EMB-QM87A

Temperature/Humidity Test Report

Report NO: 13I020005

Summary	☑ **Pass** ☐ **Fail** Note : There is/are ___ defect(s) not list in the report, please check it in the DTS Website. ☐ **Pass with Deviation** **Comment: _____**

Issue date	Approval	Test Engineer
2013-03-15	**Tom Lin**	**Matthew Chi**

Test item list

Testing Result

Num	Test item list	Result	Remark
1	Temp./humidity power on/off test	Pass	
2	Temperature variation operation test	Pass	
3	Cold start and hot start test	Pass	

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Configuration of EUT

Test Product: EMB-QM87A A0.1

Sample Configuration & Quantity Under Test:

1. CPU: Genuine Intel CPU 2.10GHz
2. BIOS: EMB-QM87 R0.4(EM87AM04)(02/19/2013)
3. Chipset: Intel QM87
4. Memory: DSL DDR3 1600 8GB(ELPIDA J4208EBBG-GN-F)x2
5. HDD: Seagate 3.5” 500GB(ST500DM002)
6. Test Software: Windows 7 64Bit/ Run PassMark Burn In Test 7.0 Pro
7. AT Power Supply: ZIPPY HG2-6400P
8. CPU Fan:

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Temp./humidity power on/off test

Test Date: 02-27 ~ 03-01-2013

Test Site: AAEON QE Dept.

Test Standard: Refer to IEC 68-2-30 Testing procedures
Test Db: Damp Heat Test

Test Equipment:

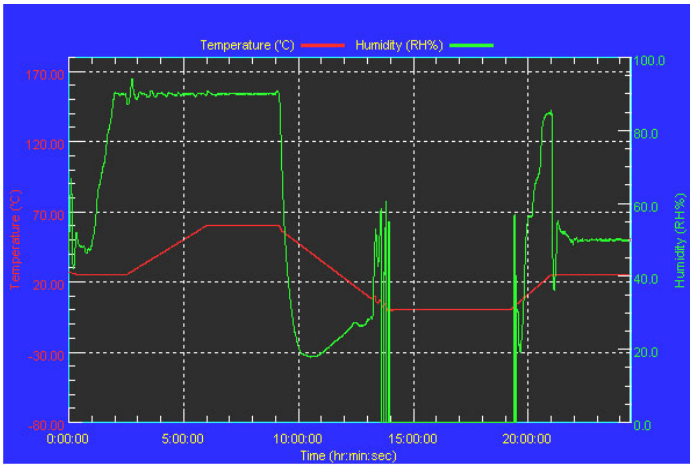
Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-B6T-150+LN2
Date of Calibration: 10/13/11
Serial Number: 6487KT

Temperature & Humidity Power On/Off Test:

Testing Specification:

Step	Temperature (℃)	Humidity (%RH)	Duration (HH:MM)
1	25	50	00:30
2	25	50	00:30
3	25	90	01:00
4	25	90	00:30
5	60	90	03:30
6	60	90	03:00
7	0	0	04:50
8	0	0	05:23
9	25	50	01:47
10	25	50	03:00

Test Curve:



Test Result:

Test Method	Actual	Successful	Failure rate
Power On/Off	2310/times	2310/times	0.0 %
Note: Failure rate must be under 0.2%.			

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Temperature variation operation test

Test Date: 03-01~04 -2013

Test Site: AAEON QE Dept.

