

OMNI-2215-BT

Environment Test Report

Report NO: 16P020007

Summary	<p><input type="checkbox"/> Pass</p> <p><input type="checkbox"/> Fail Note : There is/are ____ defect(s) not list in the report, please check it in the DTS Website.</p> <p><input checked="" type="checkbox"/> Pass with Deviation Comment: <u>There are three temperature point marginal passed, the function is normal, hope to get improvement for the next generation.</u></p>
---------	--

Issue date

2016-05-12

QE Manager

KJ Wang

Test Engineer

Jerry Chen

Test item list

1. <i>Test item list</i> -----	2
2. <i>Configuration of EUT</i> -----	3
3. <i>High Temperature operation test</i> -----	4
4. <i>Temperature cycle operation test</i> -----	8
5. <i>High temperature storage test</i> -----	9
6. <i>Low temperature storage test</i> -----	10
7. <i>Humidity test</i> -----	11
8. <i>Cold start and hot start test</i> -----	12

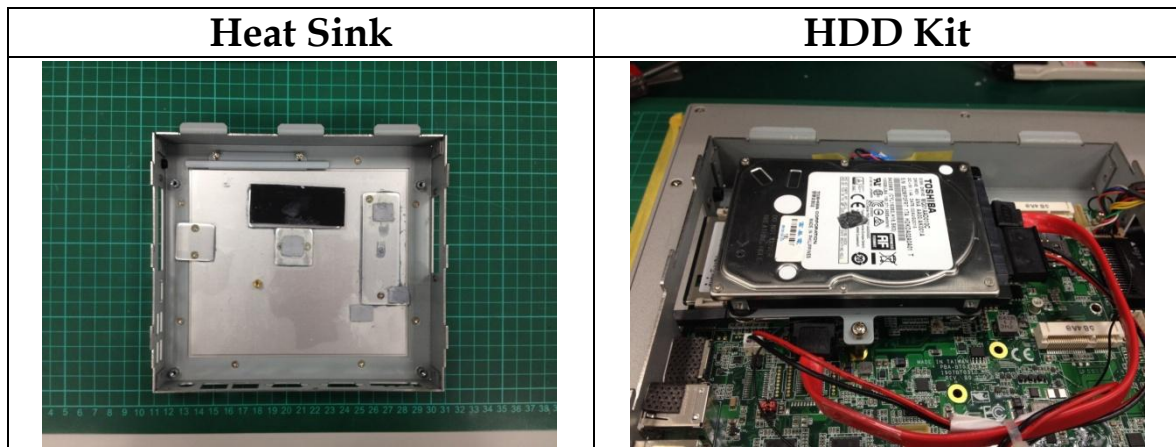
Testing Result

Num	Test item list	Result	Remark
1	High Temperature operation test	Pass	
2	Temperature cycle operation test	Pass	
3	High temperature storage test	Pass	
4	Low temperature storage test	Pass	
5	Humidity test	Pass	
6	Cold start and hot start test	Pass	

Configuration of EUT

Num	Item	Spec
OMNI-2215-BT		
1	21.5" TFT LCD	AUO.G215HVN01.1.1920*1080.18&24 Bits 1ch lvds
2	CPU Board	PBA-BT03 Ver. B0.1
3	CPU	Intel® Celeron® Processor J1900 / 2.0GHz
4	BIOS	OMNI SERIES R0.2 (OMBTAM02)(03/03/2016)
5	Wide Temp. Memory	MEMPHIS 8GB / DDR3L 1600 / IM IM4G08D3F ABG-125ITW
6	Wide Temp. 2.5" SATA HDD	TOSHIBA MQ01AAD010C / 100GB
7	Wide Temp. CFast	Innodisk 3ME Series 16GB / DECFA-16GD07SW2DC-26
8	Test Software	Windows 8 / Run PassMark Burn In Test 8.1 Pro From HDD
9	Adapter	FSP FSP084-DIBAN2

Photos



High Temperature Operation test

Test Date: 05-11-2015

Test Product: OMNI-2215-BT

Test Site: AAEON QE Dept.

