AOP-8060 (MPC-5320 A1.0)

With CFD

Environment Test Report

Report NO: 04P020023

Issued by:	Rex-Chang	/	*10/12/2004*
	Test Engineer		**Date**
Reviewed by:	Wenyuan Yang	/	*10/12/2004*
	Manager		**Date**

Num	Item	Spec
1.	Control Box:	AOP- 8060 / Fanless Operator Panel PC
	1. Main Board	AAEON MPC-5320 Rev. A1.0 (BIOS: 1.0)
	2.LCD	STN LCD 5.7” HITACHI SX14Q004 320*240
	3.Inverter	LECERF DC to AC TFT LCD LV-X01-BB
	4.Touch Screen	EELY ITO04S 0708
	5. CPU	Onboard SiS CPU.BGA.686P.SiS550.200MHz.1.8V
	6. Memory	Onboard 64MB ELPIDA D45128163G5-A75-9JF (PC-133)
	7. CFD	PQI 32MB
	8. Adapter	EDAC 100/240V.12V.5A.60W.DC.With Lock EA1050A (13)

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Temperature cycle test

Report NO. 04P020023

AOP-8060 (MPC-5320 A1.0) Fanless Operator Panel PC

Test Date: 10-05~07-2004

Test Product: AOP-8060 (MPC-5320 A1.0) Fanless Operator Panel PC.

Test Site: AAEON QA Internal Lab.

Performed By: Rex Chang

Test Standard:

Reference IEC 68-2-61 Testing procedures
Test Z/ABD: Climatic Sequence Test

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D4H+-100
Date of Calibration: 05/24/04
Serial Number: 1241

Temperature Measurement:

20 Channel Thermal Recorder:
YOKOGAWA Inc,
Model: DA100-13-1D
Date of Calibration: 12/25/03
Serial Number: 12A323190

Test O.S. / Software:

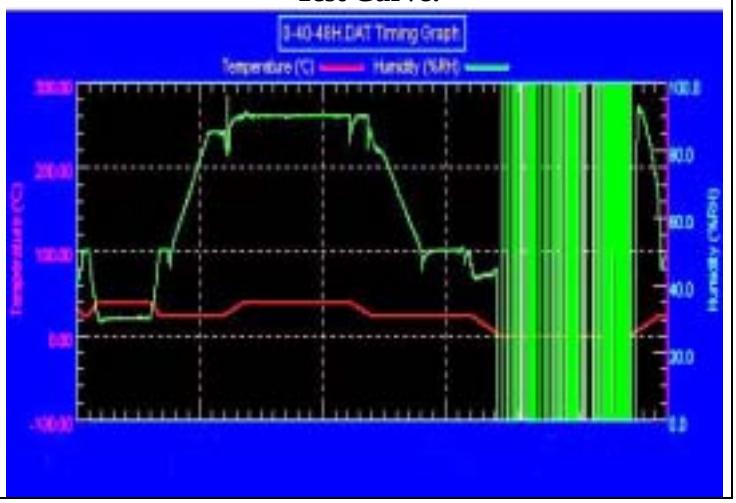
MS-Dos 6.22 / Run QAPlus 5.5.

Temperature & Humidity Cycle Test:

Testing Specification

Step	Temperature (℃)	Humidity (%RH)	Duration (HH:MM)
1	25	50	00:30
2	25	50	00:30
3	40	30	00:40
4	40	30	04:20
5	25	50	00:40
6	25	50	00:50
7	25	90	03:30
8	25	90	01:00
9	40	90	01:40
10	40	90	08:33
11	25	90	01:40
12	25	50	04:07
13	25	50	03:30
14	25	50	00:30
15	0	0	02:30
16	0	0	10:30
17	25	50	02:30
18	25	50	00:30

Test Curve:



Sample Configuration & Quantity Under Test:

Using one AOP-8060 (MPC-5320 A1.0) Fanless Operator Panel PC.

Test Result:

The system structure doesn't deformation; Function is OK during system test.

