NIM-S26A

Environment Test Report

Report NO: 16I020003

Summary	☑ **Pass** ☐ **Fail** ☐ **Pass with Deviation** Comment:.

Issue date	**QE Manager**	**Test Engineer**
2016-03-07	**KJ Wang**	**Ben Sun**

Test item list

1. *Test item list* -- *2*
2. *Configuration of EUT* --- *3*
3. *Temperature rise test* -- *4*
4. *Temperature cycle operation test* -- *6*
5. *High temperature storage test* --- *7*
6. *Low temperature storage test* -- *8*
7. *Humidity test*-- *9*
8. *Cold start and hot start test* -- *10*

Testing Result

Num	Test item list	Result	Remark
1	Temperature rise 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
1	M/B	NIM-S26A
2	Chipset	Intel PCI-E GEN3 Controller 10/40G.Ethernet.Dual Port
3	Test System	FWS-7520

Temperature rise test

Test Date: 03-01~03-2016

Test Product: NIM-S26A

Test Site: AAEON QE Dept.

Test Standard: Refer to EN 61131-2(94), UL508 (94)

Temperature Measurement:

40 Channel Thermal Recorder: (YOKOGAWA Inc,)
Model: DA100-13-1D
Date of Calibration: 09/15/15
Serial Number: 12A323190

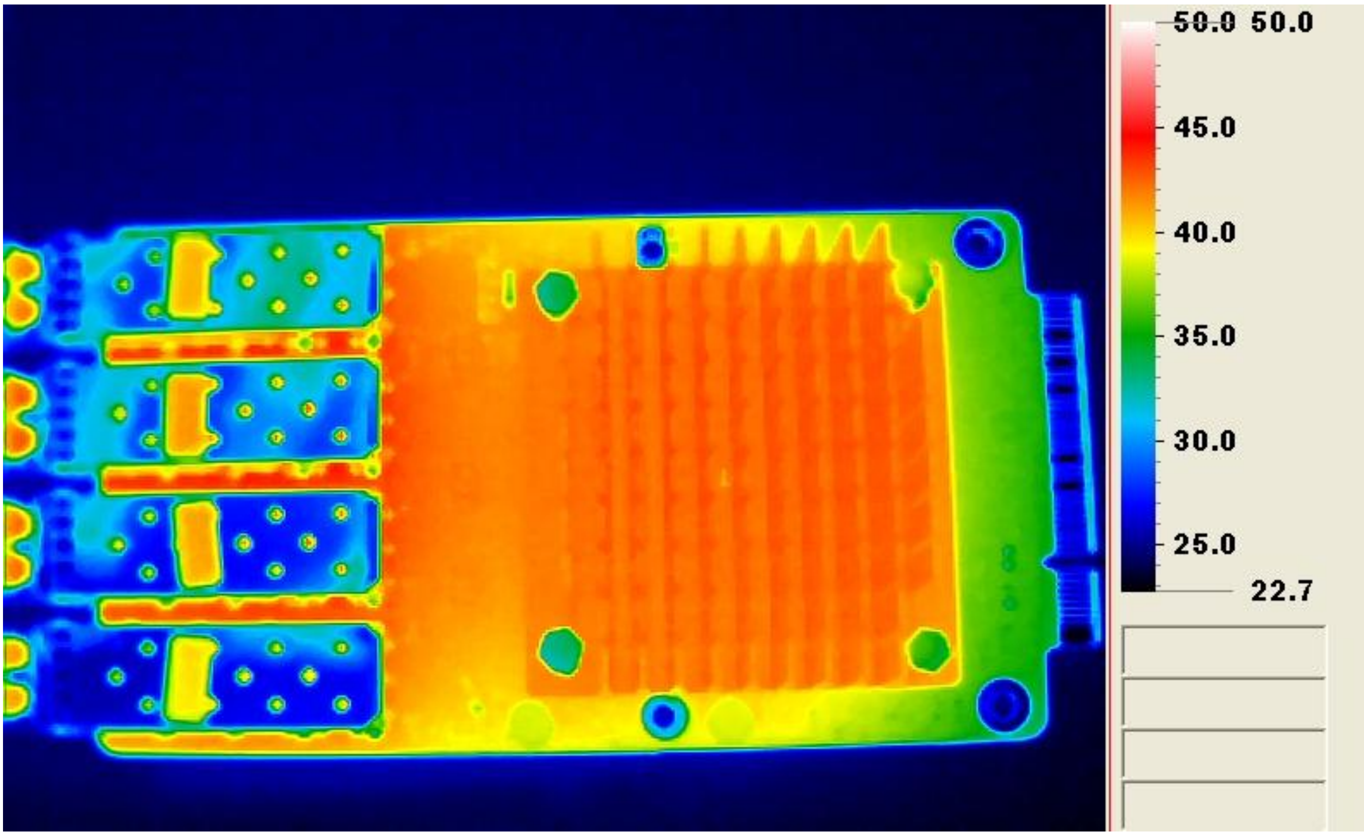
Test Condition:

Ambient temperature: 40℃
Continuous running till thermal stability (within less than 1℃)

Test Software:

Ubuntu 14.10 / Run iperf test

Terminal Recorder:



Temperature rise test

Thermal profile data:

Point	Position	Describe	Tc (*1) (℃)	TAT(*2)	TPT(*3)	Note
				40	25	
1	U3	(TF)IC.PCI-E GEN3 Controller 10/40G.Ethernet.Single Port 40G.FCBGA 576P.SMD.Intel.XL710-BM1	109	50.3	35.3	

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.

- Margin Pass **:** 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.

Sample Configuration & Quantity Under Test:

Quantity: 1 (NIM-S26A)

Test Result:

No issues were found during the temperature rise operation test.

Temperature cycle test

Test Date: 02-19 ~ 20-2016

Test Product: NIM-S26A

Test Site: AAEON QE Dept.

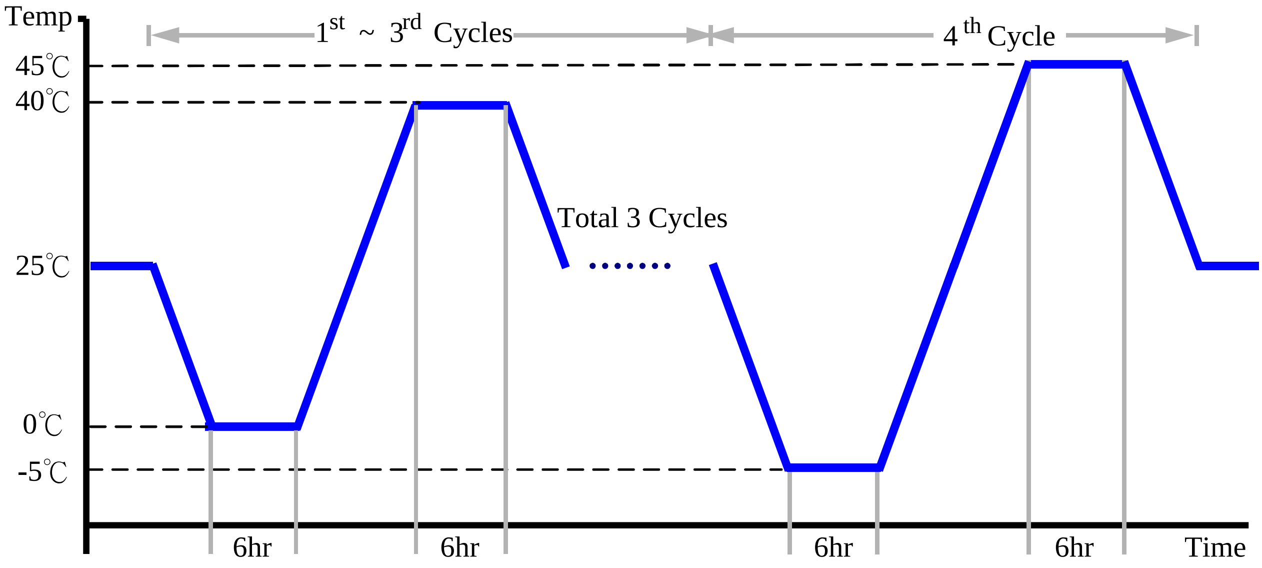
Test Standard: Refer to IEC68-2-14 Testing procedures
Test N: Change of temperature Test

