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ISO-17025 Certified  
ISO-14000 Certified  
**ADVANTECH CO., LTD.**

# QA Test Report

## ACP-2320MB

### ( Product Reliability Test )

Report No : 04S062A0

Report Date : December 20, 2004

Issue Stamp

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***Charles Chang***  
Manager of QA Department

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Approval

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Test Engineer

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[www.advantech.com](http://www.advantech.com)

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*QA Lab Reliability test*

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# ACP-2320MB Product Configuration Photo Report No.04S062A0

*QA Lab Reliability test*

**Photo I:**



**ACP-2320MB front view**

# ACP-2320MB Product Configuration Photo Report No.04S062A0

*QA Lab Reliability test*

**Photo II:**



**ACP-2320MB rear view**

# ACP-2320MB Product Configuration Photo Report No.04S062A0

*QA Lab Reliability test*

**Photo III:**



**ACP-2320MB without top cover top view**

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*QA Lab Reliability test*

**Test Date :** October 20, 2004 ~ October 21, 2004

**Test Site :** Advantech QA Environment Lab

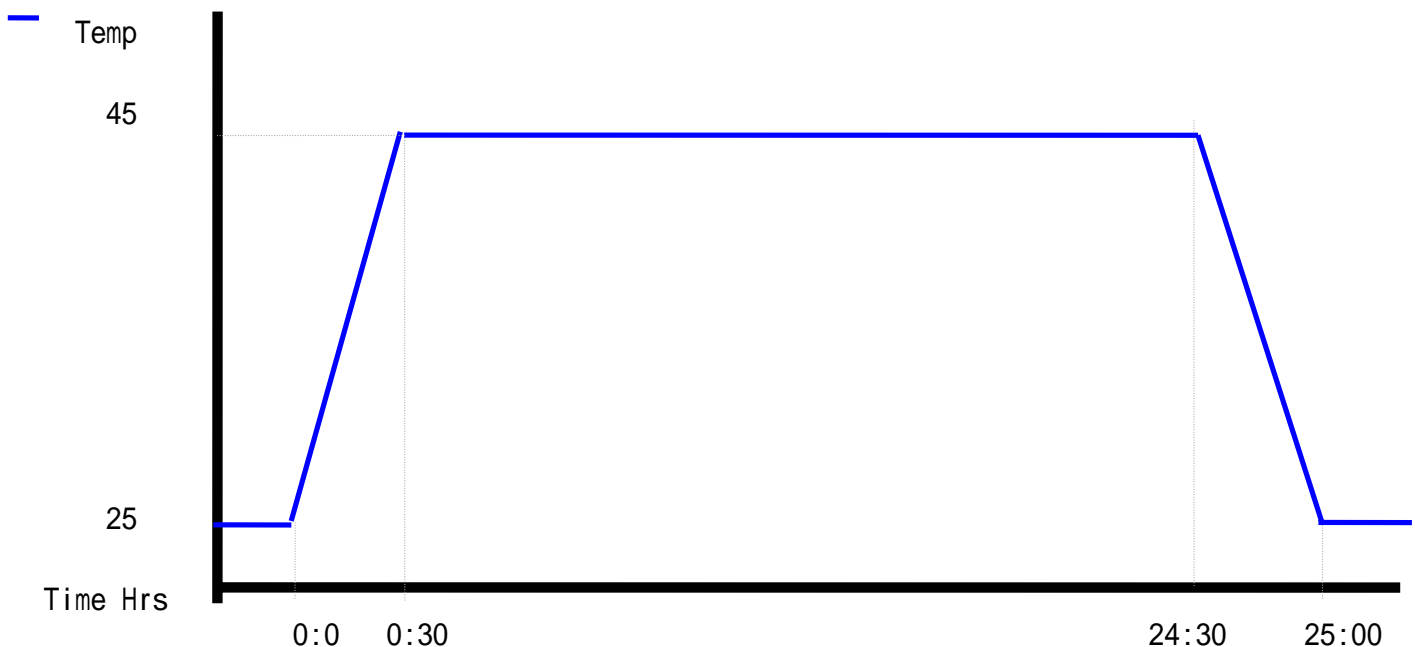
**Performed By :** Knight Hu

**Purpose :** The DVT test

**Test Standard :** Reference IEC68-2-2 Testing procedures  
Test Bb : Dry Heat Test

**Test Condition :**

1. Test Temperature : 45
2. Test Times : 24Hrs
3. Test Software : Running HCT 11.2 in Win XP
4. Test Environment Curve :



*QA Lab Reliability test*

**Test Equipment :** Programmable Temperature & Humidity Chamber  
K.SON. CO. LTD.  
Model : THS-DL4+/-150  
Date of Calibration : 5/17/2004

**Sample Configuration & Quantity Under Test :**

Using one ACP-2320MB Advantech Computing Platform system with the following options installed :

1. M/B: AIMB-742 REV.A1
2. CPU: Intel P4 3.0Ghz
3. RAM: Apacer 256MB UNB PC2700 CL2.5
4. HDD: Seagate ST340015A
5. CD-ROM: ASUS SCD-2400
6. Sata HDD: Seagate ST380023AS  
HITACHI HDS722580VLSA80
7. HDD tray fan: DYNAEON DF1206BB
8. Power: ZIPPY P2U-6300P
9. System fan: Delta AFB0812SH\*2

**Performance Criteria :**

Electronic function check:

1. All system functions must be checked with appropriate testing programs and should pass the inspection.
2. Running Win XP for OS, the system should not have degradation in its performance.

Mechanical function check:

1. The switch button and cover slot should work properly without any interference.
2. All screws should be tightened up appropriately.



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*QA Lab Reliability test*

**Test Result :**

There is no damage in electronic and mechanical functions.  
Degradation has not been found.  
Performance is maintained with no incurable physical damage or degradation.

**Conclusion :**

**Passed.**

The ACP-2320MB Advantech Computing Platform system meets high temperature operation test.



**ACP-2320MB test photo**

*QA Lab Reliability test*

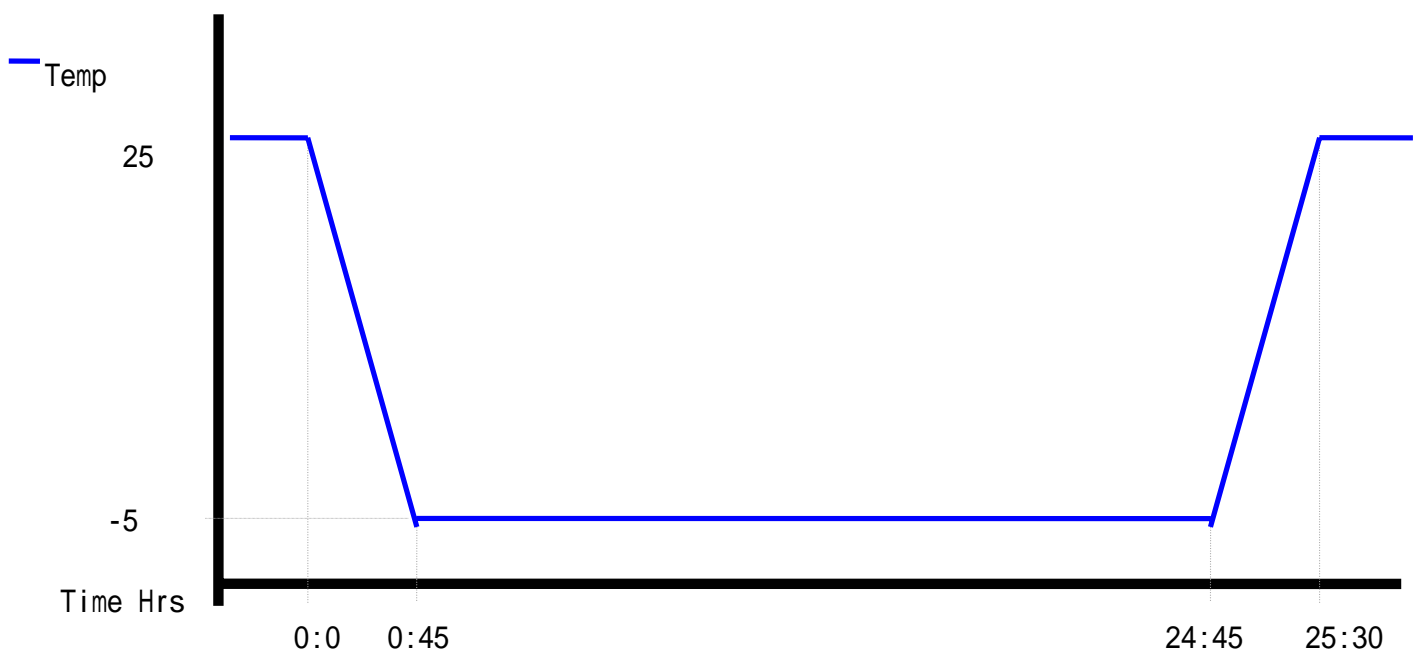
**Test Date :** October 22,2004 ~ October 23,2004  
**Test Site :** Advantech QA Environment Lab  
**Performed By:** Knight Hu

**Purpose :** The DVT test.

**Test Standard :** Reference IEC68-2-1 Testing procedures  
 Test Ab : Cold Test

**Test Condition :**

1. Test Temperature : -5
2. Test Times : 24Hrs
3. Test Software : Running HCT 11.2 in Win XP
4. Test Environment Curve :



*QA Lab Reliability test*

**Test Equipment :** Programmable Temperature & Humidity Chamber  
K.SON. CO. LTD.  
Model : THS-DL4+/-150  
Date of Calibration : 5/17/2004

**Sample Configuration & Quantity Under Test :**

Using one ACP-2320MB Advantech Computing Platform system with the following options installed :

1. M/B: AIMB-742 REV.A1
2. CPU: Intel P4 3.0Ghz
3. RAM: Apacer 256MB UNB PC2700 CL2.5
4. HDD: Seagate ST340015A
5. CD-ROM: ASUS SCD-2400
6. Sata HDD: Seagate ST380023AS  
HITACHI HDS722580VLSA80
7. HDD tray fan: DYNAEON DF1206BB
8. Power: ZIPPY P2U-6300P
9. System fan: Delta AFB0812SH\*2

**Performance Criteria :**

Electronic function check:

1. All system functions must be checked with appropriate testing programs and should pass the inspection.
2. Running Win XP for OS, the system should not have degradation in its performance.