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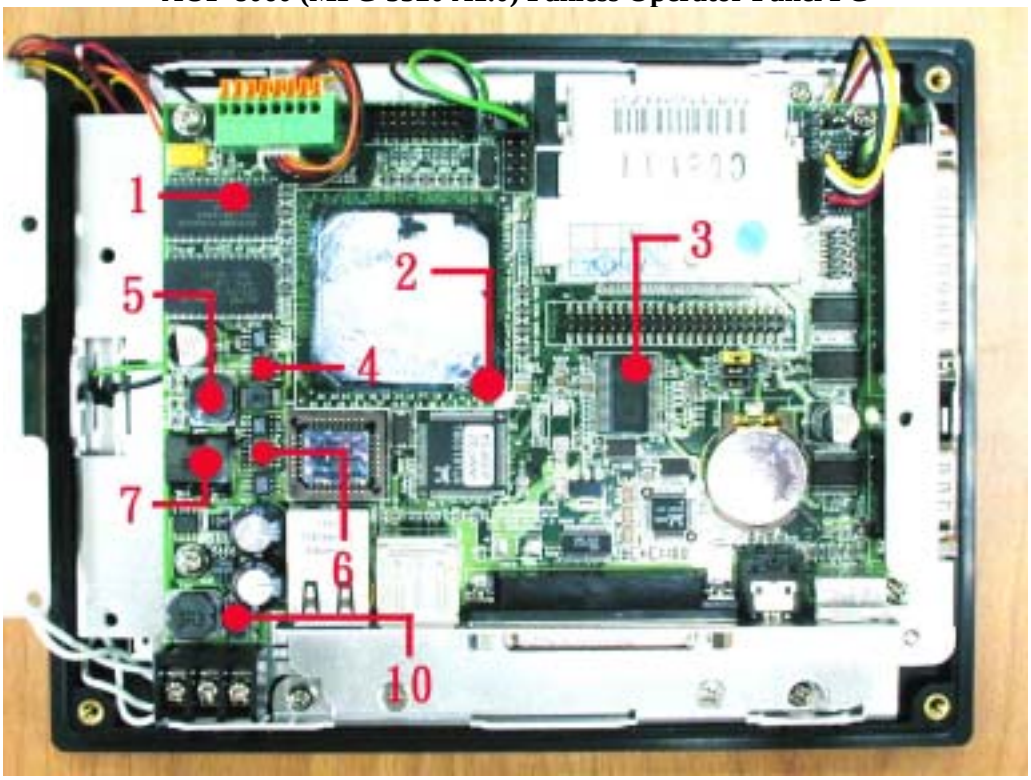
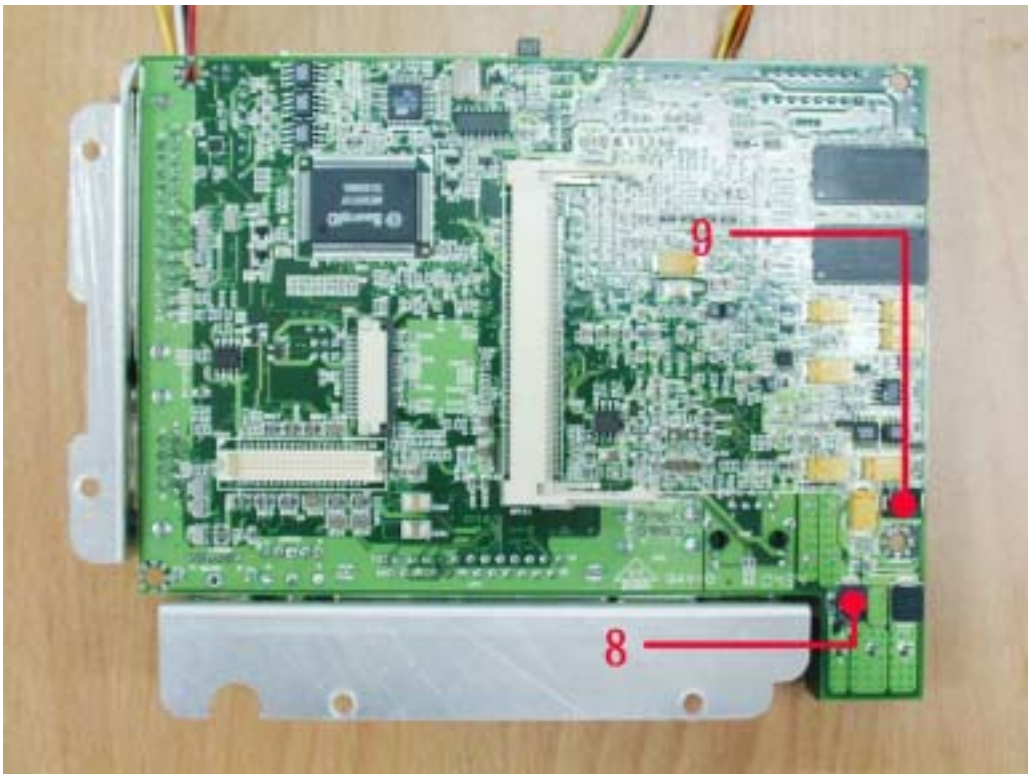
AOP-8060 (MPC-5320 A1.0) Fanless Operator Panel PC