Test Standard: Refer to IEC 68-2-2 Testing procedures
Test Bd: Dry Heat Test (Operation)

Test Equipment:

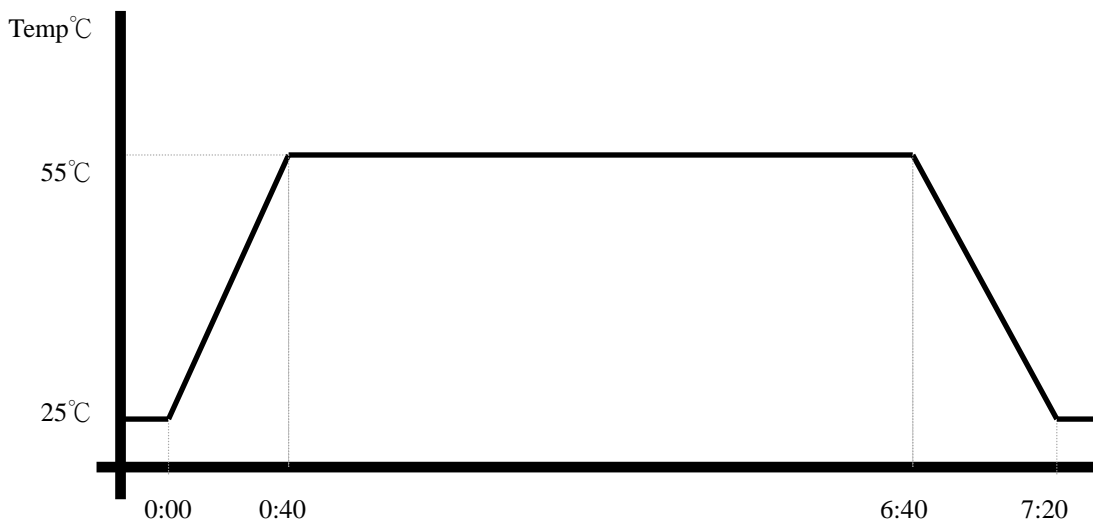
Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-D7TS-100+LN2
Date of Calibration: 09/10/15
Due date of Calibration: 09/09/16
Serial Number: A0004

Temperature Measurement:

20 Channel Thermal Recorder: (OMRON Inc.)
Model: ZR-RX45
Date of Calibration: 12/18/2015
Due date of Calibration: 12/17/2016
Serial Number: H30481978

