AIS-Q450

With 3.5” SATA HDD

Environment Test Report

Report NO: 09I020024

Issued by:	Rex-Chang	/	*08/10/2009*
	Test Engineer		**Date**
Reviewed by:	Wenyuan Yang	/	*08/10/2009*
	Manager		**Date**

Test item list

Test Configuration:

Num	Item	Spec
1.	Control Box:	AIS-Q450
	1. Main Board	AAEON IMBI-Q45 Rev. A0.1 (BIOS Ver: 1.0)
	2. CPU	Intel Core 2 Quad Q9400 / 2.66GHz
	3. Memory	Transcend 2GB * 2 / SEC K4B1G0846GD / DDR3
	5. SATA HDD	Seagate ST3160813AS / 160GB
	6. ATX Power Supply	CWT PSM220H / 220W

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Temperature rise test

Test Date: 08-05-2009

Test Product: AIS-Q450

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: 12/08/09
Serial Number: 12A323190

Test Condition:

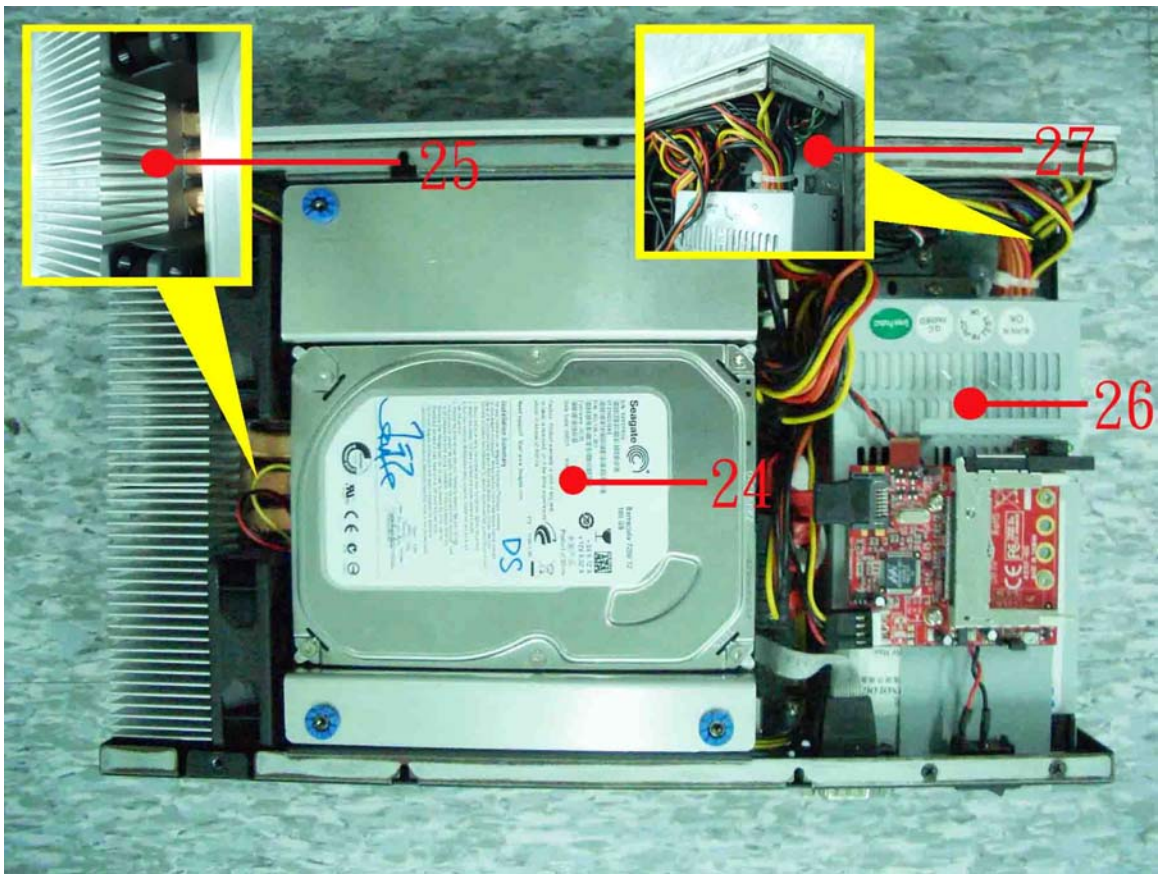
Ambient temperature: 40dC
Continuous running till thermal stability (within less than 1℃)

Test Software:

Windows XP / Run PassMark Burn In Test 5.1

Terminal Recorder:

Measuring Thermal Couple Position：



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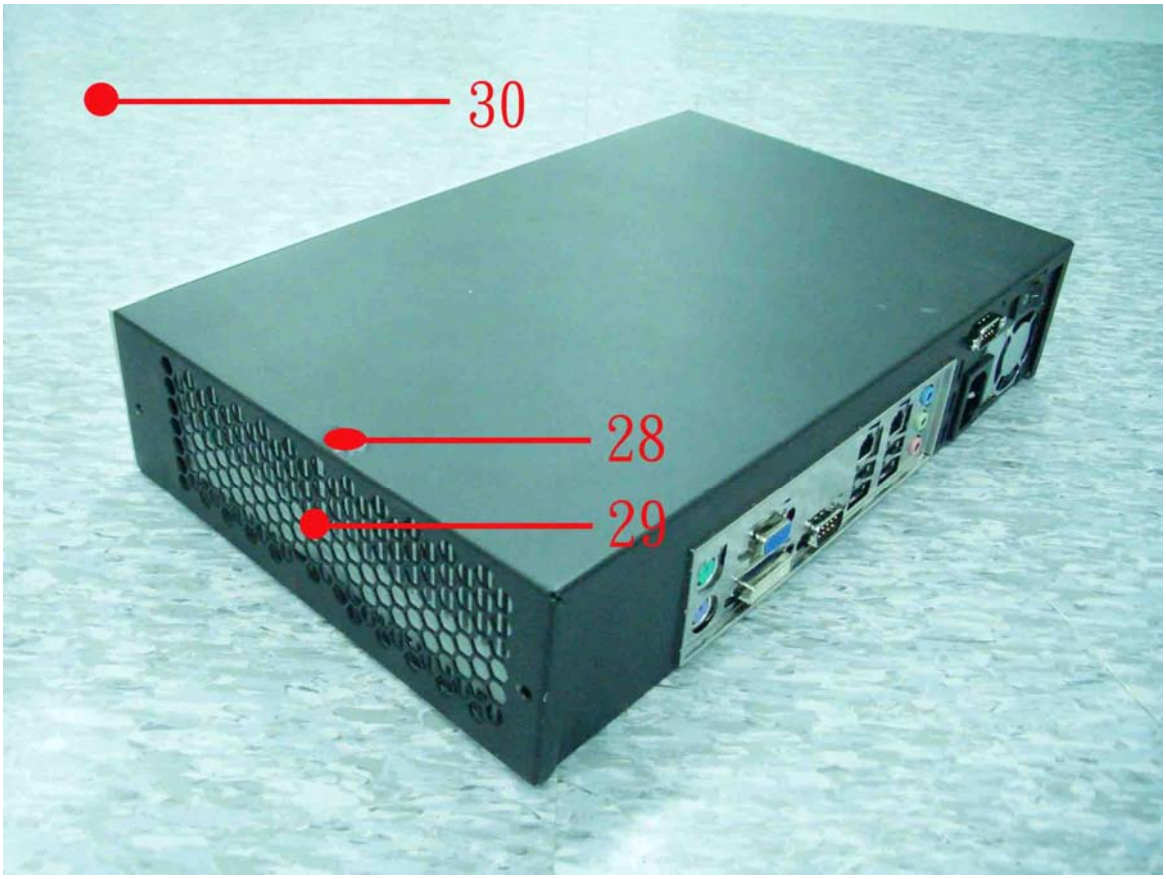
Temperature rise test



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Temperature rise test

Thermal profile data:

AIS-Q450

Point \ Temp. Stage(℃)	Spec	40	25
01. CPU	71.4	63.9	48.9
02. U13 - (TF) Chipset Intel.AC82Q45 SLB8A	105	63.9	48.9
03. U12 - (TF) Chipset ICH10DO.INTEL.AF82801JDO SLG8U	105	63.6	48.6
04. L6 - (TF) COIL.GOTREND.GSTC135P-2R2MF	125	56.5	41.5
05. Q4 - (TF) PWR.N-channel Power MOSFET.FAIRCHILD.FDD8880	125	59.4	44.4
06. Q8 - (TF) PWR.N-channel Power MOSFET.FAIRCHILD.FDD8896_NL	125	59.7	44.7
07. U5 - (TF) Digital Video Level Shifter.for DP to HDMI.PERICOM.PI3VDP411LSTZDE	85	61.7	46.7
08. U6 - (TF) RS-232 Driver&Receivers.TI.GD75232DBR	95	60.3	45.3
09. U9 - (TF) GigaBit Ethernet Chipset.INTEL.WG82567LM SLAVV	115	66.4	51.4
10. U14 - (TF) PCI-E GigaBit Ethernet Chipset.Intel.WG82574L SLBA8	109	58.5	43.5
11. U15 - (TF)7.1Channel HD Audio Codec.REALTEK.ALC888-VC2-GR	100	58.7	43.7
12.U16 - (TF) Differential Channel /Demux for PCI-E.PERICOM.PI3PCIE2612-AZFE	85	67.9	52.9
13. U27 - (TF) Super I/O.ITE.IT8718F/HX-L	100	62.8	47.8
14. U28 - (TF) 32 Mbit SPI Flash.Winbond.W25X32VSSIG	105	60.1	45.1
15. U29 - (TF) CLOCK GENERATOR.SILEGO.SLG505YC264BTTR	100	60.7	45.7
16. U18 - (TF) MosFET Driver.Intelsil.ISL6614ACBZ	100	67.9	52.9
17. U23 - (TF) VR11.1 4Phase PWM Controler.Intersil.ISL6334CRZ	100	79.3	64.3
18. U35 - (TF) REG.Linear Regulator.Diodes.AP1084DG-13	100	63.6	48.6
19. Q81 - (TF) PWR .N-Channel PowerMosfet.ANPEC.APM3054NUC-TR-L	125	59.4	44.4
20. U30 - (TF) OP AMP.NS.LM358M-NOPB	100	60.6	45.6
21. U19 - (TF) MOSFET Drivers.INTERSIL.ISL6612ACBZ	100	63.7	48.7
22. Memory - 1	85	75.9	60.9
23. Memory - 2	85	55.6	40.6
24. HDD	60	48.2	33.2
25. Control Box Inside Air Temperature - 1	N/A	55.4	40.4
26. Control Box Inside Air Temperature - 2	N/A	43.2	28.2
27. Control Box Inside Air Temperature - 3	N/A	43.4	28.4
28. Control Box External Surface - 1	N/A	48.2	33.2
29. Control Box External Surface - 2	N/A	54.3	39.3
30. Chamber Air Temperature	N/A	39.6	24.6
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 (AIS-Q450)

Test Result:

No problem was found during the temperature rise operation test.

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Temperature cycle test

Test Date: 07-31-2009 ~ 08~03-2009

Test Product: AIS-Q450

Test Site: AAEON QA Internal Lab.

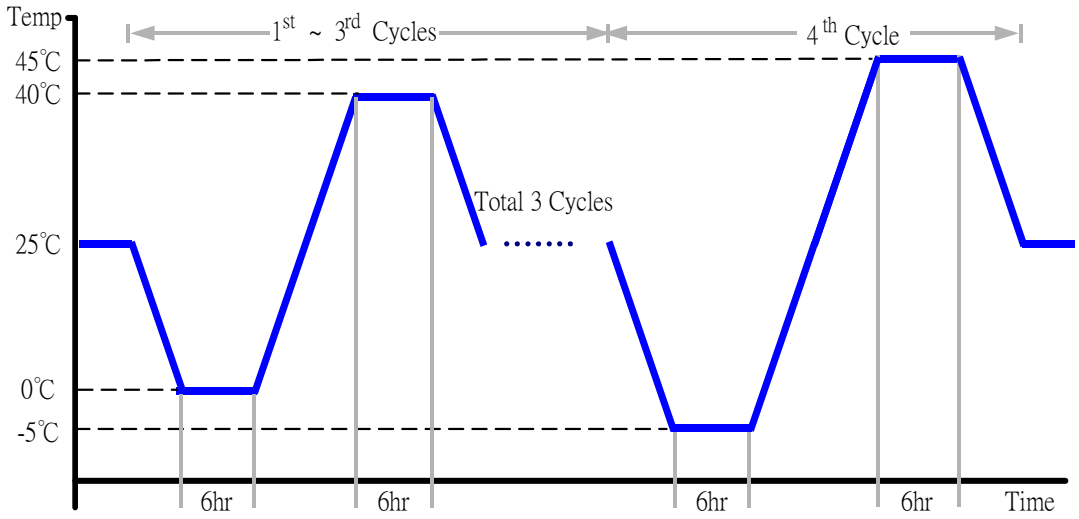
Test Standard: Reference IEC68-2-14 Testing procedures
Test N: Change of temperature Test

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D4L+-100
Date of Calibration: 05/07/09
Serial Number: 1241

Test Condition:

1. Test Low Temperature: 0℃ (1~3 cycles)
   -5℃ (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 (AIS-Q450)

Test Result:

No problem was found during the temperature operation cycle test.