Mechanical function check:

1. The switch button and cover slot should work properly without any interference.
2. All screws should be tightened up appropriately.

*QA Lab Reliability test***Test Result :**

There is no damage in electronic and mechanical functions.  
Degradation has not been found.  
Performance is maintained with no incurable physical damage or degradation.

**Conclusion :****Passed.**

The ACP-2320MB Advantech Computing Platform system meets low temperature operation test.



*QA Lab Reliability test*

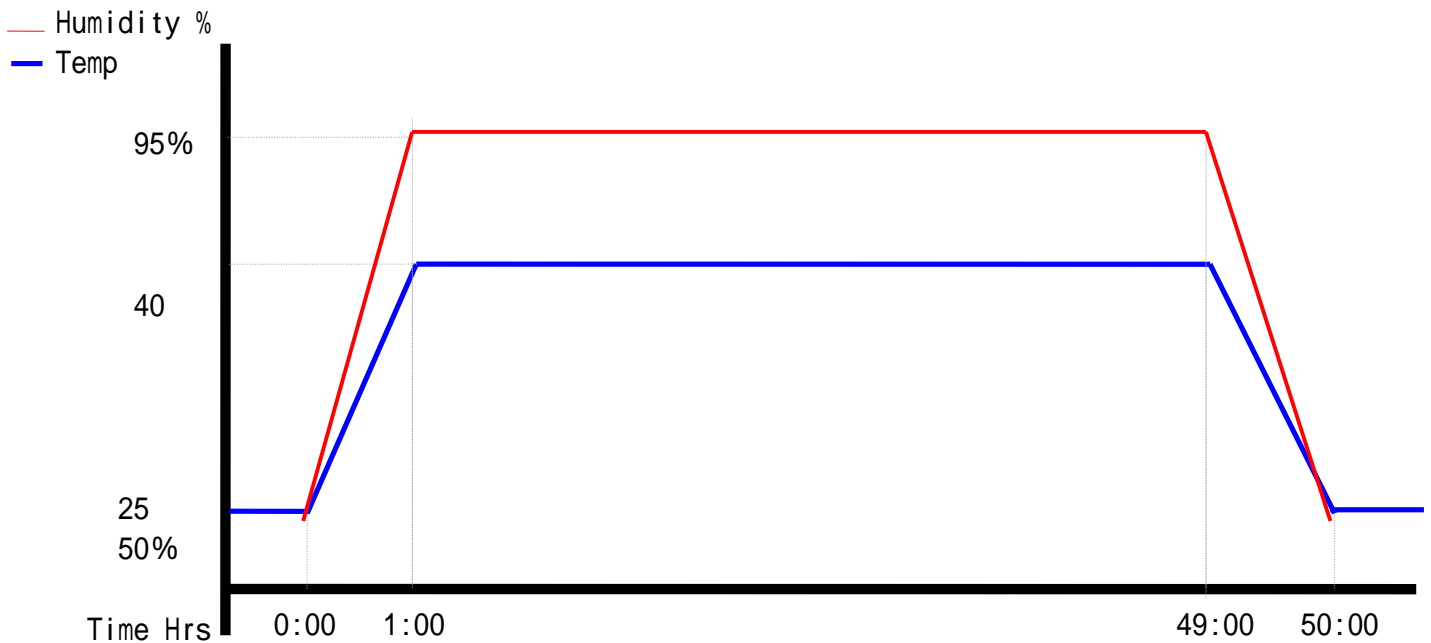
**Test Date :** October 23, 2004 ~ October 26, 2004  
**Test Site :** Advantech QA Environment Lab  
**Performed By :** Knight Hu

**Purpose :** The DVT test.

**Test Standard :** Reference IEC68-2-3 Testing procedures  
 Test Ca : Damp Heat steady state Test

**Test Condition :**

1. Test Temperature : 40
2. Test Humidity : 95%
3. Test Times : 48Hrs
4. Test Software : Running HCT 11.2 in Win XP
5. Test Environment Curve :



*QA Lab Reliability test*

**Test Equipment :** Programmable Temperature & Humidity Chamber  
K.SON. CO. LTD.  
Model : THS-DL4+/-100  
Date of Calibration : 5/17/2004

**Sample Configuration & Quantity Under Test :**

Using one ACP-2320MB Advantech Computing Platform system with the following options installed :

1. M/B: AIMB-742 REV.A1
2. CPU: Intel P4 3.0Ghz
3. RAM: Apacer 256MB UNB PC2700 CL2.5
4. HDD: Seagate ST340015A
5. CD-ROM: ASUS SCD-2400
6. Sata HDD: Seagate ST380023AS  
HITACHI HDS722580VLSA80
7. HDD tray fan: DYNAEON DF1206BB
8. Power: ZIPPY P2U-6300P
9. System fan: Delta AFB0812SH\*2

**Performance Criteria :**

Electronic function check:

1. All system functions must be checked with appropriate testing programs and should pass the inspection.
2. Running Win XP for OS, the system should not have degradation in its performance.

Mechanical function check:

1. The switch button and cover slot should work properly without any interference.
2. All screws should be tightened up appropriately.



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*QA Lab Reliability test*

**Test Result :**

There is no damage in electronic and mechanical functions.  
Degradation has not been found.  
Performance is maintained with no incurable physical damage or degradation.

**Conclusion :**

**Passed.**

The ACP-2320MB Advantech Computing Platform system meets humidity test.



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*QA Lab Reliability test*

**Test Date :** October 27, 2004 ~ October 30, 2004

**Test Site :** Advantech QA Environment Lab

**Performed By:** Knight Hu

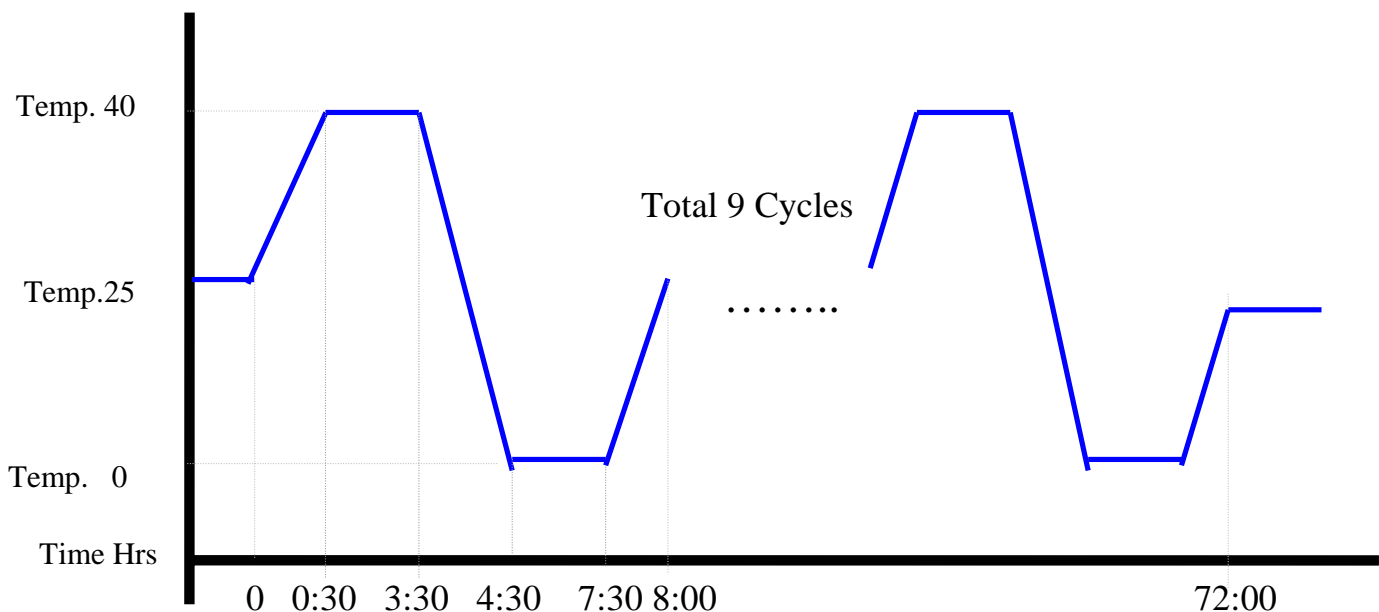
**Purpose :** The DVT test.