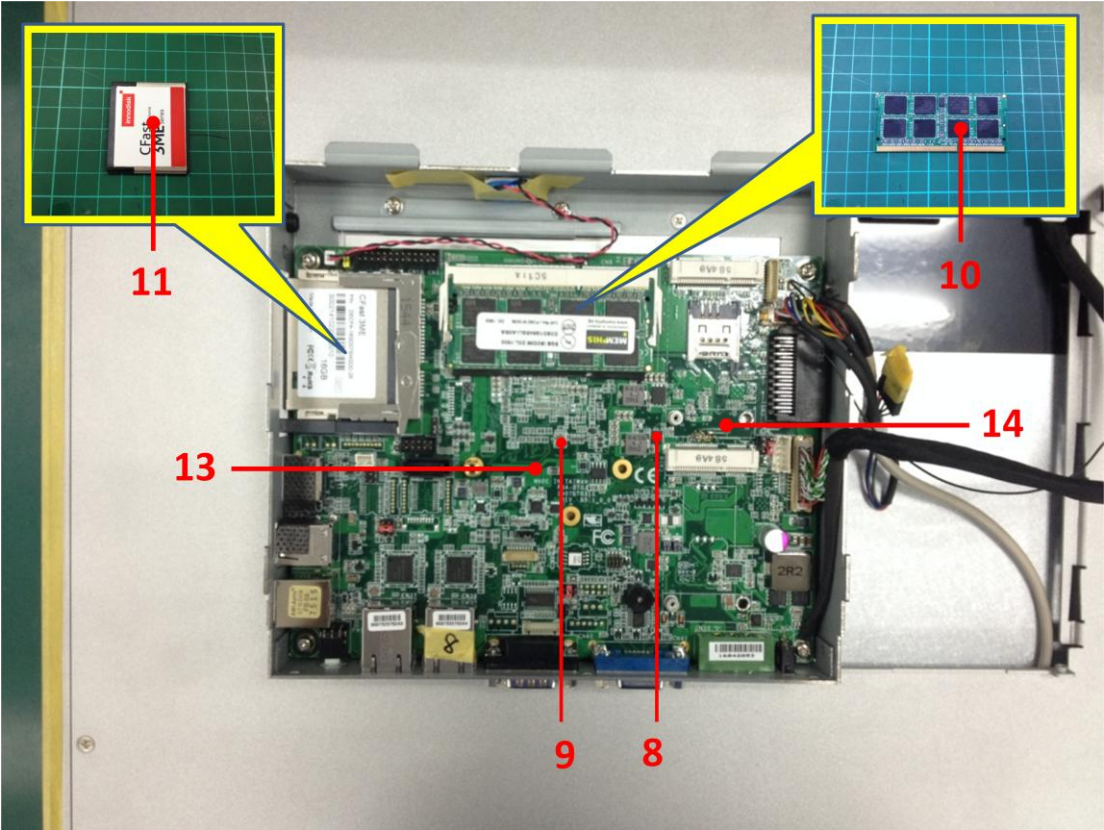
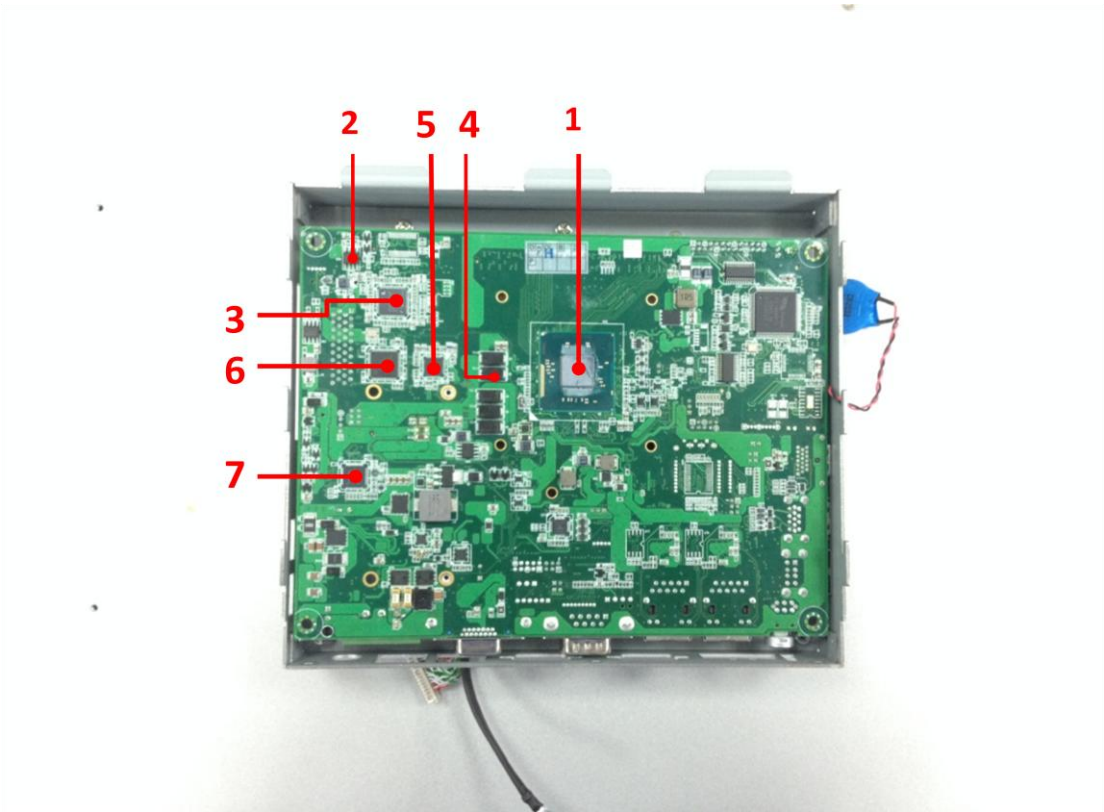
Testing Item:

1. Test Temperature: 55°C
2. Test Times: 6Hrs
3. Test Software: Windows 8 / Run PassMark Burn In Test 8.1 Pro
4. Test Environment Curve:



High Temperature Operation test

Measuring Thermal Couple Position :



High Temperature Operation test



High Temperature Operation test

Thermal profile data:

OMNI-2215-BT (With 0.5m/sec airflow)

