# TF-ONYX-174HT-A1-1110

## Environment Test Report

**Report NO: 08P020010**

| | | | |
|---|---|---|---|
| **Issued by:** | Rex-Chang | / | *06/04/2008* |
| | **Test Engineer** | | **Date** |
| **Reviewed by:** | Wenyuan Yang | / | *06/04/2008* |
| | **Manager** | | **Date** |

# Test item list



## Test Configuration:

| Num | Item | Spec |
|---|---|---|
| 1. | **Operator Panel**: | TF-ONYX-174HT-A1-1110 |
| | 1.LCD | 17" CPT CLAA170EA07 |
| | 2. Power Supply | Astordyne ASM-150-24 |
| | 4. Inverter | HWA YOUN QF132v1.16 |
| 2. | CPU Board: | EMB-852T Rev: A1.1 |
| | 1. Bios Ver. | ONYX-174 A0.2 |
| | 2.CPU | Intel Pentium-M Processor 1.6GHz |
| | 3.Memory | DSL 512MB / Hynix HY5DU121622CTP-J |
| | 4. HDD | FUJITSU MHW2040AT / 40GB |
| | 5.Test Software | Windows XP / Run PassMark Burn In Test 5.1 Pro |

## CPU Cooler



AAEON Technology Inc.
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# Temperature cycle test

**Test Date:** 05-23~26-2008

**Test Product:** ONYX-174

**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:**

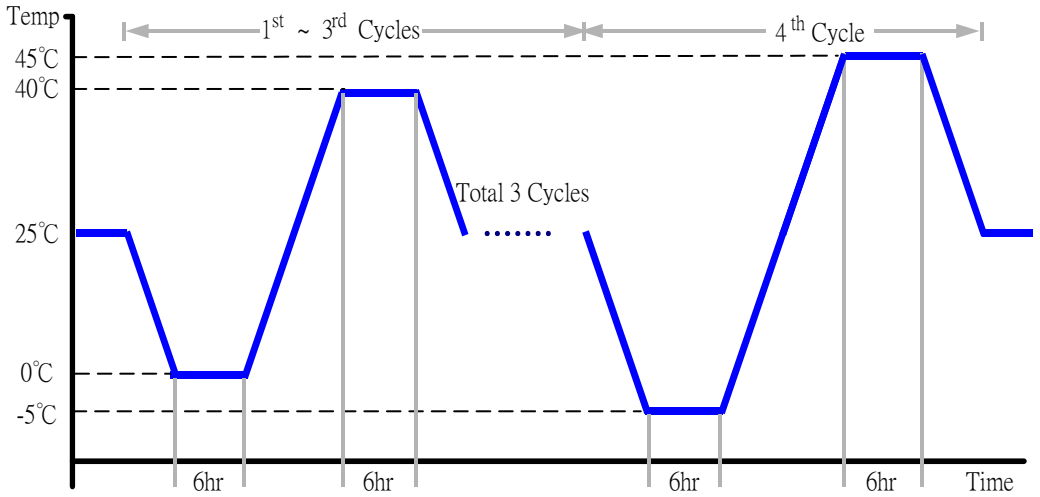
Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D4H+-100
Date of Calibration: 05/12/08
Serial Number: 1241

**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: 0℃ (1~3 cycles)
   -5℃ ($4^{th}$ cycle)
2. Test High Temperature: 40℃ (1~3 cycles)
   45℃ ($4^{th}$ cycle)
3. Test dwell time: 6Hrs
4. Temperature slope: 2℃/min
5. Test cycle: 4 cycles
6. Test Environment Curve:



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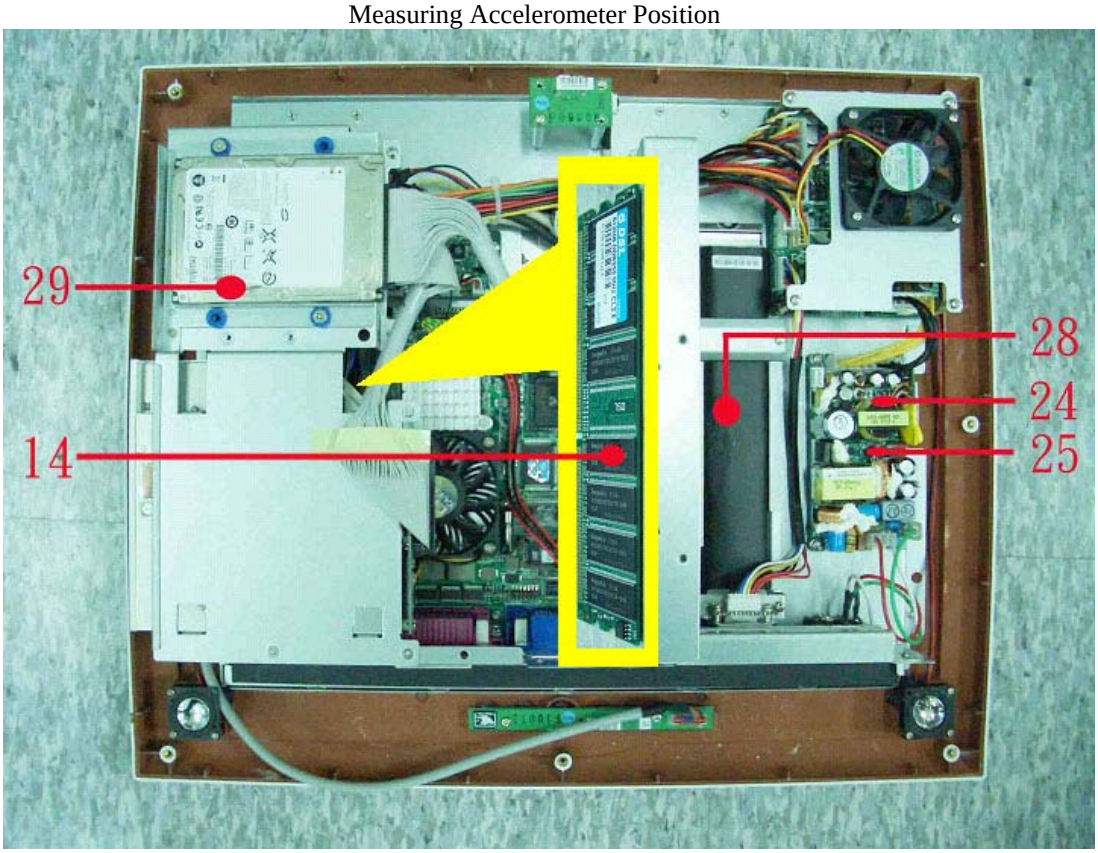
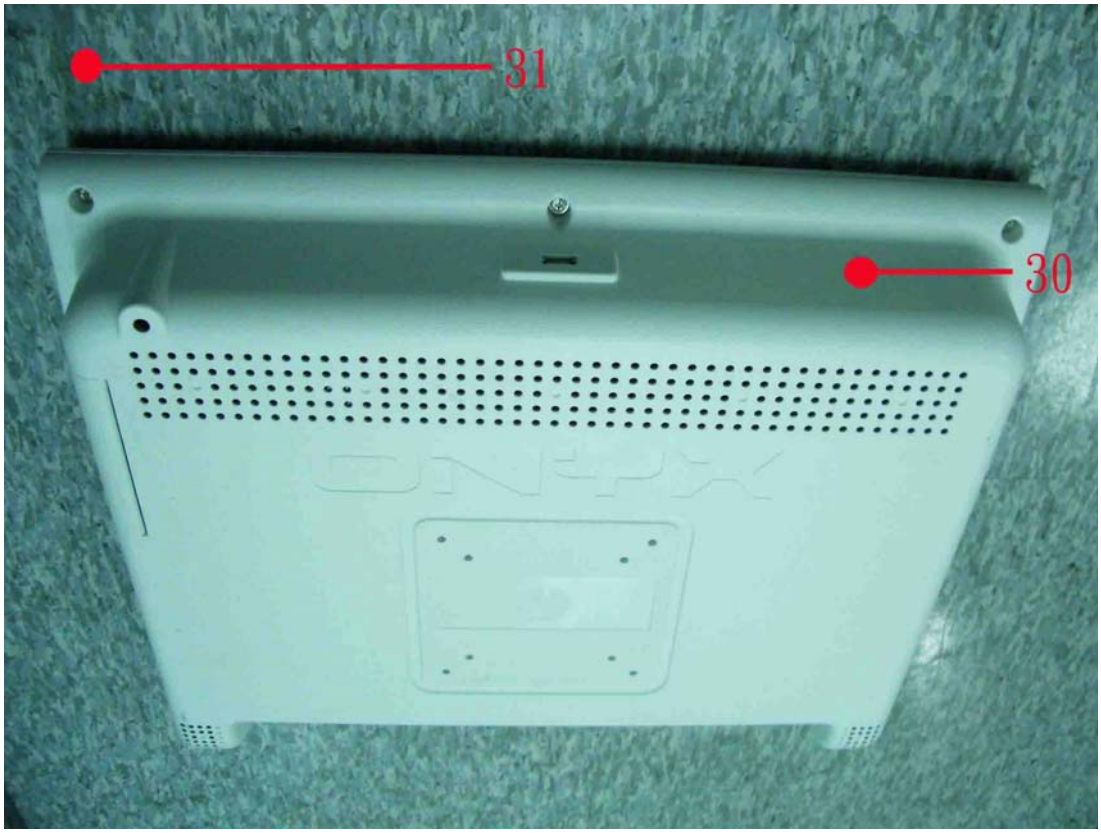
# Temperature cycle test