Test Equipment:

Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-D4H+-100
Date of Calibration: 11/13/15
Serial Number: 2582

Test Condition:

1. Test Low Temperature: 0℃ (1~3 cycles)
   -5℃ (4th cycle)
2. Test High Temperature: 40℃ (1~3 cycles)
   45℃ (4th cycle)
3. Test dwell time: 6Hrs
4. Temperature slope: 2℃/min
5. Test cycle: 4 cycles
6. Test Environment Curve:



Sample Configuration & Quantity Under Test:
Quantity: 1 (NIM-S26A)

Test Result:

No issues were found during the temperature operation cycle test.

High temperature storage test

Test Date: 02-26 ~ 27-2016

Test Product: NIM-S26A

Test Site: AAEON QE Dept.

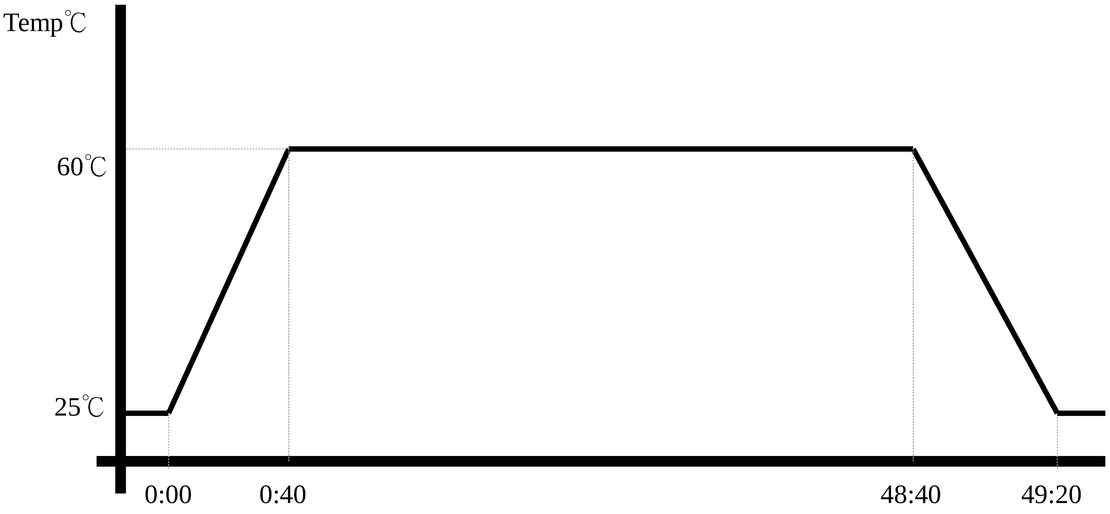
Test Standard: Refer to IEC 68-2-2 Testing procedures
Test Bb: Dry Heat Test (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-D4H+-100
Date of Calibration: 11/13/15
Serial Number: 2582

Testing Item:

1. Test Temperature: 60℃
2. Test Times: 48Hrs
3. Test Software: Ubuntu 14.10 / iperf test
4. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (NIM-S26A)

Test Result:

No issues were found after the high temperature storage test.

Low temperature storage test

Test Date: 02-24 ~ 25-2016

Test Product: NIM-S26A

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-D4H+-100
Date of Calibration: 11/13/15
Serial Number: 2582

Testing Item:

1. Test Temperature: -20℃
2. Test Times: 48Hrs
3. Test Software: Ubuntu 14.10 / Run iperf test
4. Test Environment Curve:

Sample Configuration & Quantity Under Test:
Quantity: 1 (NIM-S26A)

Test Result:

No issues were found after the low temperature storage test.

Humidity test

Test Date: 02-22~23-2016

Test Product: NIM-S26A

Test Site: AAEON QE Dept.

