AEC-6911

With 2.5” HDD

Environment Test Report

Report NO: 09P020017

Issued by:	Rex-Chang	/	*02/20/2009*
	Test Engineer		**Date**
Reviewed by:	Wenyuan Yang	/	*02/20/2009*
	Manager		**Date**

Test item list

1. *Test item list* ---------- 2
2. *Temperature rise test* ---------- 3
3. *Temperature cycle operation test* ---------- 7
4. *High temperature storage test* ---------- 8
5. *Low temperature storage test* ---------- 9
6. *Humidity test*---------- 10
7. *Cold start and hot start test* ---------- 11

Test Configuration:

Num	Item	Spec
1.	Control Box:	AEC- 6911
	1. Main Board	AAEON COM-945GSE Rev. A1.0 (BIOS: AEC-6911 BIOS V0.4)
	2. CPU	Intel N270 / 1.6GHz
	3. Industrial Memory	INNODisk 1GB * 1 / DDR2 667 / V59C1512804QCF3I
	5. Industrial HDD	Fujitsu MHV2040AC / 40GB
	6. I/O Board	T073 A1.2
	7. Adapter	FSP FSP120-AAB 19V/6.32A 120W

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056
http://www.aaeon.com.tw

Temperature rise test

Test Date: 02-19-2009

Test Product: AEC-6911

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:

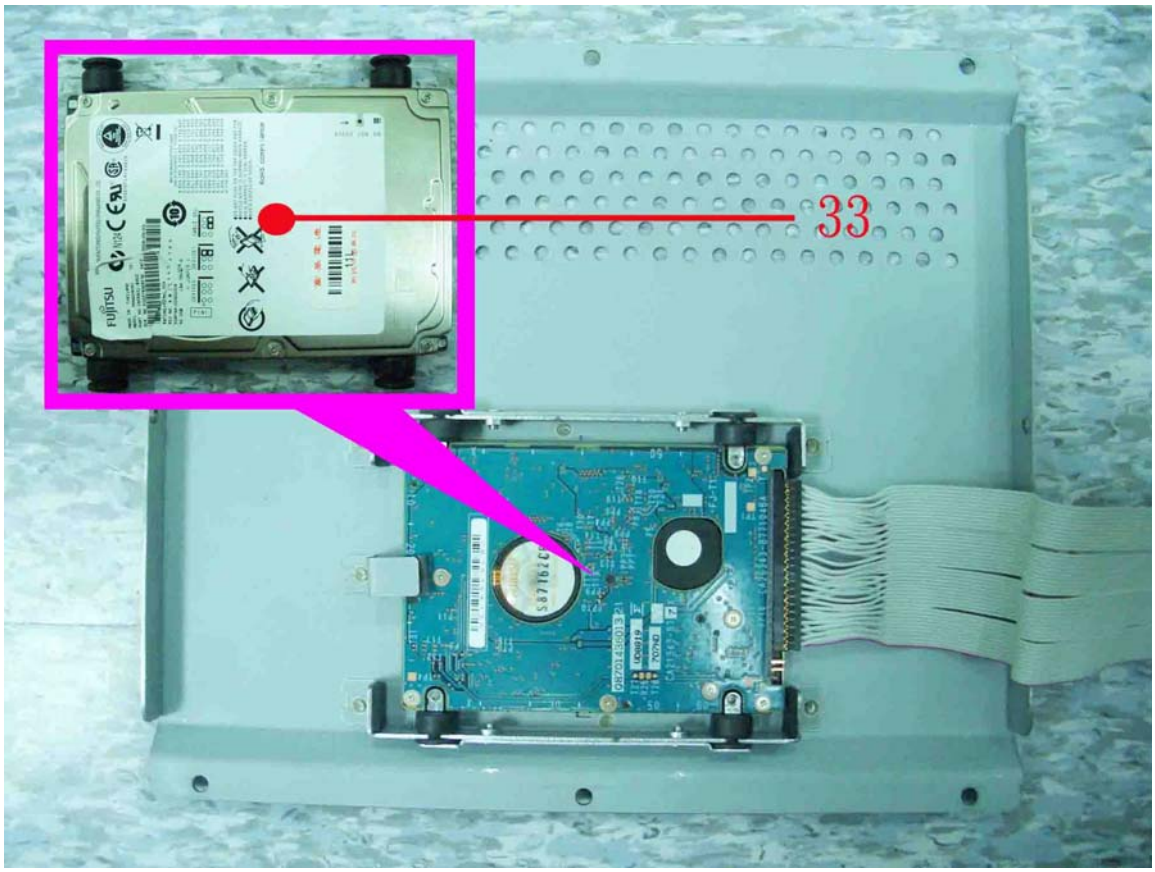
Ambient temperature: 50dC
Continuous running till thermal stability (within less than 1℃)