Temperature Recorder:

Measuring Accelerometer Position:

AOP-8060 (MPC-5320 A1.0) Fanless Operator Panel PC





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Temperature cycle test

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AOP-8060 (MPC-5320 A1.0) Fanless Operator Panel PC

Thermal profile data:

AOP-8060 (MPC-5320 A1.0) Fanless Operator Panel PC

Temp. Stage / Point	40°C	25°C	0°C
1. U5 IC.SMD SDRAM.8M*16 PC-133 TSOPII 54P 3.3V.ELPIDA.UPD45128163G5-A75-9JF	77.2°C	61.7°C	36.6°C
2. U32 SiS CPU.BGA.686P.SiS550.200MHz.1.8V	76.3°C	61.0°C	36.9°C
3. U1 IC.SMD.SSOP 48P.Clock Generator.ICS.ICS951901AF	74.0°C	58.9°C	35.2°C
4. U28 PWR.SMD SO-8.P-Channel 30V MOSFET.APEC.AP4435M	80.2°C	64.5°C	40.3°C
5. L48 INDUCTORS.3.3uH 6.5A.20%.SMD 2pin. SMTDR105-3R3M	79.8°C	64.0°C	39.6°C
6. U30 IC.SMD SOP.8Pin Switching PWM Controller.Intersil.ISL6520A	81.1°C	65.4°C	41.2°C
7. L47 INDUCTORS.3.2uH 12.8A.20%.SMD 3pin .CEP125U-3R2M	81.1°C	65.1°C	40.9°C
8. D6 Diode.SMD.DO-214AB.Transient Voltage Suppressor.CONCORD.SMCJ28A	87.0°C	71.6°C	47.3°C
9. D7 D Schottky.60V.3A.SMD.WILLAS.SK36C	66.8°C	50.1°C	25.7°C
10. D5 D Schottky.60V.3A.SMD.WILLAS.SK36C	75.0°C	58.9°C	35.2°C
11. Chamber Air Temperature	41.0°C	25.3°C	0.3°C

Note: The description in red states which temperature is over the specification of the device.

Sample Configuration & Quantity Under Test:

Quantity: 1 (AOP-8060 Fanless Operator Panel PC)

Test Result:

The system structure doesn't deformation; Function is OK during system test.

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High temperature storage test

Report NO. 04P020023

AOP-8060 (MPC-5320 A1.0) Fanless Operator Panel PC

Test Date: 09-27~29-2004

Test Product: AOP-8060 (MPC-5320 A1.0) Fanless Operator Panel PC.

Test Site: AAEON QA Internal Lab.

Performed By: Rex Chang

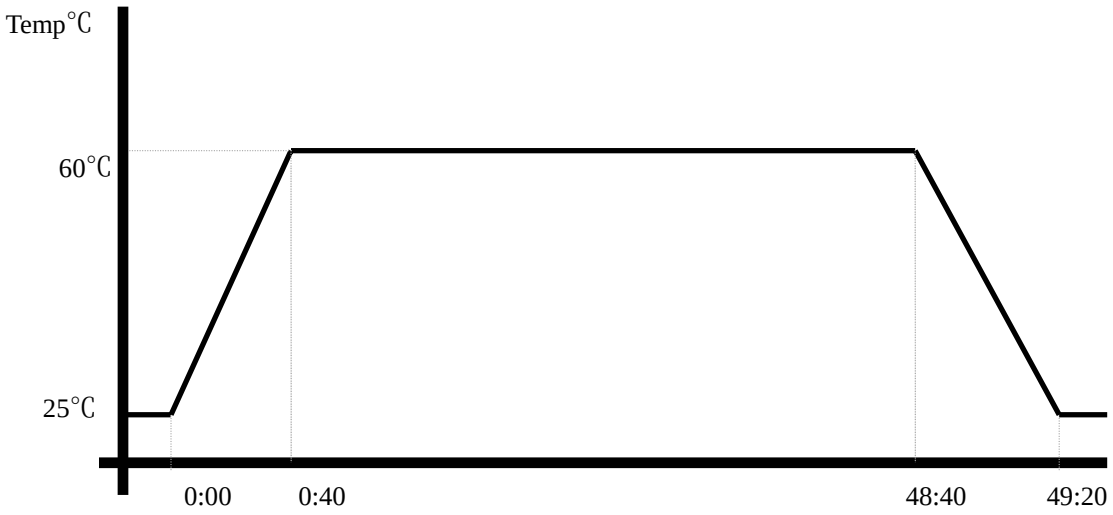
Test Standard: Reference IEC 68-2-2 Testing procedures
Test Bb: Dry Heat Test (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D4H+-100
Date of Calibration: 05/24/04
Serial Number: 1241

