

EMB-Q87A

Temperature/Humidity Test Report

Report NO: 14IP020004

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

2014-02-24

Approval

Tom Lin

Test Engineer

Rex Chang

Test item list

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Testing Result

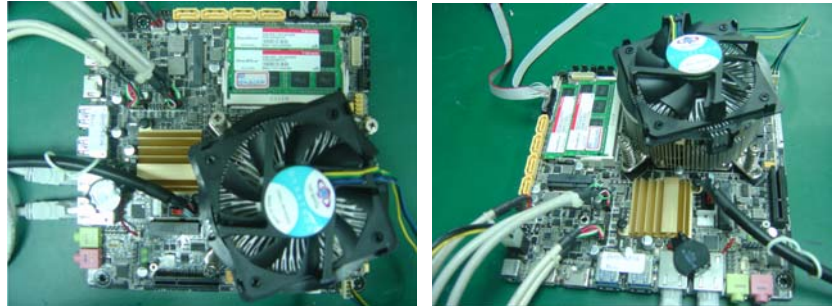
Num	Test item list	Result	Remark
1	Temp./humidity power on/off test	Pass	
2	Temperature variation operation test	Pass	
3	Cold start and hot start test	Pass	

Configuration of EUT

Test Product: EMB-Q87A R1.01

Sample Configuration & Quantity Under Test:

1. CPU: Intel Core i7-4770S / 3.10GHz
2. BIOS : R 0.4 (EQ87AT04) (01/13/2014)
3. Chipset: Intel Q87
4. Memory: (SD3-201313//sd3-201314)Innodisk DDR3-1600 8GB
(hynix H5TQ4G83MFR) *2
5. 2.5" SATA -201321 HDD: TOSHIBA 320GB (MK3276GSX)
6. Test Software: Windows 7 / Run PassMark Burn In Test 7.1 Pro
7. AT Power Supply: AT TO ATX Mode
8. CPU Cooler:



Temp./humidity power on/off test

Test Date: 2-24 ~ 23-2014

Test Site: AAEON QE Dept.

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

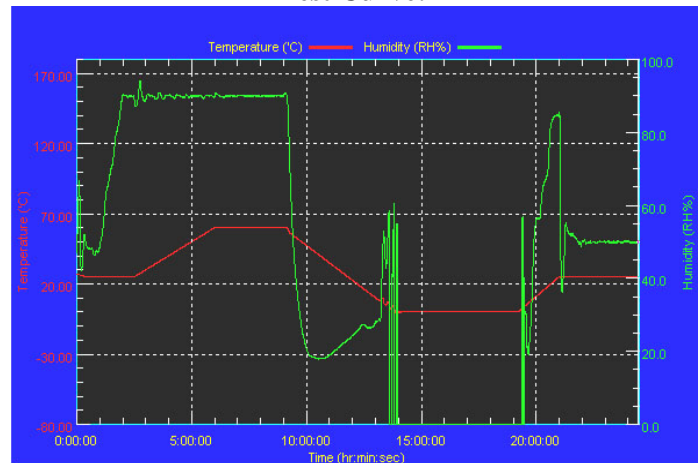
Test Equipment:
Programmable Temperature & Humidity Chamber (K.SON. INS. TECH. CORP.)
Model: THS-D4H+-100
Date of Calibration: 09/16/13
Serial Number: 2582

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	1068/times	1068/times	0 %

Note: Failure rate need to 0%.

Temperature variation operation test

Test Date: 2-22~ 23-2014

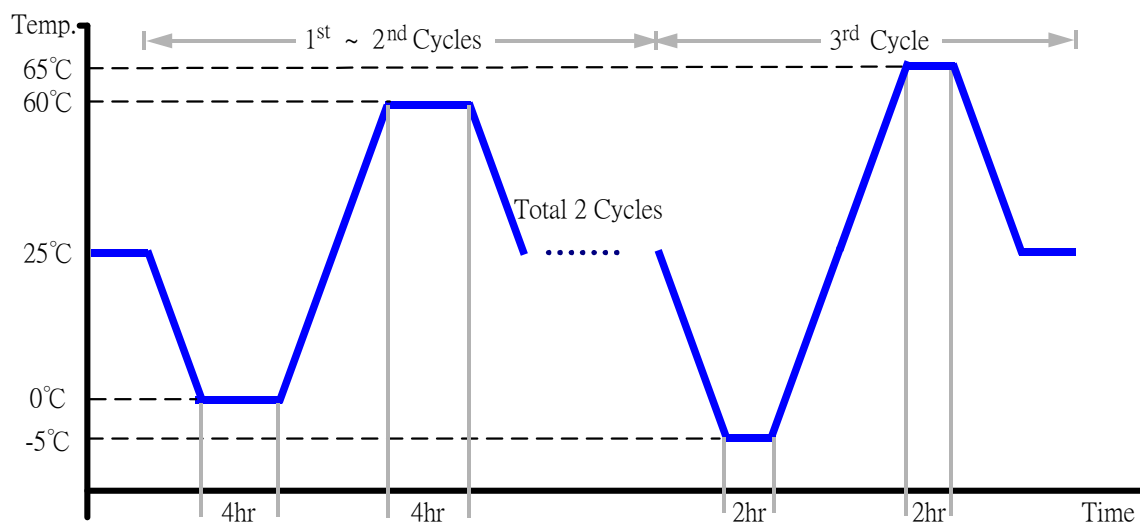
Test Site: AAEON QE Dept.

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: 09/16/13
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

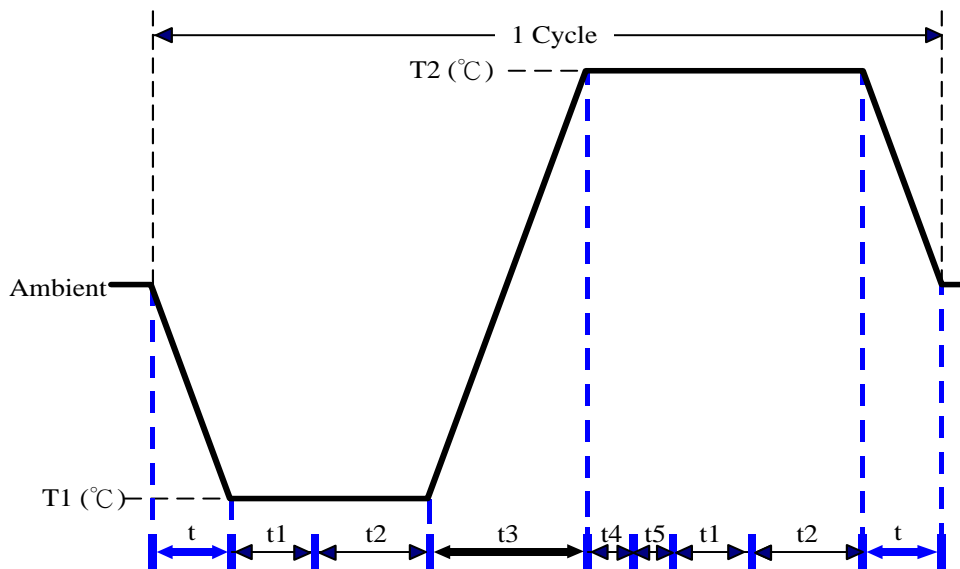
Test Date: 2-21 ~ 22-2014

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: 09/16/13
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.