**Test Standard :** Reference IEC68-2-14 Testing procedures

Test N: Change of temperature Test

**Test Condition :**

1. Test High Temperature: 40
2. Test Low Temperature: 0
3. Test dwell time: 3Hrs
4. Temperature slope: 40 /hr
5. Test cycle: 9 cycles
6. Test Software: Running HCT 11.2 in Win XP
7. Test Environment Curve:





*QA Lab Reliability test*

**Test Equipment :** Programmable Temperature & Humidity Chamber  
K.SON. CO. LTD.  
Model : THS-DL4+/-150  
Date of Calibration : 5/17/2004

**Sample Configuration & Quantity Under Test :**

Using one ACP-2320MB Advantech Computing Platform system with the following options installed :

1. M/B: AIMB-742 REV.A1
2. CPU: Intel P4 3.0Ghz
3. RAM: Apacer 256MB UNB PC2700 CL2.5
4. HDD: Seagate ST340015A
5. CD-ROM: ASUS SCD-2400
6. Sata HDD: Seagate ST380023AS  
HITACHI HDS722580VLSA80
7. HDD tray fan: DYNAEON DF1206BB
8. Power: ZIPPY P2U-6300P
9. System fan: Delta AFB0812SH\*2

**Performance Criteria :**

Electronic function check:

1. All system functions must be checked with appropriate testing programs and should pass the inspection.
2. Running Win XP for OS, the system should not have degradation in its performance.

Mechanical function check:

1. The switch button and cover slot should work properly without any interference.
2. All screws should be tightened up appropriately.

*QA Lab Reliability test***Test Result :**

There is no damage in electronic and mechanical functions.  
Degradation has not been found.  
Performance is maintained with no incurable physical damage or degradation.

**Conclusion :**

**Passed.**

The ACP-2320MB Advantech Computing Platform system meets temperature cycle test.



*QA Lab Reliability test*

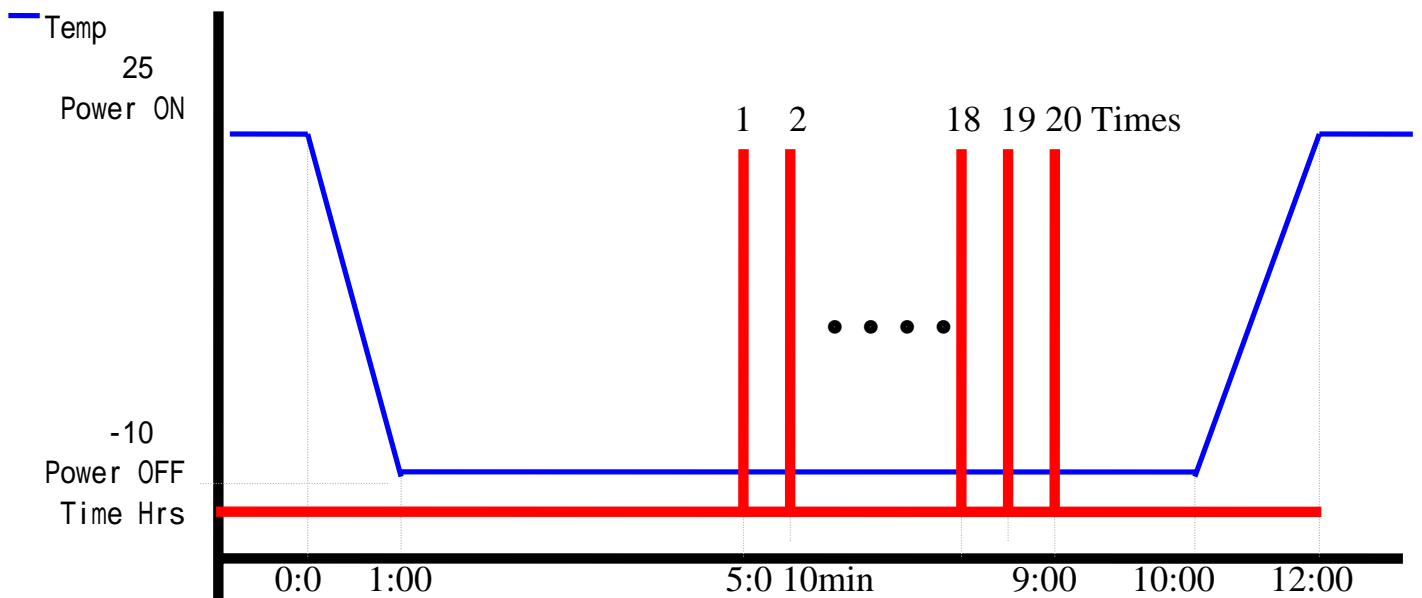
**Test Date :** November 2, 2004  
**Test Site :** Advantech QA Environment Lab  
**Performed By :** Knight Hu

**Purpose :** The DVT test.

**Test Standard :** Reference IEC68-2-1 Testing procedures  
 Test Ab : Cold Test

**Test Condition :**

1. Test Temperature : -10
2. Test Times : 8Hrs
  - Step: A. System power off 4 hours.
  - B. System power on , then 2 minutes later, system power off.
  - C. After 10 minutes, system power on again.
  - D. Two minutes later, system power off again.
  - E. Recycle step C& D for 20 times.
3. Number of test : 20 times
4. Test Software : MS-DOS
5. Test Environment Curve :



*QA Lab Reliability test*

**Test Equipment :** Programmable Temperature & Humidity Chamber  
K.SON. CO. LTD.  
Model : THS-DL4+/-150  
Date of Calibration : 5/17/2004

**Sample Configuration & Quantity Under Test :**

Using one ACP-2320MB Advantech Computing Platform system with the following options installed :

1. M/B: AIMB-742 REV.A1
2. CPU: Intel P4 3.0Ghz
3. RAM: Apacer 256MB UNB PC2700 CL2.5
4. HDD: Seagate ST340015A
5. CD-ROM: ASUS SCD-2400
6. Sata HDD: Seagate ST380023AS  
HITACHI HDS722580VLSA80
7. HDD tray fan: DYNAEON DF1206BB
8. Power: ZIPPY P2U-6300P
9. System fan: Delta AFB0812SH\*2

**Performance Criteria :**

Electronic function check:

1. All system functions must be checked with appropriate testing programs and should pass the inspection.
2. Running Win XP for OS, the system should not have degradation in its performance.

**Test Result :**

There is no damage in electronic and mechanical functions.  
Degradation has not been found.  
Performance is maintained with no incurable physical damage or degradation.

*QA Lab Reliability test*

**Conclusion :**

**Passed.**

The ACP-2320MB Advantech Computing Platform system meets cold start test.

# ACP-2320MB High temp./humi. Storage test Report No.04S062A0

QA Lab Reliability test

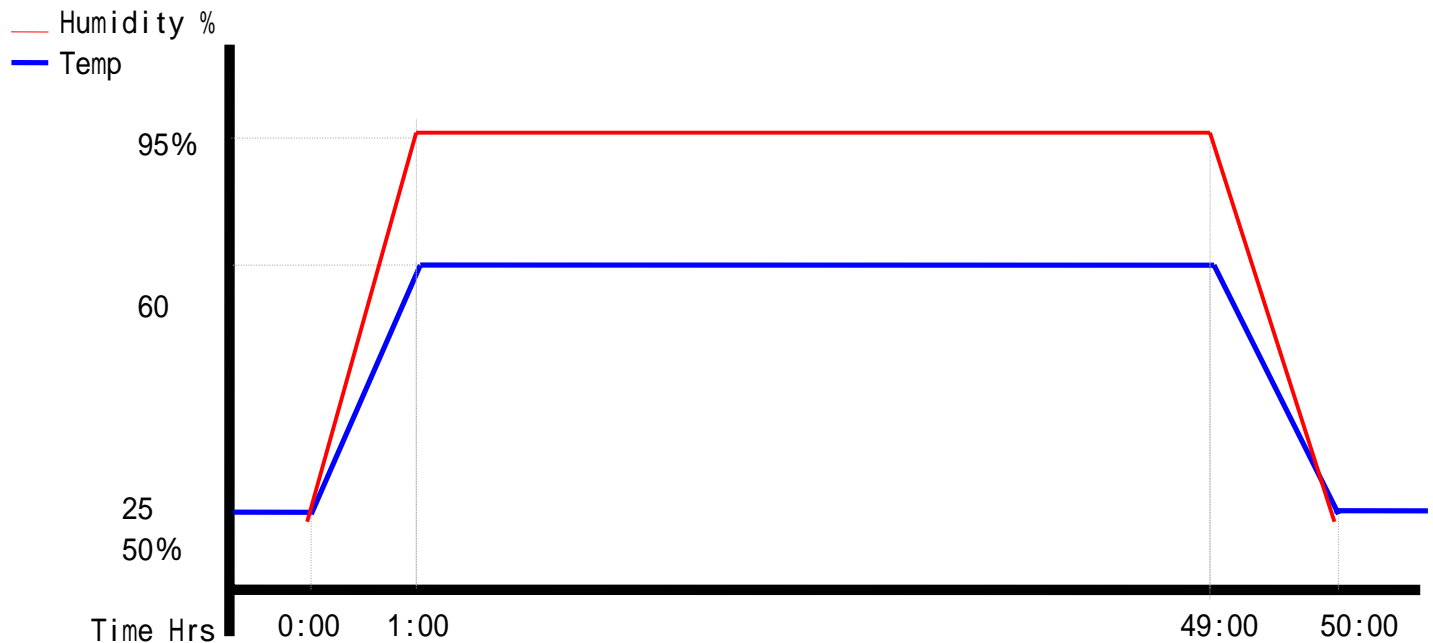
**Test Date :** November 12, 2003 ~ November 14,2003  
**Test Site :** Advantech QA Environment Lab  
**Performed By :** Knight Hu

**Purpose :** The DVT test.

**Test Standard :** Reference IEC68-2-3 Testing procedures  
Test Ca : Damp heat steady state test

**Test Condition :**

1. Test Temperature : 60
2. Test Humidity : 95%
3. Test Times : 48Hrs
4. Test Software : Running HCT 11.2 in Win XP
5. Test Environment Curve :



*QA Lab Reliability test*

**Test Equipment :** Programmable Temperature & Humidity Chamber  
K.SON. CO. LTD.  
Model : THS-DL4+/-150  
Date of Calibration : 5/17/2004

**Sample Configuration & Quantity Under Test :**

Using one ACP-2320MB Advantech Computing Platform with the following options installed :

1. M/B: AIMB-742 REV.A1
2. CPU: Intel P4 3.0Ghz
3. RAM: Apacer 256MB UNB PC2700 CL2.5
4. HDD: Seagate ST340015A
5. CD-ROM: ASUS SCD-2400
6. Sata HDD: Seagate ST380023AS  
HITACHI HDS722580VLSA80
7. HDD tray fan: DYNAEON DF1206BB
8. Power: ZIPPY P2U-6300P
9. System fan: Delta AFB0812SH\*2

**Performance Criteria :**

Electronic function check:

1. All system functions must be checked with appropriate testing programs and should pass the inspection.
2. Running Win XP for OS, the system should not have degradation in its performance.

