

EMB-Q77A

Temperature/Humidity Test Report

Report NO: 13IP020004

Summary	<p><input checked="" type="checkbox"/> Pass</p> <p><input type="checkbox"/> Fail</p> <p>Note : There is/are ____ defect(s) not list in the report, please check it in the DTS Website.</p> <p><input type="checkbox"/> Pass with Deviation</p> <p>Comment: _____</p>
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Issue date

2013-03-18

Approval

Tom Lin

Test Engineer

Rex Chang

Test item list

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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	

Configuration of EUT

Test Product: EMB-Q77A 1.00

Sample Configuration & Quantity Under Test:

1. CPU: Intel Core i7-3770 / 3.40GHz
2. BIOS Ver. 0104 x64 (02/27/2013)
3. Chipset: Intel Panther Point Q77, Intel Sandy bridge
4. Memory: ADATA 8GB * 2 / DDR3 1600 / Micron 2QE22 D9QBJ
5. USB Flash: Apacer 4GB (For DOS Mode Power On/Off Test)
6. 2.5" SATA HDD: TOSHIBA MK1676GSX /160GB
7. Test Software: Windows 7 / Run PassMark Burn In Test 7.0 Pro
8. ATX Power Supply: CWT DSA400P-C
9. CPU Cooler:



Temp./humidity power on/off test

Test Date: 03-13 ~ 14-2013

Test Site: AAEON QE Dept.

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

Test Equipment:

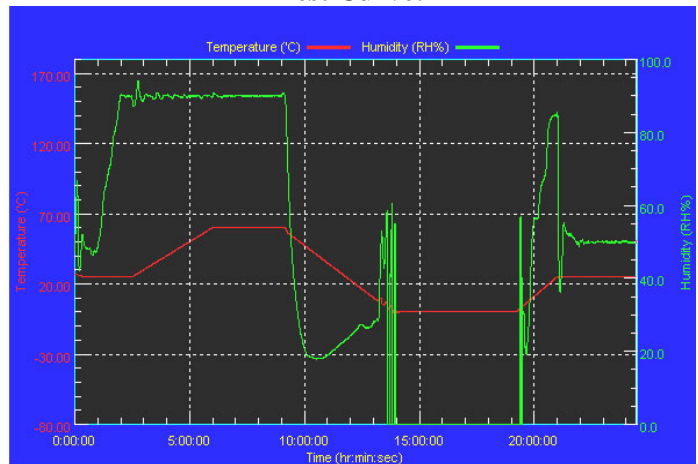
Programmable Temperature & Humidity Chamber (K.SON. INS. TECH. CORP.)
Model: THS-D4H+-100
Date of Calibration: 10/10/12
Serial Number: 2582

Temperature & Humidity Power On/Off Test:

Testing Specification:

Step	Temperature (°C)	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	1121/times	1121/times	0 %
Note: Failure rate need to under 0.2%.			

Temperature variation operation test

Test Date: 03-15 ~ 16-2013

Test Site: AAEON QE Dept.

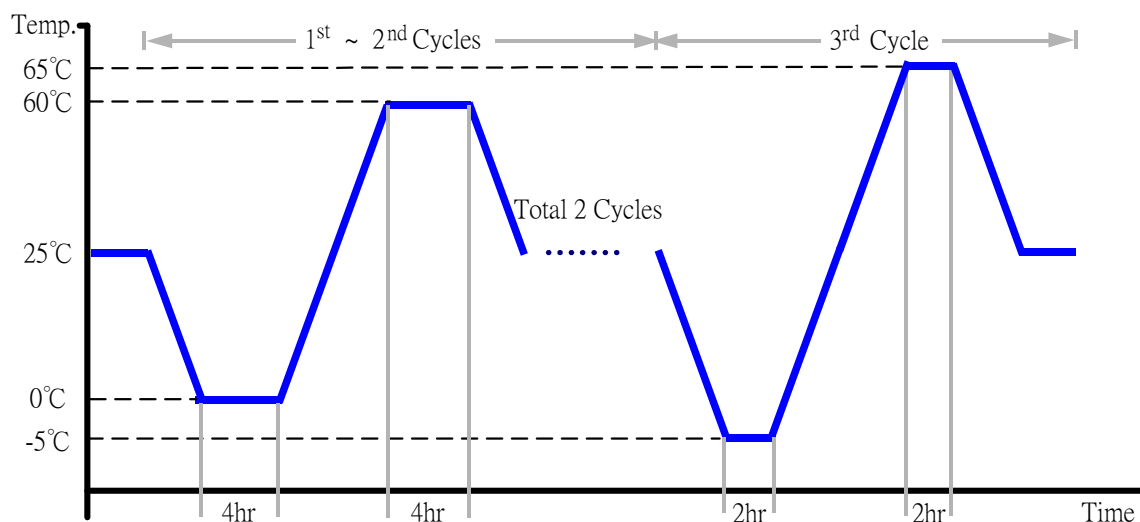
Test Standard: Refer to IEC 68-2-14 Testing procedures
Test N: Change of temperature Test

Test Equipment:

Programmable Temperature & Humidity Chamber (K.SON. INS. TECH. CORP.)
Model: THS-D4H+-100
Date of Calibration: 10/10/12
Serial Number: 2582

Temperature & Humidity Cycle Test:

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



Test Result:

No issues were found during the temperature variation operation test.

Cold start and hot start test

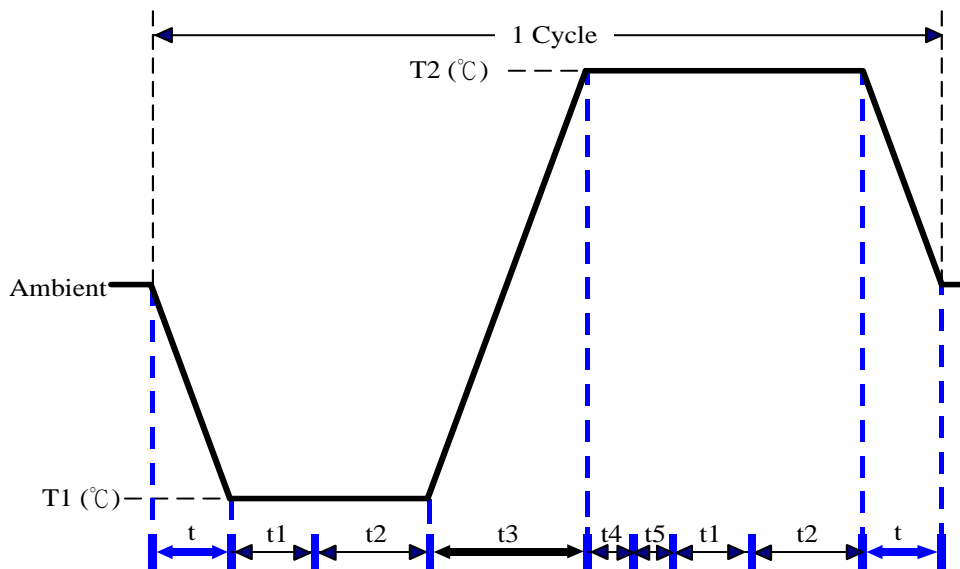
Test Date: 03-14 ~ 15-2013

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-D4H+-100
Date of Calibration: 10/10/12
Serial Number: 2582

Test Condition:



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

t, t3 = temperature 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.