Point / Position / Describe	Temp. Stage(°C)	Spec	TAT(*2)	TPT(*3)	Note
		Tc(*1)	55	25	
PBA-BT03 Ver. B0.1					
01.U56 - CPU – Intel Celeron J1900 2GHz		105	76.7	46.7	
02.U39 - IC.LDO Linear Regulator.0.23V.2A.SOP-8.RICHTEK.RT9025-25PSP		125	94.7	64.7	
03.U43 - IC.PCIe-2.0 4port Switch.QFN-64P.ASMEDIA.ASM1184e		95	75.1	45.1	
04.TC11 - SP CAP.330uF.2.5V.+10/-35%.9mohm.3000mA.Panasonic.EEFSX0E331EY		105	82.5	52.5	
05.U55 - IC.Dual-Channel.SVID.D-CAP+.IMVP-7 VCORE.QFN.TI.TPS59641RSLTR		100	76.1	46.1	
06.U54 - IC.USB2.0 7-PORT HUB CONTROLLER.QFN 64.SMSC.USB2517i-JZX		100	89.8	59.8	
07.U67 - IC.Display Port to LVDS Converter.QFN 56 Pin.NXP.PTN3460BS		80	77.2	47.2	Note 5
08.U10 - IC.Synchronous Buck NexFET™.SON 8P.Power Stage.TI.CSD97374Q4M		125	88	58	
09.Y1 - XTAL.25MHz.4P.20PF.30ppm.ECERA.FL2500039		85	80.1	50.1	Note 5
10. RAM / MEMPHIS / ISODIM D3L-1600 8GB (IM / IM4G08D3F / ABG-125ITW)		95	81.6	51.6	
11. CFast / innodisk 3ME Series 16GB Industrial / DECFA-16GD07SW2DC-26		85	82.4	52.4	Note 5
12.HDD / Toshiba MQ01AAD010C 100GB		85	79.5	49.5	
13. Control Box Inside Air Temperature-1		N/A	73.7	43.7	
14. Control Box Inside Air Temperature-2		N/A	76.1	46.1	
15. Control Box External Surface Temperature		N/A	70.2	40.2	
16. Chamber Air Temperature		N/A	55	25	
Note(*): 1. "Tc" indicates the component's case maximum temperature value specified in its datasheet. 2. "TAT" indicates the actual measured temperature in chamber. 3. "TPT" indicates the predicted temperature by offset from TAT. 4. Judgment Criteria: - Fail : Tm > Tc; The measured value is over specification plus margin. - Margin : Tc > Tm > Tc-5°C; The measured value is within specification with margin. It is strongly recommended to add thermal dissipation design for better reliability. - Pass : Tm < Tc-5°C; The measured value is with safety margin. 5. Defect NO. <u>P160202D01</u>					

Sample Configuration & Quantity Under Test:

Quantity: 1 (OMNI-2215-BT)

Test Result:

No issues were found during the temperature rise operation test.

Temperature cycle test

Test Date: 04-27 ~ 29-2016

Test Product: OMNI-2215-BT

Test Site: AAEON QE Dept.

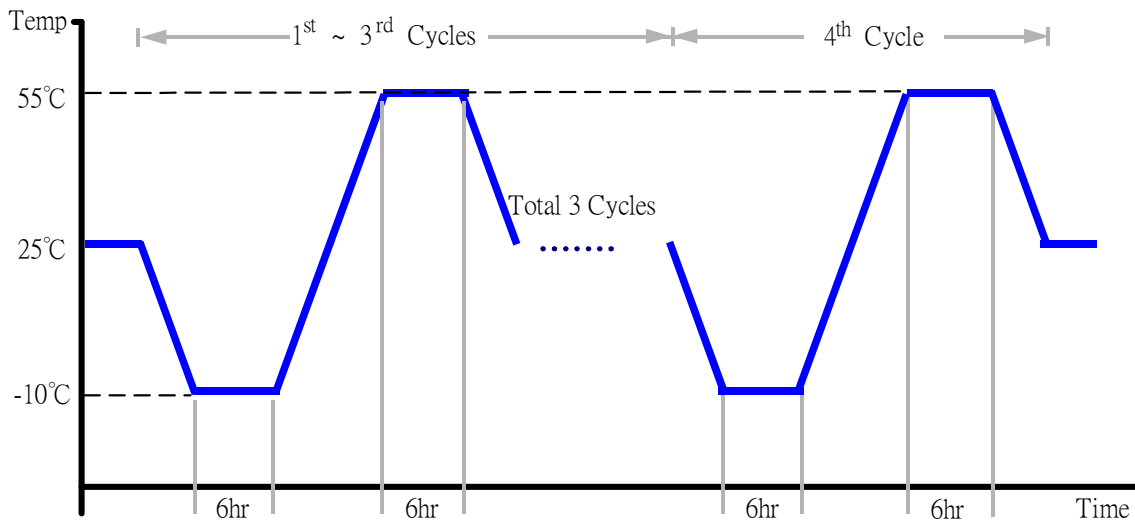
Test Standard: Refer to IEC68-2-14 Testing procedures
Test N: Change of temperature Test

Test Equipment:

Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-D7TS-100+LN2
Date of Calibration: 09/10/15
Due date of Calibration: 09/09/16
Serial Number: A0004

Test Condition:

1. Test Low Temperature: -10°C
2. Test High Temperature: 55°C
3. Test dwell time: 6Hrs
4. Temperature slope: $2^{\circ}\text{C}/\text{min}$
5. Test cycle: 4 cycles
6. Test Software: Windows 8 / Run PassMark Burn In Test 8.1 Pro
7. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (OMNI-2215-BT)

Test Result:

No issues were found during the temperature operation cycle test.