Mechanical function check:

1. The switch button covers, slot can work properly without any interference.
2. All screws are tightened up appropriately.
3. All gaps on the surface are appropriately.
4. Assembling/disassembling the system enclosure or mechanical parts must be smooth, and no deformed parts found.

*QA Lab Reliability test*

**Test Result :**

There is no damage in electronic and mechanical functions.  
Degradation has not been found.  
Performance is maintained with no incurable physical damage or degradation.

**Conclusion :**

**Passed.**

The ACP-2320MB Advantech Computing Platform meets high temperature and humidity storage test.



*QA Lab Reliability test*

**Test Date :** November 8, 2004 ~ November 9, 2004

**Test Site :** Advantech QA Environment Lab

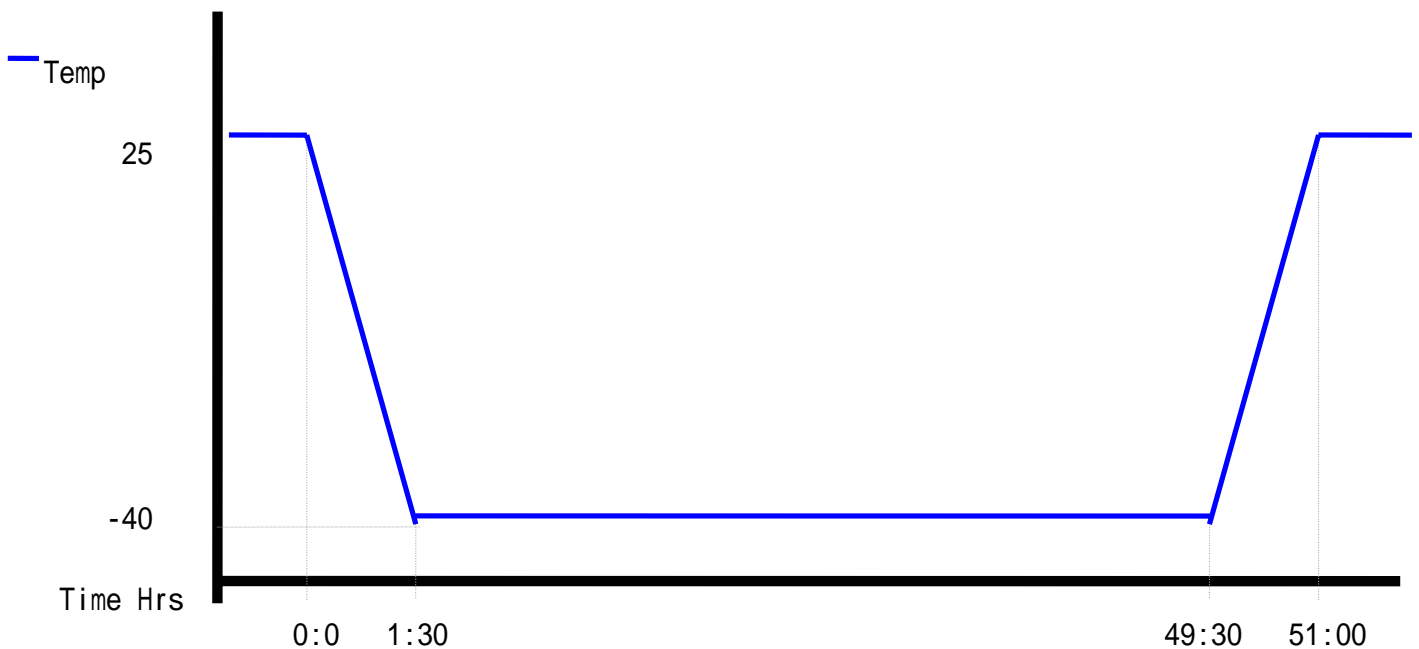
**Performed By :** Knight Hu

**Purpose :** The DVT test.

**Test Standard :** Reference IEC68-2-1 Testing procedures  
Test Ab : Cold Test

**Test Condition :**

- 1. Test Temperature : -40
- 2. Test Times : 48Hrs
- 3. Test Environment Curve :



*QA Lab Reliability test***Test Equipment :** Programmable Temperature & Humidity Chamber

K. SON. INS. Tech. Corp.

Model : THS-DL4+- 150

Date of Calibration : 05/17/2004

**Sample Configuration & Quantity Under Test :**

Using one ACP-2320MB Advantech Computing Platform system with the following options installed :

1. M/B: AIMB-742 REV.A1
2. CPU: Intel P4 3.0Ghz
3. RAM: Apacer 256MB UNB PC2700 CL2.5
4. HDD: Seagate ST340015A
5. CD-ROM: ASUS SCD-2400
6. Sata HDD: Seagate ST380023AS  
HITACHI HDS722580VLSA80
7. HDD tray fan: DYNAEON DF1206BB
8. Power: ZIPPY P2U-6300P
9. System fan: Delta AFB0812SH\*2

**Performance Criteria :**

## Electronic function check:

1. All system functions must be checked with appropriate testing programs and should pass the inspection.
2. Running Win XP for OS, the system should not have degradation in its performance.

## Mechanical function check:

- 1.The switch button covers, slot can work properly without any interference.
- 2.All screws are tighten up appropriately.
- 3.All gaps on the surface are appropriately.
- 4.Assembling/disassembling the system enclosure or mechanical parts must be smooth, and no deformed parts found.

*QA Lab Reliability test*

**Test Result :**

There is no damage in electronic and mechanical functions.  
Degradation has not been found.  
Performance is maintained with no incurable physical damage or degradation.

**Conclusion :**

**Passed.**

The ACP-2320MB Advantech Computing Platform system meets low temperature storage test.

*QA Lab Reliability test*

**Test Date** : November 25, 2004  
**Test Site** : Advantech QA Environment Lab  
**Performed By** : Knight Hu

**Purpose** : The DVT test.

**Test Standard** : Reference IEC68-2-2 Testing procedures  
Test Bb : Dry Heat Test

**Test Condition :**

1. Test Temperature : 25 /40 /45
2. Test Times : Each temperature 4 Hrs
3. Test Software : Running HCT 11.2 in Win XP

**Test Equipment** : Programmable Temperature & Humidity Chamber  
K.SON. INS. Tech. Corp..  
Model : THS-DL4 +-150  
Date of Calibration : 05/17/2004

DATA LOGGER  
YOKOGAWA CO. LTD.  
Model : uP-1800  
S/N : 47XS0063  
Date of Calibration : 8/9/2004

*QA Lab Reliability test*

**Sample Configuration & Quantity Under Test :**

Using one ACP-2320MB Advantech Computing Platform with the following options installed :

1. M/B: AIMB-742 REV.A1
2. CPU: Intel P4 3.0Ghz
3. RAM: Apacer 256MB UNB PC2700 CL2.5
4. HDD: Seagate ST340015A
5. CD-ROM: ASUS SCD-2400
6. Sata HDD: Seagate ST380023AS  
HITACHI HDS722580VLSA80
7. HDD tray fan: DYNAEON DF1206BB
8. Power: ZIPPY P2U-6300P
9. System fan: Delta AFB0812SH\*2

**Performance Criteria :**

Electronic function check:

1. All system functions must be checked with appropriate testing programs and should pass the inspection.
2. Running Win XP for OS, the system should not have degradation in its performance.

Mechanical function check:

1. The cover and connectors should work properly without any interference.
2. All screws should be tightened up appropriately.

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*QA Lab Reliability test***Test Data :**

NUM	Parts List	25	40	45
1.	CPU	52.6	68.9	71.7
2.	North bridge	54.4	70.1	73.7
3.	Sata HDD (top tray)	30.5	45.0	49.7
4.	Sata HDD (bottom tray)	33.1	49.5	54.3
5.	Power case	34.4	50.0	54.4
6.	Ambient	27.1	41.7	46.4

**Test Result :**

1. The system specification of thermal profile is 40 degree C.
2. There is no damage in electronic functions or degradation has not been found.
3. Performance is maintained with no incurable physical damage or degradation.

**Conclusion :****Passed.**

The ACP-2320MB Advantech Computing Platform meets thermal profile test.