Test Software:

Windows XP / Run PassMark Burn In Test 5.1

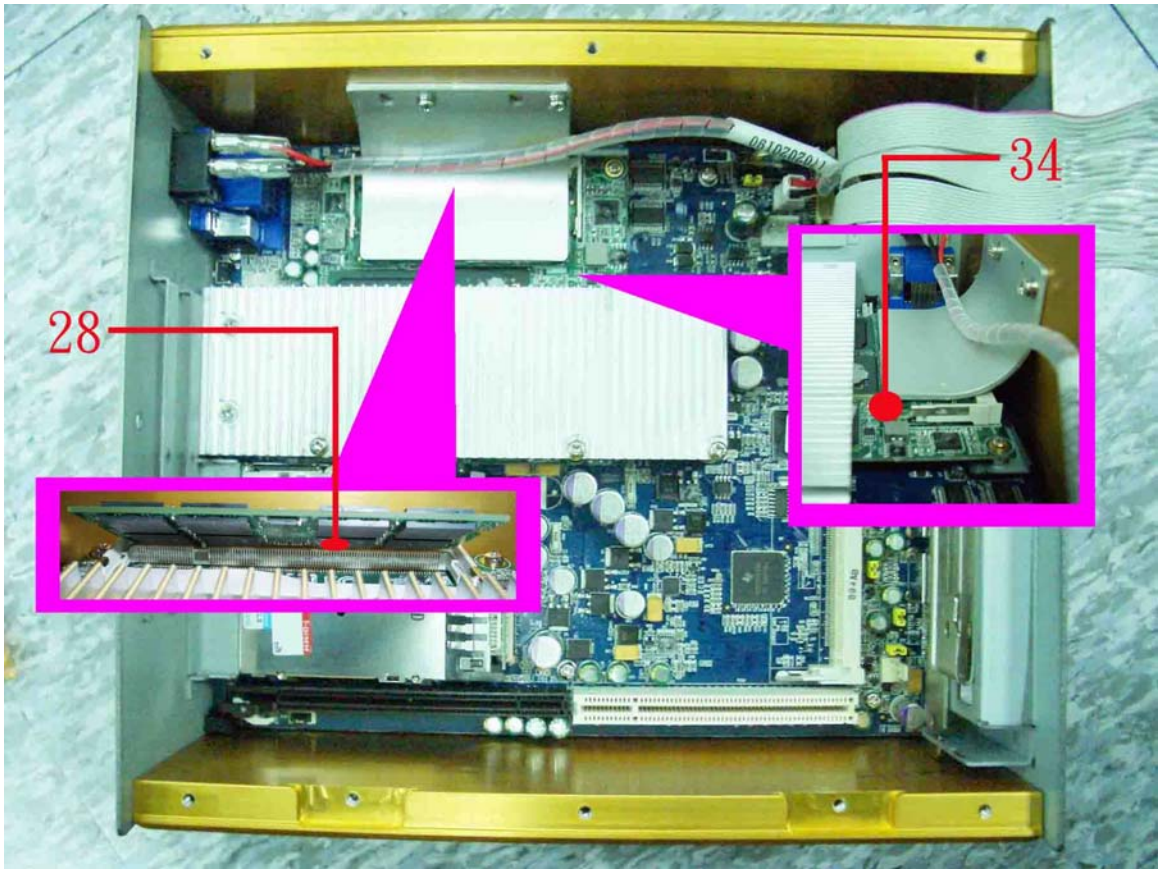
Terminal Recorder:

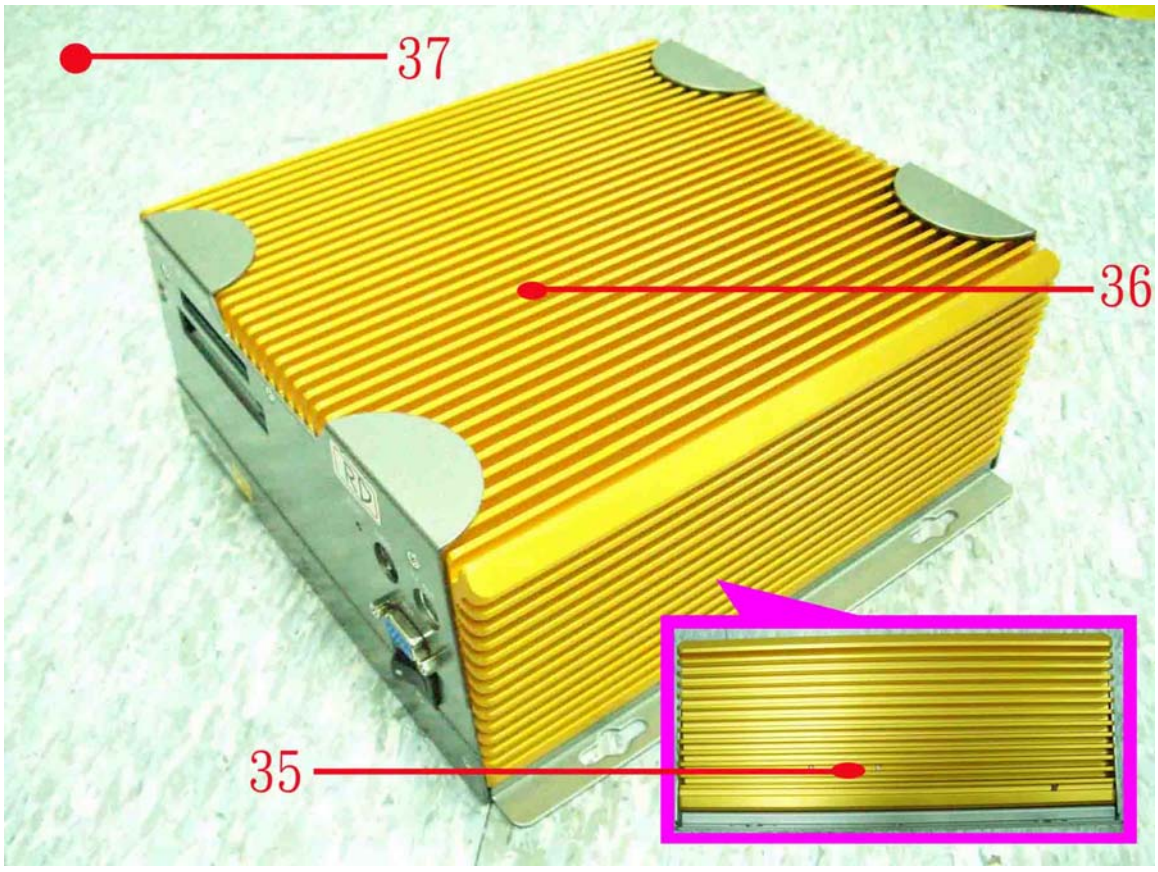
Measuring Thermal Couple Position：



AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056
http://www.aaeon.com.tw

Temperature rise test





AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056
http://www.aaeon.com.tw

Temperature rise test

Thermal profile data:

AEC-6911

Point \ Temp. Stage(℃)	Spec	50	25
I/O Board T073			
1. L6 - COIL.3.3uH.SMD.GOTREND.GSTC135P-3R3MF	125	63.2	38.2
2. L7 - COIL.2.2uH.SMD.GOTREND.GSTC135P-2R2MF	125	65.8	35.8
3. L8 - COIL.2.2uH.SMD.GOTREND.GSTC135P-2R2MF	125	68.5	38.5
4. L9 - COIL.3.3uH.SMD.GOTREND.GSTC135P-3R3MF	125	65.4	35.4
5. U17 - Regulator.LINEAR.LTC3780EUH#PBF	85	76.6	46.6
6. U15 - SSOP 28P.Clock Buffer.ICS.ICS9DB104FLFT	115	79.2	49.2
7. U34 - GigaBit Ethernet Chipset.Intel.PC82573L	95	70.1	40.1
8. U2 - SSOP16 MOSFET.LINEAR-TECHNOLOGY.LTC1778EGN	85	70.7	40.7
9. U11 - SOP 8P.Clock Output Buffer.ICS.ICS9112M-16LF-T	95	73.5	43.5
10. Q11 - TO-252AA.N-Channel MOSFET.FAIRCHILD.FDD5670	125	70.1	40.1
11. U19 - (TF) LPC to 4 UART.FINTEK.F81216DG	95	73.8	43.8
12. U27 - (TF) RS-485 Transceivers.SIPEX.SP485ECN-L	95	70.8	40.8
COM-945GSE			
13. Intel CPU.Diamondville.N270.1.6GHz/FSB 533MHz	90	81.5	51.5
14. U3 - (TF) Intel 945GSE Express Chipset.Intel.QG82945GSE SLB2R	105	76.5	46.5
15. U4 - (TF) ICH7M.Intel.NH82801GBM SL8YB	100	89.3	59.3
16. U15 - (TF) WatchDog.Fintek.F75111RG	115	76.5	46.5
17. U24 - (TF) Power Controller.for Dual Channel DDR.Intersil.ISL6537CRZ	100	95.1	65.1
18. U6 - (TF) PCI-E GigaBit Ethernet Chipset.Intel.WG82574L SLBA8	109	79.3	49.3
19. U22 - (TF) PHILIPS.74LVC07AD-T	125	78.1	48.1
20. U10 - (TF) CLOCK GENERATOR.IDT.9LPRS501PGLF	100	91.9	61.9
21. L10 - (TF) COIL. GOTREND.GSTC063P-1R5MN	125	105.8	75.8
22. U7 - (TF) SPI Bus Serial EEPROM.ATMEL.AT25080AN-10SU-2.7	125	73.9	43.9
23. Q9 - (TF) PWR. P-Channel MOSFET.ANPEC.APM4463KC-TRL	125	81.4	51.4
24. Q39 - (TF) PWR.Dual N MOSFET.30V.9.1A/6.8A.CET.CEM3138	125	87.7	57.7
25. U25 - (TF) IMVP6 Two Phase PWM.Intersil.ISL6262ACRZ-T	130	80.7	50.7
26. U19 - (TF) Voltage Detecting.System Resetting	110	77.8	47.8
27. Q25 - (TF) PWR. N-Channel.30V.12A.ANPEC.APM4410KC-TRL	125	105.2	75.2
28.Memory	85	75.2	45.2
29. Q37 - (TF) PWR.Dual N MOSFET.30V.9.1A/6.8A.CET.CEM3138	125	101.6	71.6
30. Q15 - (TF) REG.Linear Regulator.ATC.AP1084DL-ADJ	125	86.7	56.7
Any Tm value showed in red words which meaning the value over the Tc degree C of this device specification.			

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056
http://www.aaeon.com.tw

Temperature rise test

Point / Temp. Stage(℃)	Spec	50	25
COM-945GSE			
31. U9 - (TF) Switching Bulk.Regulator.withbuilt in Mosfet.FEELING.FP6102DR-LF	115	97.8	67.8
32. Q7 - (TF) PNP.Amp.ON.BCP69T1G	125	85.3	55.3
33.HDD	85	63.8	33.8
34.Control Box Inside Air Temperature	N/A	69.3	39.3
35.Control Box External Surface - 1	N/A	61.7	31.7
36.Control Box External Surface - 2	N/A	62.0	32.0
37.Chamber Air Temperature	N/A	50.1	20.1
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-6911)

Test Result:

No problem was found during the temperature rise operation test.

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056
http://www.aaeon.com.tw

Temperature cycle test

Test Date: 01-20~22-2009

Test Product: AEC-6911

Test Site: AAEON QA Internal Lab.

