



# Test item list

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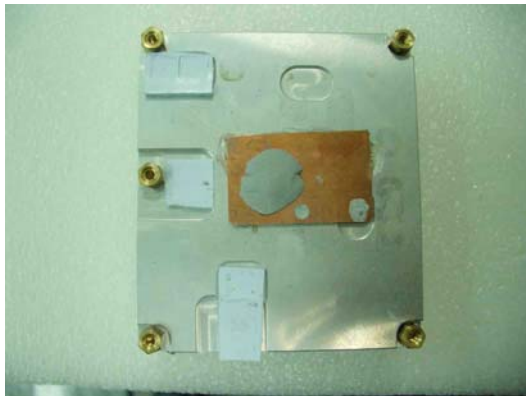
## Testing Result

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.	Fanless Touch Panel	ACP-5182
	1. LCD	AUO G185XW01 V0 1366*768 24BIT 18.5"
	2. Main Board	AAEON GENE-LN05 Rev. A0.3 (BIOS Ver: 0.1)
	3. CPU	Intel Atom D510 / 1.66GHz
	4. Memory	Transcend 2GB * 1 / DDR2 667 / SEC K4T1G084QQ
	5. Industrial SATA HDD	Toshiba MK1665GSX / 160GB
	6. I/O Board	PER-T189
	7. Inverter	GPSI GP1802-01A
	8. Test Software	Windows XP / Run PassMark Burn In Test 5.1 Pro
2.	Adapter	FSP. FSP084-DMAA1

## Heat Sink



# Temperature rise test

**Test Date:** 10-08-2010

**Test Product:** ACP-5182

**Test Site:** AAEON QE Internal Lab.

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

**Temperature Measurement:**

40 Channel Thermal Recorder:  
YOKOGAWA Inc,  
Model: DA100-13-1D  
Date of Calibration: 12/08/09  
Serial Number: 12A323190

**Test Condition:**

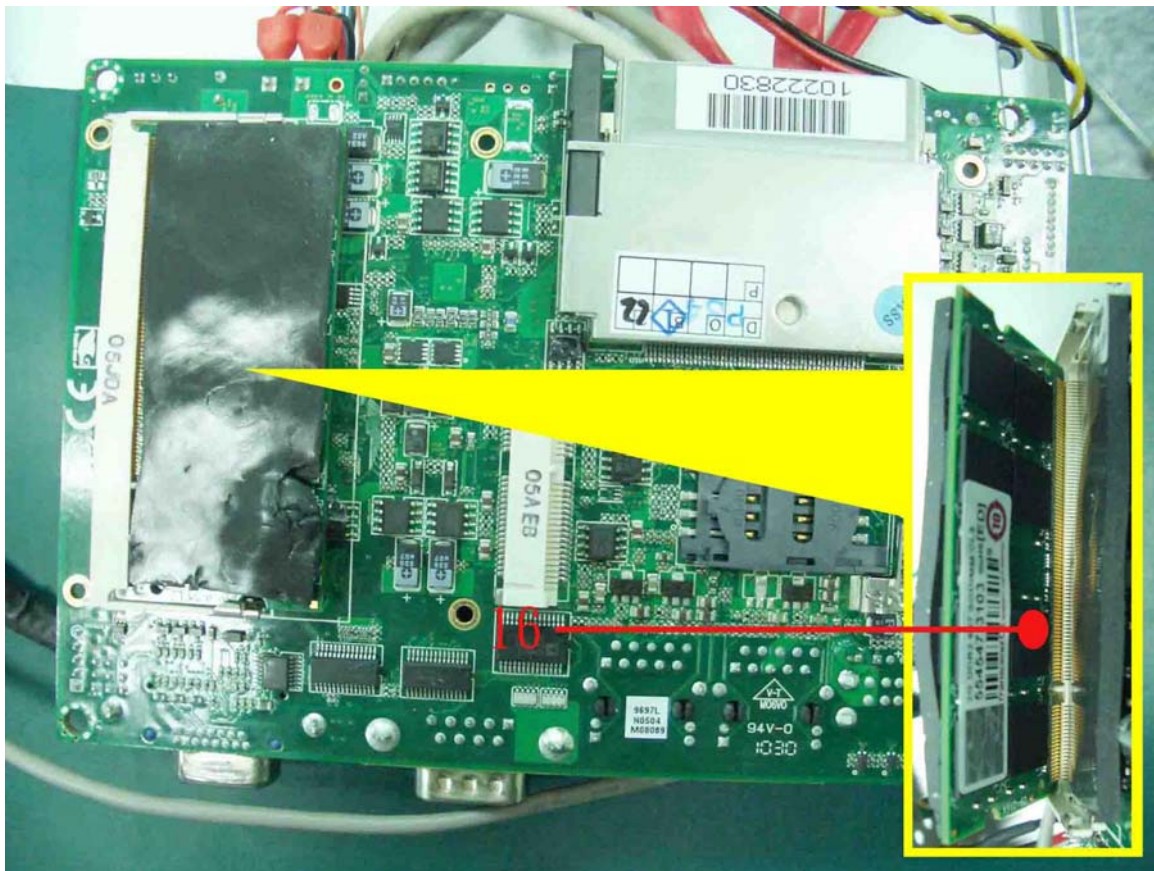
Ambient temperature: 40°C  
Continuous running till thermal stability (within less than 1°C)

