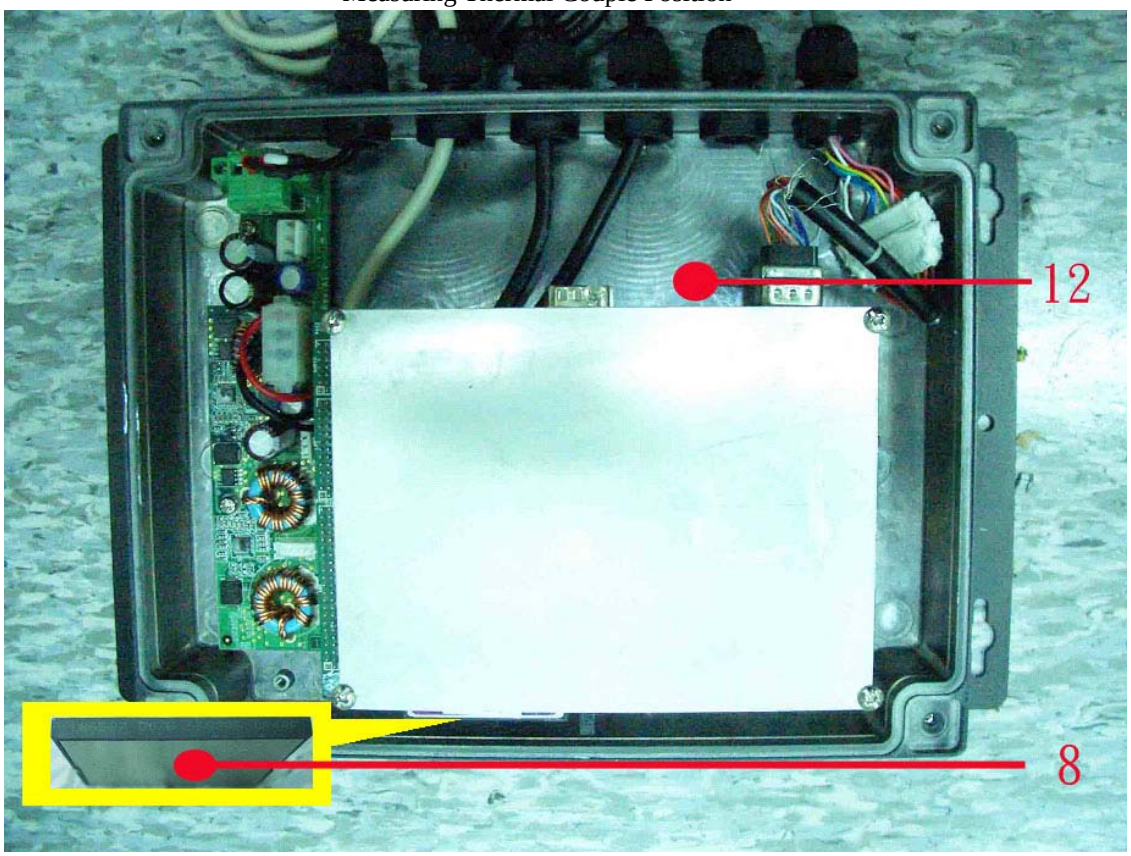
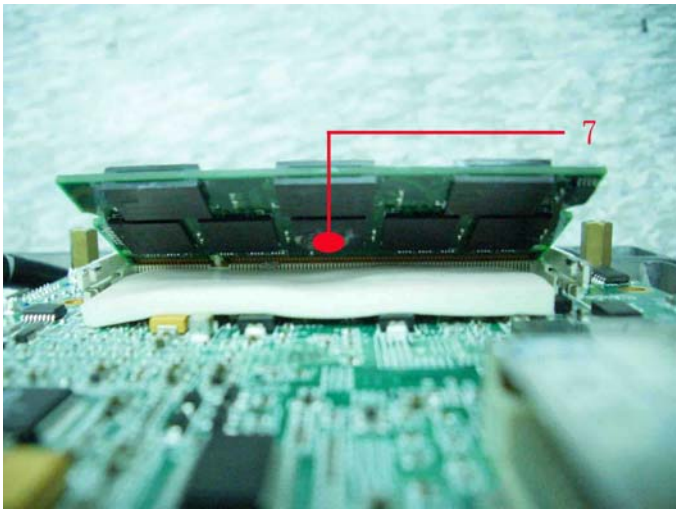
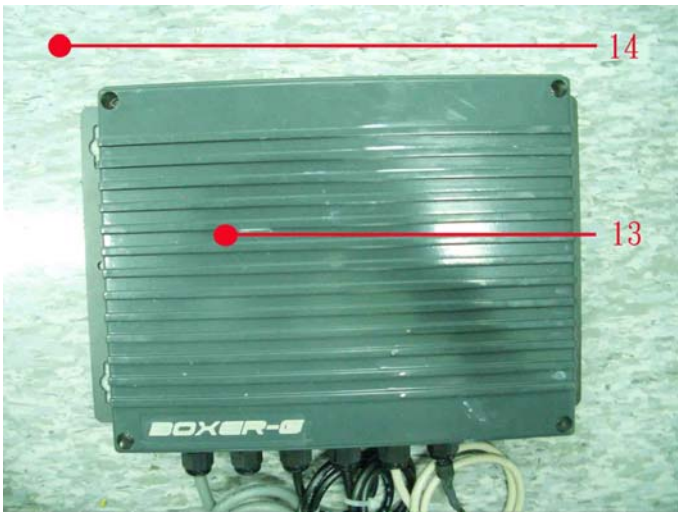
Temperature cycle test

