NIM-S26B

Environment Test Report

Report NO: 16I020004

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

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

Test item list

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-S26B
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-S26B

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

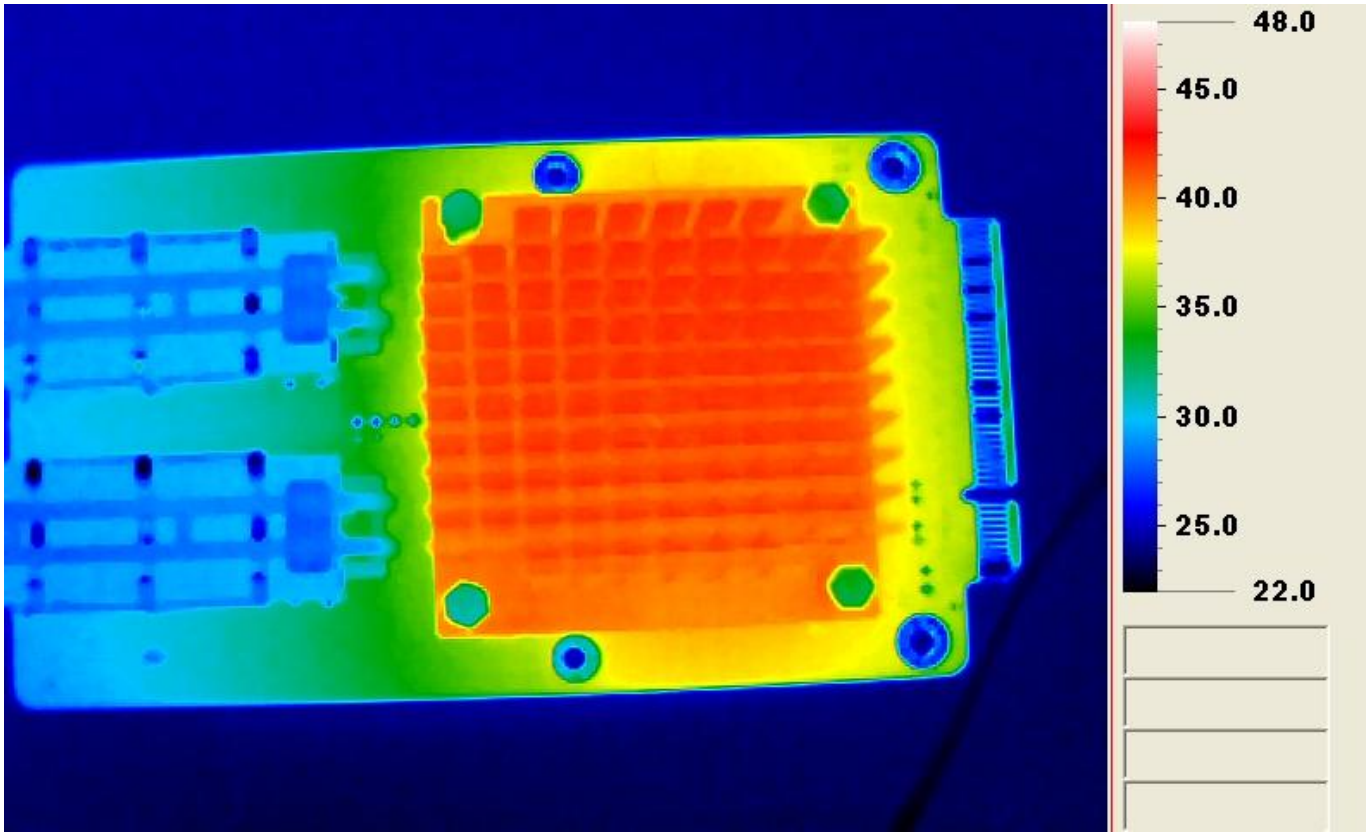
Test Condition:

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	U2	(TF)IC.PCI-E GEN3 Controller 10/40G.Ethernet.Single Port 40G.FCBGA 576P.SMD.Intel.XL710-BM1	109	48.8	33.8	

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-S26B)

Test Result:

No issues were found during the temperature rise operation test.

Temperature cycle test

Test Date: 02-19 ~ 20-2016

Test Product: NIM-S26B

Test Site: AAEON QE Dept.