High temperature storage test

Test Date: 04-25 ~ 27-2016

Test Product: OMNI-2215-BT

Test Site: AAEON QE Dept.

Test Standard: Refer to IEC 68-2-2 Testing procedures
Test Bb: Dry Heat Test (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)

Model: THS-D7TS-100+LN2

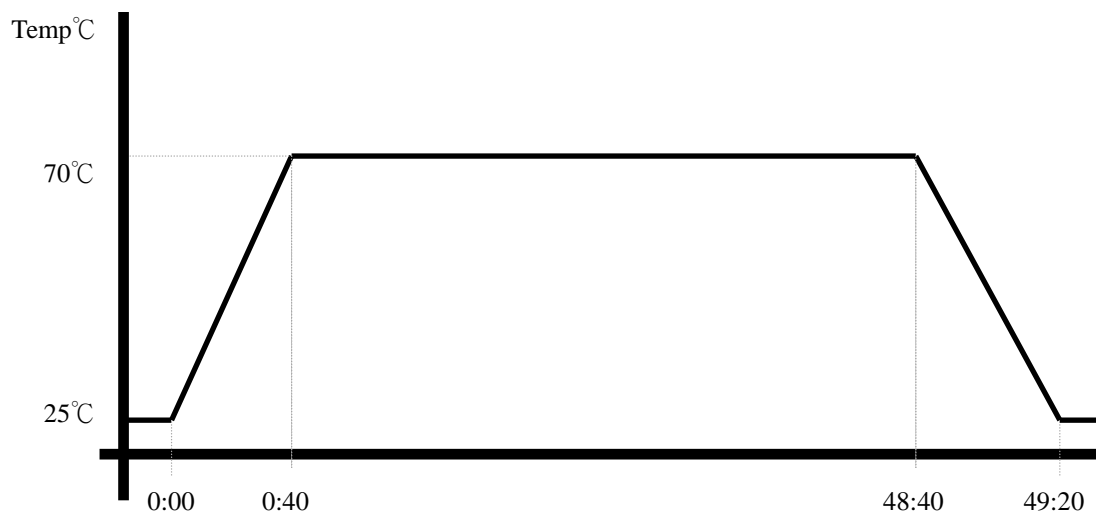
Date of Calibration: 09/10/15

Due date of Calibration: 09/09/16

Serial Number: A0004

Testing Item:

1. Test Temperature: 70°C
2. Test Times: 48Hrs
3. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (OMNI-2215-BT)

Test Result:

No issue was found after the high temperature storage test.

Low temperature storage test

Test Date: 04-20 ~ 22-2016

Test Product: OMNI-2215-BT

Test Site: AAEON QE Dept.

Test Standard: Refer to IEC 68-2-1 Testing procedures
Test Ab: Cold Test (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber (K.SON. INS. TECH. CORP.)
Model: THS-D7TS-100+LN2
Date of Calibration: 09/10/15
Due date of Calibration: 09/09/16
Serial Number: A0004

Testing Item:

1. Test Temperature: -20°C
2. Test Times: 48Hrs
3. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (OMNI-2215-BT)

Test Result:

No issue was found after the low temperature storage test.

Humidity test

Test Date: 04-22 ~ 25-2016

Test Product: OMNI-2215-BT

Test Site: AAEON QE Dept.

