AEC-6510 (GENE-5315)

With CFD

Temperature Cycle Test Report

Report NO: 08P020012

Issued by:	Rex Chang	/	*06/13/2008*
	Test Engineer		**Date**
Reviewed by:	Wenyuan Yang	/	*06/13/2008*
	Manager		**Date**

Test item list

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Num	Item	Spec
1.	Control Box:	AEC- 6510
	1. Main Board	AAEON GENE-5315 Rev. B1.0 Compact Board (BIOS: 1.0)
	2. CPU	AMD Geode LX800 / 500MHz
	3. Memory	Apacer 512MB / HY5DU1216220TP-J / DDR333
	4. Power Module	AAEON PO2D A1.1
	5. Industrial CFD	Transcend 4GB
	6. Adapter	SINPRO MPU50-105

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Temperature cycle test

Test Date: 06-11~13-2008

Test Product: AEC-6510

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:

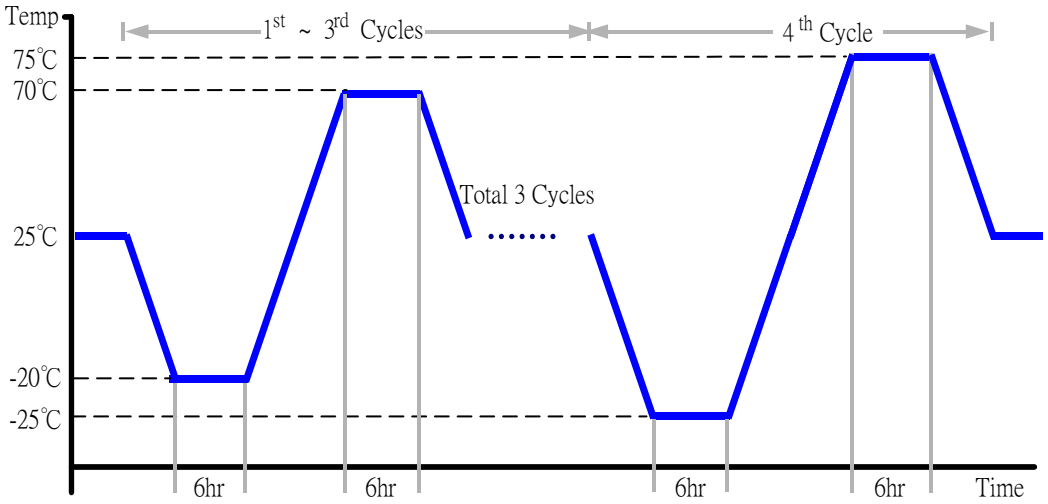
Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-B6T-150+LN2
Date of Calibration: 04/17/08
Serial Number: 6487KT