**Test Software:**

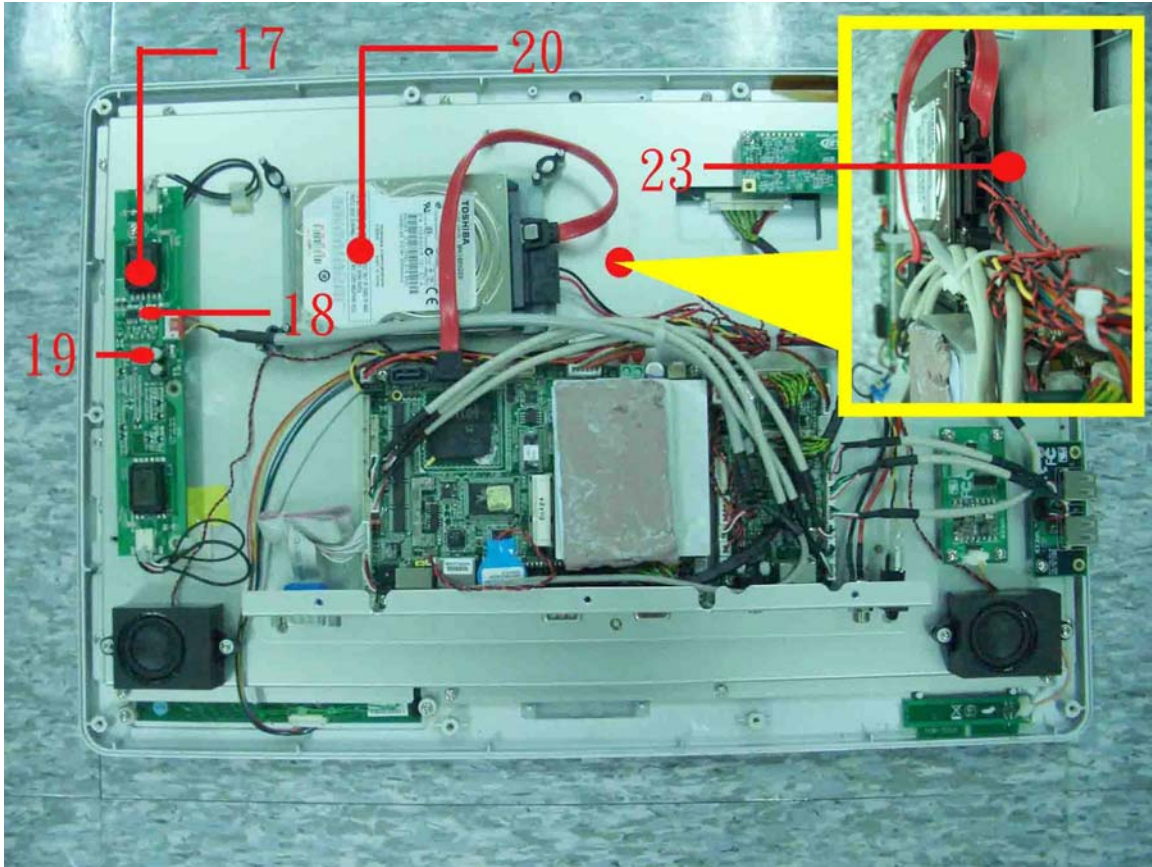
Windows XP / Run PassMark Burn In Test 5.1 Pro

**Terminal Recorder:**

Measuring Thermal Couple Position :



