OMNI-5155L

With 2.5” SATA HDD

Environment Test Report

Report NO: 18P020007

Summary	☑ **Pass** ☐ **Fail** Note : There is/are ___ defect(s) not list in the report, please check it in the DTS Website. ☐ **Pass with Deviation** **Comment:**_____

Issue date	QE Manager	Test Engineer
2018-05-10	**KJ Wang**	**Rex Chang**

Test item list

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Testing Result

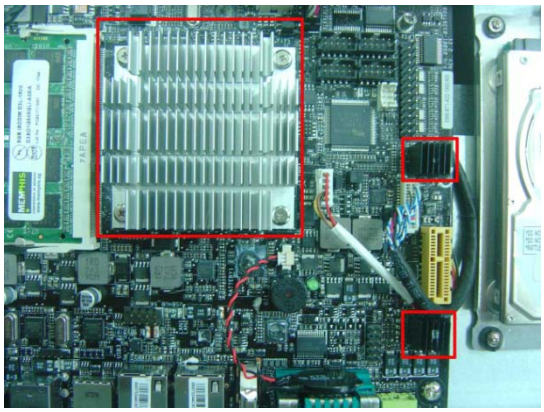
Num	Test item list	Result	Remark
1.	High temperature operation test	Pass	
2.	Temperature cycle operation test	Pass	
3.	High temperature storage test	Pass	
4.	Low temperature storage test	Pass	
5.	Humidity test	Pass	
6.	Cold start and hot start test	Pass	

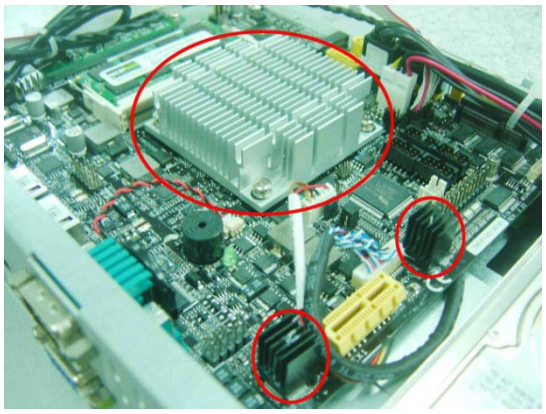
Configuration of EUT

Num	Item	Spec
OMNI-5155LHTT-BT		
1	15’’ TFT LCD	INNOLUX.G150XNE-L03.300cd/m2.1ch LVDS.24bits. 1024*768
2	CPU Board	EMB-BT1 R2.2
3	CPU	Intel® Bay Trail-D.J1900 / 2.0GHz
4	BIOS	OMNI Series Project (BT1) R0.1 (0MBTLM01) (04/16/2018)
5	Wide Temp. Memory	MEMPHIS 8G * 1 / DDR3L-1600 / IM4G08D3F ABG-125I
6	Wide Temp. 2.5’’ SATA HDD	TOSHIBA MK1060GSC / 100GB
7	Test Software	Windows 7 / Run PassMark Burn In Test 8.1 Pro(1022)
8	Adapter	FSP FSP060-DIBAN2 / 12V; 5A

Photos

Heat Sink





HDD Kit

High Temperature Operation test

Test Date: 05-10-2018

Test Product: OMNI-5155L

Test Site: AAEON QE Dept.

Test Standard: Refer to IEC 68-2-2 Testing procedures

Test Bd: Dry Heat Test (Operation)

Test Equipment:

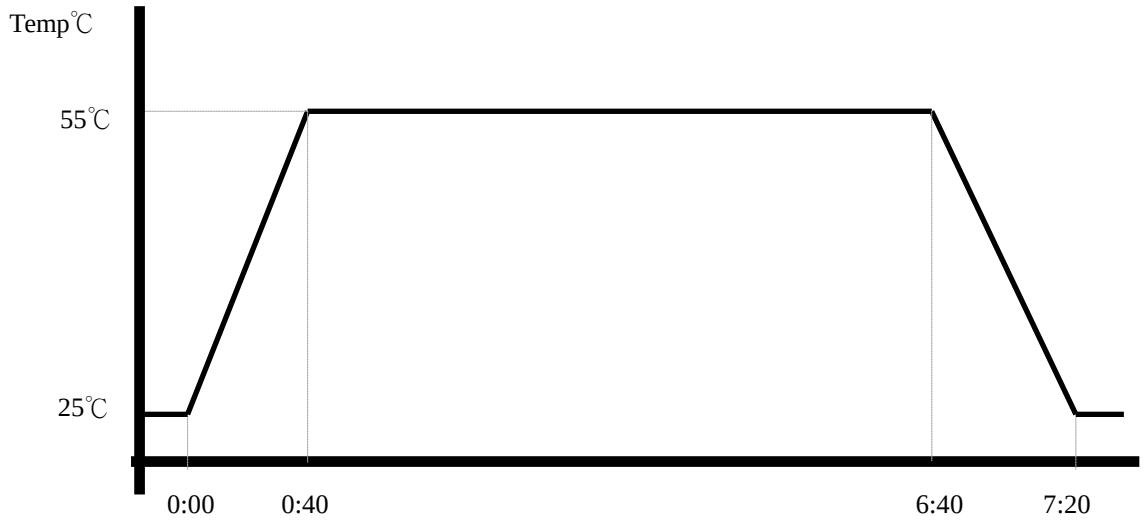
Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-D7TS-100+LN2
Date of Calibration: 09/08/17
Due date of Calibration: 09/07/18
Serial Number: A0004

Temperature Measurement:

20 Channel Thermal Recorder: (OMRON Inc,)
Model: ZR-RX45
Date of Calibration: 12/19/2017
Due date of Calibration: 12/18/2018
Serial Number: H30481978

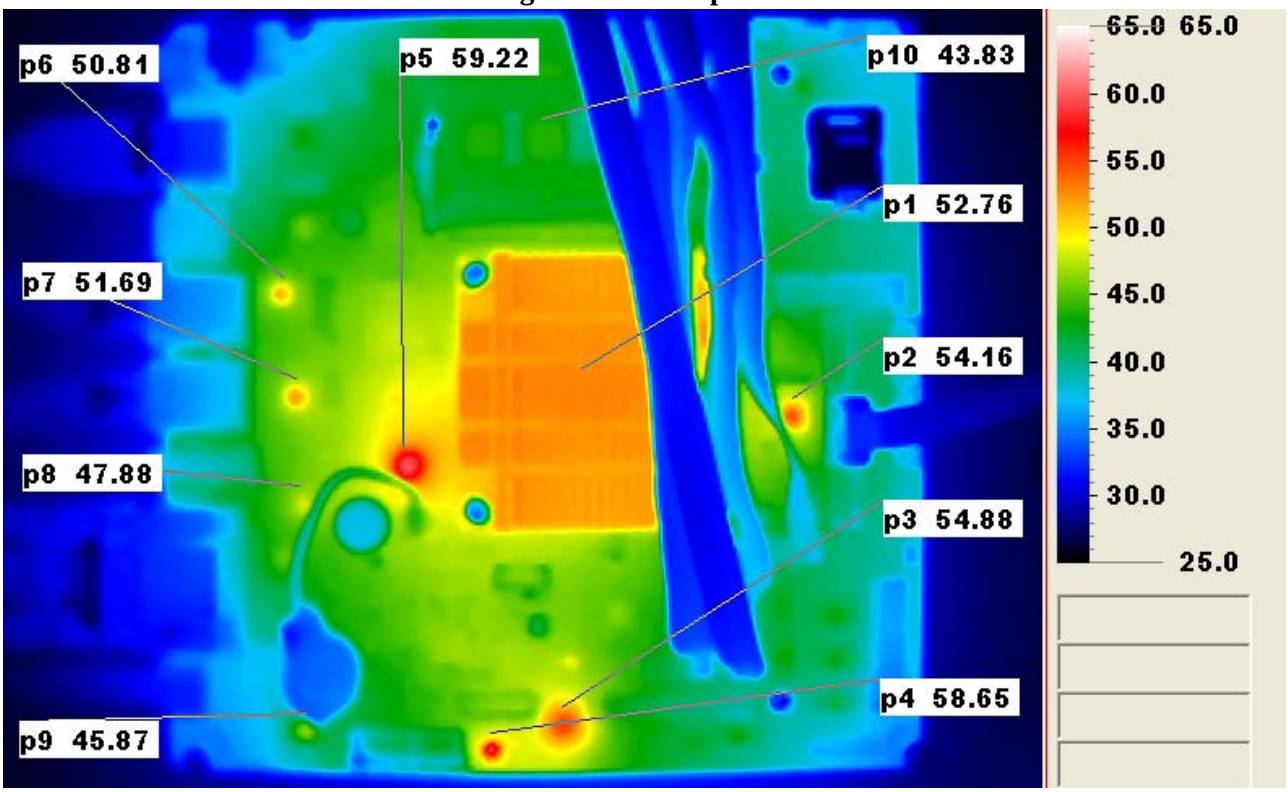
Testing Item:

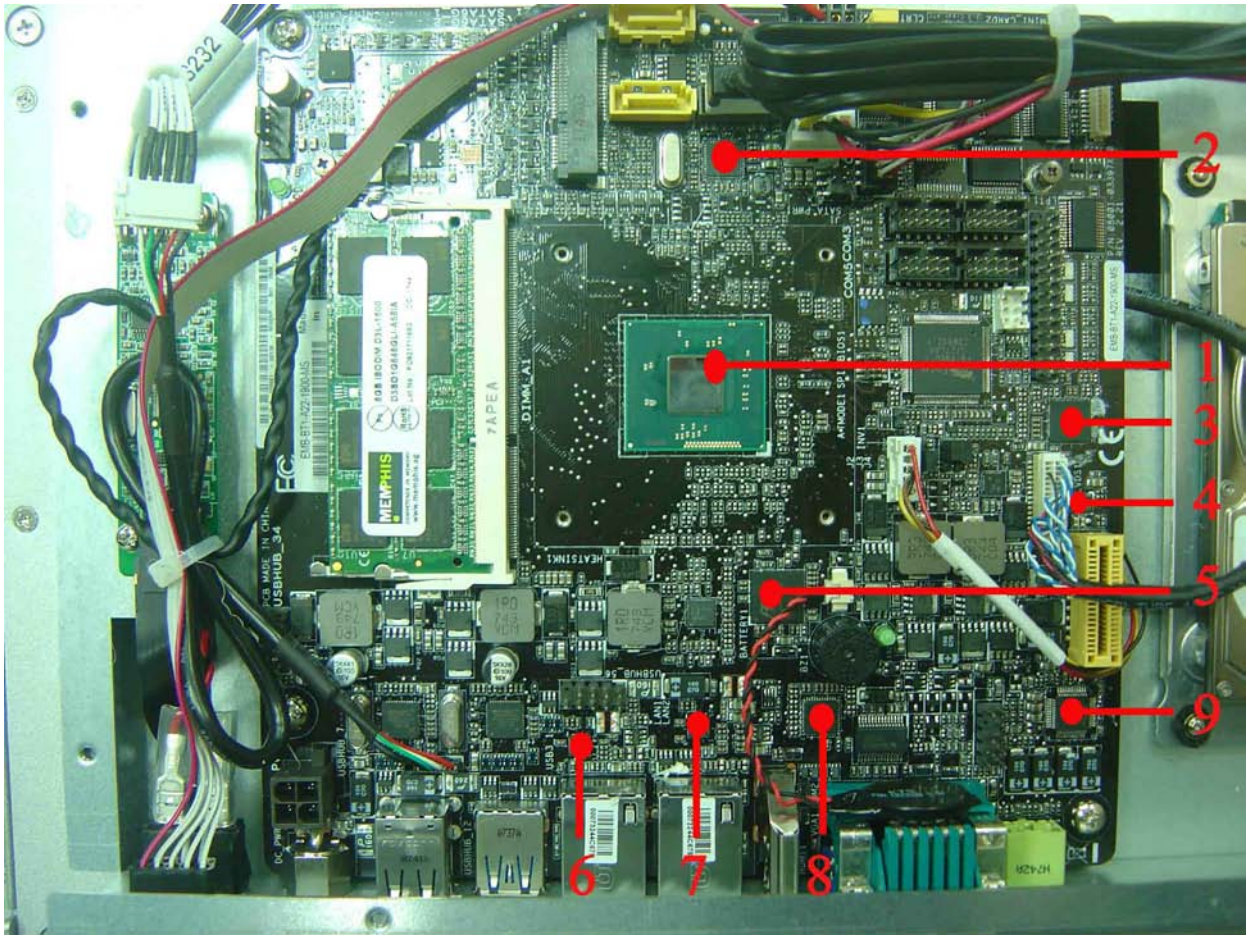
1. Test Temperature: 55℃
2. Test Times: 6Hrs
3. Test Software: Windows 7 / Run PassMark Burn In Test 8.1 Pro (1022)
4. Test Environment Curve:



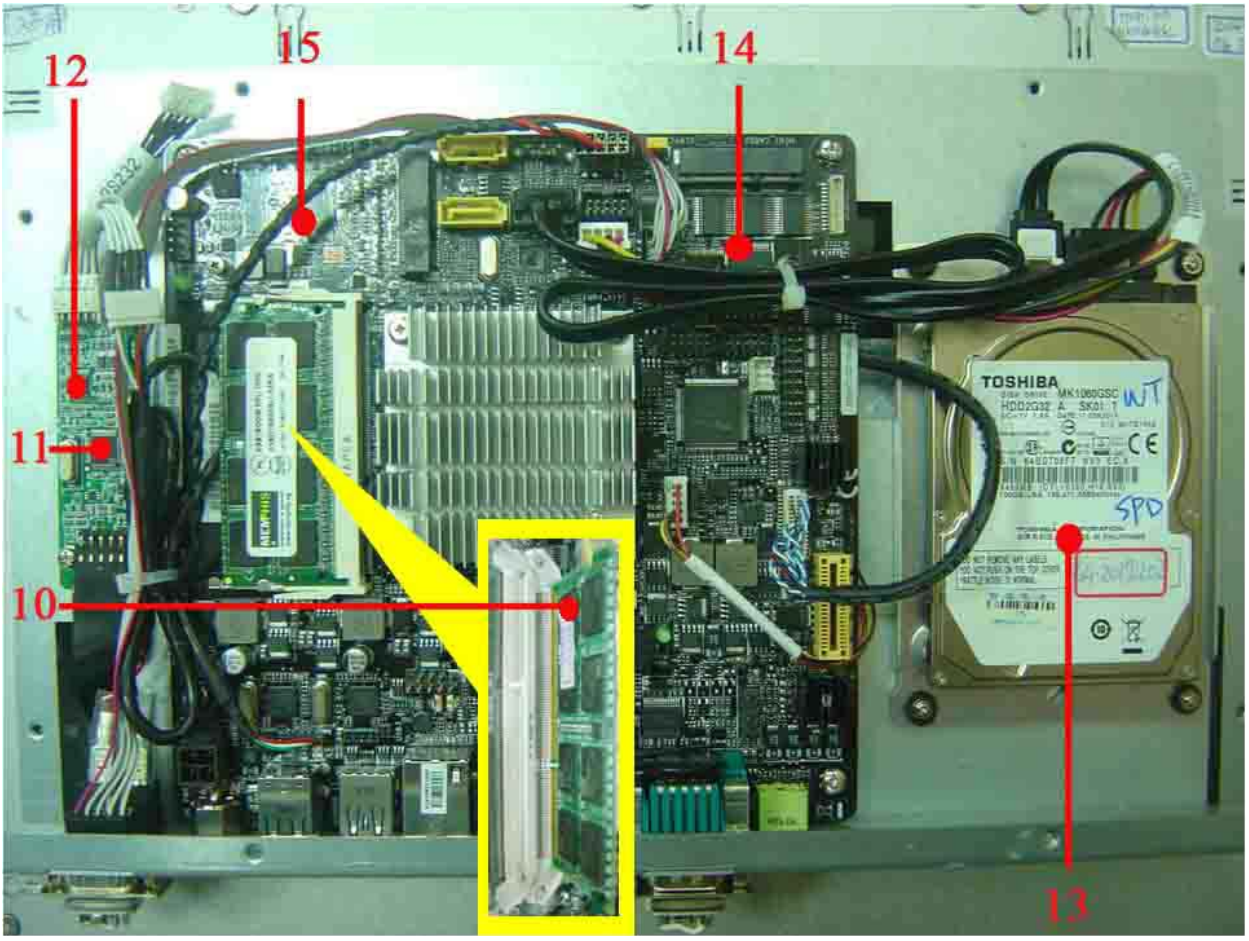
High Temperature Operation test

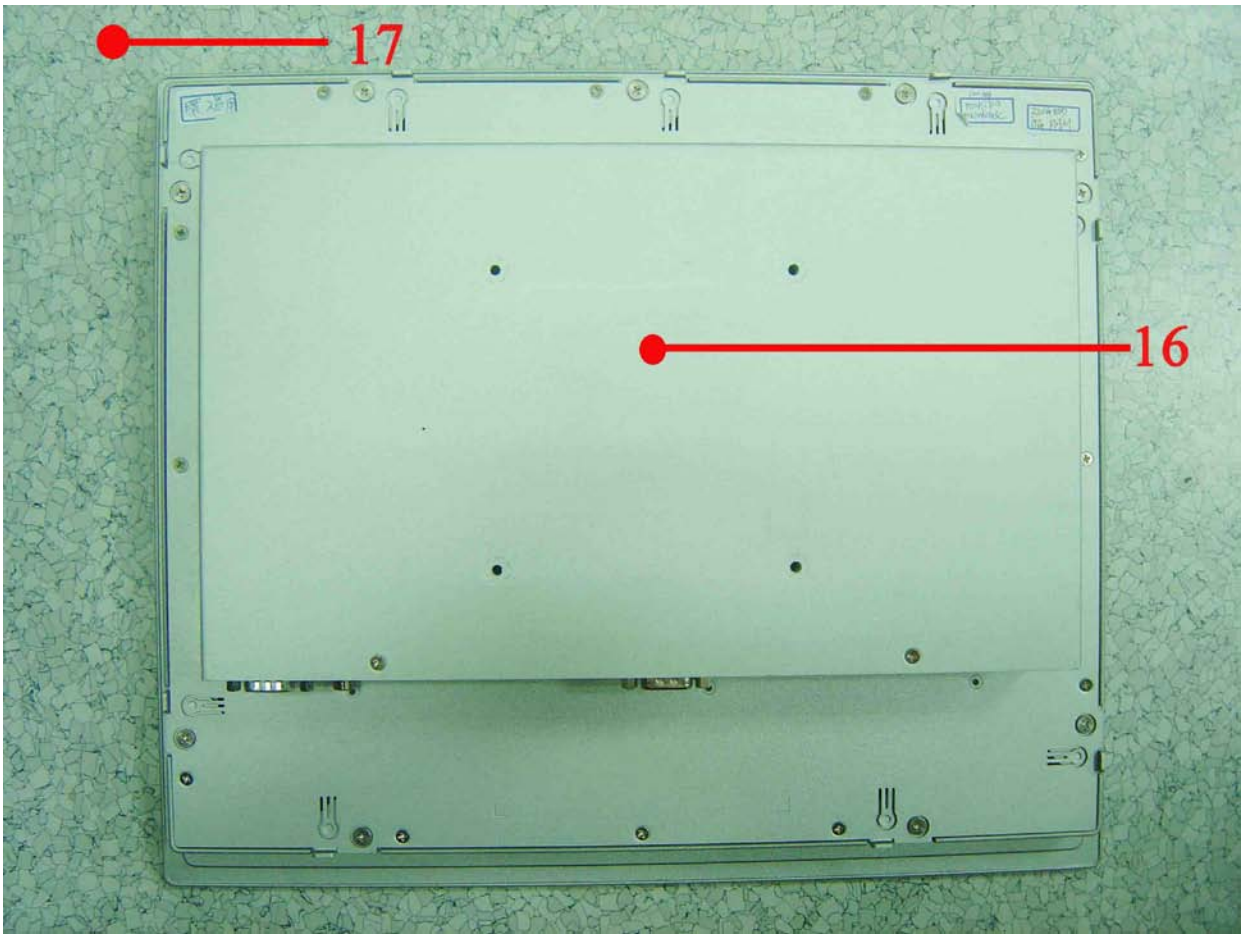
Measuring Thermal Couple Position：





High Temperature Operation test





High Temperature Operation test

Thermal profile data:

OMNI-5155L (With 0.5m/sec airflow)

Point / Temp. Stage(℃)	Spec Tc(*1)	TAT(*2) 55	TPT(*3) 25	Note
EMB-BT1				
01. CPU	110	85.0	55.0	
02. C.S ASM1061 QFN48L	120	84.9	54.9	
03. C.S CH7511B-BF QFN68	94.58	83.8	53.8	
04. LDO REG. UP0107BMA5-00	150	86.6	56.6	
05. C.S PEX8605-AA50NI G QFN136	100	89.7	59.7	
06. C.S RTL8111G-CG QFN-32	100	75.7	45.7	
07. C.S RTL8111G-CG QFN-32	100	74.9	44.9	
08. C.S ASM1442(D) QFN-48	100	76.7	46.7	
09. C.S ALC887-VD2-CG LQFP-48	85	75.3	45.3	
10. Memory	95	77.8	47.8	
Touch Screen Control Board				
11. MAX3221 3-V to 5.5-V RS-232 Line Driver and Receiver	125	62.7	32.7	
12. ETP-CP-MER4485 XRU	85	59.9	29.9	
13. HDD	85	69.4	39.4	
14. Control Box Inside Air Temperature - 1	N/A	72.0	42.0	
15. Control Box Inside Air Temperature - 2	N/A	66.3	36.3	
16. Control Box External Surface Temperature	N/A	58.8	28.8	
17. Chamber Inside Air Temperature	N/A	55.0	25.0	

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℃; The measured value is within specification with margin.
It is strongly recommended to add thermal dissipation design for better reliability.
- Pass : Tm < Tc-5℃; The measured value is with safety margin.
5. Defect NO.: N/A

Sample Configuration & Quantity Under Test:

Quantity: 1 (OMNI-5155L)

Test Result:

No issues were found during the temperature rise operation test.