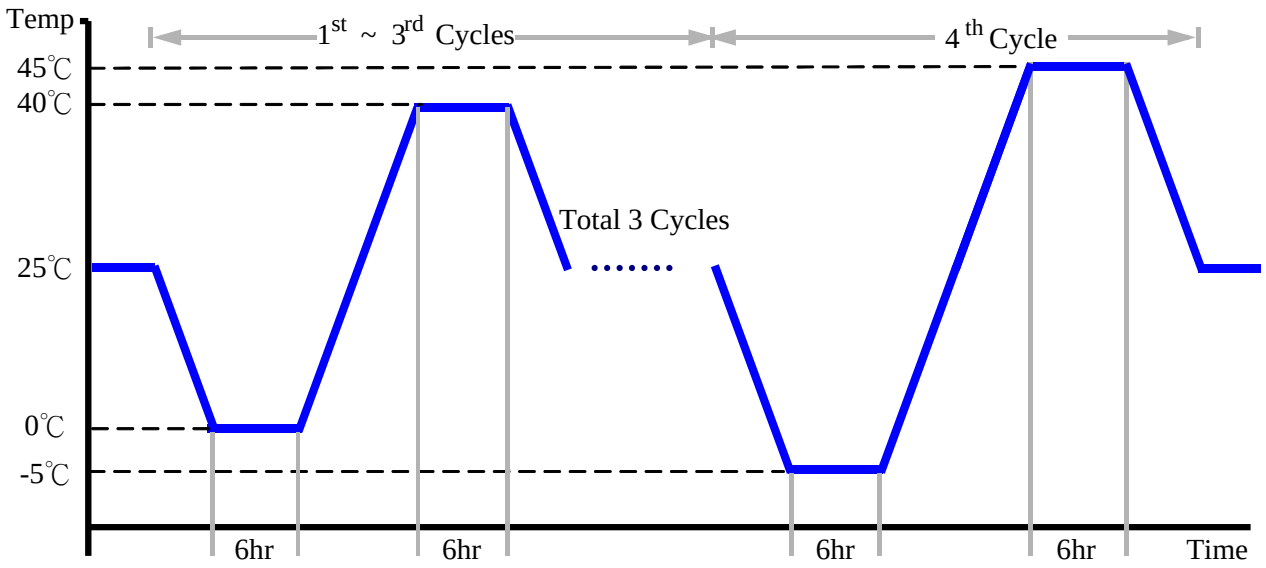
Test Standard: Refer to IEC68-2-14 Testing procedures
Test N: Change of temperature Test

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℃ (4^{th} cycle)
2. Test High Temperature: 40℃ (1~3 cycles)
   45℃ (4^{th} 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-S26B)

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-S26B

Test Site: AAEON QE Dept.

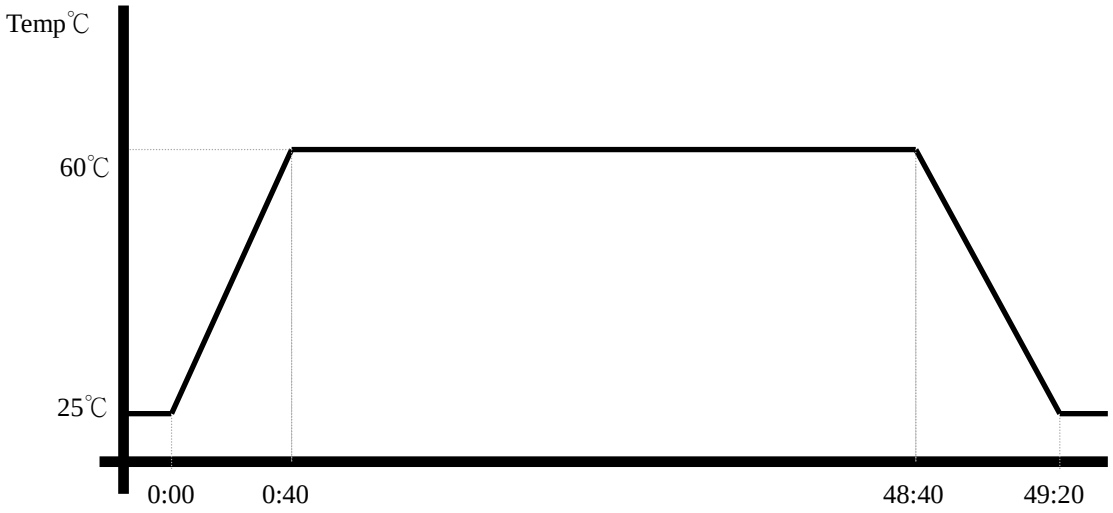
Test Standard: Refer to IEC 68-2-2 Testing procedures
Test Bb: Dry Heat Test (Non-operation)

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-S26B)

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-S26B

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-S26B)

Test Result:
No issues were found after the low temperature storage test.