*QA Lab Reliability test*



ACP-2320MB **Random vibration operation test** Report No.04S062A0

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*QA Lab Reliability test*

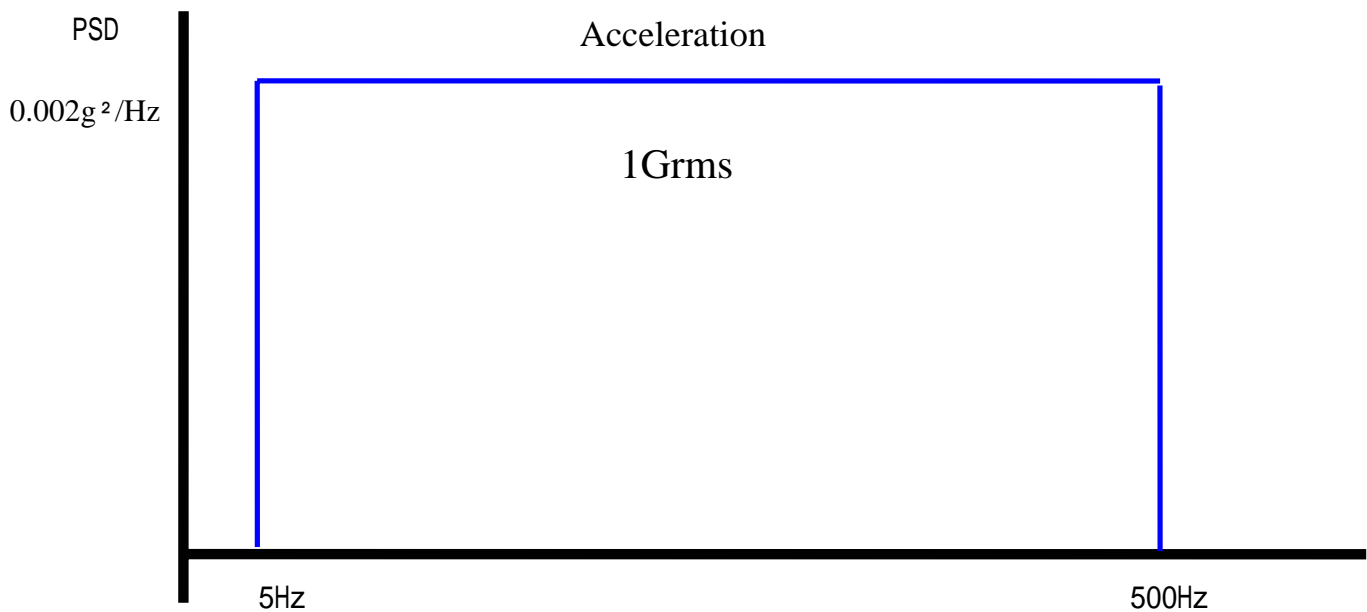
**Test Date :** November 26, 2004  
**Test Site :** Advantech QA Environment Lab  
**Performed By :** Knight Hu

**Purpose :** The DVT test

**Test Standard :** Reference IEC68-2-64 Testing procedures  
Test Fh : Vibration Board Band Random Test

**Test Condition :**

1. Test PSD :  $0.002G^2/Hz$  (1Grms)
2. Test Frequency :5-500Hz
3. Test Axis : X,Y Z-axis
4. Test Time : 1Hr pre axis
5. Test Software : Running HCT 11.2 in Win XP
6. Test Vibration Curve :





*QA Lab Reliability test*

**Test Equipment :** Vibration Simulator System  
KING DESIGN Co. LTD.  
Model: 9363EM-600F2K-40N120  
S / N: MC107142493  
Date of Calibration: 09/20/2004

**Sample Configuration & Quantity Under Test :**

Using one ACP-2320MB Advantech Computing Platform with the following options installed :

1. M/B: AIMB-742 REV.A1
2. CPU: Intel P4 3.0Ghz
3. RAM: Apacer 256MB UNB PC2700 CL2.5
4. HDD: Seagate ST340015A
5. CD-ROM: ASUS SCD-2400
6. Sata HDD: Seagate ST380023AS  
HITACHI HDS722580VLSA80
7. HDD tray fan: DYNAEON DF1206BB
8. Power: ZIPPY P2U-6300P
9. System fan: Delta AFB0812SH\*2

**Performance Criteria :**

Electronic function check:

1. Running soft mpeg file during testing, system should be fine and passed this test.
2. Running Win XP for O.S. the system cannot have degradation of the performance.

Mechanical function check:

1. The switch button ,covers ,slot can work properly without any interference.
2. All screws are tighten up appropriately.
3. All gaps on the surface are appropriately.
4. Assembling/disassembling the system enclosure or mechanical parts must be smooth, and no deformed parts found.

*QA Lab Reliability test*

**Test Result :**

There is no damage in electronic and mechanical functions.  
Degradation has not been found.  
Performance is maintained with no incurable physical damage or degradation.

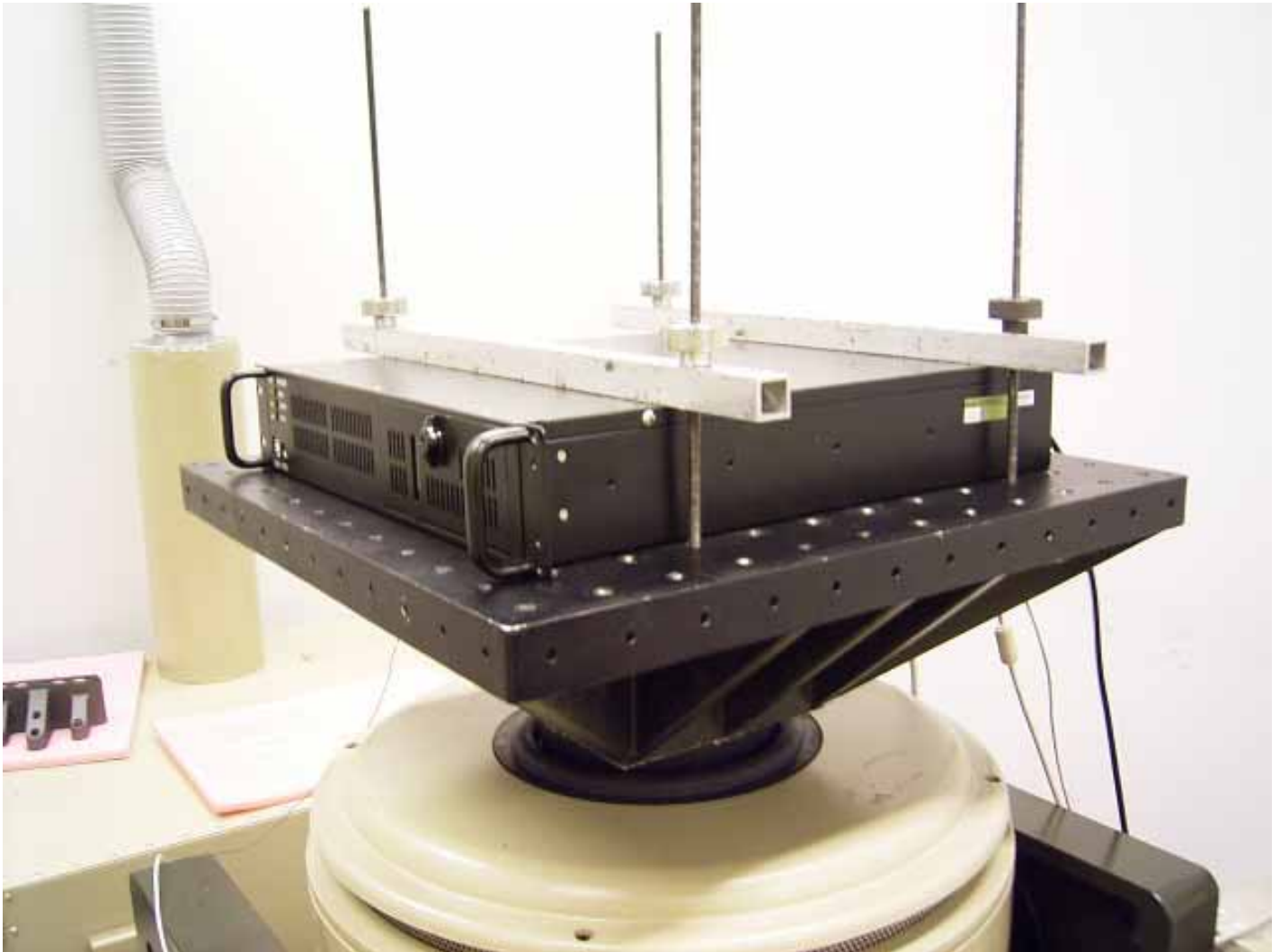
**Conclusion :**

**Passed.**

The ACP-2320MB Advantech Computing Platform meets random vibration operation test.

