



**Computing Platform Service Partner**

# GES-2200F

with 2.5" SATA HDD

## Environment Test Report

Report NO: 10I020021

Issued by:

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/

**12/10/2010**

Test Engineer

Date

Reviewed by:

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/

**12/10/2010**

Sr. Manager

Date

# Test item list

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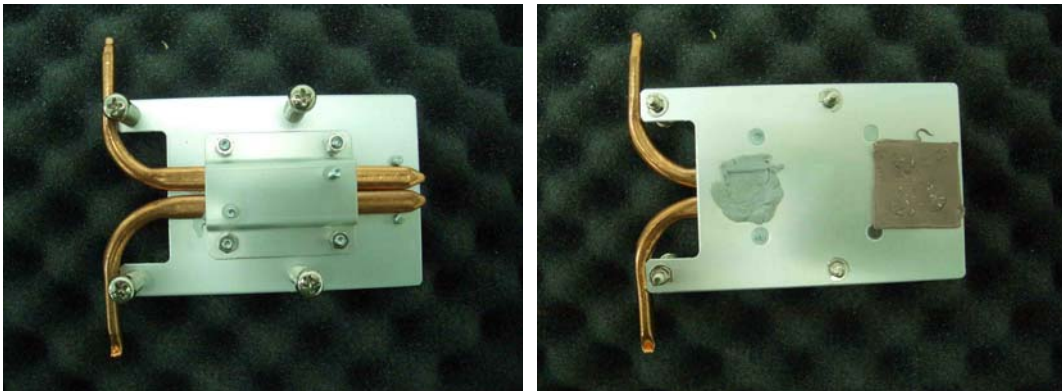
## Testing Result

| Num | Test item list                       | Result | Remark |
|-----|--------------------------------------|--------|--------|
| 1   | Temperature rise test                | Pass   |        |
| 2   | Temperature cycle operation test     | Pass   |        |
| 3   | High temperature storage test        | Pass   |        |
| 4   | Low temperature storage test         | Pass   |        |
| 5   | Temperature variation operation test | Pass   |        |
| 6   | Cold start and hot start test        | Pass   |        |

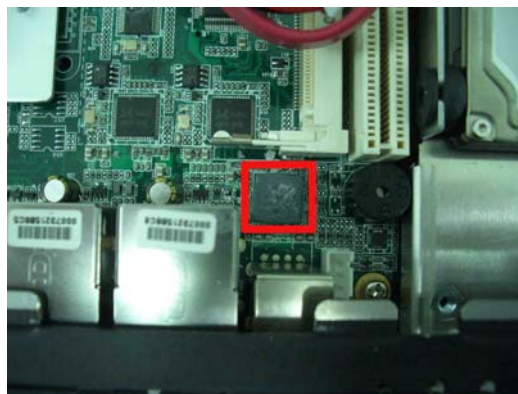
# Configuration of EUT

| Num | Item                          | Spec   |
|-----|-------------------------------|--|
| 1.  | Rack Mount Chassis:           | GES-2200F                                      |
|     | 1. Main Board                 | AAEON EMB-LN9T Rev. A1.0 (BIOS Ver: 0.01)      |
|     | 2. CPU                        | Intel Atom D510 / 1.66GHz                      |
|     | 3. Memory                     | DSL 2GB / DDR2 667 / SEC K4T1G084QE            |
|     | 4. 2.5" SATA HDD (Wide Temp.) | Seagate ST980817SM / 80GB                      |
|     | 5. Test Software              | Windows XP / Run PassMark Burn In Test 6.0 Pro |
| 2.  | Power Adapter                 | FSP FSP060-DBAB1                               |