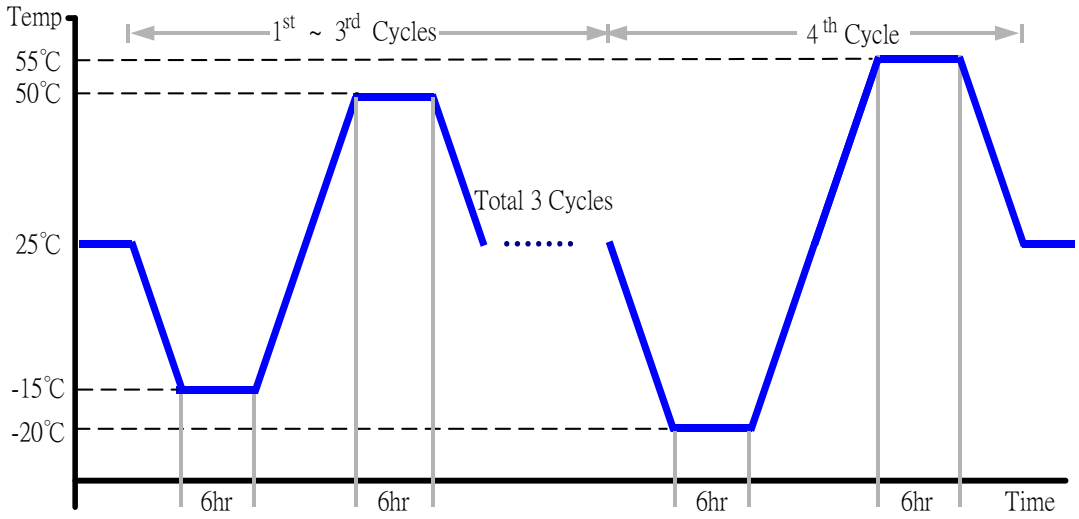
Test Standard: Reference IEC68-2-14 Testing procedures
Test N: Change of temperature Test

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: -15℃ (1~3 cycles)
   -20℃ (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-6911)

Test Result:

No problem was found during the temperature operation cycle test.

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056
http://www.aaeon.com.tw

High temperature storage test

Test Date: 02-15~17-2009

Test Product: AEC-6911

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-D7S-100+1 N2
Date of Calibration: 12/13/08
Serial Number: 3898

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-6911)

Test Result:

No problem was found after the high temperature storage test.

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056
http://www.aaeon.com.tw

Low temperature storage test

Test Date: 02-10~12-2009

Test Product: AEC-6911

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-D7S-100+1 N2
Date of Calibration: 12/13/08
Serial Number: 3898

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-6911)

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

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056
http://www.aaeon.com.tw

Humidity test

Test Date: 02-17~19-2009

Test Product: AEC-6911

Test Site: AAEON QA Internal Lab.

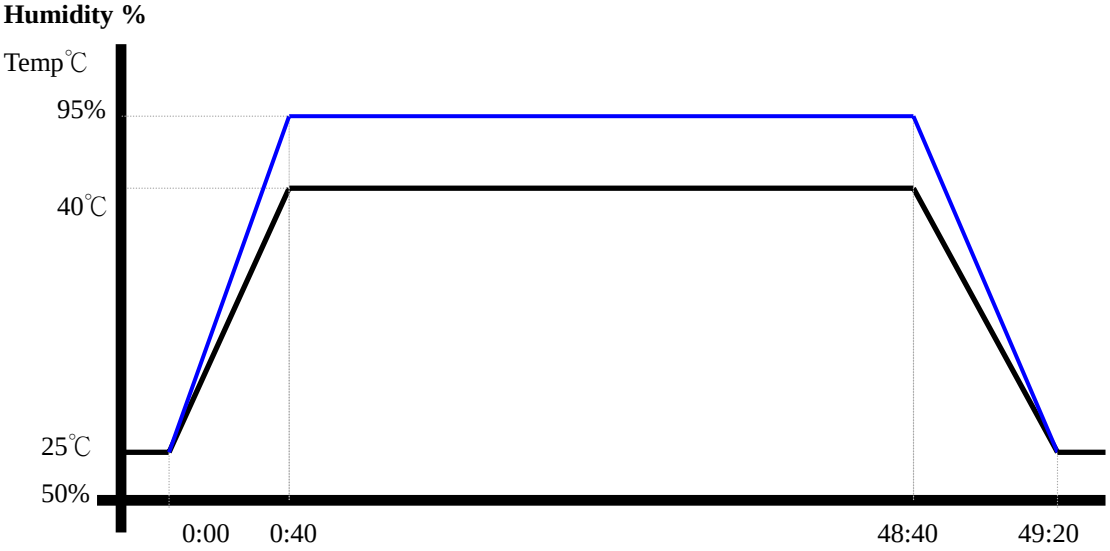
Test Standard: Reference IEC 68-2-3 Testing procedures
Test Ca: Damp heat, steady state (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D7S-100+1 N2
Date of Calibration: 12/13/08
Serial Number: 3898

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-6911)

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

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056
http://www.aaeon.com.tw

Cold start and hot start test

Test Date: 01-22~23-2009

Test Product: AEC-6911

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	-20℃
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.

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056
http://www.aaeon.com.tw