Temperature cycle test

Test Date: 05-07~09-2018

Test Product: OMNI-5155L

Test Site: AAEON QE Dept.

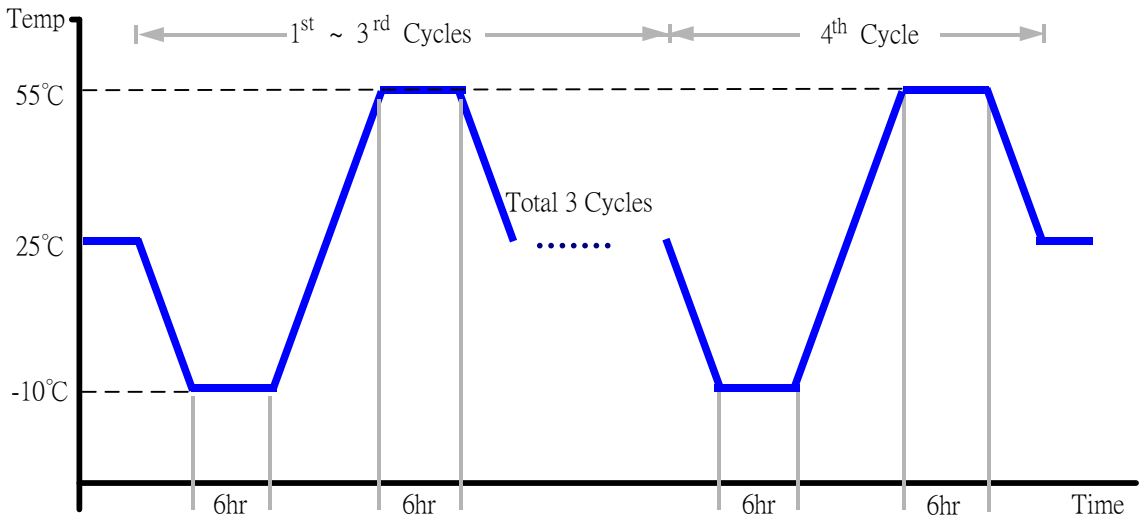
Test Standard: Refer to IEC68-2-14 Testing procedures
Test N: Change of temperature Test

Test Equipment:

Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-D7TS-100+LN2
Date of Calibration: 09/08/17
Due date of Calibration: 09/07/18
Serial Number: A0004

Test Condition:

1. Test Low Temperature: -10℃
2. Test High Temperature: 55℃
3. Test dwell time: 6Hrs
4. Temperature slope: 2℃/min
5. Test cycle: 4 cycles
6. Test Software: Windows 7 / Run PassMark Burn In Test 8.1 Pro (1022)
7. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (OMNI-5155L)

Test Result:

No issues were found during the temperature operation cycle test.

High temperature storage test

Test Date: 04-28~ 30-2018

Test Product: OMNI-5155L

Test Site: AAEON QE Dept.