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: -20℃ (1~3 cycles)
   -25℃ (4^{th} cycle)
2. Test High Temperature: 70℃ (1~3 cycles)
   75℃ (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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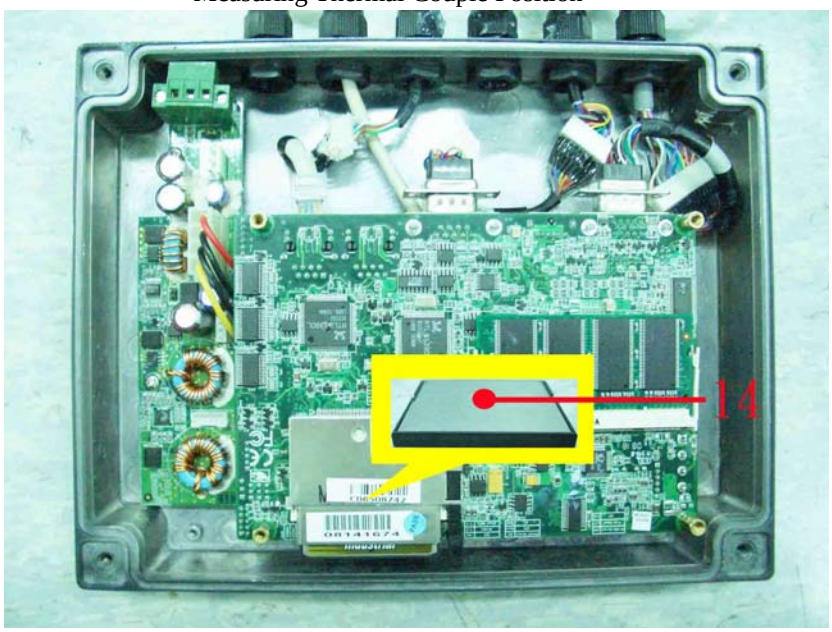
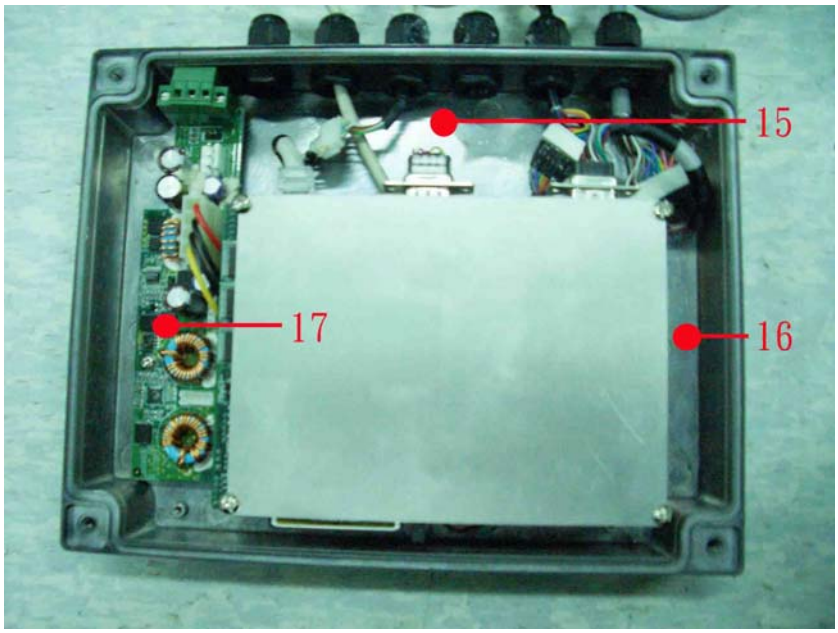
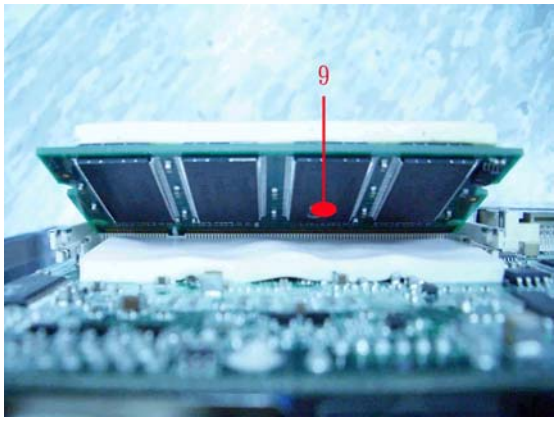
Temperature cycle test

Terminal Recorder:

Measuring Thermal Couple Position：







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Temperature cycle test

Thermal profile data:

AEC-6510 (GENE-5315)