## Heatpip



## Heat Sink



# Temperature rise test

**Test Date:** 12-10-2010

**Test Product:** GES-2200F

**Test Site:** AAEON QE 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: 11/08/10

Serial Number: 12A323190

**Test Condition:**

Ambient temperature: 50°C

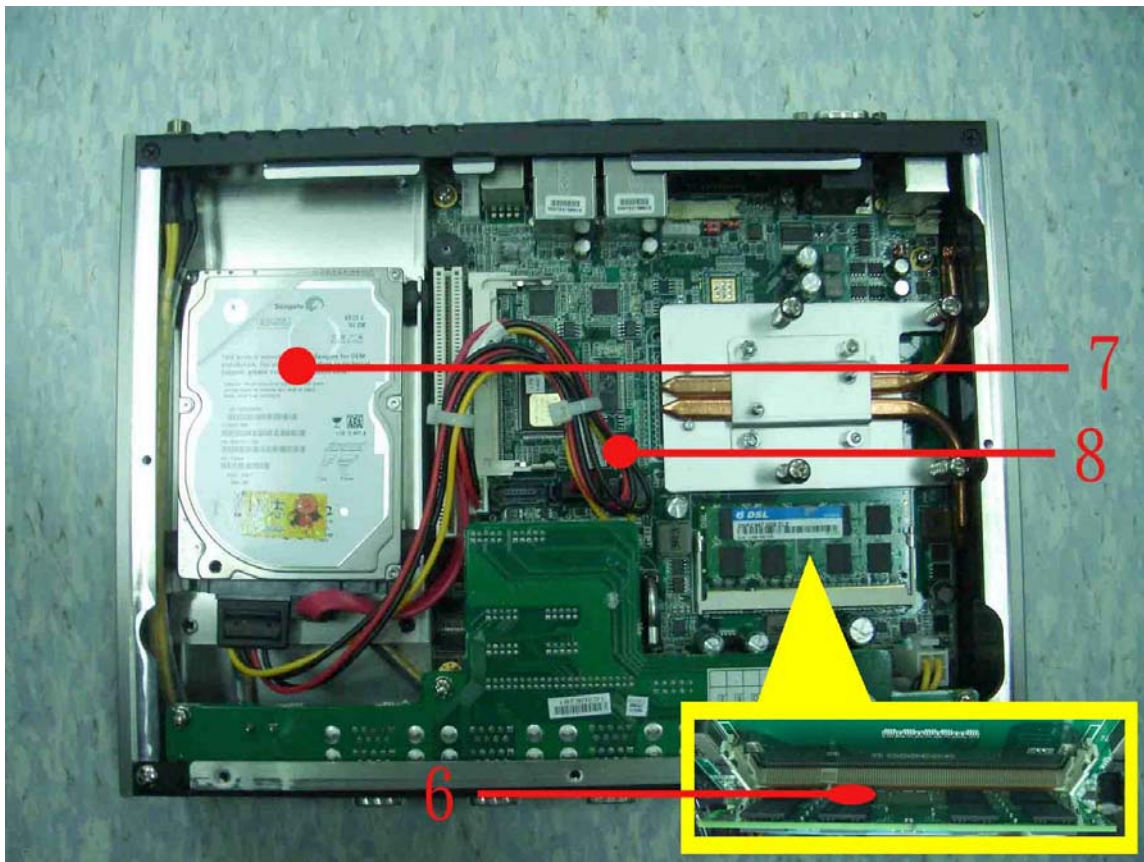
Continuous running till thermal stability (within less than 1°C)

**Test Software:**

Windows XP / Run PassMark Burn In Test 6.0 Pro

**Terminal Recorder:**

Measuring Thermal Couple Position :



# Temperature rise test



**Thermal profile data:**

**GES-2200F**

| Point  | Temp. Stage(°C) | Spec | 50   | 25   |
|--|-----------------|------|------|------|
| 01. U28 - (TF) Intel CPU.Pineview D.DUAL CORE.D510.1.66GHz. SLBLA  |                 | 100  | 93.3 | 68.3 |
| 02. U11 -(TF) ICH8M.INTEL.NH82801HBM.SLB9A   |                 | 105  | 86.5 | 61.5 |
| 03. U26 - (TF) CLOCK GENERATOR.IDT.9LPRS501PGLF  |                 | 100  | 93.6 | 68.6 |
| 04. U27 - (TF) Super I/O.Winbond.W83627UHG   |                 | 100  | 84.5 | 59.5 |
| 05. U9 - (TF) 7.1Channel HD Audio Codec.VIA.VT1708B  |                 | 85   | 83.8 | 58.8 |
| 06. Memory   |                 | 95   | 90.4 | 65.4 |
| 07. HDD Surface  |                 | 85   | 76.7 | 51.7 |
| 08. Control Box Inside Air Temperature   |                 | N/A  | 74.6 | 49.6 |
| 09. Control Box External Surface   |                 | N/A  | 69.5 | 44.5 |
| 10. Chamber Air Temperature  |                 | N/A  | 49.9 | 24.9 |
| <b>Any Tm value showed in red words which meaning the value over the Tc degree C of this device specification.</b> |                 |      |      |      |