*QA Lab Reliability test*

**PHOTO I:**



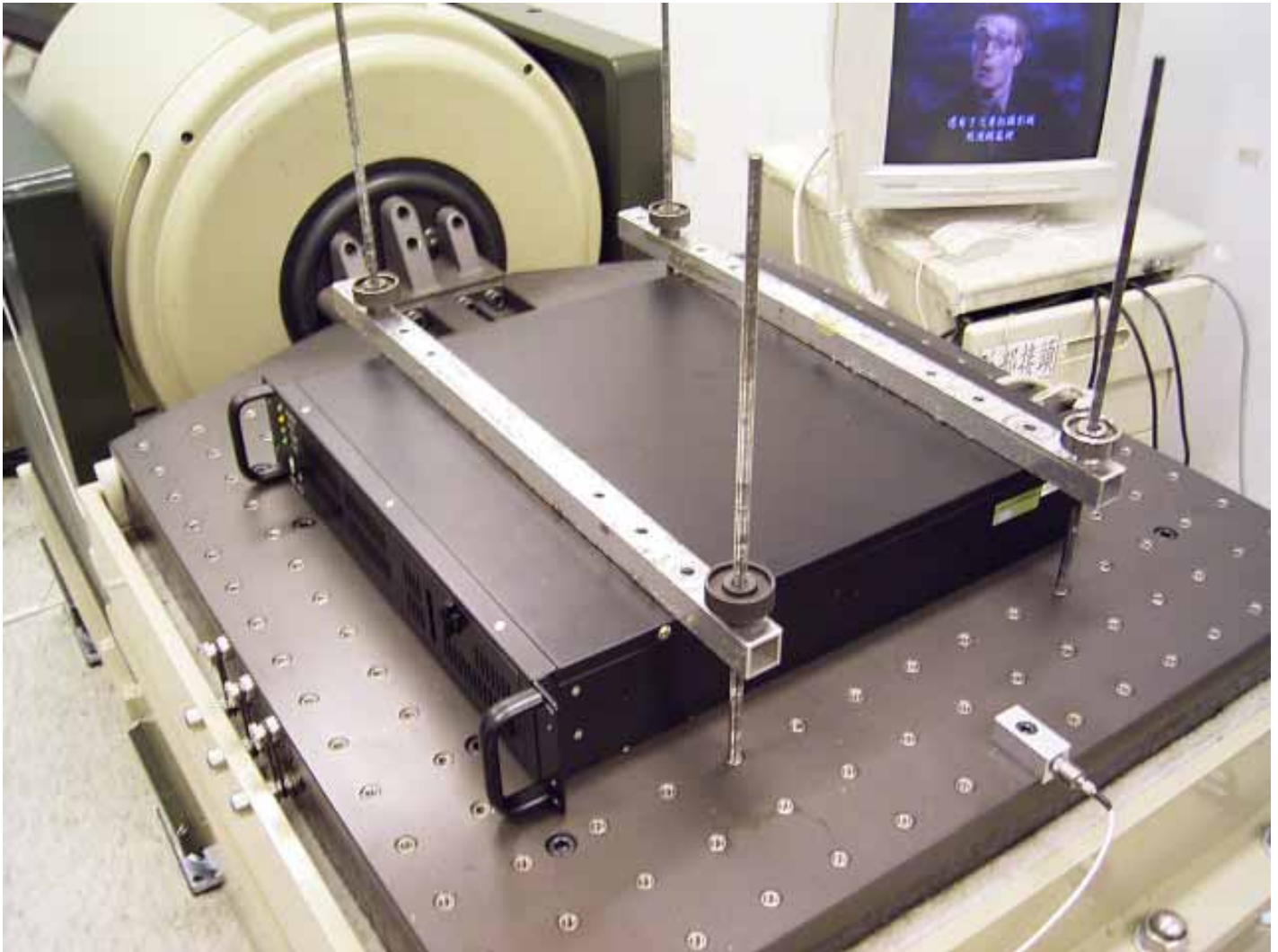
**ACP-2320MB Random vibration test Z axis**

ACP-2320MB **Random vibration operation test** Report No.04S062A0

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*QA Lab Reliability test*

**PHOTO II:**



**ACP-2320MB Random vibration test X axis**

# ACP-2320MB **Random vibration operation test** Report No.04S062A0

*QA Lab Reliability test*

**PHOTO III:**



**ACP-2320MB Random vibration test Y axis**

# ACP-2320MB Sine vibration non-operation test Report No.04S062A0

QA Lab Reliability test

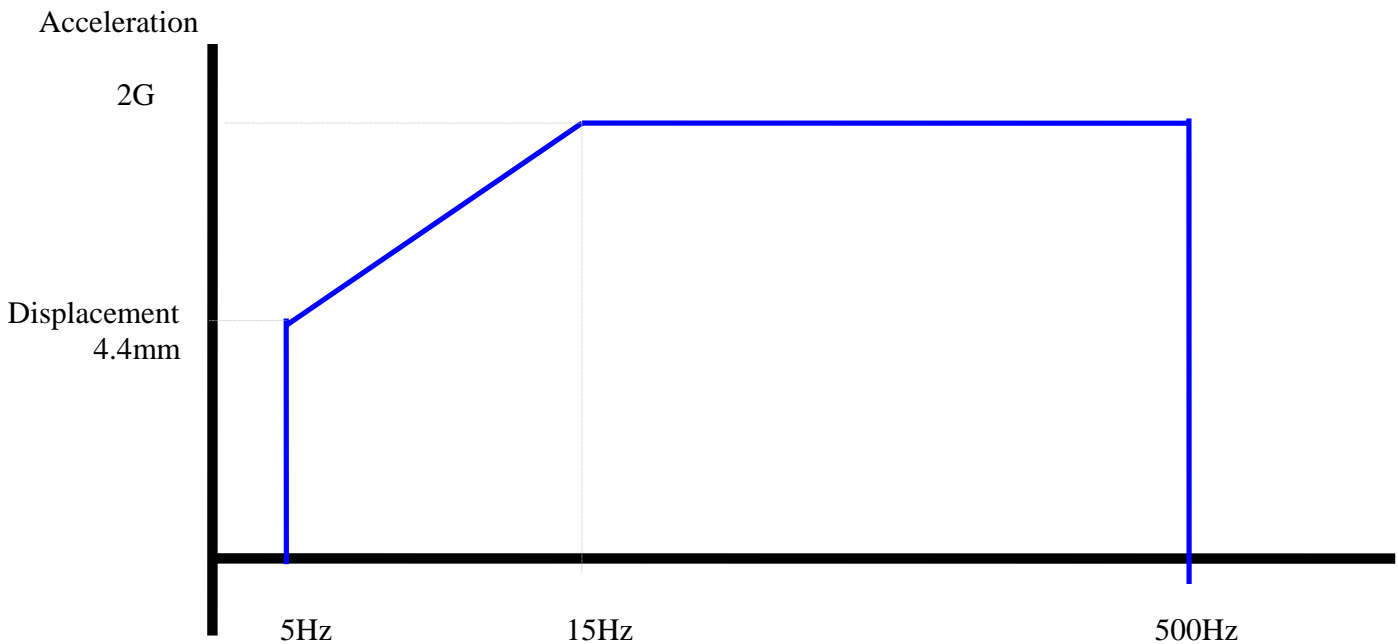
**Test Date :** November 26, 2004  
**Test Site :** Advantech QA Environment Lab  
**Performed By :** Knight Hu

**Purpose :** The DVT test

**Test Standard :** Reference IEC68-2-6 Testing procedures  
Test Fc: Vibration sinusoidal Test

**Test Condition :**

1. Test Acceleration: 2G
2. Test Frequency :5-500Hz
3. Test Axis : X,Y ,Z axis
4. Test Time : 1Hr pre axis
5. Test Vibration Curve :



*QA Lab Reliability test*

**Test Equipment :** Vibration Simulator System  
KING DESIGN Co. LTD.  
Model: 9363EM-600F2K-40N120  
S / N: MC107142493  
Date of Calibration: 09/20/2004

**Sample Configuration & Quantity Under Test :**

Using one ACP-2320MB Advantech Computing Platform with the following options installed :

1. M/B: AIMB-742 REV.A1
2. CPU: Intel P4 3.0Ghz
3. RAM: Apacer 256MB UNB PC2700 CL2.5
4. HDD: Seagate ST340015A
5. CD-ROM: ASUS SCD-2400
6. Sata HDD: Seagate ST380023AS  
HITACHI HDS722580VLSA80
7. HDD tray fan: DYNAEON DF1206BB
8. Power: ZIPPY P2U-6300P
9. System fan: Delta AFB0812SH\*2

**Performance Criteria :**

Electronic function check:

1. All system functions must be checked with appropriate testing programs and should pass the inspection.
2. Running Win XP for OS, the system should not have degradation in its performance.

Mechanical function check:

1. The switch button ,covers ,slot can work properly without any interference.
2. All screws are tighten up appropriately.
3. All gaps on the surface are appropriately.
4. Assembling/disassembling the system enclosure or mechanical parts must be smooth ,and no deformed parts found.

*QA Lab Reliability test*

**Test Result :**

There is no damage in electronic and mechanical functions.  
Degradation has not been found.  
Performance is maintained with no incurable physical damage or degradation.

