# Onyx-153D (PCM-8200)

**With HDD**

# Environment Test Report

**Report NO: 05P020019**

| | | | |
|---|---|---|---|
| **Issued by:** | Rex-Chang | / | *11/15/2005* |
| | **Test Engineer** | | **Date** |
| **Reviewed by:** | Wenyuan Yang | / | *11/15/2005* |
| | **Manager** | | **Date** |

# Test item list


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| Num | Item | Spec |
|---|---|---|
| 1. | **Low Noise Medical Station**: | Onyx-153D |
| | 1.LCD | 15" CPT CLAA150XP03 |
| | 2.Power | EPD-146-3 |
| | 3. Inverter | HWA YOUN QF132V1.16 |
| | 4. Adapter | FSP105-AGB |
| 2. | CPU Board: | PCM-8200 Rev: A1.0 |
| | 1. Bios Ver. | 1.0 |
| | 2.CPU | Genuine Intel Mobile 1.6GHz |
| | 3.Memory | DSL 512MB SAMSUNG K4H560838F-TCB3 (DDR-333) |
| | 4.HDD | Fujitsu MHT2020AT 20GB |
| | 5.DVD-ROM | TEAC DV-28SL |

## CPU Cooler




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:** 11-08~11-2005

**Test Product:** Onyx-153D (PCM-8200 Rev: A1.0).

**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:**

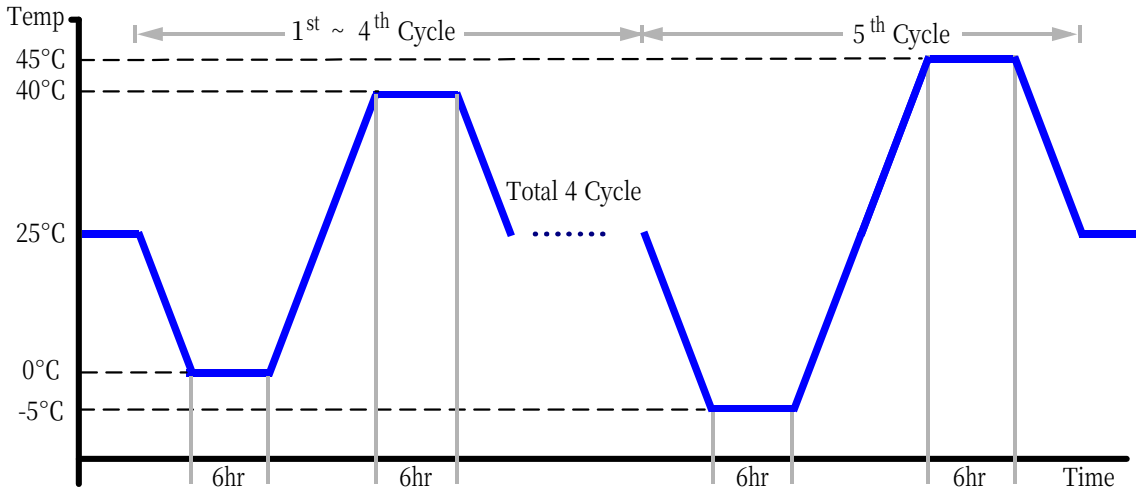
Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D4H+-100
Date of Calibration: 05/24/04
Serial Number: 1241