# Temperature rise test



# Temperature rise test

## Thermal profile data:

### ACP-5182

Point	Temp. Stage(°C)	Spec	40	25
<b>GENE-LN05</b>				
01. U19 - (TF) Intel CPU.Pineview D.DUAL CORE.D510.1.66GHz. SLBLA		100	70.1	55.1
02. U11 - (TF) Chipset ICH8M.INTEL.NH82801HBM.SLB9A		105	90.5	75.5
03. U15 - (TF) CLOCK GENERATOR.IDT.9LPRS501PGLF		115	77.1	62.1
04. U33 - (TF) GigaBit Ethernet PHY.INTEL.WG82567V SLAW7		95	66.9	51.9
05. U34 - (TF) PCI-E GigaBit Ethernet Chipset.Intel.WG82583V		110	69.0	54.0
06. U37 - (TF) Audio Codec.REALTEK.ALC888-GR		95	72.8	57.8
07. U21 - (TF) LPC to 4 UART.FINTEK.F81216DG		95	70.8	55.8
08. U26 - (TF) Super I/O.Winbond.W83627DHG-P		95	69.8	54.8
09. L2 - (TF) COIL.ZenithTek.ZPWM-6030M-1R5M		125	71.6	56.6
10. L1 - (TF) COIL ZenithTek.ZPWM-1040M-2R2M		125	70.0	55.0
11. L3 - (TF) COIL.ZenithTek.ZPWM-1040MB-1R5M		125	70.9	55.9
12. L5 - (TF) COIL.ZenithTek.ZPWM-6030M-2R2M		125	66.2	51.2
13. U32 - (TF) DDR1/2/3 Memory Power Supply.Semtech.SC488MLTRT		125	67.4	52.4
14. U52 - (TF) Clock Output Buffer.ICS.ICS9112M-16LF-T		115	76.9	61.9
15. U61 - (TF) Low Dropout Regulator. SEMTECH.SC1565IS-TRT		110	73.9	58.9
16. Memory		85	68.5	53.5
17. Inverter - T1		85	61.4	46.4
18. Inverter - U3		125	59.3	44.3
19. Inverter - U1		85	60.0	45.0
20. HDD Surface		63	63.0	48.0
21. PER-T189 - U2 - (TF) OSC.133.000MHz.discera.DSC1025		100	73.4	58.4
22. PER-T189 - L1 - (TF) COIL.ZenithTek.ZPWM-1250M-2R2M		125	86.1	71.1
23. Control Box Inside Air Temperature		N/A	59.0	44.0
24. Control Box External Surface		N/A	59.1	44.1
25. Chamber Air Temperature		N/A	40.1	25.1
<b>Any Tm value showed in red words which meaning the value over the Tc degree C of this device specification.</b>				

## Temperature Measurement Table:

Location	TA=40.1°C	Temp. Rise (Thermal Couple)	SpeedFan 4.31 (Read from BIOS)
CPU		70.1°C	N/A
System Temp. 1 (North Bridge)		N/A	N/A
System Temp. 2 (South Bridge)		90.5°C	87.0°C

**Sample Configuration & Quantity Under Test:**

Quantity: 1 (ACP-5182)

**Test Result:**

No problem was found during the temperature rise operation test.

# Temperature cycle test

**Test Date:** 10-04~06-2010

**Test Product:** ACP-5182

**Test Site:** AAEON QE Internal Lab.

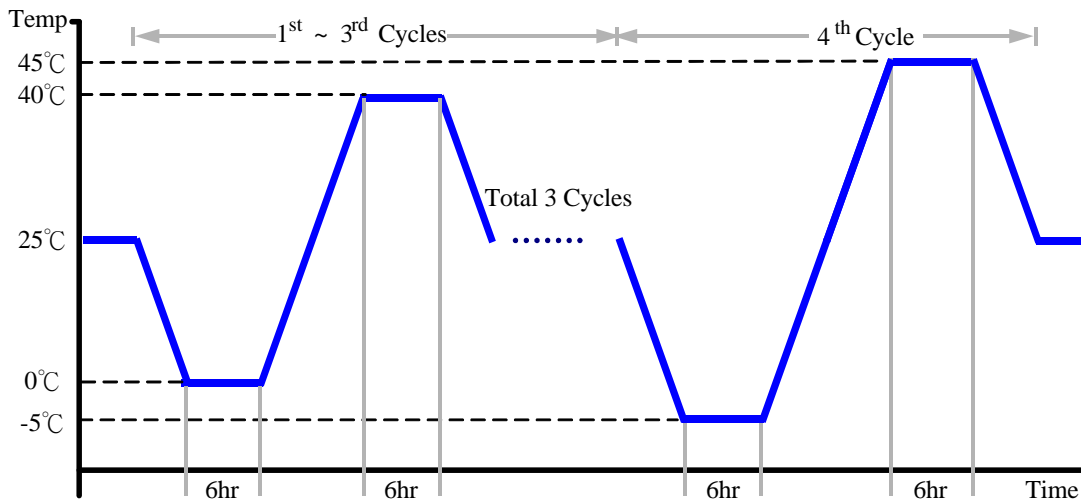
**Test Standard:** Reference IEC68-2-14 Testing procedures  
Test N: Change of temperature Test