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High temperature storage test

Test Date: 07-29~31-2009

Test Product: AIS-Q450

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-D4L+-100
Date of Calibration: 05/07/09
Serial Number: 1241

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 (AIS-Q450)

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

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Low temperature storage test

Test Date: 07-27~29-2009

Test Product: AIS-Q450

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-D4L+-100
Date of Calibration: 05/07/09
Serial Number: 1241

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 (AIS-Q450)

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

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Humidity test

Test Date: 07-24~27-2009

Test Product: AIS-Q450

Test Site: AAEON QA Internal Lab.

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

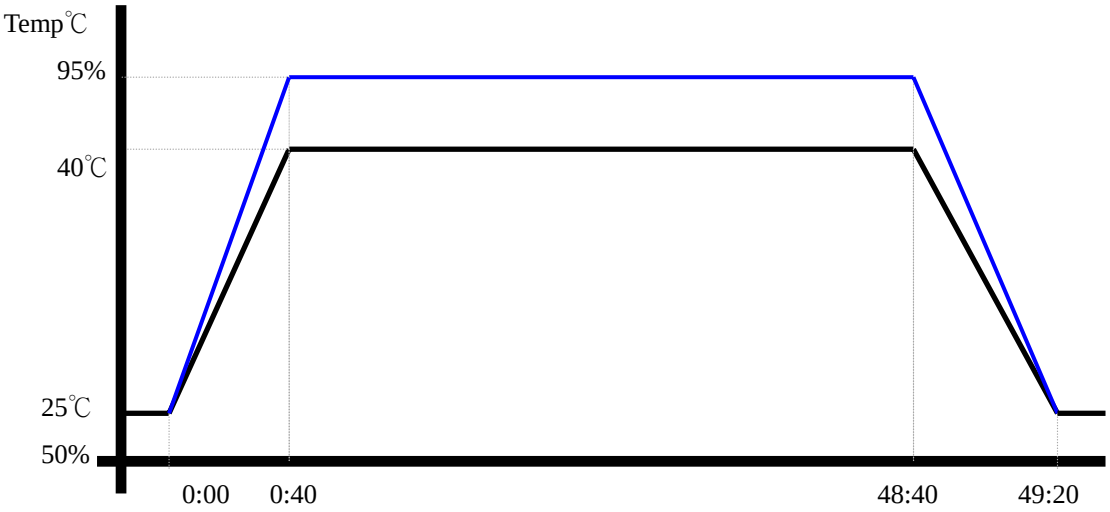
Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D4L+-100
Date of Calibration: 05/07/09
Serial Number: 1241

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:

Humidity %



Sample Configuration & Quantity Under Test:
Quantity: 1 (AIS-Q450)

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

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Cold start and hot start test

Test Date: 08-03~04-2009

Test Product: AIS-Q450

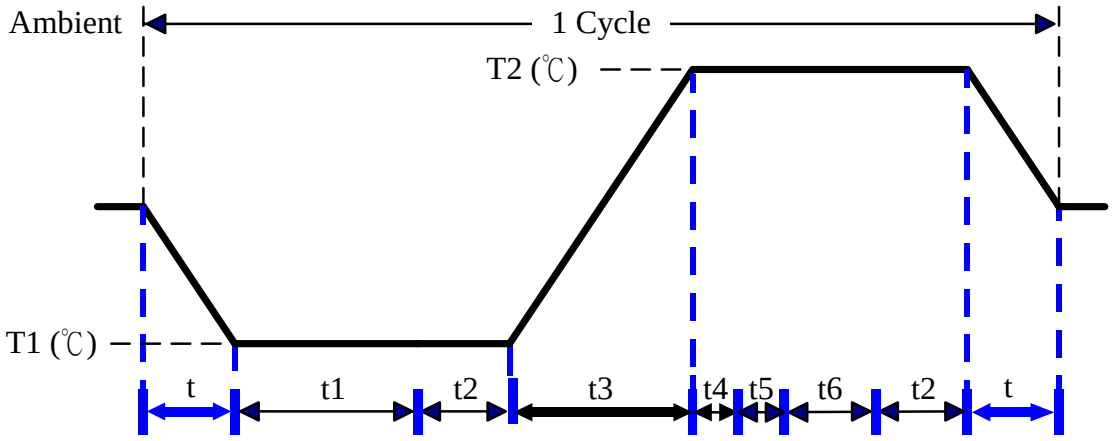
Test Site: AAEON QA Internal Lab.

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-D4L+-100
Date of Calibration: 05/07/09
Serial Number: 1241

Test Condition:



Parameters	Description
T1	-5℃
T2	45℃
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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