

# EMB-QM77

Ver.A0.2

## Temperature/Humidity Test Report

Report NO: 12I020007

Summary	<p><input checked="" type="checkbox"/> <b>Pass</b></p> <p><input type="checkbox"/> <b>Fail</b></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"/> <b>Pass with Deviation</b></p> <p>Comment: _____</p>
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Issue date

2012-03-23

Approval

Wayne Chen

Test Engineer

Clement Chien

# Test item list

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## Testing Result

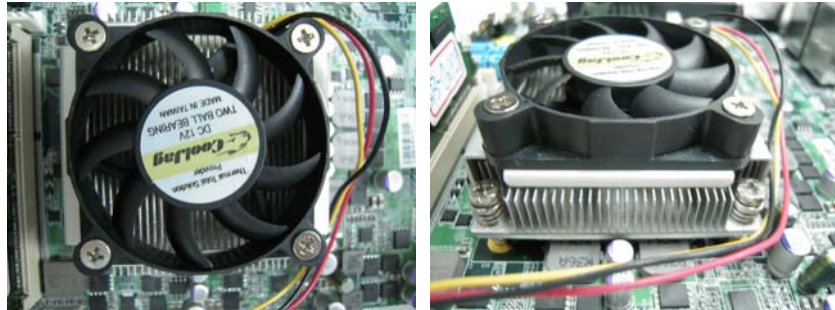
Num	Test item list	Result	Remark
1	Temp./humidity power on/off test	Pass	
2	Temperature variation operation test	Pass	
3	Cold start and hot start test	Pass	

# Configuration of EUT

## Test Product: EMB-QM77

### Sample Configuration & Quantity Under Test:

1. CPU: Intel core i7-3610QE / 2.3GHz (Bios Ver. EMB-QM77 R0.6)
2. Chipset: Intel QM77 Express
3. Memory: Transcend 4G 1066 SODIMM CL7
4. HDD: WD WD6402AAEX 640GB SATA3
5. Test Software: Windows 7 / Run PassMark Burn In Test 7.0
6. Power Supply: ATX Power
7. CPU Fan:



# Temp./humidity power on/off test

**Test Date:** 03-19 ~ 20-2012

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

**Test Standard:** Reference IEC 68-2-30 Testing procedures  
Test Db: Damp Heat Test

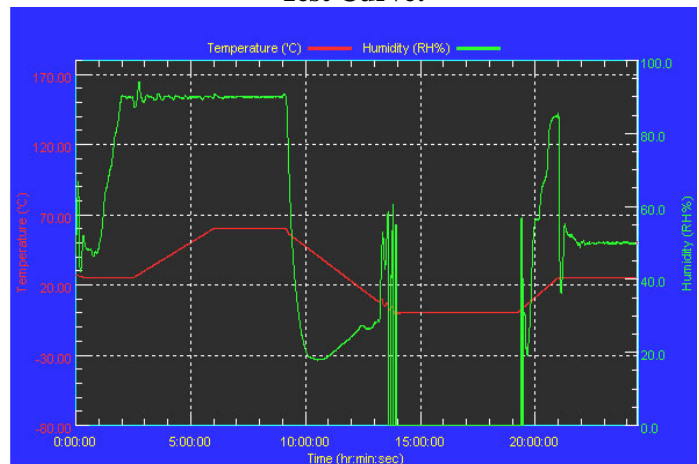
**Test Equipment:**  
Programmable Temperature & Humidity Chamber  
K.SON. INS. TECH. CORP.  
Model: THS-B6T-150+LN2  
Date of Calibration: 03/17/11  
Serial Number: 6487KT

## 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	1244/times	1244/times	0 %

Note: Failure rate need to under 0.2%.