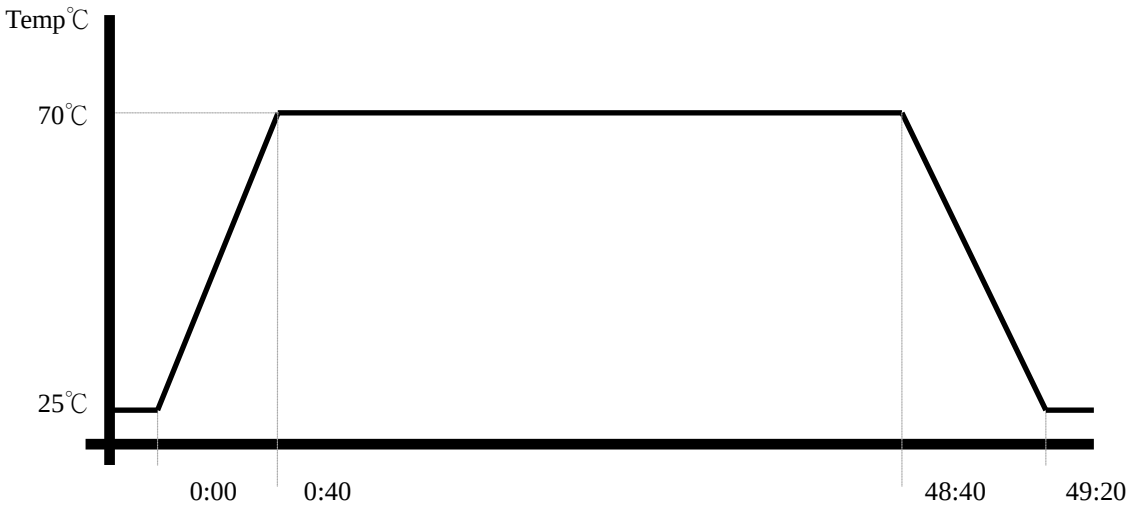
Test Standard: Refer to IEC 68-2-2 Testing procedures
Test Bb: Dry Heat Test (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-D7TS-100+LN2
Date of Calibration: 09/08/17
Due date of Calibration: 09/07/18
Serial Number: A0004

Testing Item:

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



Sample Configuration & Quantity Under Test:

Quantity: 1 (OMNI-5155L)

Test Result:

No issue was found after the high temperature storage test.

Low temperature storage test

Test Date: 04-30-2018 ~ 05-02-2018

Test Product: OMNI-5155L

Test Site: AAEON QE Dept.

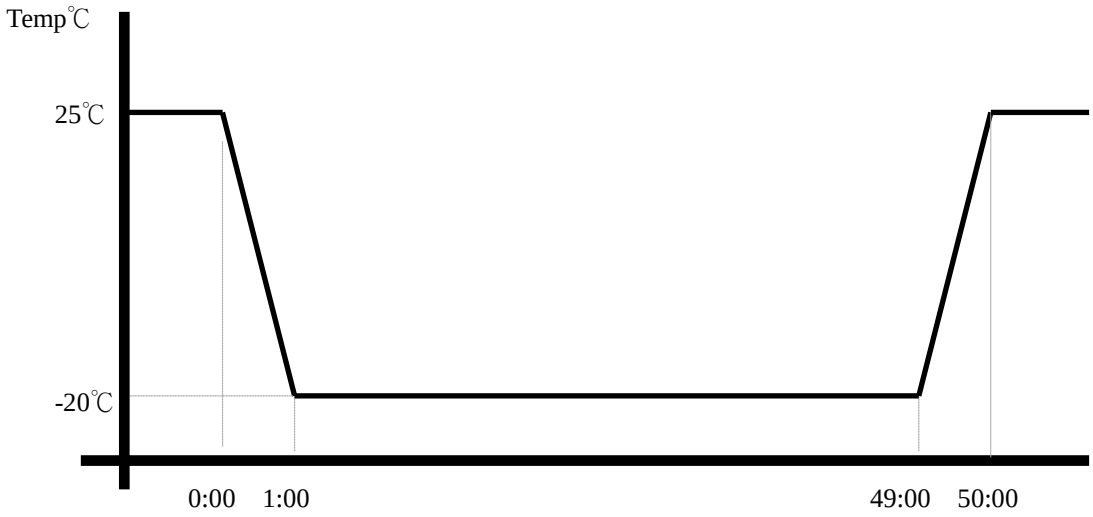
Test Standard: Refer to IEC 68-2-1 Testing procedures
Test Ab: Cold Test (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber (K.SON. INS. TECH. CORP.)
Model: THS-D7TS-100+LN2
Date of Calibration: 09/08/17
Due date of Calibration: 09/07/18
Serial Number: A0004

Testing Item:

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



Sample Configuration & Quantity Under Test:

Quantity: 1(OMNI-5155L)

Test Result:

No issue was found after the low temperature storage test.

Humidity test

Test Date: 05-04 ~ 07-2018

Test Product: OMNI-5155L

Test Site: AAEON QE Dept.

