AHP-1125

With HDD

Environment Test Report

Report NO: 16P020004

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

Issue date	QE Manager	Test Engineer
2016-02-05	**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.	System:	AHP-1125 A0.1
	1. Main board	GENE-BSW5 A1.0
	2. BIOS	R0.1
	3. CPU Type	Intel N3700 2.4GHz
	4. Memory	Transcend DDR3L-1600 2GB
	5. HDD	TOSHIBA 100GB MQ01AAD010C
	6. Test Software	Windows 10 / Run BurnIn test 8.1 Pro
2.	Power Supply	FSP084-DMAA1

CPU Heatsink

Temperature rise test

Test Date: 02-03~05-2016

Test Product: AHP-1125

Test Site: AAEON QE Dept.

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

Temperature Measurement:

Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-B6T-150-LN2
Date of Calibration: 04/27/15
Serial Number: 6488KT

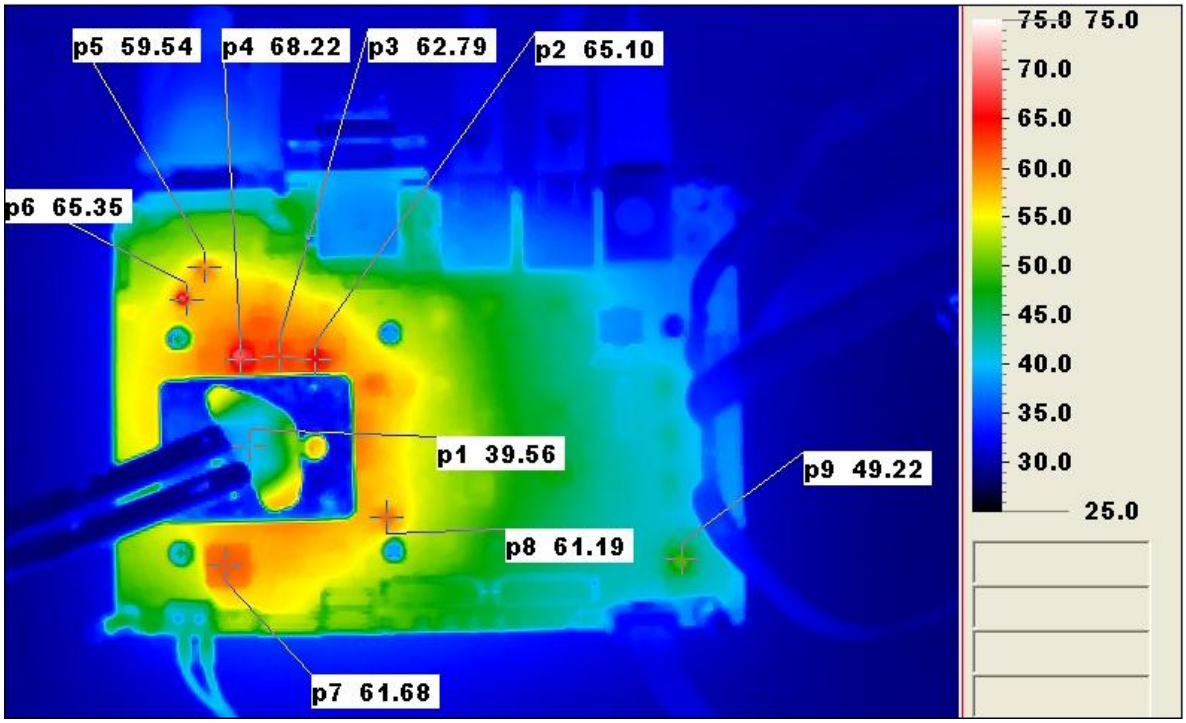
Test Condition:

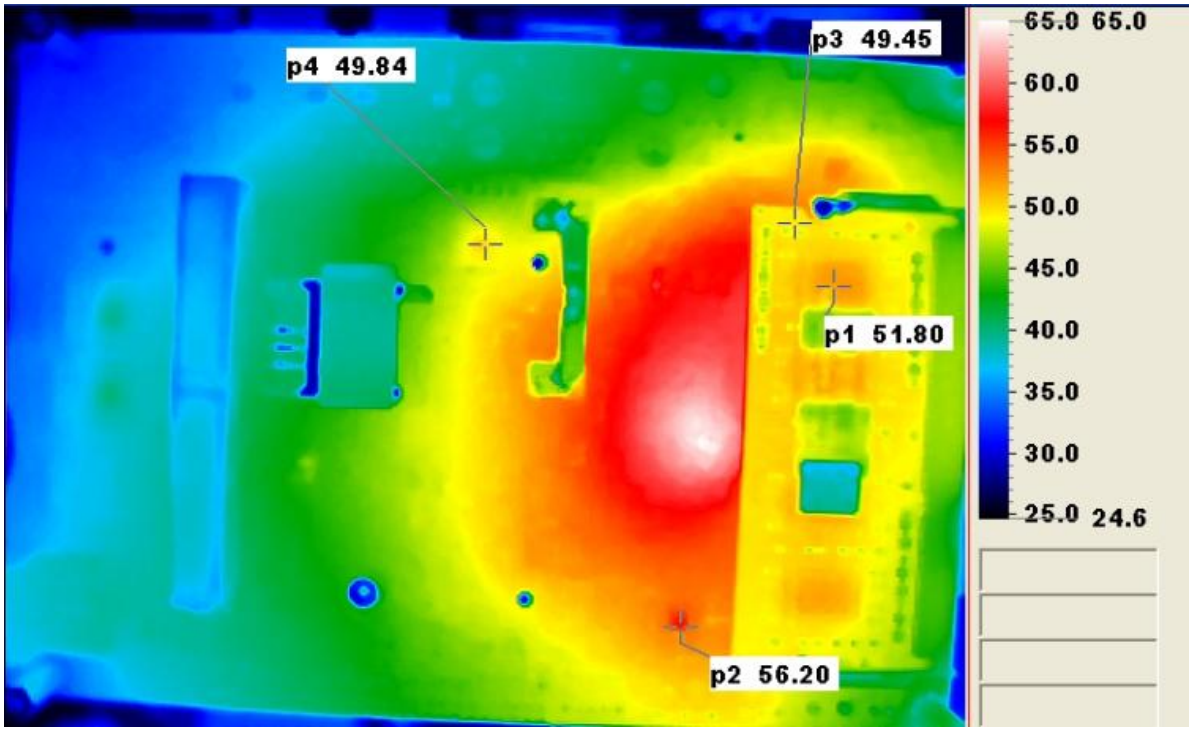
Ambient temperature: 50℃ with airflow 0.5m/s
Continuous running till thermal stably (within less than 1℃)

Test Software:

Windows 10 / Run PassMark Burn In Test 8.1 Pro

Terminal Recorder:

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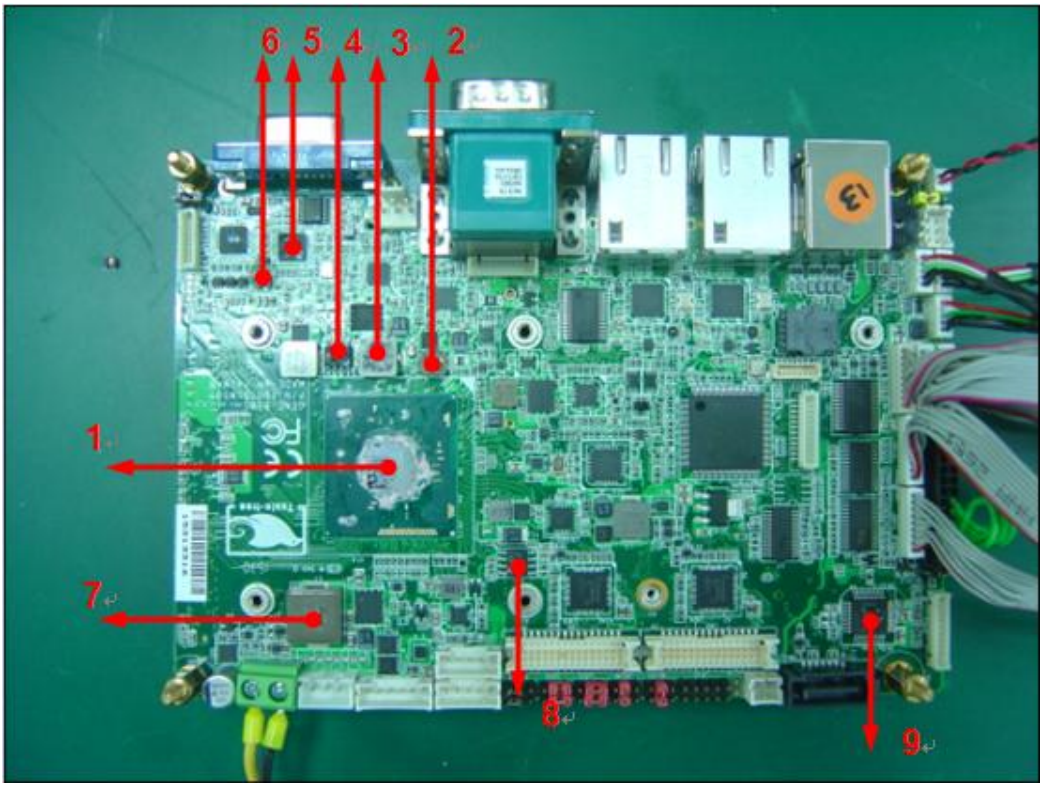
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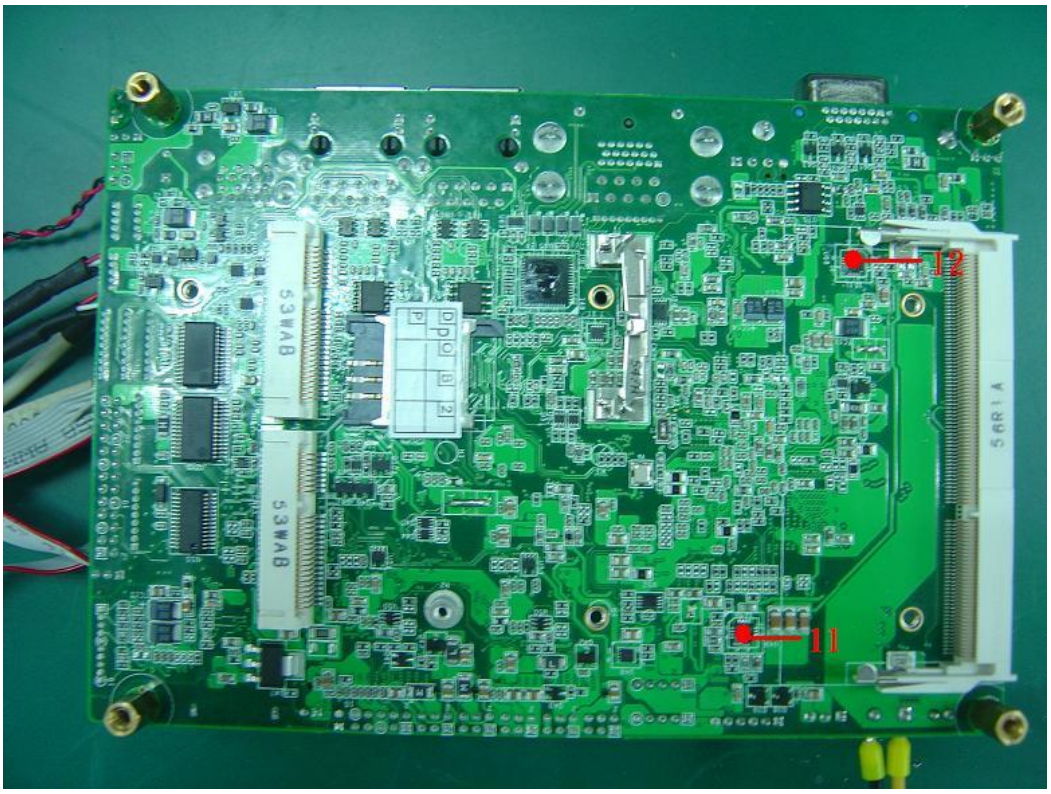
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Thermal profile data:

AHP-1125

Point	Position	Describe	Tc (*1) (℃)	TAT(*2)	TPT(*3)	Note
				50	25	
1	U14	(TF)INTEL CPU.Braswell.N3700. 2.40GHz	90	70.6	45.6	
2	L6	COIL.SMD.NEC/TOKIN.MPLCG0530LR33	120	77.5	52.5	
3	L8	COIL..Panasonic.ETQP4LR36AFM	130	84.6	59.6	
4	U27	(TF)IC.LDO Linear Regulator SMD.RICHTEK.RT9025-25PSP	100	82.3	57.3	
5	U44	(TF)IC.DisplayPort to VGA Converter.SMD Chrontel CH7517A-BF	125	73.1	48.1	
6	U38	(TF)IC.LDO Regulator.SMD.UPI.UP0107BMA5-00	100	81.4	56.4	
7	L1	COIL.ZenithTek.ZPWM-1040MB-1R5M	100	78.7	53.7	
8	U6	TF)IC.LDO Linear Regulator.0SMD.RICHTEK.RT9025-25PSP	100	76.1	51.1	
9	U2	(TF)IC.SMD.REALTEK.ALC892-CG	100.5	65.6	40.6	
10		Memory chipset	85	77.0	52.0	
11	U49	(TF)IC.Wide Input Voltage.SMD.TI.TPS53219ARGTR	125	78.9	53.9	
12	U68	(TF)IC.SMD. BUCK CONTROLLER.3A.TI.TPS51216RUK	100	75.0	50.0	
13		RTC Battery	70	61.5	36.5	
14		HDD Surface	70	64.4	39.4	
15		System Ta (indise)	N/A	62.6	37.6	

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 (AHP-1125)

Test Result:

No issues were found during the temperature rise operation test.

Temperature cycle test

Test Date: 01-25 ~ 26-2016

Test Product: AHP-1125

Test Site: AAEON QE Dept.

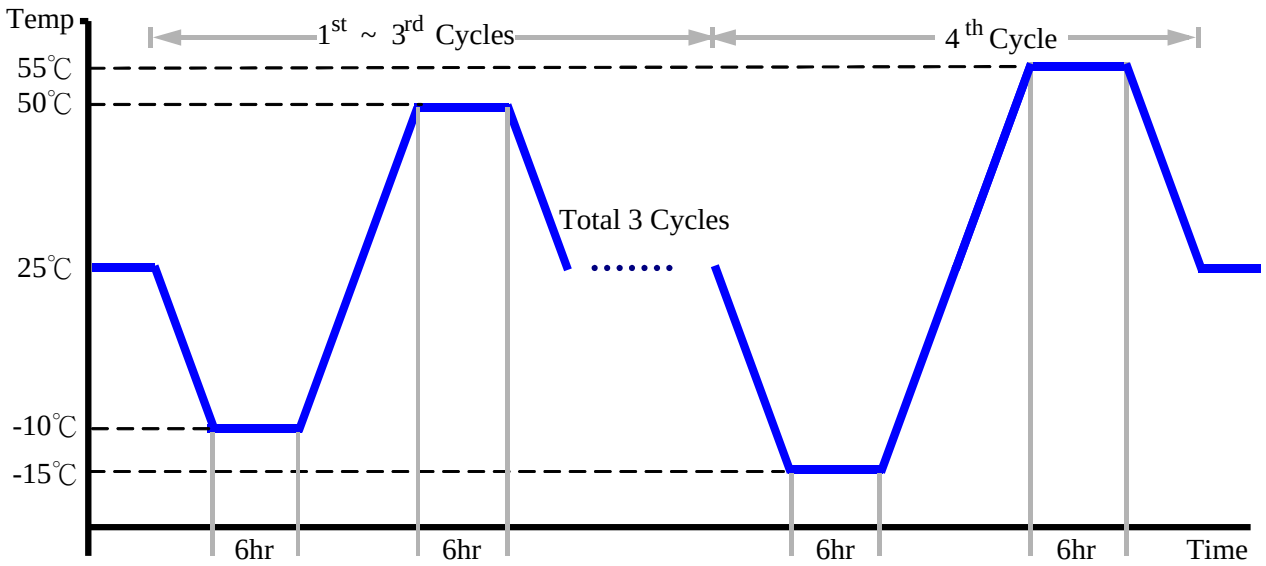
Test Standard: Refer to IEC68-2-14 Testing procedures
Test N: Change of temperature Test