# Temperature variation operation test

**Test Date:** 03-22 ~ 23-2012

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

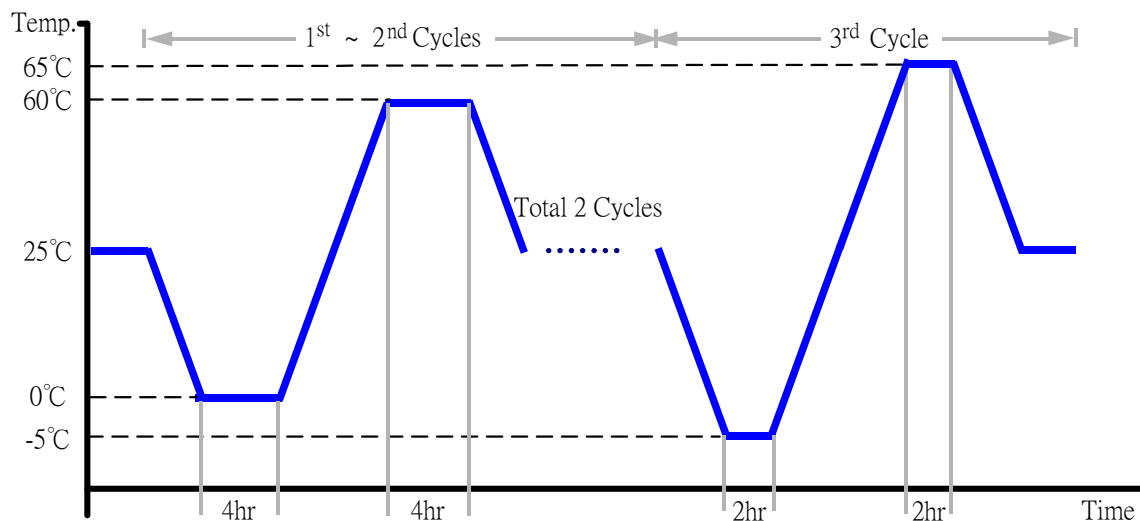
**Test Standard:** Reference IEC 68-2-14 Testing procedures  
Test N: Change of temperature Test

**Test Equipment:**

Programmable Temperature & Humidity Chamber  
K.SON. INS. TECH. CORP.  
Model: THS-B6T-150+LN2  
Date of Calibration: 03/17/11  
Serial Number: 6487KT

**Temperature & Humidity Cycle Test:**

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



**Test Result:**

No problem was found during the temperature variation operation test.

# Cold start and hot start test

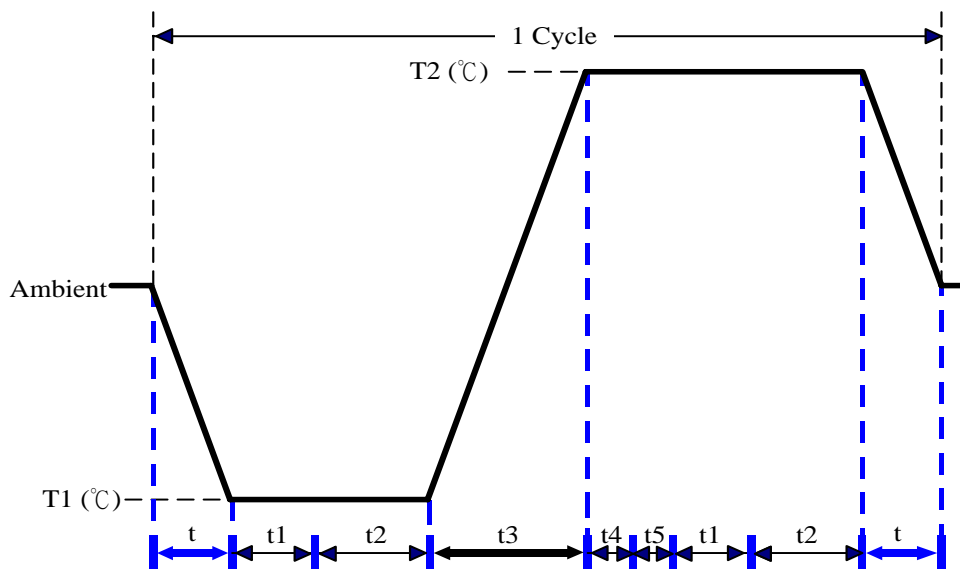
**Test Date:** 03-21 ~ 22-2012

**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: 03/17/11  
 Serial Number: 6487KT

**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: Win 7 Software restart test 2 times  
 Test Software: Windows 7

**Test Result:**

- a. No problem was found during the cold start test.
- b. No problem was found during the hot start test.