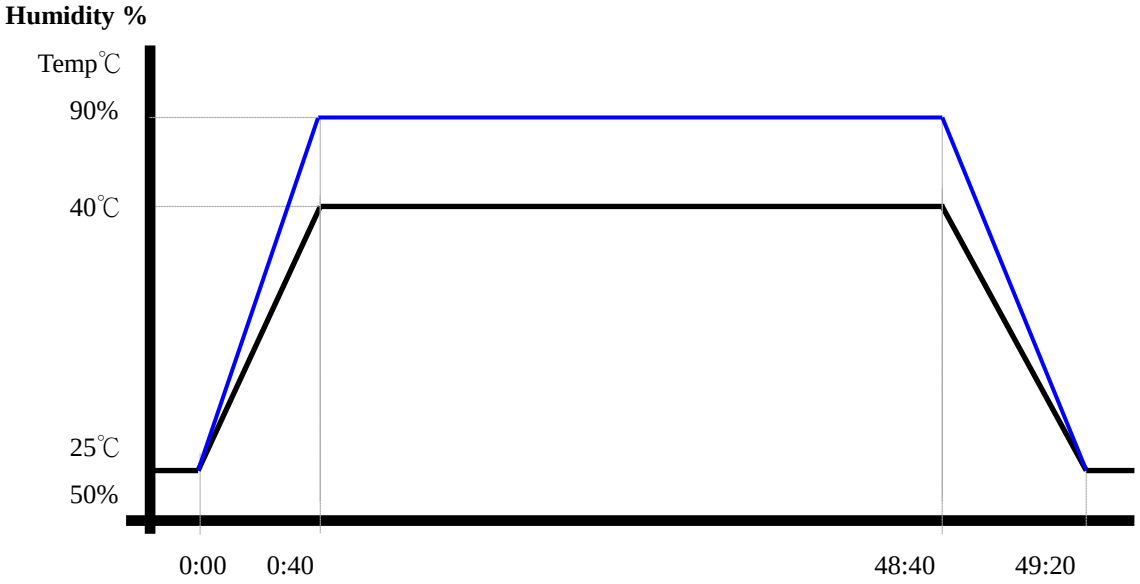
Test Standard: Refer to IEC 68-2-3 Testing procedures
Test Ca: Damp heat, steady state (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-D7TS-100+LN2
Date of Calibration: 09/08/17
Due date of Calibration: 09/07/18
Serial Number: A0004

Testing Item:

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



Sample Configuration & Quantity Under Test:
Quantity: 1(OMNI-5155L)

Test Result:
No issue was found after the humidity storage test.

Cold start and hot start test

Test Date: 05-03~04-2018

Test Product: OMNI-5155L

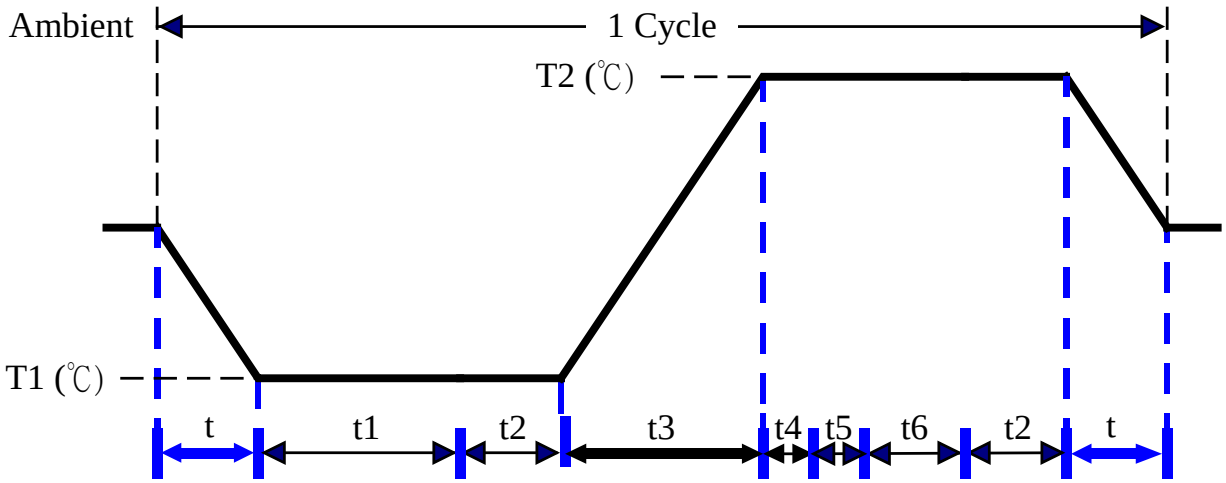
Test Site: AAEON QE Dept.

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: 09/08/17
Due date of Calibration: 09/07/18
Serial Number: A0004

Test Condition:



Parameters	Description
T1	-10℃
T2	55℃
t1	4 hrs
t2, t6	2 hrs
t4, t5	1hrs
t, t3	2℃/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 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.