Test Equipment:

Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-B6T-150-LN2
Date of Calibration: 04/27/15
Serial Number: 6488KT

Test Condition:

1. Test Low Temperature: -10℃ (1~3 cycles)
   -15℃ (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 (AHP-1125)

Test Result:

No issues were found during the temperature operation cycle test.

High temperature storage test

Test Date: 01-22 ~ 23-2016

Test Product: AHP-1125

Test Site: AAEON QE Dept.

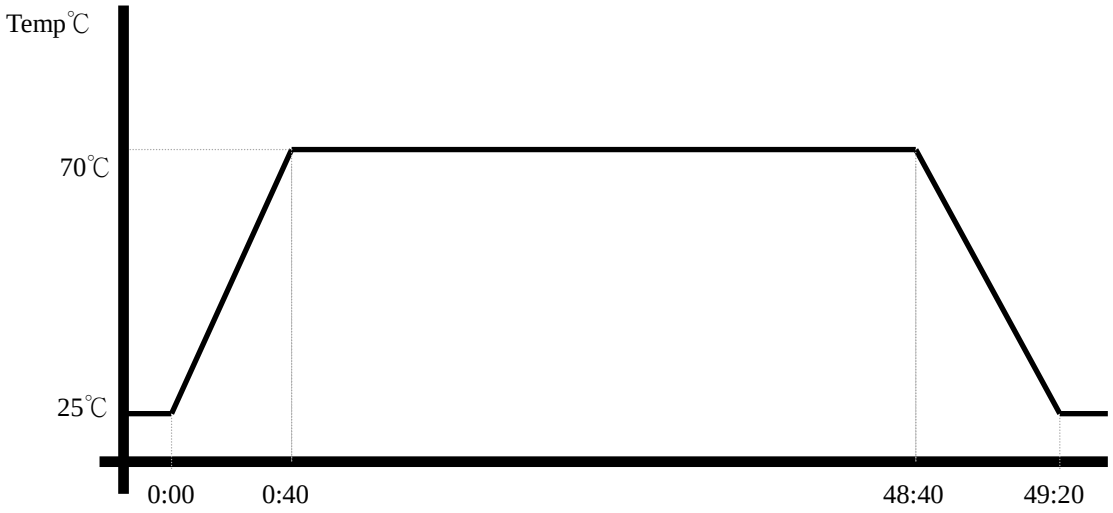
Test Standard: Refer to IEC 68-2-2 Testing procedures
Test Bb: Dry Heat Test (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-B6T-150-LN2
Date of Calibration: 04/27/15
Serial Number: 6488KT

Testing Item:

1. Test Temperature: 70℃
2. Test Times: 48Hrs
3. Test Software: Windows 10 / Run PassMark Burn In Test 8.1 Pro
4. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (AHP-1125)

Test Result:

No issues were found after the high temperature storage test.

Low temperature storage test

Test Date: 01-26~27-2016

Test Product: AHP-1125

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-B6T-150-LN2
Date of Calibration: 04/27/15
Serial Number: 6488KT

Testing Item:

1. Test Temperature: -20℃
2. Test Times: 48Hrs
3. Test Software: Windows 10 / Run PassMark Burn In Test 8.1 Pro
4. Test Environment Curve:

Sample Configuration & Quantity Under Test:
Quantity: 1 (AHP-1125)

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

Humidity test

Test Date: 01-28~29-2016

Test Product: AHP-1125

Test Site: AAEON QE Dept.