# Temperature rise test

## Temperature Measurement Table:

| Location     | T <sub>A</sub> =49.9°C | Temp. Rise<br>(Thermal Couple) | SpeedFan 4.31<br>(Read from BIOS) |
|--------------|------------------------|--------------------------------|-----------------------------------|
| CPU          |                        | 93.6°C                         | 108.0°C                           |
| System Temp. |                        | N/A                            | 99.0°C                            |

## Sample Configuration & Quantity Under Test:

Quantity: 1 (GES-2200F)

## Test Result:

No problem was found during the temperature rise operation test.

**Test Date:** 10-07~09-2010

**Test Product:** GES-2200F

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

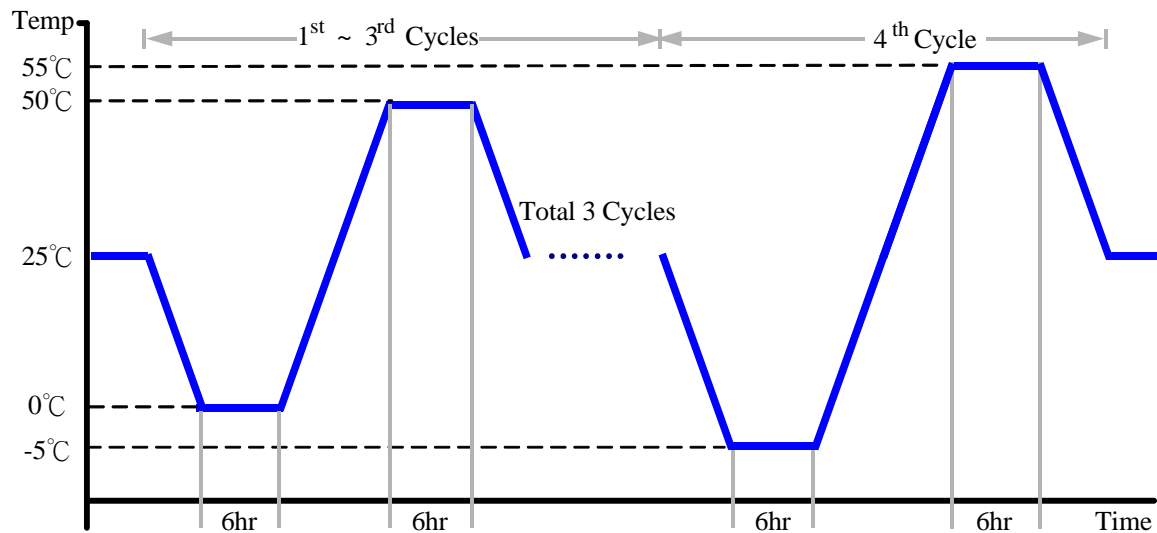
**Test Standard:** Reference IEC68-2-14 Testing procedures  
Test N: Change of temperature Test

**Test Equipment:**

Programmable Temperature & Humidity Chamber  
K.SON. INS. TECH. CORP.  
Model: THS-B6T-150+LN2  
Date of Calibration: 04/01/10  
Serial Number: 6487KT

**Test Condition:**

1. Test Low Temperature: 0°C (1~3 cycles)  
-5°C (4<sup>th</sup> cycle)
2. Test High Temperature: 50°C (1~3 cycles)  
55°C (4<sup>th</sup> cycle)
3. Test dwell time: 6Hrs
4. Temperature slope: 2°C/min
5. Test cycle: 4 cycles
6. Test Environment Curve:



**Sample Configuration & Quantity Under Test:**

Quantity: 1 (GES-2200F)

**Test Result:**

No problem was found during the temperature operation cycle test.