**Test Equipment:**

Programmable Temperature & Humidity Chamber  
K.SON. INS. TECH. CORP.  
Model: THS-D7S-100+1 N2  
Date of Calibration: 12/08/09  
Serial Number: 3898

**Test Condition:**

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



**Sample Configuration & Quantity Under Test:**

Quantity: 1 (ACP-5182)

**Test Result:**

No problem was found during the temperature operation cycle test.



# High temperature storage test

**Test Date:** 09-27~29-2010

**Test Product:** ACP-5182

**Test Site:** AAEON QE Internal Lab.

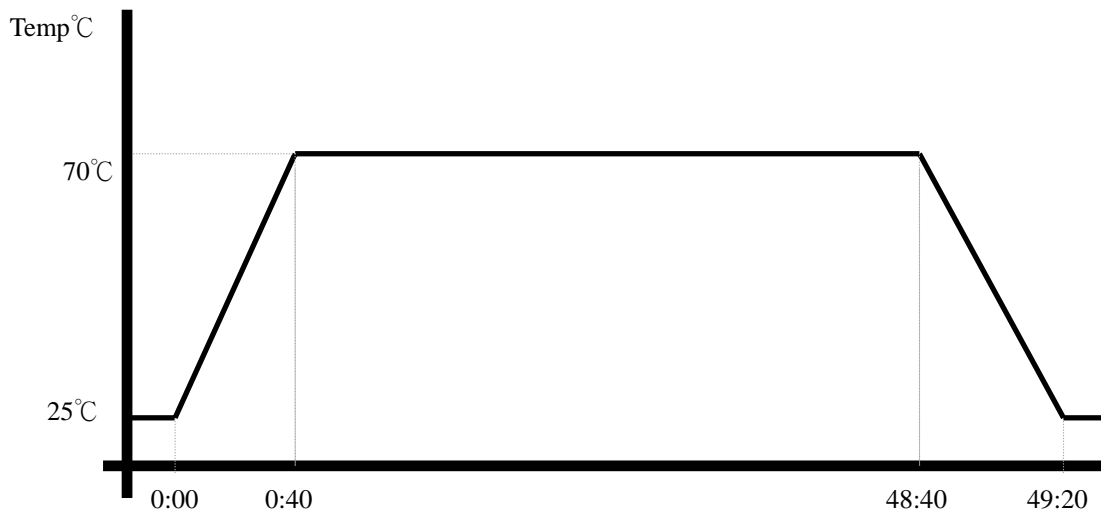
**Test Standard:** Reference IEC 68-2-2 Testing procedures  
Test Bb: Dry Heat Test (Non-operation)

**Test Equipment:**

Programmable Temperature & Humidity Chamber  
K.SON. INS. TECH. CORP.  
Model: THS-D7S-100+1 N2  
Date of Calibration: 12/08/09  
Serial Number: 3898

**Testing Item:**

1. Test Temperature: 70°C
2. Test Times: 48Hrs
3. Test Software: Windows XP / Run PassMark Burn In Test 5.1 Pro
4. Test Environment Curve:



**Sample Configuration & Quantity Under Test:**

Quantity: 1 (ACP-5182)

**Test Result:**

No problem was found after the high temperature storage test.

# Low temperature storage test

**Test Date:** 09-29-2010 ~ 10-01-2010

**Test Product:** ACP-5182

**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-D7S-100+1 N2

Date of Calibration: 12/08/09

Serial Number: 3898

**Testing Item:**

1. Test Temperature: -20°C
2. Test Times: 48Hrs
3. Test Software: Windows XP / Run PassMark Burn In Test 5.1 Pro
4. Test Environment Curve:



**Sample Configuration & Quantity Under Test:**

Quantity: 1 (ACP-5182)

**Test Result:**

No problem was found after the low temperature storage test.