Terminal Recorder:

Measuring Thermal Couple Position：







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Temperature cycle test

Thermal profile data:

AEC-6520 (GENE-8310)

Point / Temp. Stage(℃)	Spec	60	25	-15
GENE-8310				
01. U4 - (TF) INTEL CPU.Celeron M-1.0G	75	73.1	38.1	-1.9
02. U8 - (TF) Chipset.NB82852GM.Intel.RG82852GM-SL6ZK	85	72.4	37.4	-2.6
03. U3 - (TF) Chipset ICH4.INTEL.FW82801DB SL6DM.	115	86.5	51.5	11.5
04. U6 - (TF) ICS.ICS952601;EE-A040124;14S3260100;TWN	125	88.2	53.2	13.2
05. L2 - (TF) COIL.1.0uH.VISHAY.HLP5050EZER1R0M01	125	81.2	46.2	6.2
06. U35 - (TF) Super I/O.ITE.IT8712F-A/IX-L	95	83.4	48.4	8.4
07. Memory	85	80.5	45.5	5.5
08. CFD	85	82.2	47.2	7.2
PO2D A1.1				
09. U2 - (TF) Regulator.Vin 3.5-36V.LINEAR.LTC3728EUH#PBF	85	73.6	38.6	-1.4
10. Q7 - (TF)PWR.N-Channel 30V MOSFET.VISHAY.SI4410BDY-T1-E3v	125	73.5	38.5	-1.5
11. U1 - (TF)PWR.SSOP16 MOSFET.LINEAR-TECHNOLOGY.LTC1778EGN	110	72.7	37.7	-2.3
12. Control Box Internal Air Temperature	N/A	70.9	35.9	-4.1
13. Control Box External Surface	N/A	65.4	30.4	-9.6
14. Chamber Air Temperature	N/A	60.3	25.3	-14.7
The description in red states which temperature is over the specification of the device.				

Sample Configuration & Quantity Under Test:

Quantity: 1 (AEC-6520)

Test Result:

No problem was found during the temperature operation cycle test.

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High temperature storage test

Test Date: 04-03~06-2008

Test Product: AEC-6520.

Test Site: AAEON QA Internal Lab.

Performed By: Rex Chang

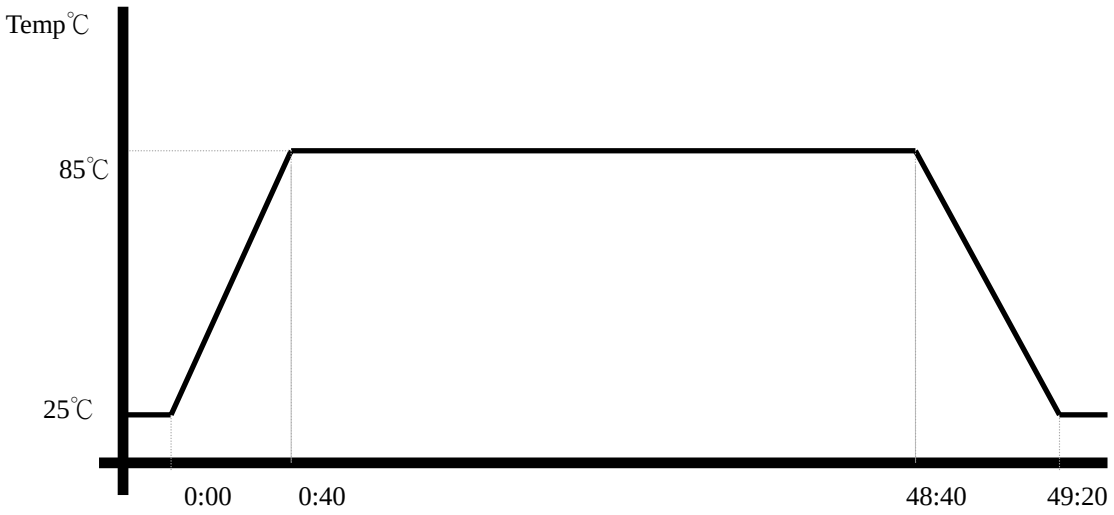
Test Standard: Reference IEC 68-2-2 Testing procedures
Test Bb: Dry Heat Test (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D7S-100+1 N2
Date of Calibration: 12/13/07
Serial Number: 3898

Testing Item:

1. Test Temperature: 85℃
2. Test Times: 48Hrs
3. Test Software: Windows XP / Run PassMark Burn In Test Pro 4.0
4. Test Environment Curve:



Sample Configuration & Quantity Under Test:
Quantity: 1 (AEC-6520)

Test Result:

No problem was found after the high temperature storage test.