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

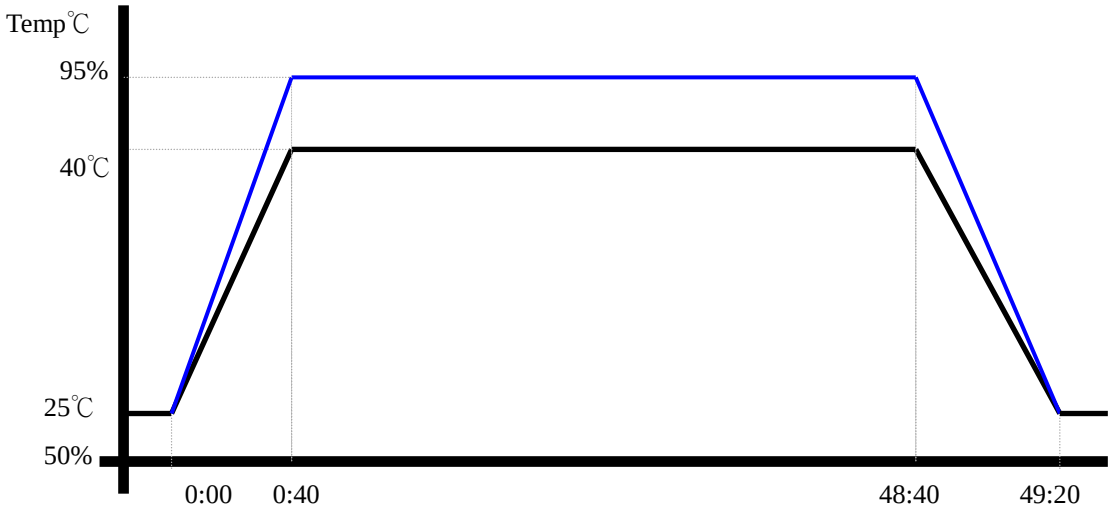
Test Equipment:

Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-B6T-150-LN2
Date of Calibration: 04/27/15
Serial Number: 6488KT

Testing Item:

1. Test Temperature: 40℃
2. Test Humidity: 95%RH
3. Test Times: 48Hrs
4. Test Software: Windows 10 / Run PassMark Burn In Test 8.1 Pro
5. Test Environment Curve:

Humidity %



Sample Configuration & Quantity Under Test:

Quantity: 1 (AHP-1125)

Test Result:

No issues were found after the humidity storage test.

Cold start and hot start test

Test Date: 02-01~02-2016

Test Product: AHP-1125

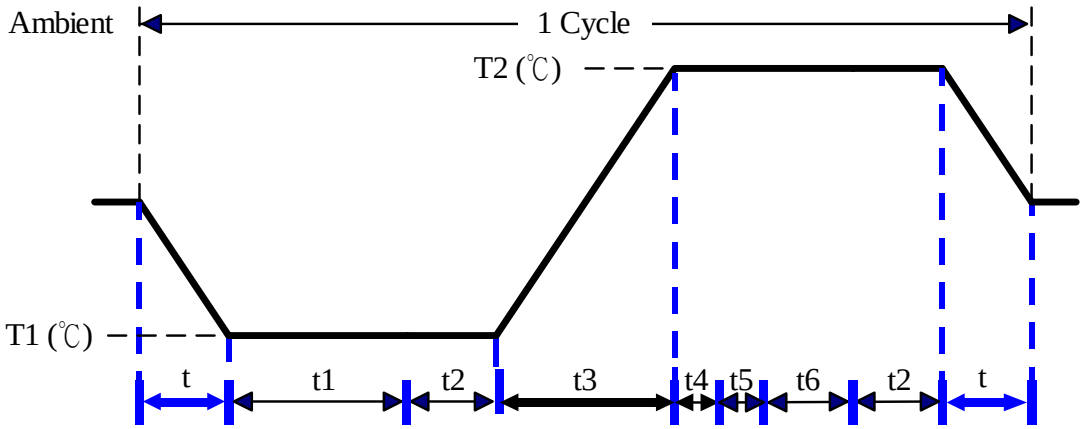
Test Site: AAEON QE Dept.

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-B6T-150-LN2
Date of Calibration: 04/27/15
Serial Number: 6488KT

Test Condition:



Parameters	Description
T1	-15℃
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 8.1
t5: Win 10 Software restart test 3 times
Test Software: Windows 10

Test Result:

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

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