**Terminal Recorder:**

Measuring Accelerometer Position



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# Temperature cycle test

**Thermal profile data:**

**ONYX-174**

| Point \ Temp. Stage(℃) | Spec | 40 | 25 | 0 |
|---|---|---|---|---|
| **EMB-852T** | | | | |
| 01. CPU | 100 | 77.4 | 62.4 | 37.4 |
| 02. U24-Chipset.NB82852GM.Intel.RG82852GM | 105 | 76.1 | 61.1 | 36.1 |
| 03. U25-Chipset ICH4.INTEL.FW82801DB | 110 | 74.7 | 59.7 | 34.7 |
| 04. U54-ACPI Power Controller.Intersil.ISL6506BCB | 100 | 72.4 | 57.4 | 32.4 |
| 05. U10-N-Channel.30V.10A.13.5mΩ.MOSFET.APEC.AP4410M | 125 | 72.2 | 57.2 | 32.2 |
| 06. L2- INDUCTOR.3.3uH.20%. VISHAY.IHLP2525CZRZ3R3M01 | 125 | 73.2 | 58.2 | 33.2 |
| 07. U11-Step-Down DC/DC Controller.Anpec.APW7057 | 100 | 74.0 | 59.0 | 34.0 |
| 08. U57-(TF)RS232 Driver ESD 15KV.INTERSIL.HIN213ECAZ | 70 | 69.9 | 54.9 | 29.9 |
| 09. U22-CLOCK GENERATOR.ICS.ICS952601 | 115 | 77.6 | 62.6 | 37.6 |
| 10. U45-(TF)RS232 Driver ESD 15KV.INTERSIL.HIN213ECAZ | 70 | 69.9 | 54.9 | 29.9 |
| 11. U44-(TF)RS232 Driver ESD 15KV.INTERSIL.HIN213ECAZ | 70 | 66.9 | 51.9 | 26.9 |
| 12. TC25-220uF.2V.Panasonic.EEFSX0D221YR | 105 | 63.4 | 48.4 | 23.4 |
| 13. TC27-150uF.6.3V.Panasonic.ECGUD0J151R | 105 | 68.2 | 53.2 | 28.2 |
| 14. Memory | 70 | 66.1 | 51.1 | 26.1 |
| **PER-P12D A02** | | | | |
| 15. L2 - (TF)COIL.3.3uH.GOTREND.GSTC135P-3R3MF | 125 | 86.6 | 71.6 | 46.6 |
| 16. L3 - (TF)COIL.2.2uH.GOTREND.GSTC135P-2R2MF | 125 | 87.0 | 72.0 | 47.0 |
| 17. U4 - (TF) Regulator.Vin 3.5-36V.LINEAR.LTC3728EUH#PBF | 85 | 79.8 | 64.8 | 39.8 |
| 18. L7 - (TF)COIL.33uH.GOTREND.GDO-0804-P-330-M | 85 | 63.1 | 48.1 | 23.1 |
| 19. D11 - (TF) D Schottky.60V.3A.SMD.WILLAS.SK36C-TG | 125 | 63.1 | 48.1 | 23.1 |
| 20. T2 - (TF)POWER MOSFET.SMD.SO-8.International Rectifier.IRF7416PbF | 125 | 64.1 | 49.1 | 24.1 |
| 21. U6 - (TF) Lithium-Ion Battery.Charger.LINEAR.LTC4007EGN#PBF | 85 | 66.5 | 51.5 | 26.5 |
| 22. T3 - (TF)POWER MOSFET.SMD.SO-8.International Rectifier.IRF7416PbF | 125 | 65.7 | 50.7 | 25.7 |
| 23. D10 - (TF)D Schottky.SMC.Power Rectifiler.ON.MBRS330T3G | 100 | 76.9 | 61.9 | 36.9 |
| **Power** | | | | |
| 24. T1 | 105 | 77.9 | 62.9 | 37.9 |
| 25. Q5 | 125 | 95.7 | 80.7 | 55.7 |
| **Inverter** | | | | |
| 26. IC1 | 85 | 68.1 | 53.1 | 28.1 |
| 27. Q2 | 150 | 66.3 | 51.3 | 26.3 |
| **28. Battery** | 55 | 58.6 | 43.6 | 18.6 |
| **29. HDD** | 60 | 56.3 | 41.3 | 16.3 |
| 30. Control Box Surface | N/A | 51.9 | 36.9 | 11.9 |
| 31. Chamber Air Temperature | N/A | 41.0 | 26.0 | 1.0 |



