AFP-6152

Environment Test Report

Report NO: 12P020001

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 : **Two temperature points need improving**

Issue date	Approval	Test Engineer
2012-02-06	**Jansin Lee**	**Clement Chien**

Test item list

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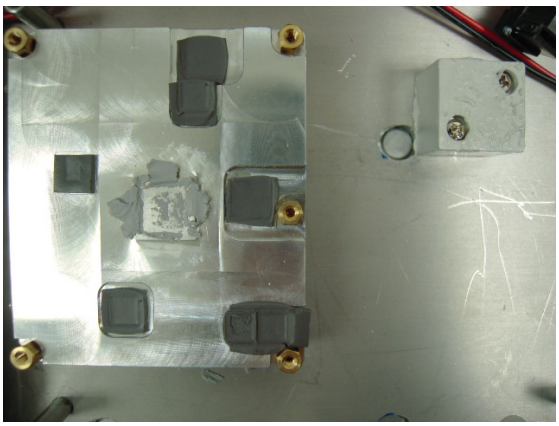
Testing Result

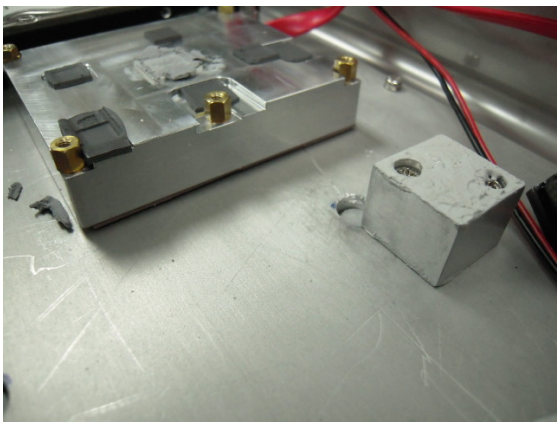
Num	Test item list	Result	Remark
1	Temperature rise test	Pass	
2	Temperature cycle operation test	Pass	
3	High temperature storage test	Pass	
4	Low temperature storage test	Pass	
5	Humidity test	Pass	
6	Cold start and hot start test	Pass	

Configuration of EUT

Num	Item	Spec
1.	**System**:	AFP-6152
	1.Main board	GENE-LN05 B1.0
	2.CPU Type	Intel Atom D525 / 1.8GHz
	2. Chipset	Intel ICH8M
	3. Memory	DSL DDR3 1066 4GB CL7
	4. HDD	Seagate 2.5” SATA2 160GB wide temp.
	5. Test Software	Windows 7 / Run BurnIn test 7.0
2.	Adapter :	MPU100-108

Heat Pipe





Temperature rise test

Test Date: 02-06-2012

Test Product: AFP-6152

Test Site: AAEON QE Internal Lab.

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

Temperature Measurement:

40 Channel Thermal Recorder:
YOKOGAWA Inc,
Model: AFP-6152
Date of Calibration: 10/12/2011
Serial Number: 12A323190

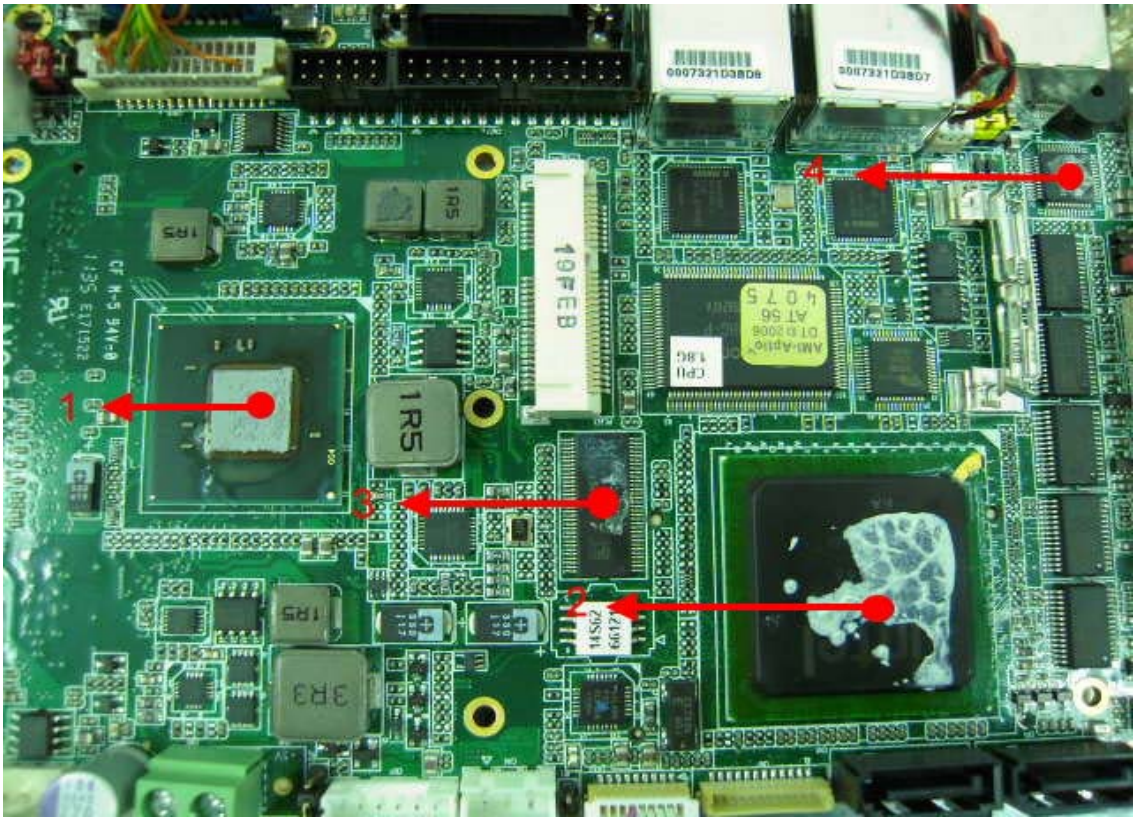
Test Condition:

Ambient temperature:50℃
Continuous running till thermal stability (within less than 1℃)

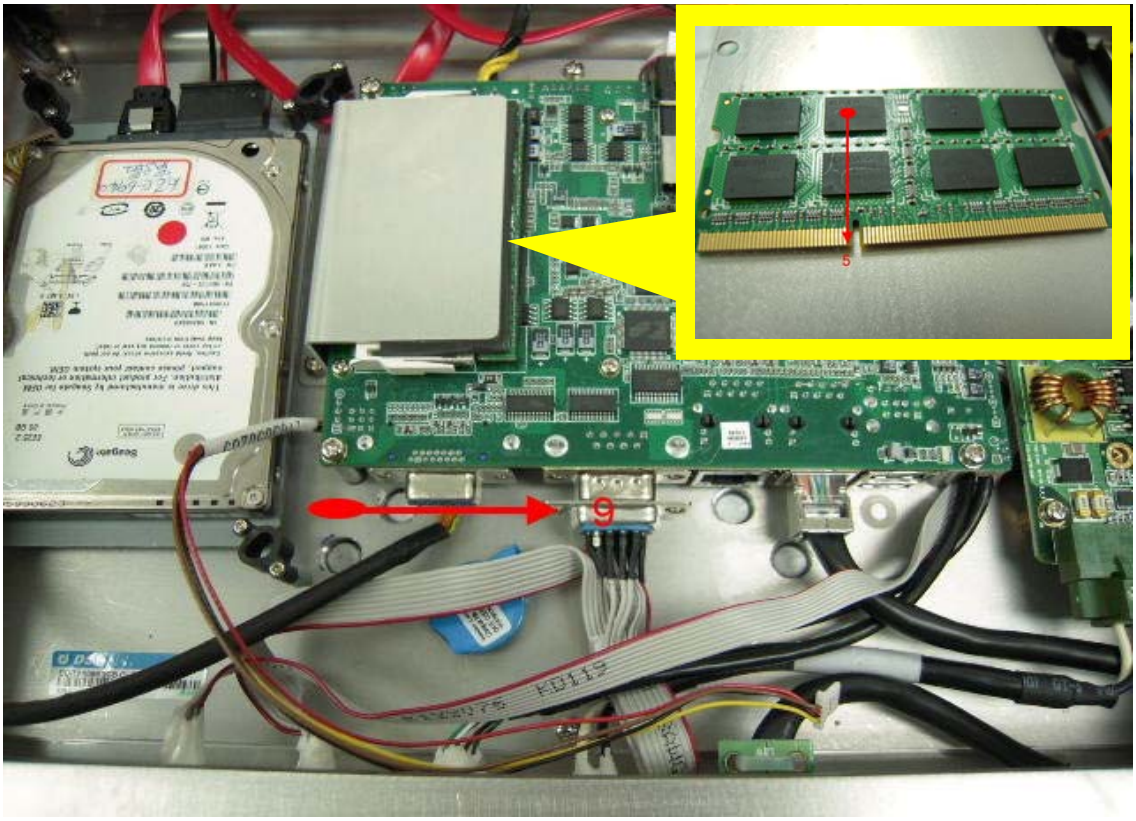
Test Software:

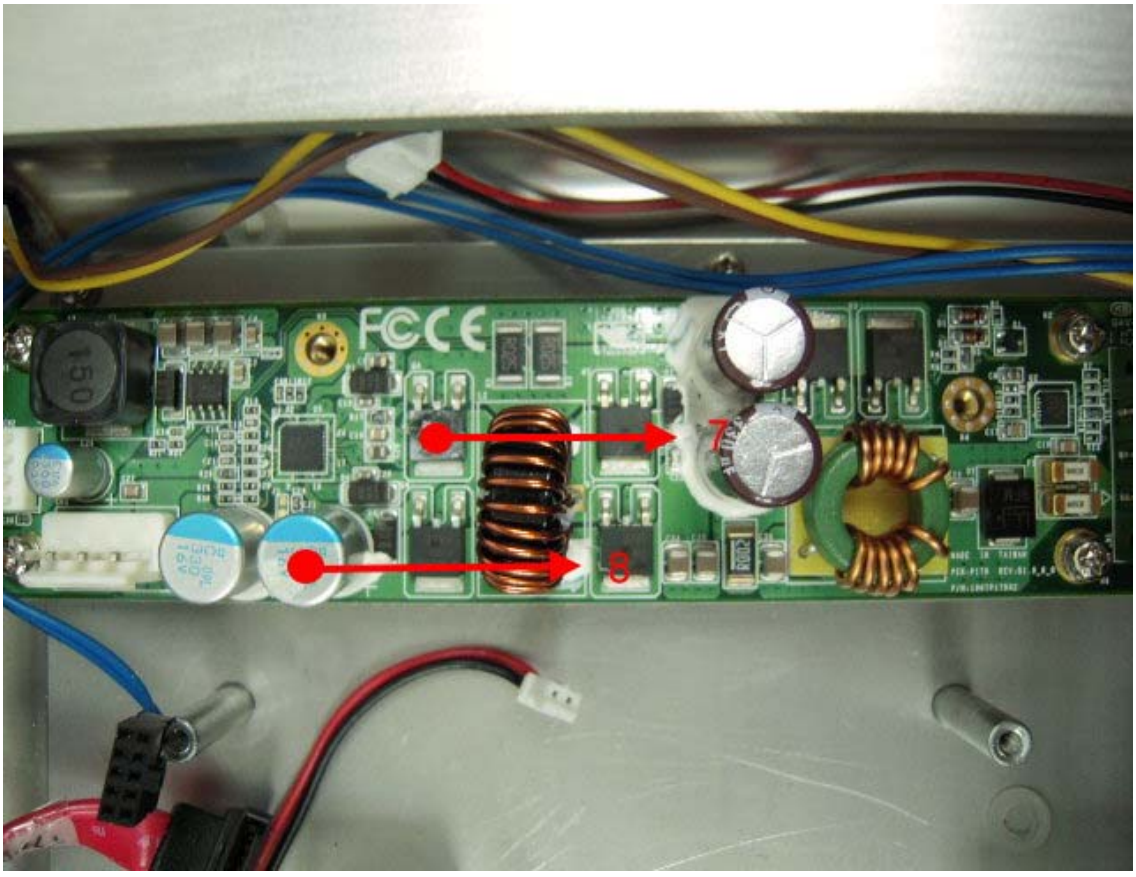
Windows 7 / Run PassMark Burn In Test 7.0