**Temperature Measurement:**

20 Channel Thermal Recorder:
YOKOGAWA Inc,
Model: DA100-13-1D
Date of Calibration: 12/25/04
Serial Number: 12A323190

**Test Condition:**

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



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# Temperature cycle test

**Test O.S. / Software:**

Windows 2000 / Run PassMark Burn In Test Pro 4.0

**Thermal profile data:**

**Onyx-153D - Inverter**

| Point / Temp. Stage(℃) | Spec | 45 | 40 | 25 | 0 | -5 |
|---|---|---|---|---|---|---|
| 1. Inverter - Q2 | 150 | 99.6 | 94.6 | 79.6 | 54.6 | 49.6 |
| 2. Inverter - Q4 | 150 | 80.8 | 75.8 | 60.8 | 35.8 | 30.8 |
| 3. Inverter - Q6 | 150 | 80.4 | 75.4 | 60.4 | 35.4 | 30.4 |
| 4. Inverter - T2 | 200 | 78.2 | 73.2 | 58.2 | 33.2 | 28.2 |
| 5. Inverter - Q7 | 150 | 77.1 | 72.1 | 57.1 | 32.1 | 27.1 |
| 6. Inverter - Q8 | 150 | 76.6 | 71.6 | 56.6 | 31.6 | 26.6 |
| 7. Inverter - IC1 | 85 | 67.8 | 62.8 | 47.8 | 22.8 | 17.8 |
| 8. Inverter - SX14 | 125 | 74.7 | 69.7 | 54.7 | 29.7 | 24.7 |
| 9. Chamber Air Temperature | N/A | 45.3 | 40.3 | 25.3 | 0.3 | -4.7 |

**Onyx-153D – System**

| Point / Temp. Stage(℃) | Spec | 45 | 40 | 25 | 0 | -5 |
|---|---|---|---|---|---|---|
| 1. Intel Micro-FCBGA 479pin Banias 1.6GHz (PCM-8200 Component Side) | 75 | 82.3 | 77.3 | 42.3 | 2.3 | -2.7 |
| 2. U12 - CLOCK GENERATOR.ICS.ICS952601 (PCM-8200 Component Side) | 100 | 81.4 | 76.4 | 41.4 | 1.4 | -3.6 |
| 3. U4 – Intel. RG82855GME (PCM-8200 Component Side) | 105 | 81.4 | 76.4 | 41.4 | 1.4 | -3.6 |
| 4. U2 - Intel.GD82551ER (PCM-8200 Component Side) | 85 | 79.6 | 74.6 | 39.6 | -0.4 | -5.4 |
| 5. Q43 - (PCM-8200 Solder Side) | 115 | 82.3 | 77.3 | 42.3 | 2.3 | -2.7 |
| 6. Q47 - (PCM-8200 Solder Side) | 115 | 79.1 | 74.1 | 39.1 | -0.9 | -5.9 |
| 7. U11 - (Y010 I/O Board A1.0) | 130 | 59.1 | 54.1 | 19.1 | -20.9 | -25.9 |
| 8. HDD | 55 | 74.9 | 69.9 | 34.9 | -5.1 | -10.1 |
| 9. Memory | 70 | 63.1 | 58.1 | 23.1 | -16.9 | -21.9 |
| 10. Control Box. Case Surface | 50 | 49.1 | 44.1 | 9.1 | -30.9 | -35.9 |
| 11. Chamber Air Temperature | N/A | 48.8 | 43.8 | 8.8 | -31.2 | -36.2 |

**Onyx-153D – DC Power**

| Point / Temp. Stage(℃) | Spec | 45 | 40 | 25 | 0 | -5 |
|---|---|---|---|---|---|---|
| 1. L2 | 130 | 79.1 | 74.1 | 59.1 | 34.1 | 29.1 |
| 2. L3 | 130 | 80.7 | 75.7 | 60.7 | 35.7 | 30.7 |
| 3. T1 | 130 | 74.9 | 69.9 | 54.9 | 29.9 | 24.9 |
| 4. T2 | 130 | 90.8 | 85.8 | 70.8 | 45.8 | 40.8 |
| 5. Q5 | 150 | 79.9 | 74.9 | 59.9 | 34.9 | 29.9 |
| 6. Q1 | 150 | 72.4 | 67.4 | 52.4 | 27.4 | 22.4 |
| 7. SCR1 | 150 | 102.7 | 97.7 | 82.7 | 57.7 | 52.7 |
| 8. MN1 | 130 | 72.8 | 67.8 | 52.8 | 27.8 | 22.8 |
| 9. Chamber Air Temperature | N/A | 45.3 | 40.3 | 25.3 | 0.3 | -4.7 |

**Note:** The description in red states which temperature is over the specification of the device.



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# Temperature cycle test

**Sample Configuration & Quantity Under Test:**

Quantity: 1 (Onyx-153D)

**Test Result:**

The system structure doesn’t deformation; Function is passed during system test.