**Conclusion :**

**Passed.**  
The ACP-2320MB Advantech Computing Platform meets sine vibration non-operation test.



*QA Lab Reliability test*

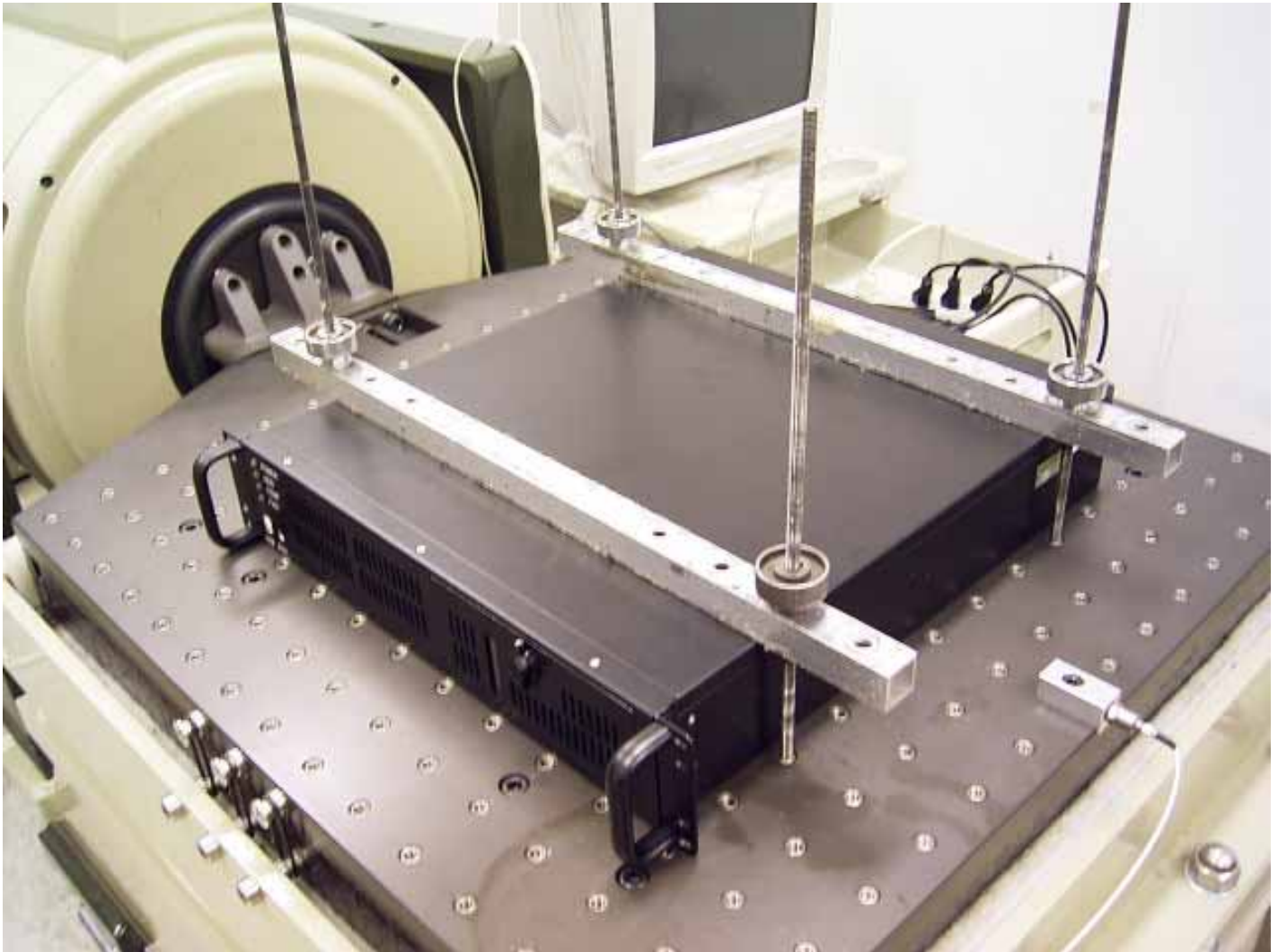
**PHOTO I:**



**ACP-2320MB Sine vibration test Z axis**

*QA Lab Reliability test*

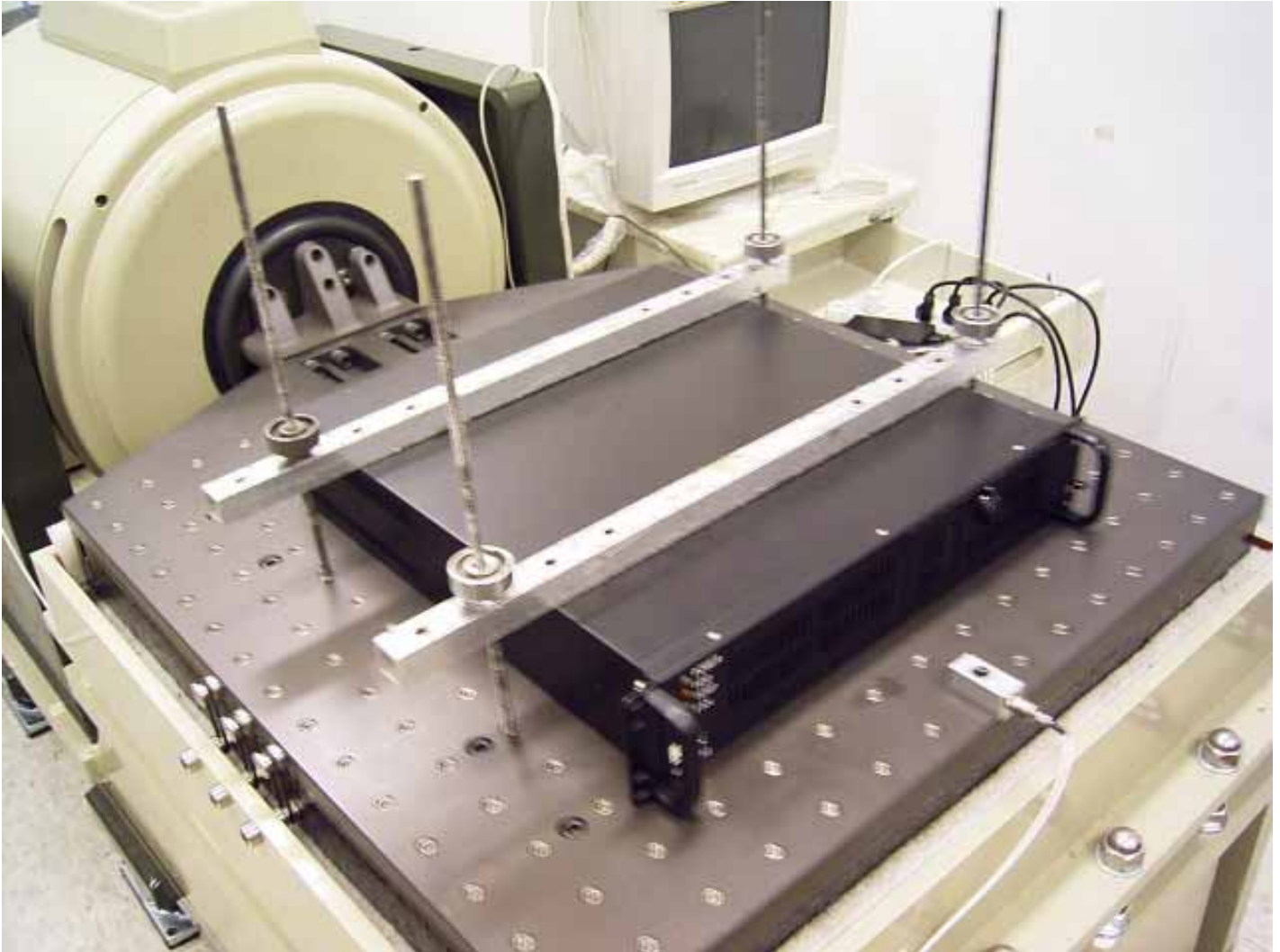
**PHOTO II:**



**ACP-2320MB Sine vibration test X axis**

*QA Lab Reliability test*

**PHOTO III:**



**ACP-2320MB Sine vibration test Y axis**

*QA Lab Reliability test*

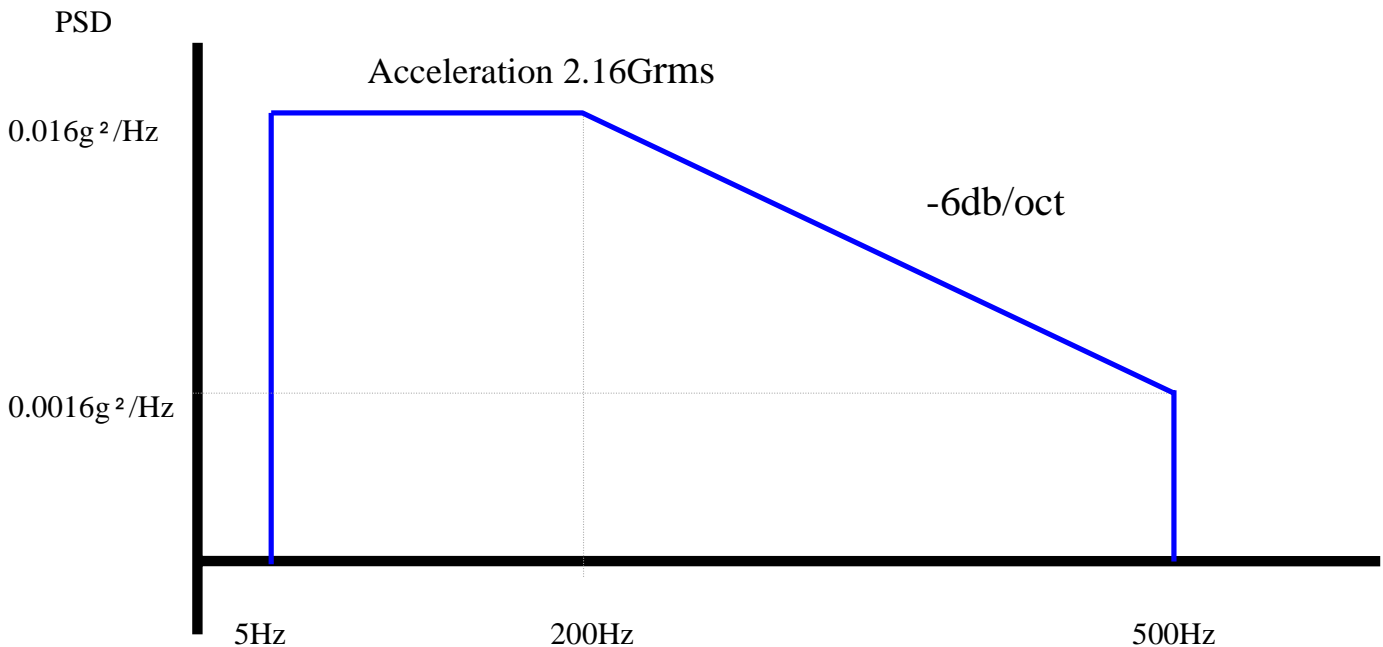
**Test Date :** November 25, 2004  
**Test Site :** Advantech QA Environment Lab  
**Performed By :** Knight Hu