Terminal Recorder:

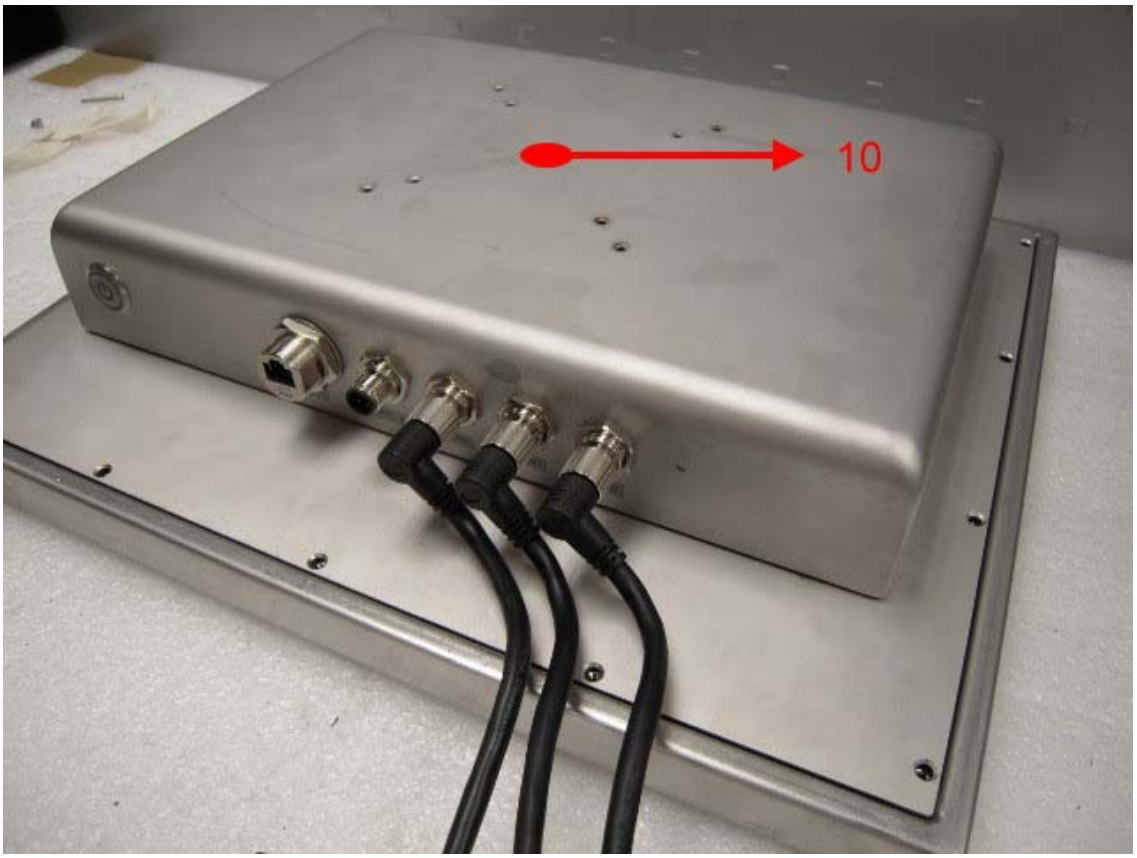


Temperature rise test





Temperature rise test



Temperature rise test

Thermal profile data:

Point / Temp. Stage(℃)	Spec	50	25
01. CPU - (TF)Intel.CPU.D.DUAL.CORE.D525.1.80GHz	100	90.3	65.3
02. (TF)Chipset ICH8M.INTEL.NH82801HBM.SLB9A	115	103.2	78.2
03. (TF) CLOCK GENERATOR.IDT.9LPRS501PGLF	115	105.4	80.4
04. (TF)HIGH DEFINITIOND.AUDIO CODEC.REALTEK.ALC662-GR	100	93.6	68.6
05. Memory - (TF)DSL DDR3 1066 4GB SEC HCH9 K4B2G0846C	95	92.7	67.7
06. HDD	85	83.5	58.5
07. Q5 – 1A41AP FDD8896	135	86.5	61.5
08. C32	125	84.8	59.8
09. Control Box Inside Air Temperature	N/A	70.2	45.2
10. Control Box Surface Temperature	N/A	78.0	53.0
11. Chamber Air Temperature	N/A	50.1	25.1

Any Tm value showed in red words which meaning the value over the Tc degree C of this device specification.
Note: The measured value is within specification with margin.

Sample Configuration & Quantity Under Test:

Quantity: 1 (AFP-6152)

Test Result:

No problem was found during the temperature rise operation test.

Temperature cycle test

Test Date: 02-03 ~ 05-2012

Test Product: AFP-6152

Test Site: AAEON QE Internal Lab.

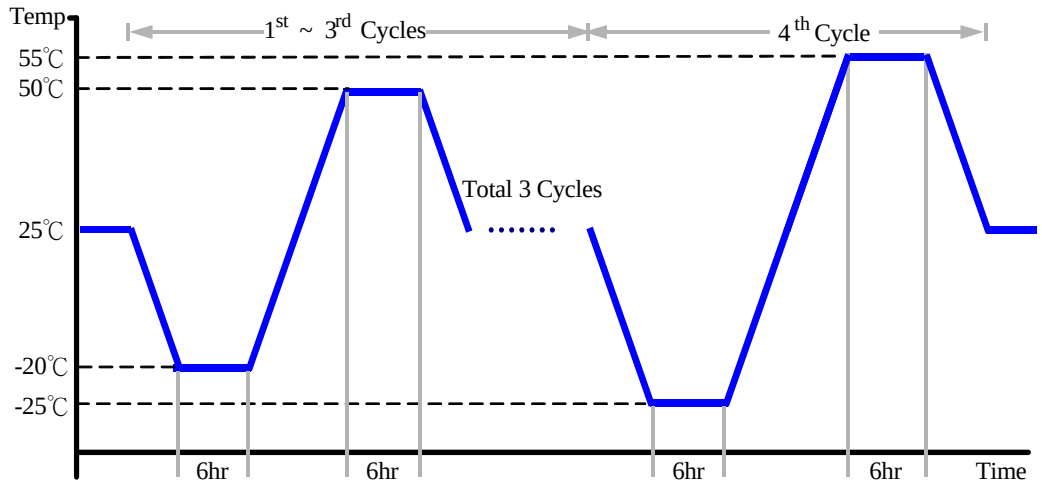
Test Standard: Reference IEC68-2-14 Testing procedures
Test N: Change of temperature Test

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D75-100+LN2
Date of Calibration: 10/13/11
Serial Number: 6487KT

Test Condition:

1. Test Low Temperature: -20℃ (1~3 cycles)
   -25℃ (4^{th} cycle)
2. Test High Temperature: 50℃ (1~3 cycles)
   55℃ (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 (AFP-6152)

Test Result:

No problem was found during the temperature operation cycle test.