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# Temperature cycle test

**Sample Configuration & Quantity Under Test:**

Quantity: 1 (ONYX-174)

**Test Result:**

No problem was found during the temperature operation cycle test.



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# High temperature storage test

**Test Date:** 05-19~21-2008

**Test Product:** ONYX-174

**Test Site:** AAEON QA Internal Lab.

**Performed By:** Rex Chang

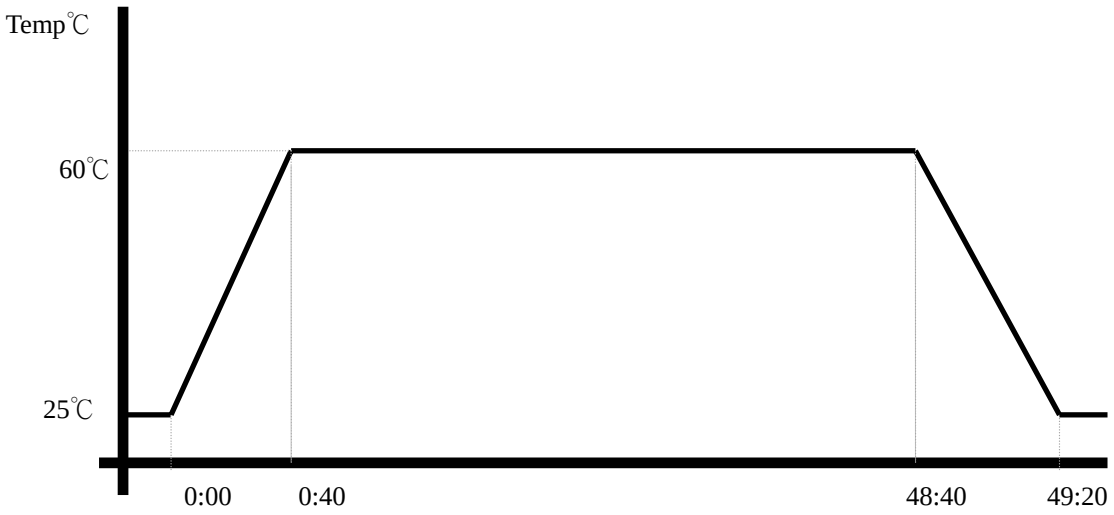
**Test Standard:** Reference IEC 68-2-2 Testing procedures
Test Bb: Dry Heat Test (Non-operation)

**Test Equipment:**

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D4H+-100
Date of Calibration: 05/12/08
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 (ONYX-174)

**Test Result:**

No problem was found after the high temperature storage test.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# Low temperature storage test

**Test Date:** 05-16~19-2008

**Test Product:** ONYX-174

**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-D4H+-100
Date of Calibration: 05/12/08
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 (ONYX-174)