Testing Item:

1. Test Temperature: 60℃
2. Test Times: 48Hrs
3. Test Software: DOS 6.22 / Run QAPlus 5.5 form CFD.
4. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (AOP-8060 Fanless Operator Panel PC)

Test Result:

The system structure doesn't have any deformation; All functions are OK after high temperature storage test.

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Low temperature storage test

Report NO. 04P020023

AOP-8060 (MPC-5320 A1.0) Fanless Operator Panel PC

Test Date: 09-24~27-2004

Test Product: AOP-8060 (MPC-5320 A1.0) Fanless Operator Panel PC

Test Site: AAEON QA Internal Lab.

Performed By: Rex Chang

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-D4H+-100
Date of Calibration: 05/24/04
Serial Number: 1241

Testing Item:

1. Test Temperature: -20℃
2. Test Times: 48Hrs
3. Test Software: DOS 6.22 / Run QAPlus 5.5 form CFD
4. Test Environment Curve:

Sample Configuration & Quantity Under Test:

Quantity: 1 (AOP-8060 Fanless Operator Panel PC)

Test Result:

The system structure doesn't have any deformation; All functions are OK after low temperature storage test.

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Humidity test

AOP-8060 (MPC-5320 A1.0) Fanless Operator Panel PC

Test Date: 09-27~29-2004

Test Product: AOP-8060 (MPC-5320 A1.0) Fanless Operator Panel PC

Test Site: AAEON QA Internal Lab.

Performed By: Rex Chang

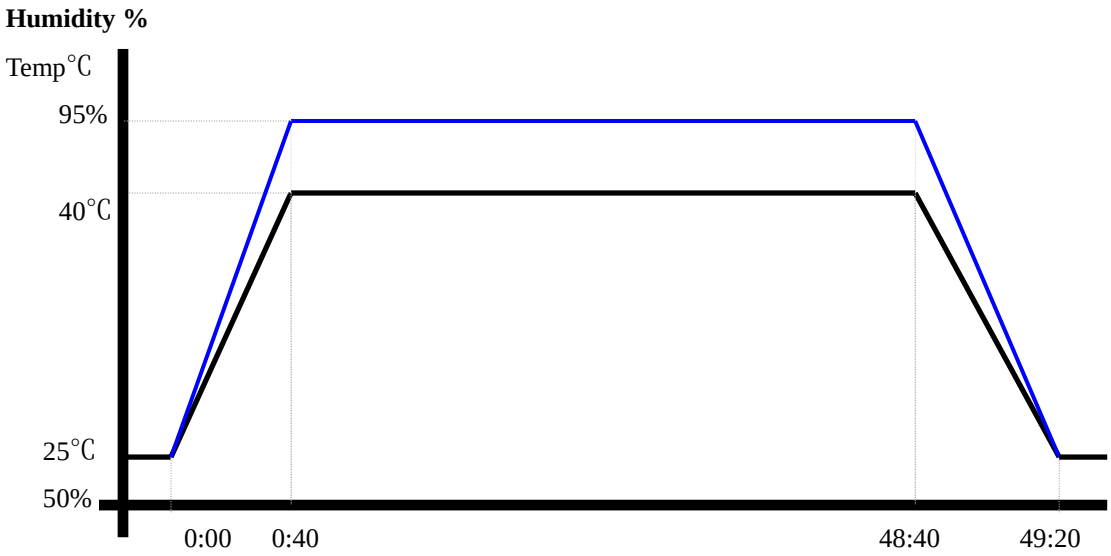
Test Standard: Reference IEC 68-2-3 Testing procedures
Test Ca: Damp heat, steady state (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D4H+-100
Date of Calibration: 10/17/03
Serial Number: 2582

Testing Item:

1. Test Temperature: 40℃
2. Test Humidity: 95%RH
3. Test Times: 48Hrs
4. Test Software: DOS 6.22 / Run QAPlus 5.5 form CFD
5. Test Environment Curve:



Sample Configuration & Quantity Under Test:
Quantity: 1 (AOP-8060 Fanless Operator Panel PC)

Test Result:

The system structure doesn't have any deformation; All functions are OK after humidity test.