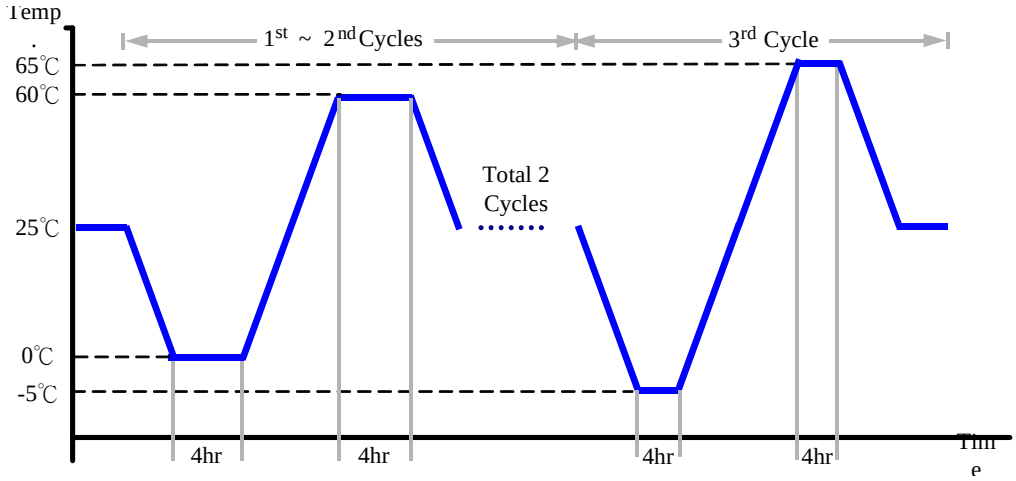
Test Standard: Refer to IEC 68-2-14 Testing procedures
Test N: Change of temperature Test

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-B6T-150+LN2
Date of Calibration: 10/13/11
Serial Number: 6487KT

Temperature & Humidity Cycle Test:

1. Test Low Temperature: 0℃ (1~2 cycles)
   -5℃ (3rd cycle)
2. Test High Temperature: 60℃ (1~2 cycles)
   65℃ (3rd cycle)
3. Test dwell time: 4Hrs (1~2 cycles)
   4Hrs (3rd cycle)
4. Temperature slope: 2℃/min
5. Test cycle: 3 cycles
6. Test Environment Curve:



Test Result:

No issues were found during the temperature variation operation test.

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Cold start and hot start test

Test Date: 02-26 ~27-2013

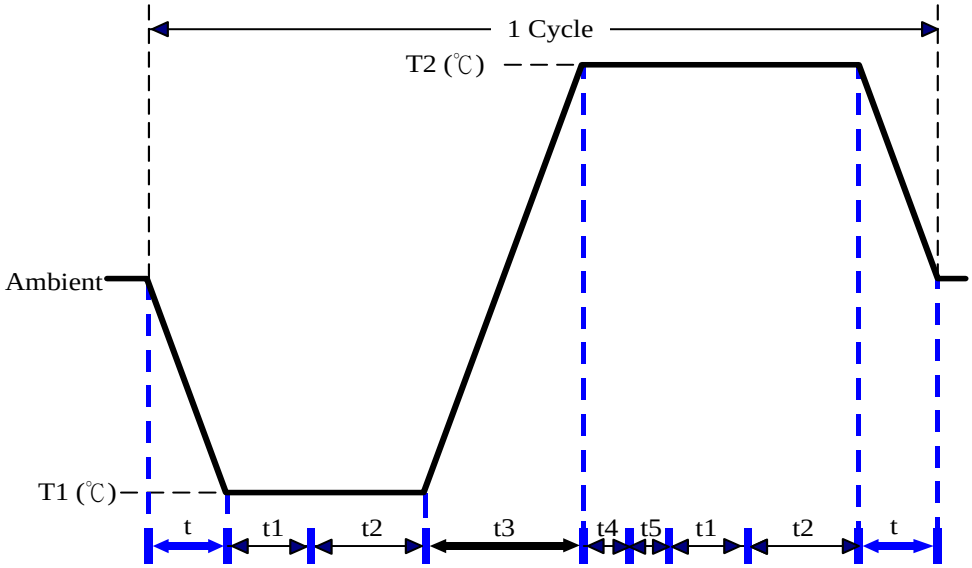
Test Site: AAEON QE Dept.

Test Standard: Refer to 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: 10/13/11
Serial Number: 6487KT

Test Condition:



Parameters	Description
T1	-5℃
T2	65℃
t1	1 hrs
t2	2 hrs
t4, t5	30 min
t, t3	2℃/min
n (Cycle)	1

t,t3 = temprature slope
t, t1: Power Off
t2: Power on/off test 10 times (on 2 min / off 5min)
t3,t4: Run PassMark Burn In Test
t5: Windows 7 Software restart test 2 times
Test Software:Windows 7

Test Result:

a. No issues were found during the cold start test.

b. No issues were found during the hot start test.

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