High temperature storage test

Test Date: 01-30 ~ 31-2012

Test Product: AFP-6152

Test Site: AAEON QE Internal Lab.

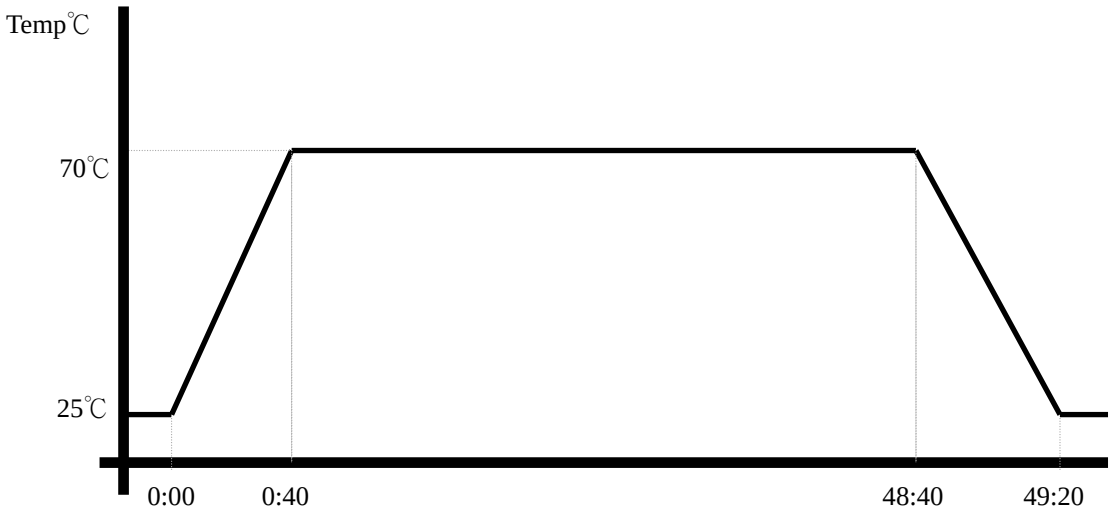
Test Standard: Reference IEC 68-2-2 Testing procedures
Test Bb: Dry Heat Test (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D75-100+LN2
Date of Calibration: 10/13/11
Serial Number: 6487KT

Testing Item:

1. Test Temperature: 70℃
2. Test Times: 48Hrs
3. Test Software: Windows 7 / Run PassMark Burn In Test 7.0
4. Test Environment Curve:



Sample Configuration & Quantity Under Test:
Quantity: 1 (AFP-6152)

Test Result:

No problem was found after the high temperature storage test.

Low temperature storage test

Test Date: 01-28 ~ 29-2012

Test Product: AFP-6152

Test Site: AAEON QE Internal Lab.

Test Standard: Reference 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-D75-100+LN2
Date of Calibration: 10/13/11
Serial Number: 6487KT

Testing Item:

1. Test Temperature: -20℃
2. Test Times: 48Hrs
3. Test Software: Windows 7 / Run PassMark Burn In Test 7.0
4. Test Environment Curve:

Sample Configuration & Quantity Under Test:
Quantity: 1 (AFP-6152)

Test Result:
No problem was found after the low temperature storage test.

Humidity test

Test Date: 01-26 ~ 27-2012

Test Product: AFP-6152

Test Site: AAEON QE Internal Lab.