Point / Temp. Stage(℃)	Spec	70	25	-20
GENE-5315				
01. U13 - (TF)IC.SMD.SSOP28.Clock Generator.ICS.MK1491-09FLN	100	88.7	43.7	-1.3
02. CPU	85	80.9	35.9	-9.1
03. U7 - (TF)IC.SMD SOP 8P.Clock Output Buffer.ICS.ICS9112M-16LF-T	100	86.5	41.5	-3.5
04. U1 - (TF)IC.SMD.QFP128P Super I/O.ITE.IT8712F/KX-L	100	78.6	33.6	-11.4
05. U8 - (TF)Flash PLCC BIOS.1M.(Memory.SST.49LF008A-33-4C-NHE)	110	82.5	37.5	-7.5
06. U37 - (TF)IC.SMD.TSSOP56.FlatLink Transmitter.TI.SN75LVDS83	100	80.6	35.6	-9.4
07. U33 - (TF)IC.SMD.LQFP 100P PCI Ethernet Chip.RELTEK.RTL8139DL	100	85.6	40.6	-4.4
08. U10 - (TF)IC.SMD.LQFP 100P PCI Ethernet Chip.RELTEK.RTL8139DL	100	83.4	38.4	-6.6
09. Memory	85	82.4	37.4	-7.6
10. U24 - (TF)IC.SMD.2 Channel Audio Codec.Realtek.ALC203-LF	100	92.5	47.5	2.5
PO2D A1.1				
11. U2 - (TF) Regulator.Vin 3.5-36V.LINEAR.LTC3728EUH#PBF	85	81.0	36.0	-9.0
12. Q7 - (TF)PWR.N-Channel 30V MOSFET.VISHAY.SI4410BDY-T1-E3v	125	79.1	34.1	-10.9
13. U1 - (TF)PWR.SSOP16 MOSFET.LINEAR-TECHNOLOGY.LTC1778EGN	110	77.9	32.9	-12.1
14. CFD	85	80.1	35.1	-9.9
15. Control Box Internal Air Temperature - 1	N/A	75.6	30.6	-14.4
16. Control Box Internal Air Temperature - 2	N/A	75.4	30.4	-14.6
17. Control Box Internal Air Temperature - 3	N/A	78.0	33	-12
18. Control Box External Surface	N/A	72.9	27.9	-17.1
19. Chamber Air Temperature	N/A	69.8	24.8	-20.2
The description in red states which temperature is over the specification of the device.				

Sample Configuration & Quantity Under Test:

Quantity: 1 (AEC-6510)

Test Result:

No problem was found during the temperature operation cycle test.

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High temperature storage test

Test Date: 06-02~04-2008

Test Product: AEC-6510.

Test Site: AAEON QA Internal Lab.

Performed By: Rex Chang

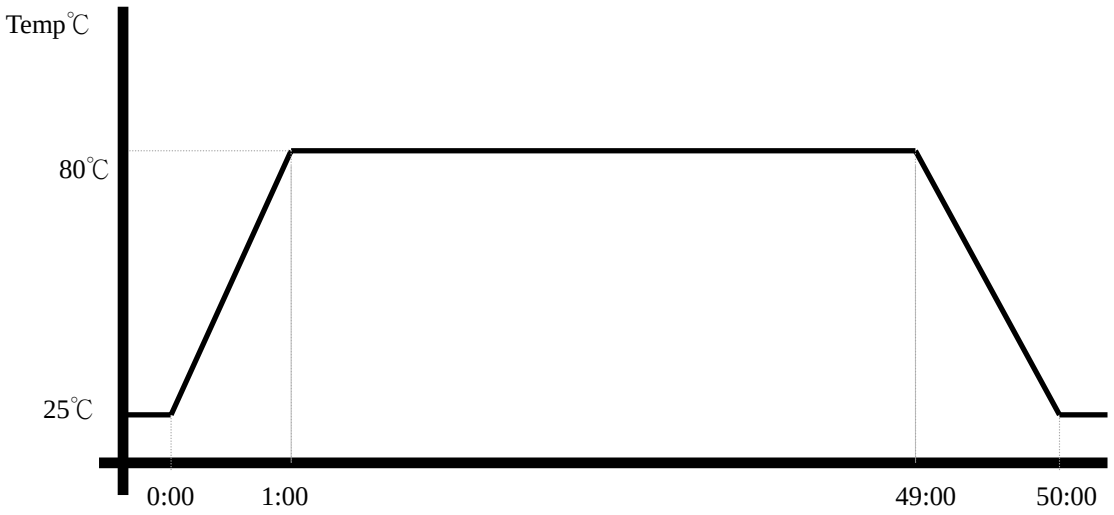
Test Standard: Reference IEC 68-2-2 Testing procedures
Test Bb: Dry Heat Test (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-B6T-150+LN2
Date of Calibration: 04/17/08
Serial Number: 6487KT

Testing Item:

1. Test Temperature: 80℃
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-6510)

Test Result:

No problem was found after the high temperature storage test.

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Low temperature storage test

Test Date: 06-04~06-2008

Test Product: AEC-6510

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-B6T-150+LN2
Date of Calibration: 04/17/08
Serial Number: 6487KT

Testing Item:

1. Test Temperature: -30℃
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-6510)

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

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Humidity test

Test Date: 06-06~09-2008

Test Product: AEC-6510.

Test Site: AAEON QA Internal Lab.