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


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# Humidity test

**Test Date:** 05-12~15-2008

**Test Product:** ONYX-174

**Test Site:** AAEON QA Internal Lab.

**Performed By:** Rex Chang

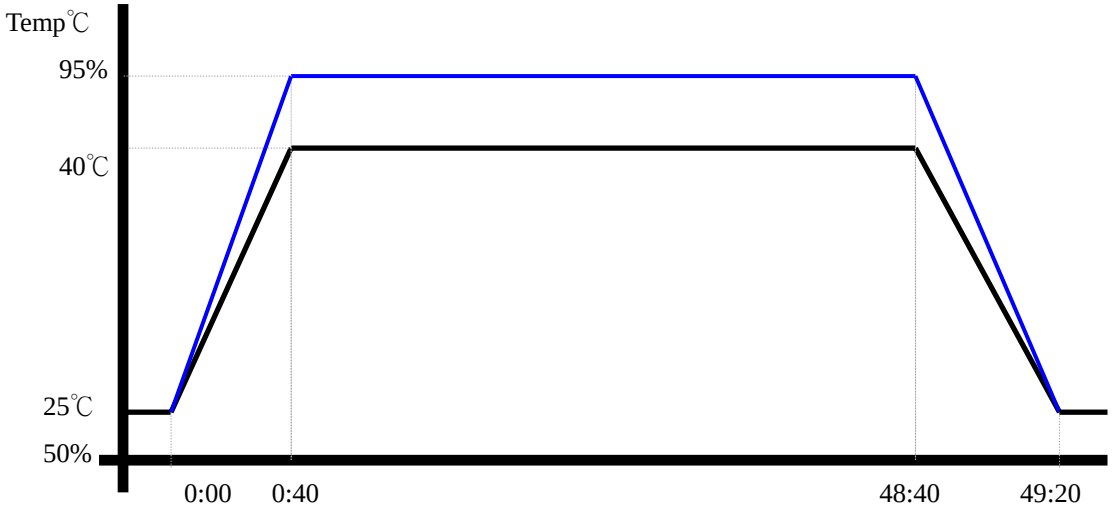
**Test Standard:** Reference IEC 68-2-3 Testing procedures
Test Ca: Damp heat, steady state (Non-operation)

**Test Equipment:**
Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D4H+-100
Date of Calibration: 05/12/08
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 (ONYX-174)

**Test Result:**
No problem was found after the humidity storage test.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# Cold start and hot start test

**Test Date:** 05-15~16-2008

**Test Product:** ONYX-174

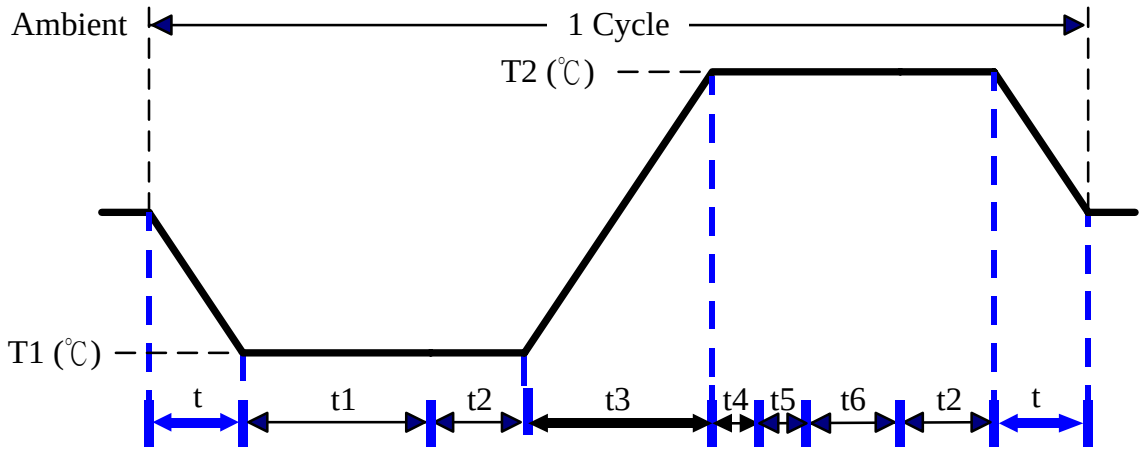
**Test Site:** AAEON QA Internal Lab.

**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-D4H+-100
Date of Calibration: 05/12/08
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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