**Test Date:** 12-01~03-2010

**Test Product:** GES-2200F

**Test Site:** AAEON QE 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.

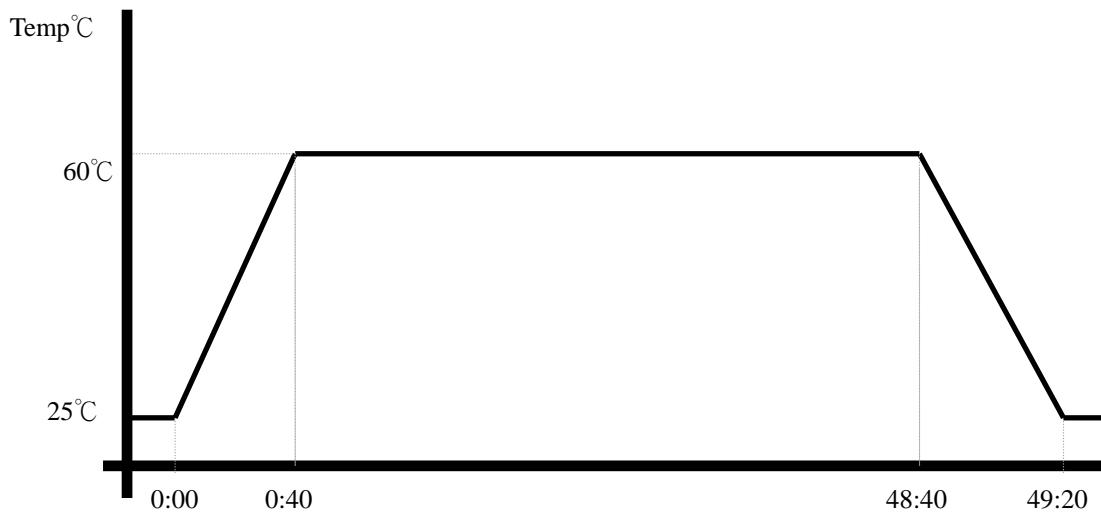
Model: THS-B6T-150+LN2

Date of Calibration: 04/01/10

Serial Number: 6487KT

**Testing Item:**

1. Test Temperature: 60°C
2. Test Times: 48Hrs
3. Test Software: Windows XP / Run PassMark Burn In Test 6.0 Pro
4. Test Environment Curve:



**Sample Configuration & Quantity Under Test:**

Quantity: 1 (GES-2200F)

**Test Result:**

No problem was found after the high temperature storage test.



**Test Date:** 11-28~30-2010

**Test Product:** GES-2200F

**Test Site:** AAEON QE 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-B6T-150+LN2

Date of Calibration: 04/01/10

Serial Number: 6487KT

**Testing Item:**

1. Test Temperature: -10°C
2. Test Times: 48Hrs
3. Test Software: Windows XP / Run PassMark Burn In Test 6.0 Pro
4. Test Environment Curve:



**Sample Configuration & Quantity Under Test:**

Quantity: 1 (GES-2200F)

**Test Result:**

No problem was found after the low temperature storage test.