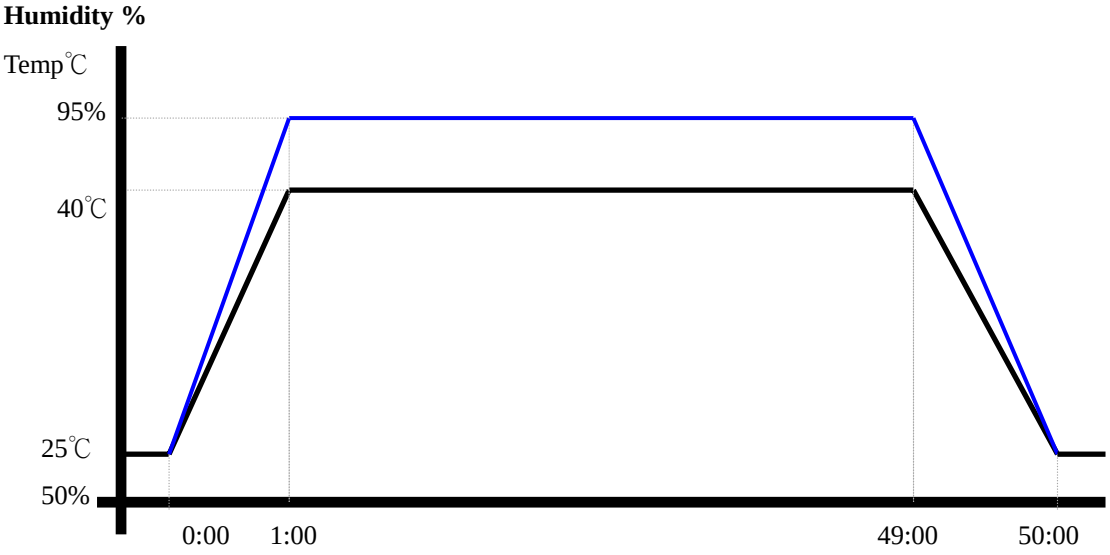
Performed By: Rex Chang

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-B6T-150+LN2
Date of Calibration: 04/17/08
Serial Number: 6487KT

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:



Sample Configuration & Quantity Under Test:
Quantity: 1 (AEC-6510)

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

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Cold start and hot start test

Test Date: 06-09~10-2008

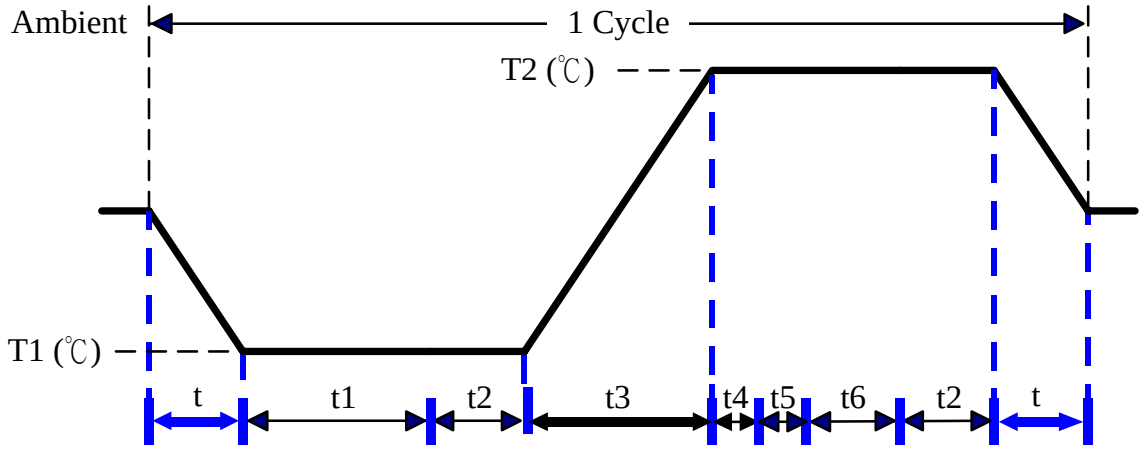
Test Site: AAEON QA Internal Lab.

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-B6T-150+LN2
Date of Calibration: 04/17/08
Serial Number: 6487KT

Test Condition:



Parameters	Description
T1	-25℃
T2	75℃
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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