Humidity test

Test Date: 02-22~23-2016

Test Product: NIM-S26B

Test Site: AAEON QE Dept.

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

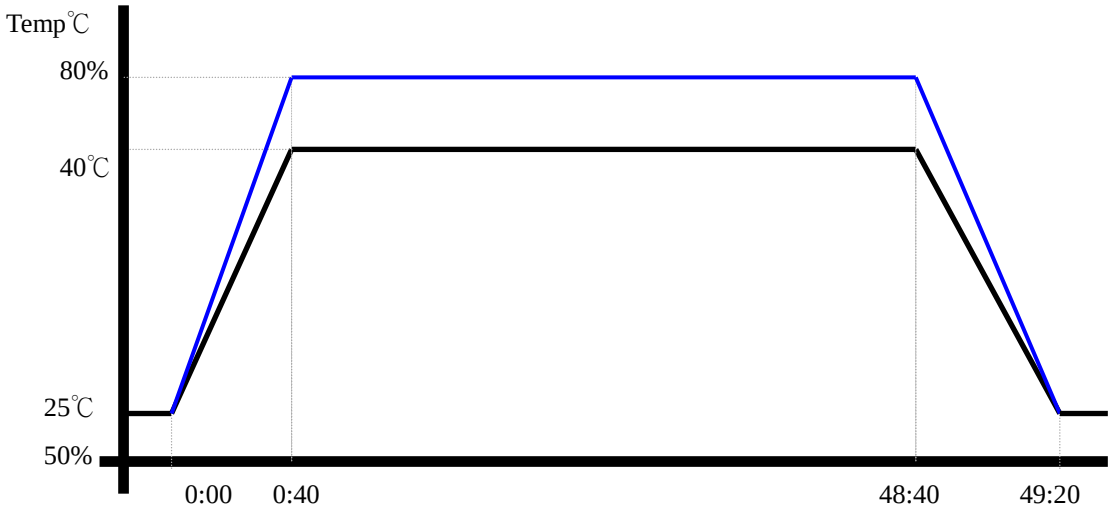
Test Equipment:

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:

Humidity %



Sample Configuration & Quantity Under Test:

Quantity: 1 (NIM-S26B)

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-S26B

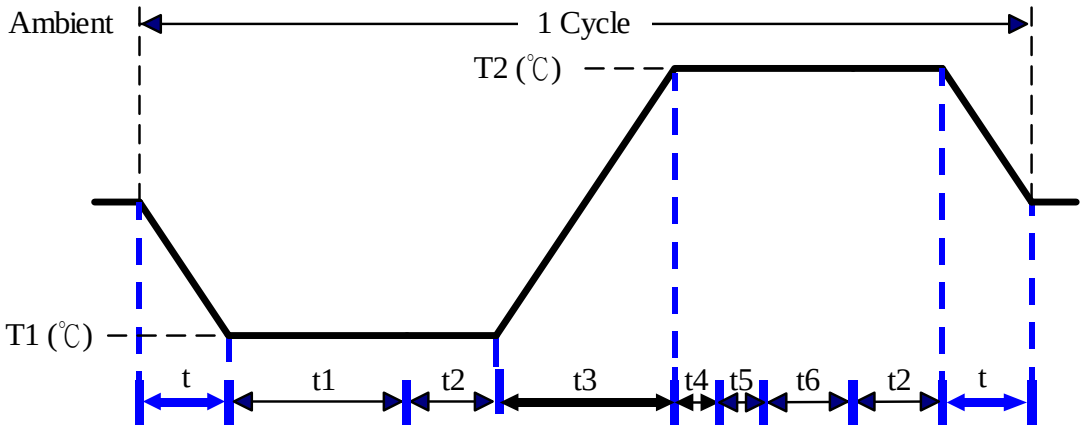
Test Site: AAEON QE Dept.

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.