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

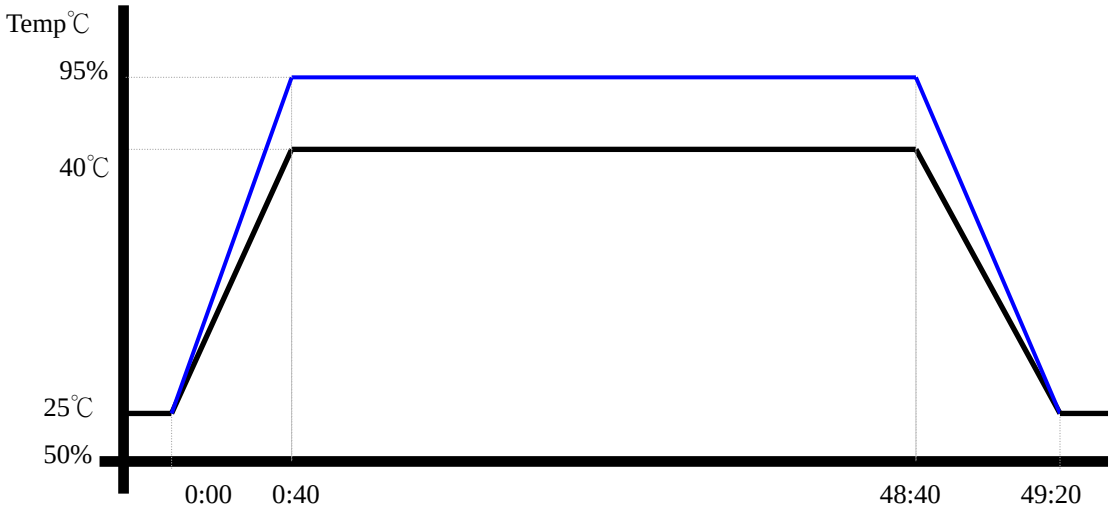
Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D75-100+LN2
Date of Calibration: 10/13/11
Serial Number: 6487KT

Testing Item:

1. Test Temperature: 40℃
2. Test Humidity: 95%RH
3. Test Times: 48Hrs
4. Test Software: Windows 7 / Run PassMark Burn In Test 7.0
5. Test Environment Curve:

Humidity %



Sample Configuration & Quantity Under Test:
Quantity: 1 (AFP-6152)

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

Cold start and hot start test

Test Date: 02-01 ~ 02-2012

Test Product: AFP-6152

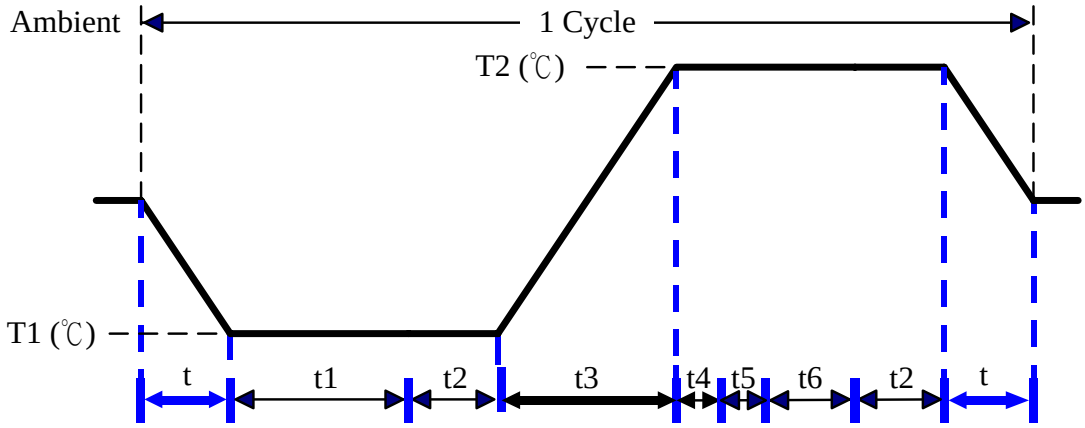
Test Site: AAEON QE Internal Lab.

Test Standard: Reference 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-D75-100+LN2
Date of Calibration: 10/13/11
Serial Number: 6487KT

Test Condition:



Parameters	Description
T1	-25℃
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 burn in test 7.0
t5: Win 7 Software restart test 3 times
Test Software: Windows 7

Test Result:

a. No problem was found during the cold start test.
b. No problem was found during the hot start test.