**Purpose :** The DVT test.

**Test Standard :** Reference IEC68-2-64 Testing procedures  
Test Fh : Vibration broadband random test

**Test Condition :**

- 1. Test PSD : 0.016G<sup>2</sup>/Hz (2.16Grms)
- 2. Test Frequency : 5-500Hz
- 3. Test Axis : X,Y and Z axis
- 4. Test Time : 1hr per each axis
- 5. Test Curve :



*QA Lab Reliability test*

**Test Equipment :** Vibration Simulator System  
KING DESIGN Co. LTD.  
Model: 9363EM-600F2K-40N120  
S / N: MC107142493  
Date of Calibration: 09/20/2004

**Sample Configuration & Quantity Under Test :**

Using one ACP-2320MB Advantech Computing Platform system with the following options installed :

1. M/B: AIMB-742 REV.A1
2. CPU: Intel P4 3.0Ghz
3. RAM: Apacer 256MB UNB PC2700 CL2.5
4. HDD: Seagate ST340015A
5. CD-ROM: ASUS SCD-2400
6. Sata HDD: Seagate ST380023AS  
HITACHI HDS722580VLSA80
7. HDD tray fan: DYNAEON DF1206BB
8. Power: ZIPPY P2U-6300P
9. System fan: Delta AFB0812SH\*2

**Performance Criteria :**

Electronic function check:

1. All system functions must be checked with appropriate testing programs and should pass the inspection.
2. Running Win XP for OS, the system should not have degradation in its performance.

Mechanical function check:

1. The switch button covers, slot can work properly without any interference.
2. All screws are tighten up appropriately.
3. All gaps on the surface are appropriately.
4. Assembling/disassembling the system enclosure or mechanical parts must be smoothes, and no deformed parts found.

*QA Lab Reliability test*

**Test Result :**

There is no damage in electronic and mechanical functions.  
Degradation has not been found.  
Performance is maintained with no incurable physical damage or degradation.

**Conclusion :**

**Passed.**

The ACP-2320MB Advantech Computing Platform system meets package vibration test.



*QA Lab Reliability test*

**PHOTO I:**



**ACP-2320MB package vibration test Z axis**

*QA Lab Reliability test*

**PHOTO II:**



**ACP-2320MB package vibration test X axis**



*QA Lab Reliability test*

**PHOTO III:**



**ACP-2320MB package vibration test Y axis**

*QA Lab Reliability test*

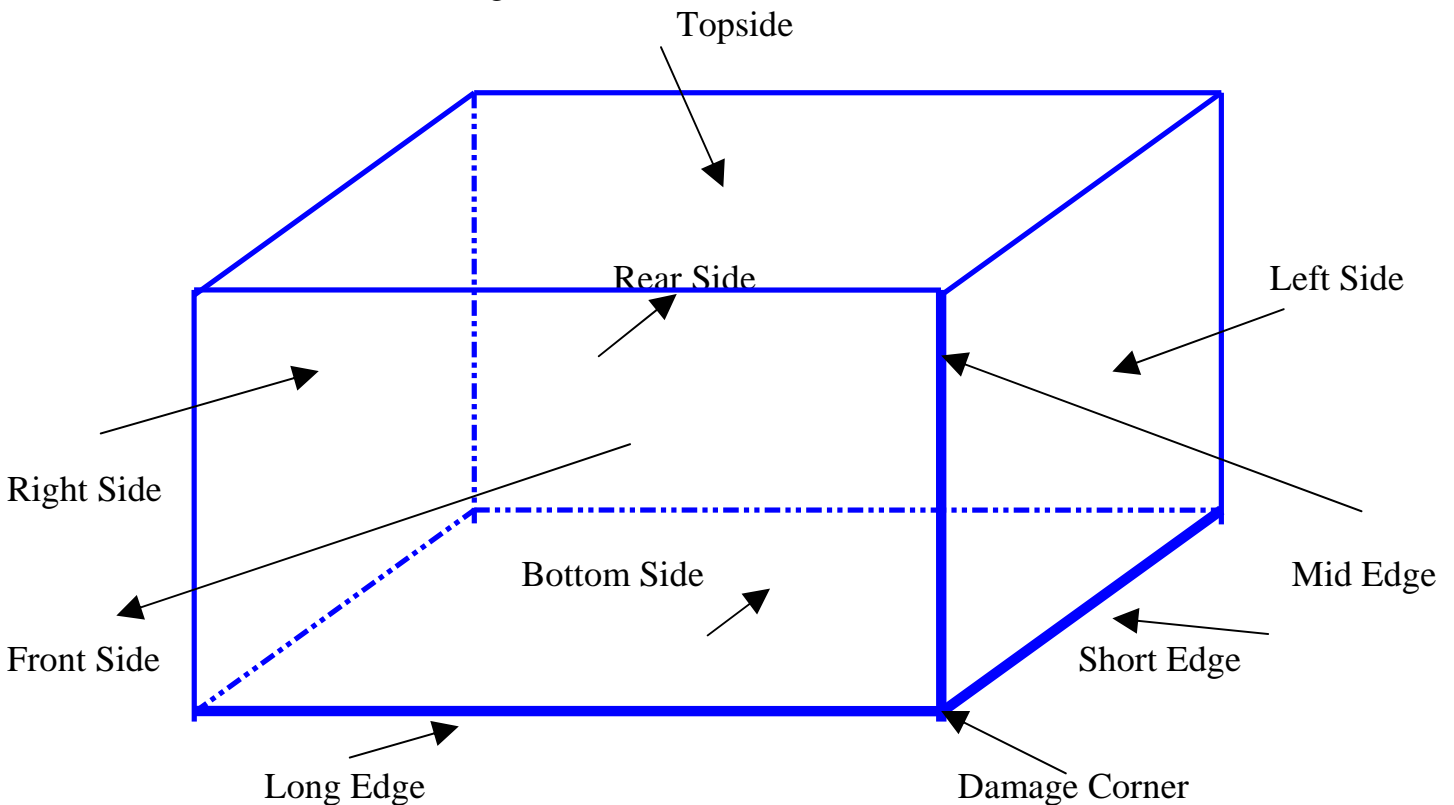
**Test Date :** November 14, 2004  
**Test Site :** Advantech QA Environment Lab  
**Performed By:** Knight Hu

**Purpose :** The DVT test.

**Test Standard :** Reference Federal Standard 101 Method 5007 Testing procedure B  
 Test Ea : Drop Test

**Test Condition :**

1. Test Phase : One corner  
 Three edges  
 Six faces
2. Test High : 76cm
3. Package Weight : 15.3Kg
4. Package Dimension : 58.5cm×64.5cm×20.0cm
5. Test Drawing :



*QA Lab Reliability test*

**Test Equipment :** Drop Tester Machine  
TOSHIDA SEIKI Co. LTD.  
Model : DT-100B

**Sample Configuration & Quantity Under Test :**

Using one ACP-2320MB system with the following options installed :

1. M/B: AIMB-742 REV.A1
2. CPU: Intel P4 3.0Ghz
3. RAM: Apacer 256MB UNB PC2700 CL2.5
4. HDD: Seagate ST340015A
5. CD-ROM: ASUS SCD-2400
6. Sata HDD: Seagate ST380023AS  
HITACHI HDS722580VLSA80
7. HDD tray fan: DYNAEON DF1206BB
8. Power: ZIPPY P2U-6300P
9. System fan: Delta AFB0812SH\*2

**Performance Criteria :**

Electronic function check:

1. All system functions must be checked with appropriate testing programs and should pass the inspection.
2. Running Win XP for OS, the system should not have degradation in its performance.

Mechanical function check:

1. The switch button covers, slot can work properly without any interference.
2. All screws are tighten up appropriately.
3. All gaps on the surface are appropriately.
4. Assembling/disassembling the system enclosure or mechanical parts must be smoothes, and no deformed parts found.

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*QA Lab Reliability test***Test Data:**

<b>Side</b>	<b>Acceleration</b>
<b>Front</b>	<b>42.5G</b>
<b>Rear</b>	<b>44.3G</b>
<b>Right</b>	<b>47.8G</b>
<b>Left</b>	<b>45.9G</b>
<b>Top</b>	<b>62.3G</b>
<b>Bottom</b>	<b>60.9G</b>

**Test Result :**

There is no damage in electronic and mechanical functions.  
Degradation has not been found.  
Performance is maintained with no incurable physical damage or degradation.

**Conclusion :**

**Passed.**

The ACP-2320MB system meets Package drop test.

*QA Lab Reliability test*

**PHOTO I:**



**ACP-2320MB test photo**

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*QA Lab Reliability test*

**PHOTO II:**



**ACP-2320MB corner test photo**

*QA Lab Reliability test*

**PHOTO III:**



**ACP-2320MB edge test photo**



*QA Lab Reliability test*

**PHOTO IV:**



**ACP-2320MB face test photo**