**Test Date:** 12-03~06-2010

**Test Product:** GES-2200F

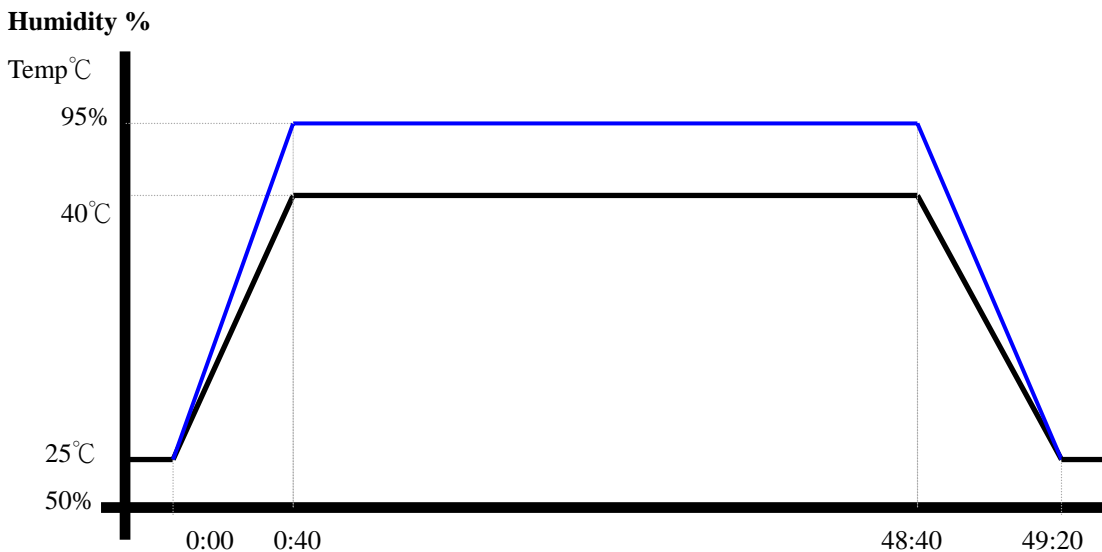
**Test Site:** AAEON QE Internal Lab.

**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-B6T-150+LN2  
Date of Calibration: 04/01/10  
Serial Number: 6487KT

**Testing Item:**

1. Test Temperature: 40°C
2. Test Humidity: 95%RH
3. Test Times: 48Hrs
4. Test Software: Windows XP / Run PassMark Burn In Test 6.0 Pro
5. Test Environment Curve:



**Sample Configuration & Quantity Under Test:**  
Quantity: 1 (GES-2200F)

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

# Cold start and hot start test

**Test Date:** 12-06~07-2010

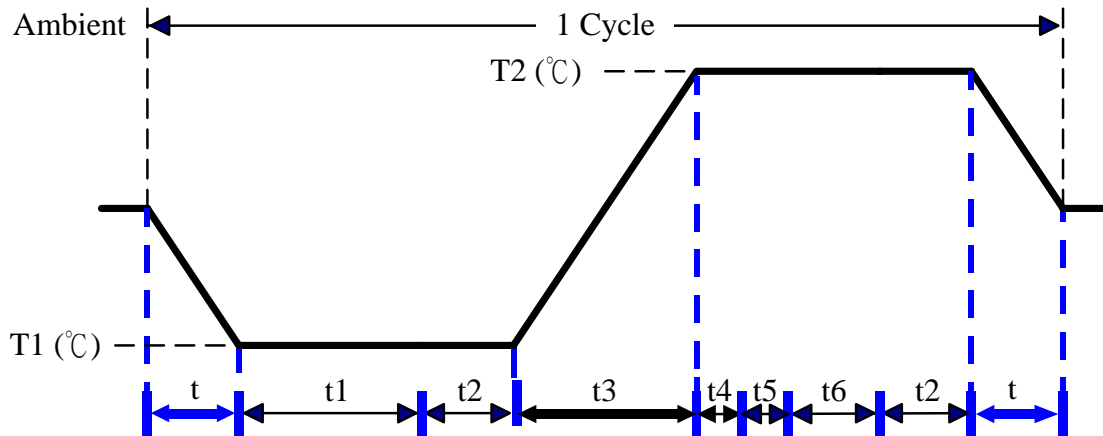
**Test Product:** GES-2200F

**Test Site:** AAEON QE 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: 04/01/10  
Serial Number: 6487KT

**Test Condition:**



| Parameters | Description |
|------------|-------------|
| T1         | -5°C        |
| T2         | 55°C        |
| t1         | 4 hrs       |
| t2, t6     | 2 hrs       |
| t4, t5     | 1hrs        |
| t, t3      | 2°C/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.