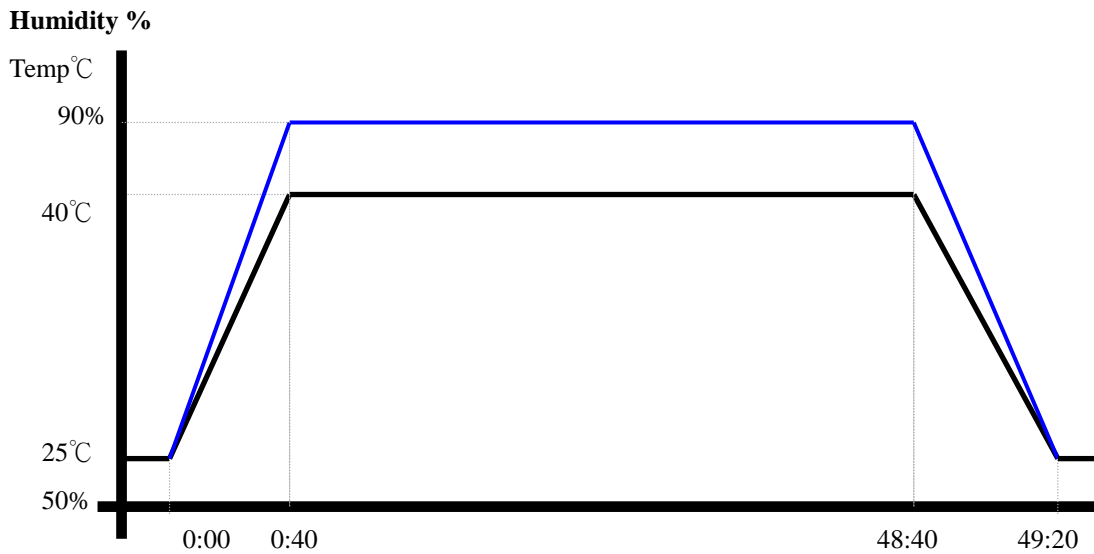
Test Standard: Refer to IEC 68-2-3 Testing procedures
Test Ca: Damp heat, steady state (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-D7TS-100+LN2
Date of Calibration: 09/10/15
Due date of Calibration: 09/09/16
Serial Number: A0004

Testing Item:

1. Test Temperature: 40°C
2. Test Humidity: 90%RH
3. Test Times: 48Hrs
4. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (OMNI-2215-BT)

Test Result:

No issue was found after the humidity storage test.

Cold start and hot start test

Test Date: 05-03~ 04-2016

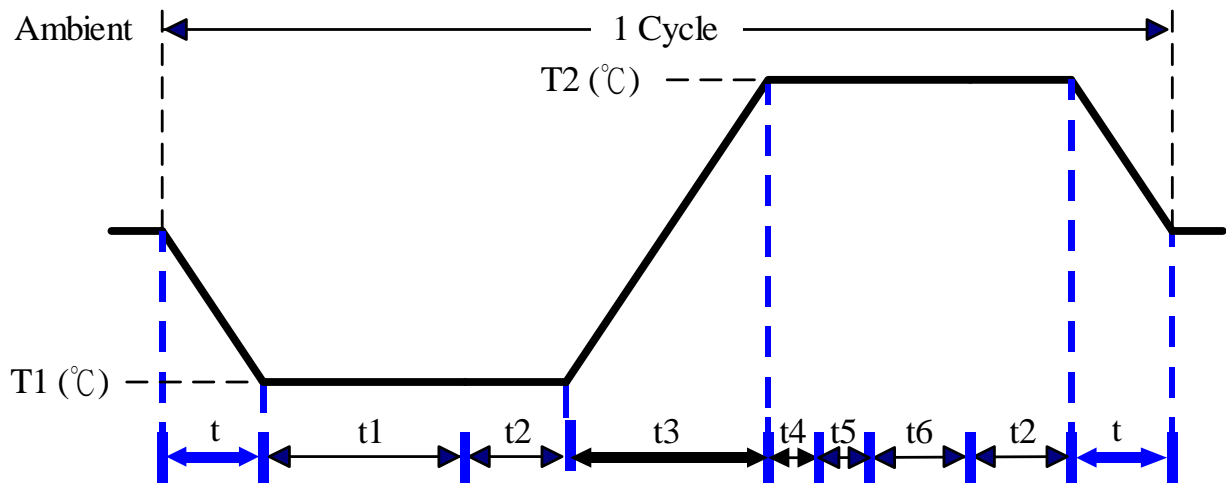
Test Product: OMNI-2215-BT

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: 09/10/15
 Due date of Calibration: 09/09/16
 Serial Number: A0004

Test Condition:



Parameters	Description
T1	-10°C
T2	55°C
t1	4 hrs
t2, t6	2 hrs
t4, t5	1hrs
t, t3	2°C/min
n (Cycle)	1

t = temprature slope
 t , t1, t6: Power Off
 t2: Power on/off test 10 times (on 2 min / off 5min)
 t3, t4: Run PassMark Burn In Test
 t5: Win 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.