EMB-BSW1

Temperature/Humidity Test Report

Report NO: 16IP020003

Summary	☐ **Pass** . ☐ **Fail** ☑ **Pass with Deviation** 　　**Comment:** (1). The EMB-BSW1 can not to display boot screen, when the EMB-BSW1 use ASUS monitor (Model No.: VS247, VS228) and Dell monitor (Model No.: UZ2315Hf) in 25℃ working environmental. Therefore monitor change to use ASUS monitor (Model No.: PA238), It is able to display the boot screen. (2). The Network 1 & 2 test failed, when LAN load is setting on 100% with run PassMark Burn In Test 8.1 Pro in 25℃ working environmental. Error message show "Timeout waiting for packet". Therefore change the LAN load 100% to 99% and then after run the PassMark Burn In Test again during the temperature variation operation test, test result was pass. (3). The Sound test option failed during the temperature variation operation test (Run PassMark Burn In Test 8.1 Pro). Error message shows " Failed to play back MIDI via sequencer". Therefore install the Realtek audio driver (Driver Version: 6.0.1.7765) with setting power options (change to high performance) and then after run PassMark Burn In Test again during the temperature variation operation test, test result was pass.

Issue date	Approval	Test Engineer
2016-03-29	**KJ Wang**	**Jerry Chen**

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	

Configuration of EUT

Test Product: EMB-BSW1 R1.02
Sample Configuration & Quantity Under Test:

1. CPU: Intel Pentium N3710 1.6 GHz
2. BIOS Ver. R1.3 (EBW1AM13) (03/07/2016)
3. Chipset: Intel Braswell
4. Memory: Transcend DDR3L 1600 SO 4GB (SEC / K4B4G0846B) *2
5. USB Flash: Transcend 8 GB (For DOS Mode Power On/Off Test)
6. 2.5" SATA SSD: OCZ / TRN100-25SAT3-240G 240GB
7. Test Software: Windows 8 / Run PassMark Burn In Test 8.1 Pro
8. AT Power Supply: Zippy HG2-6400P / 400W
9. Heat Sink:

Temp./humidity power on/off test

Test Date: 03-23 ~ 24-2016

Test Site: AAEON QE Dept.

Test Standard: Refer to IEC 68-2-30 Testing procedures
Test Db: Damp Heat Test
Refer to IEC 68-2-1 Testing procedures
Test Ad: Cold Test

Test Equipment:

Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-D7TS-100+LN2

Date of Calibration: 23/04/2015
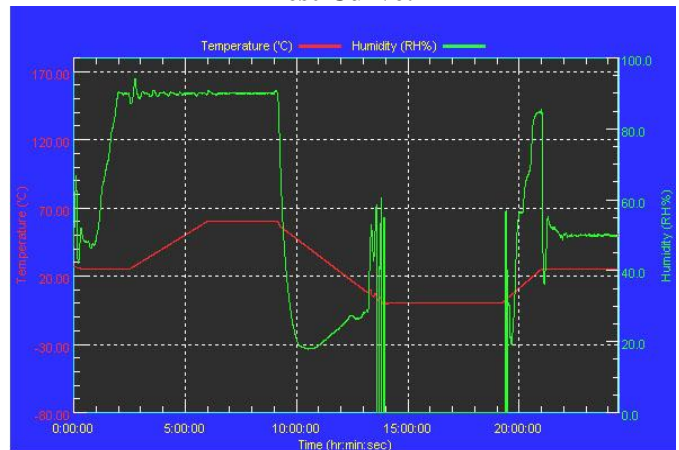Due date of Calibration: 22/04/2016
Serial Number: A0445

Temperature & Humidity Power On/Off Test:
1. Test High Temp./Humidity: 60℃ @90%RH
2. Test Low Temperature: 0℃
3. Test Time: 24Hours / Cycle
4. Test Cycle: 1 Cycles
5. Test Software: DOS Mode / Run Boot Up Record Program ver 1.41

<table>
<tr><td colspan="4" align="center">Testing Specification:</td><td align="center">Test Curve:</td></tr>
</table>

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 Result:

	Actual	Successful	Failure rate	Test Result
Power On/Off	1947/times	1947/times	0 %	Pass

Note: 1. Failure rate need to under 0%.