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# High temperature storage test

**Test Date:** 10-24~26-2005

**Test Product:** Onyx-153D (PCM-8200 Rev: A1.0).

**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-D4L+-100
Date of Calibration: 10/01/04
Serial Number: 2582

**Testing Item:**

1. Test Temperature: 60℃
2. Test Times: 48Hrs
3. Test Software: Windows media Player (Video test soft-MPEG from HDD)
4. Test Environment Curve:


**Sample Configuration & Quantity Under Test:**
Quantity: 1 (Onyx-153D)

**Test Result:**

The system structure doesn't have any deformation; All functions are passed after high temperature storage test.


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# Low temperature storage test

**Test Date:** 10-26~28-2005

**Test Product:** Onyx-153D (PCM-8200 Rev: A1.0).

**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: 10/01/04
Serial Number: 2582

**Testing Item:**

1. Test Temperature: -20℃
2. Test Times: 48Hrs
3. Test Software: Windows media Player (Video test soft-MPEG from HDD)
4. Test Environment Curve:


**Sample Configuration & Quantity Under Test:**
Quantity: 1 (Onyx-153D)

**Test Result:**

The system structure doesn't have any deformation; All functions are passed after low temperature storage test.


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# Humidity test

**Test Date:** 10-28~31-2005

**Test Product:** Onyx-153D (PCM-8200 Rev: A1.0).

**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)

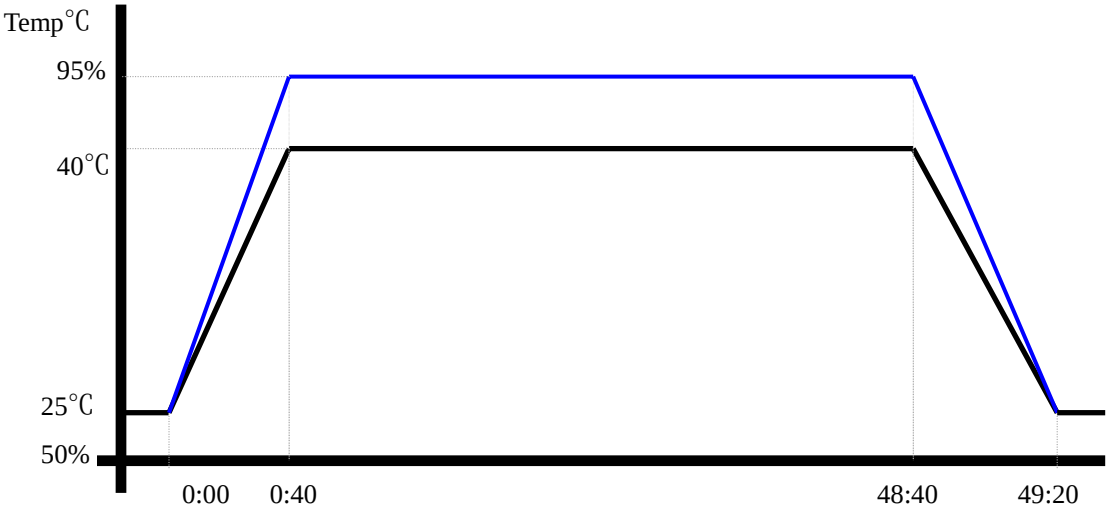
**Test Equipment:**

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D4H+-100
Date of Calibration: 10/01/04
Serial Number: 2582

**Testing Item:**

1. Test Temperature: 40℃
2. Test Humidity: 95%RH
3. Test Times: 48Hrs
4. Test Software: Windows media Player (Video test soft-MPEG from HDD)
5. Test Environment Curve:

**Humidity %**




**Sample Configuration & Quantity Under Test:**
Quantity: 1 (Onyx-153D)

**Test Result:**

The system structure doesn't have any deformation; All functions are passed after humidity test.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# Cold Start test

**Test Date:** 10-31~11/01-2005

**Test Product:** Onyx-153D (PCM-8200 Rev: A1.0).

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

**Performed By:** Rex Chang

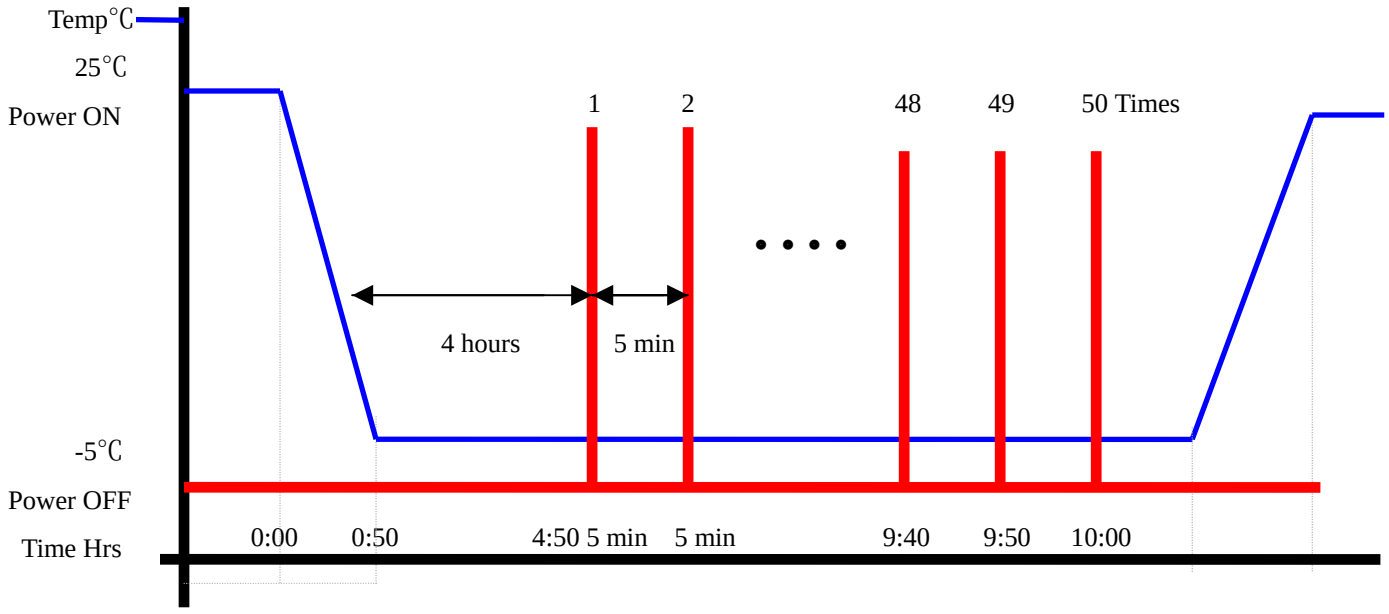
**Test Standard:** Reference IEC 68-2-1 Testing procedures
Test Ab: Cold Test

**Test Equipment:**

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D4H+-100
Date of Calibration: 10/01/04
Serial Number: 2582

**Test Condition:**

1. Test Temperature: -5℃
2. Test Times: 5 Hours or 50 times of ON/OFF
   (1) Power off for 4 hours before 1'st power on. Then once complete boot, power off immediately.
   (2) After 5 min later power on again and wait until booting is completed.
   (3) Repeat (2) for around 4:50
   (4) Power off then wait for 5 min before final power on operation.
3. Number of test: 50 times
4. Test Software: Windows 2000
5. Test Environment Curve:



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# Cold Start test

**Sample Configuration & Quantity Under Test:**

Quantity: 1 (Onyx-153D)

**Test Result:**

**Passed.**



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