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AOP-8060 (MPC-5320 A1.0) Fanless Operator Panel PC

Test Date: 09-30~10-1-2004

Test Product: AOP-8060 (MPC-5320 A1.0) Fanless Operator Panel PC.

Test Site: AAEON QA Internal Lab.

Performed By: Rex Chang

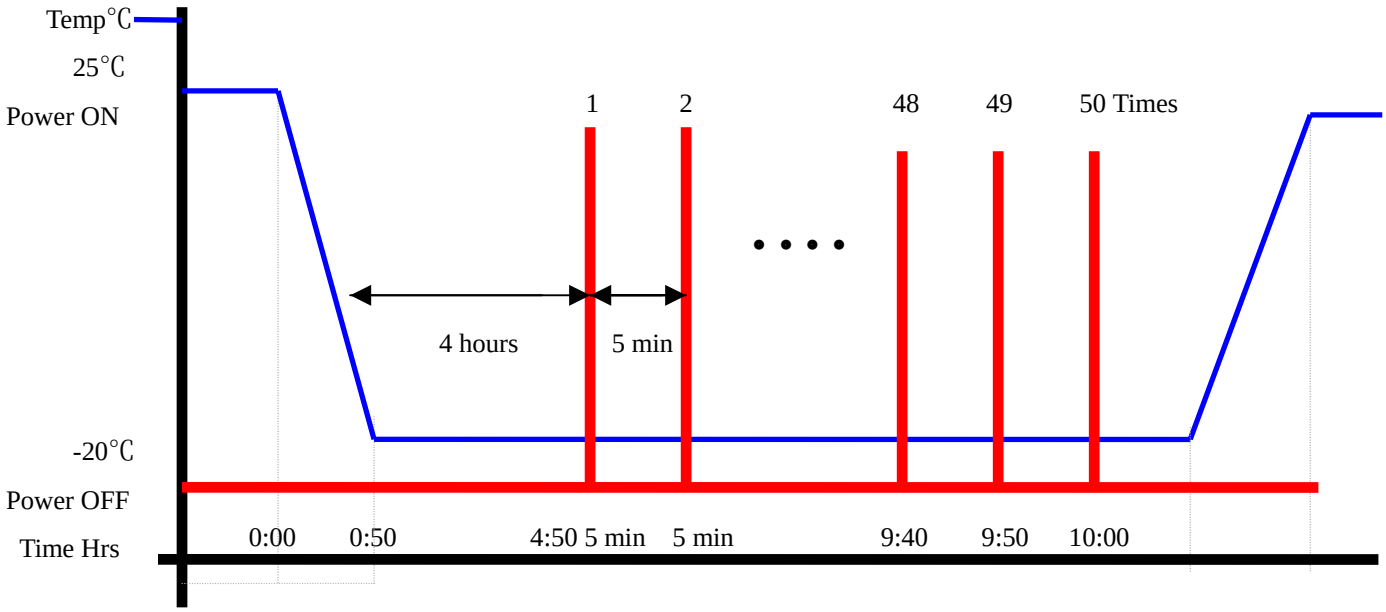
Test Standard: Reference IEC 68-2-1 Testing procedures
Test Ab: Cold Test

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: TS-F3L+-100
Date of Calibration: 04/02/04
Serial Number: 1467

Test Condition:

1. Test Temperature: -20℃
2. Test Times: 5 Hours or 50 times of ON/OFF
   (1) Power off for 4 hours before 1'st power on. Then once complete boot, power off immediately.
   (2) After 5 min later power on again and wait until booting is completed.
   (3) Repeat (2) for around 4:50
   (4) Power off then wait for 5 min before final power on operation.
3. Number of test: 50 times
4. Test Software: Dos 6.22
5. Test Environment Curve:



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Cold Start test

AOP-8060 (MPC-5320 A1.0) Fanless Operator Panel PC

Sample Configuration & Quantity Under Test:

Quantity: 1 (AOP-8060 Fanless Operator Panel PC)

Test Result:

Passed.

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