2. Power on/off fixture setting: on - 37 sec / off - 5 sec

Temperature variation operation test

Test Date: 03-25 ~ 28-2016

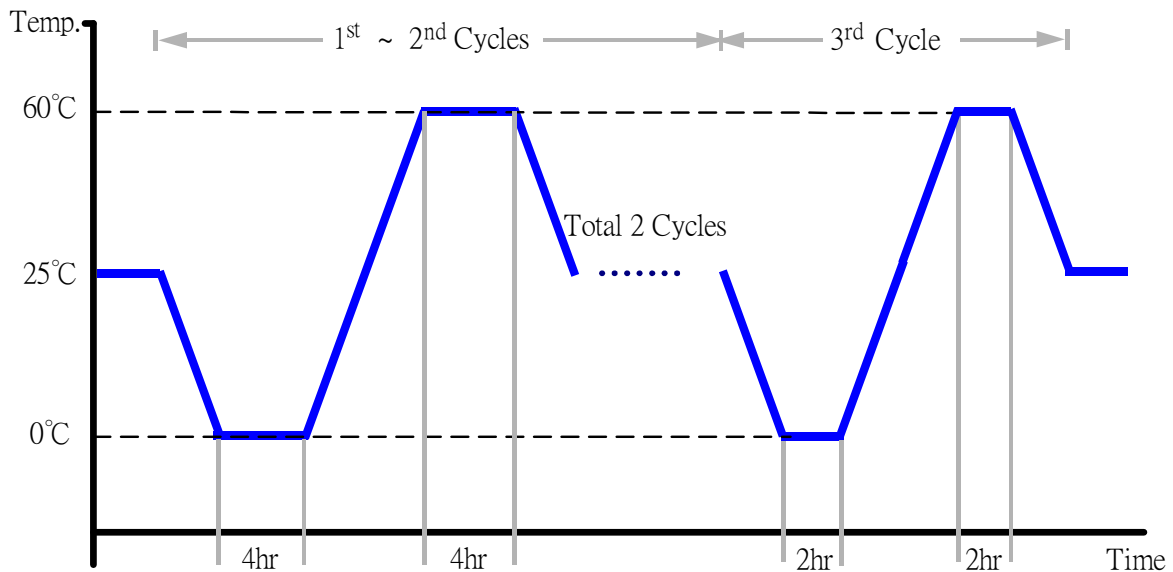**Test Site:** AAEON QE Dept.

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-D7TS-100+LN2
Date of Calibration: 23/04/2015
Due date of Calibration: 22/04/2016
Serial Number: A0445

Temperature & Humidity Cycle Test:

1. Test Low Temperature: 0℃   (1~3 cycles)

2. Test High Temperature: 60℃   (1~3 cycles)

3. Test dwell time: 4Hrs (1~2 cycles)

    2Hrs (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.
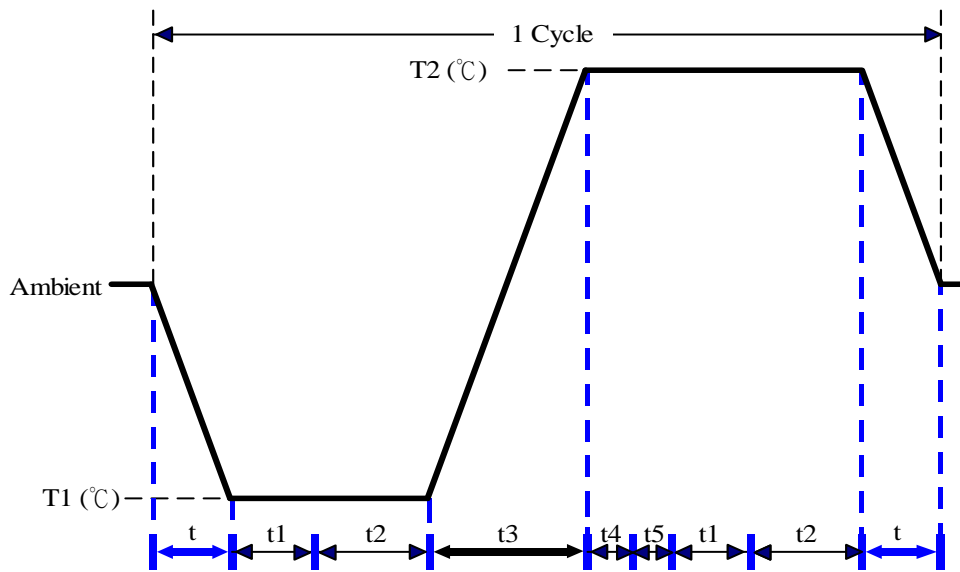
Cold start and hot start test

Test Date: 03-24 ~ 25-2016

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-D7TS-100+LN2

Date of Calibration: 23/04/2015
Due date of Calibration: 22/04/2016
Serial Number: A0445

Test Condition:

Parameters	Description
T1	0℃
T2	60℃
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 8 Software restart test 2 times
Test Software:Windows 8

Test Result:

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

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