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Low temperature storage test

Test Date: 03-31-2008 ~ 04-02-2008

Test Product: AEC-6520

Test Site: AAEON QA Internal Lab.

Performed By: Rex Chang

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-D7S-100+1 N2
Date of Calibration: 12/13/07
Serial Number: 3898

Testing Item:

1. Test Temperature: -40℃
2. Test Times: 48Hrs
3. Test Software: Windows XP / Run PassMark Burn In Test Pro 4.0
4. Test Environment Curve:

Sample Configuration & Quantity Under Test:
Quantity: 1 (AEC-6520)

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

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Humidity test

Test Date: 04-06~08-2008

Test Product: AEC-6520.

Test Site: AAEON QA Internal Lab.

Performed By: Rex Chang

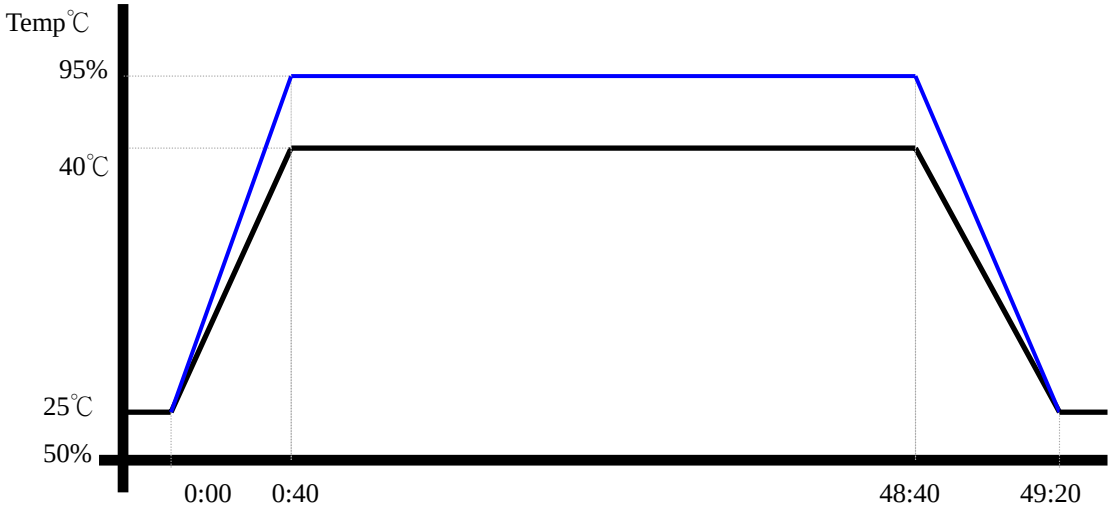
Test Standard: Reference IEC 68-2-3 Testing procedures
Test Ca: Damp heat, steady state (Non-operation)

Test Equipment:
Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-A4C-100
Date of Calibration: 06/20/07
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 Pro 4.0
5. Test Environment Curve:

Humidity %



Sample Configuration & Quantity Under Test:
Quantity: 1 (AEC-6520)

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

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Cold start and hot start test

Test Date: 04-02~03-2008

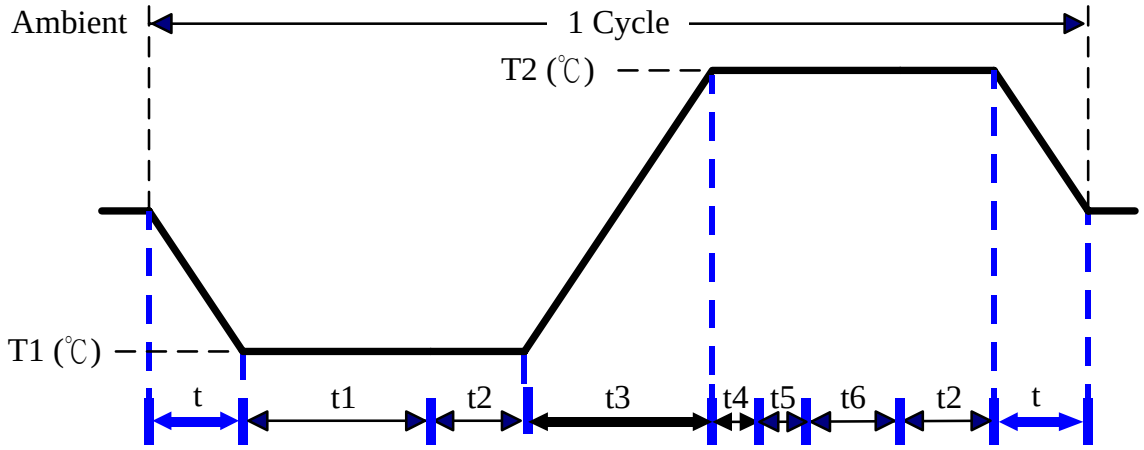
Test Site: AAEON QA Internal Lab.

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: 06/20/07
Serial Number: 3188

Test Condition:



Parameters	Description
T1	-5℃
T2	65℃
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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