**Test Date:** 10-01~04-2010

**Test Product:** ACP-5182

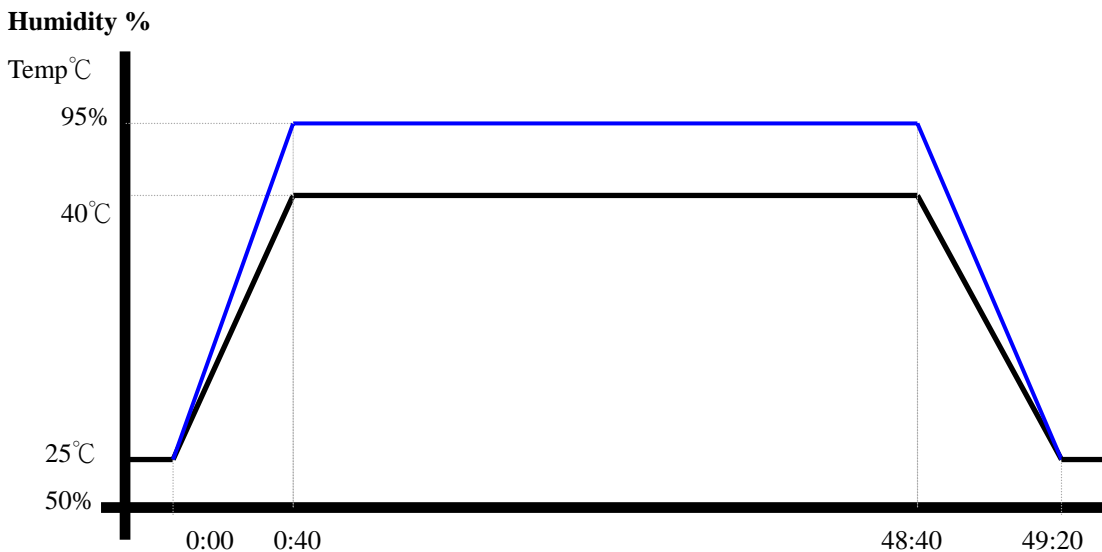
**Test Site:** AAEON QE Internal Lab.

**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-D7S-100+1 N2  
Date of Calibration: 12/08/09  
Serial Number: 3898

**Testing Item:**

1. Test Temperature: 40°C
2. Test Humidity: 95%RH
3. Test Times: 48Hrs
4. Test Software: Windows XP / Run PassMark Burn In Test 5.1 Pro
5. Test Environment Curve:



**Sample Configuration & Quantity Under Test:**  
Quantity: 1 (ACP-5182)

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

# Cold start and hot start test

**Test Date:** 10-06~07-2010

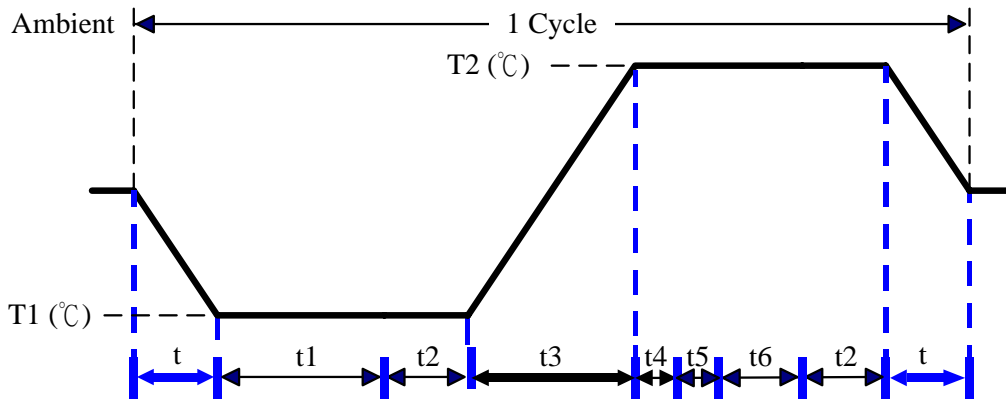
**Test Product:** ACP-5182

**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-D7S-100+1 N2  
Date of Calibration: 12/08/09  
Serial Number: 3898

**Test Condition:**



Parameters	Description
T1	-5°C
T2	45°C
t1	4 hrs
t2, t6	2 hrs
t4, t5	1hrs
t, t3	2°C/min
n (Cycle)	1

t = temperature 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 XP Software restart test 3 times  
Test Software: Windows XP

**Test Result:**

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