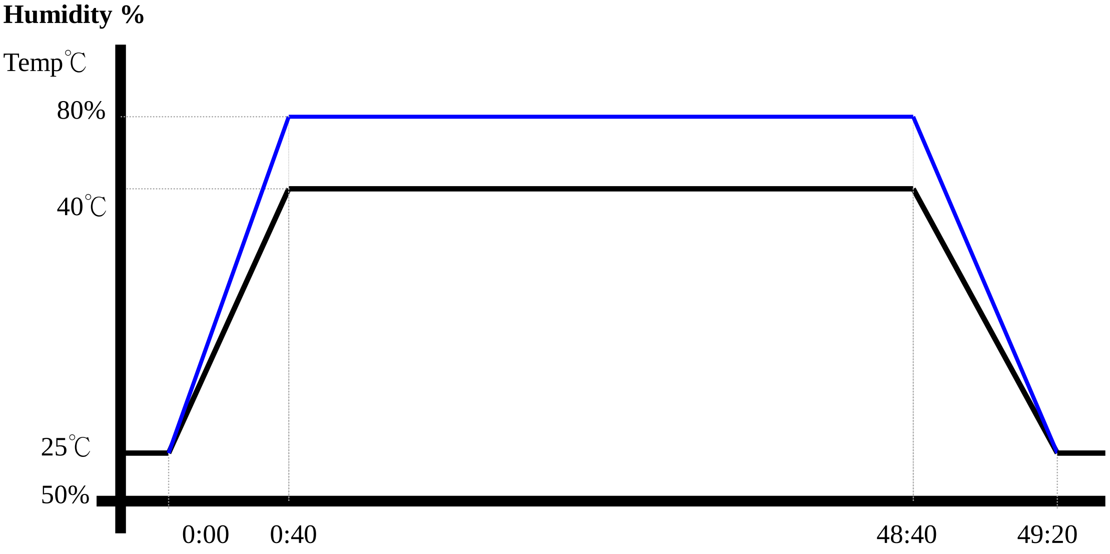
Test Standard: Refer to IEC 68-2-3 Testing procedures
Test Ca: Damp heat, steady state (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-D4H+-100
Date of Calibration: 11/13/15
Serial Number: 2582

Testing Item:

1. Test Temperature: 40℃
2. Test Humidity: 80%RH
3. Test Times: 48Hrs
4. Test Software: Ubuntu 14.10 / Run iperf test
5. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (NIM-S26A)

Test Result:

No issues were found after the humidity storage test.

Cold start and hot start test

Test Date: 02-21 - 2016

Test Product: NIM-S26A

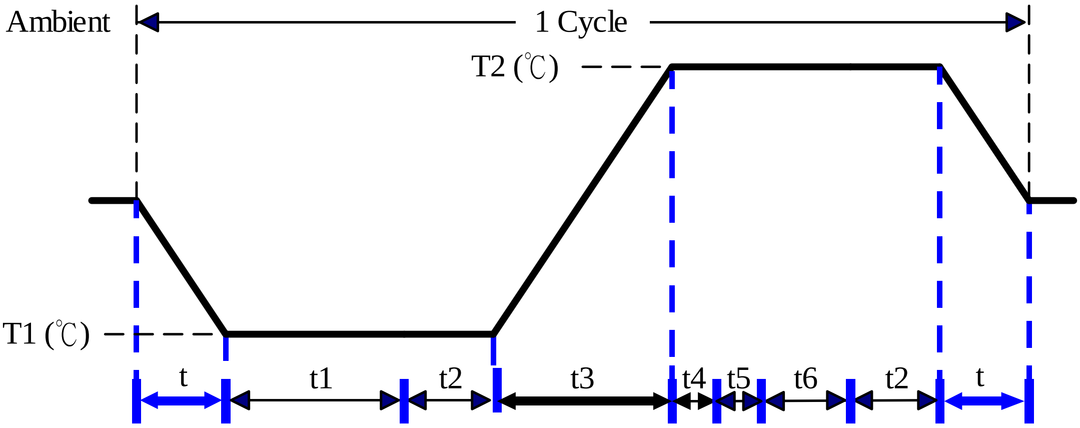
Test Site: AAEON QE Dept.

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: 11/13/15
Serial Number: 2582

Test Condition:



Parameters	Description
T1	-5℃
T2	45℃
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 iperf test
t5: Ubuntu Software restart test 3 times
Test Software: Ubuntu 14.10

Test Result:

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