



Industrial Computing Platform Partner

FWS-816

1U 8port firewall

Environment Test Report

Report NO: 07I020004

Issued by: **Sean Hsu** / **02/16/2007**

Test Engineer Date

Reviewed by: **Wenyuan Yang** / **02/16/2007**

Manager Date

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Num	Item	Spec
1.	8 Port 1U Firewall:	FWS-816
2.	Main Board	AAEON FWB-816 A0.2
	1. BIOS	FWS-816 BIOS Rev 0.G(01/16/2007)
	2. CPU	Intel Pentium 4 3.8GHz /LGA775
	3. Chipset	Intel 945G + Intel 82801FB (ICH7R)
	4. VGA	Integrated VGA on Intel 945G
	5. Ethernet	GigaBit Ethernet Chipset.Intel.PC82573L *6 Ethernet 10/100BaseT.Intel.LU82551ER*2
	6. Memory	KINGMAX DDR2-533 SDRAM 1G (Hynix HY5PS12821F-C4)
3.	SATA HDD	Western Digital WD1600JD-00HBB0 160GB
4.	Power Supply	Zippy H1U-6250P ATX Power 250W

Temperature cycle test

Test Date: 01-12~14-2007

Test Product: FWS-816

Test Site: AAEON QA Internal Lab.

Performed By: Sean Hsu

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

Test Equipment:

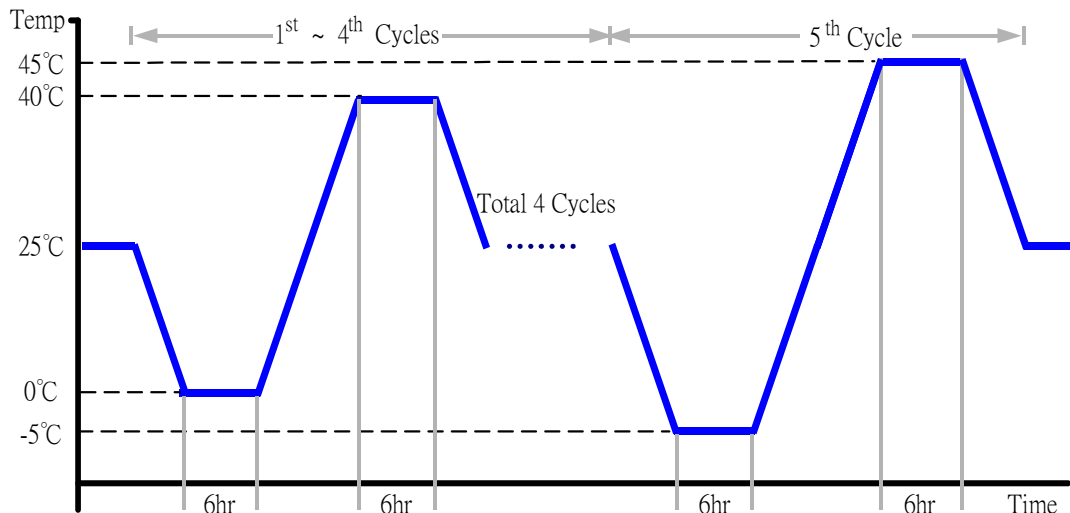
Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D7S-100+1 N2
Date of Calibration: 12/14/05
Serial Number: 3898

Temperature Measurement:

40 Channel Thermal Recorder:
YOKOGAWA Inc,
Model: DA100-13-1D
Date of Calibration: 12/14/05
Serial Number: 12A323190

Test Condition:

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



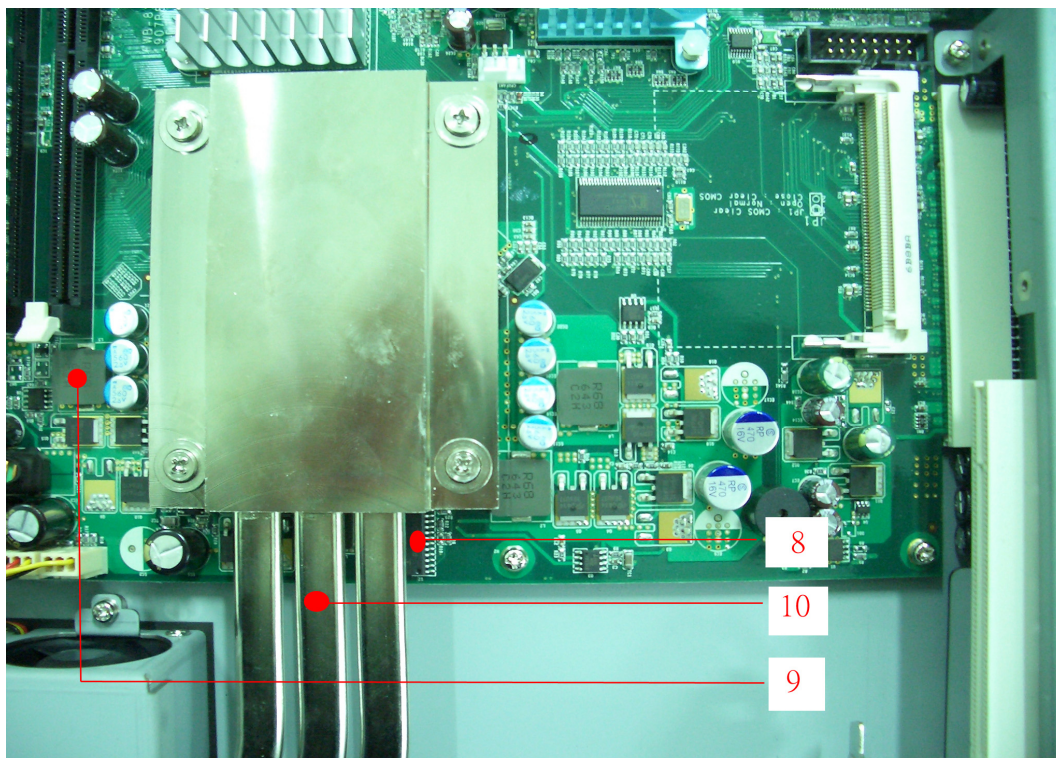
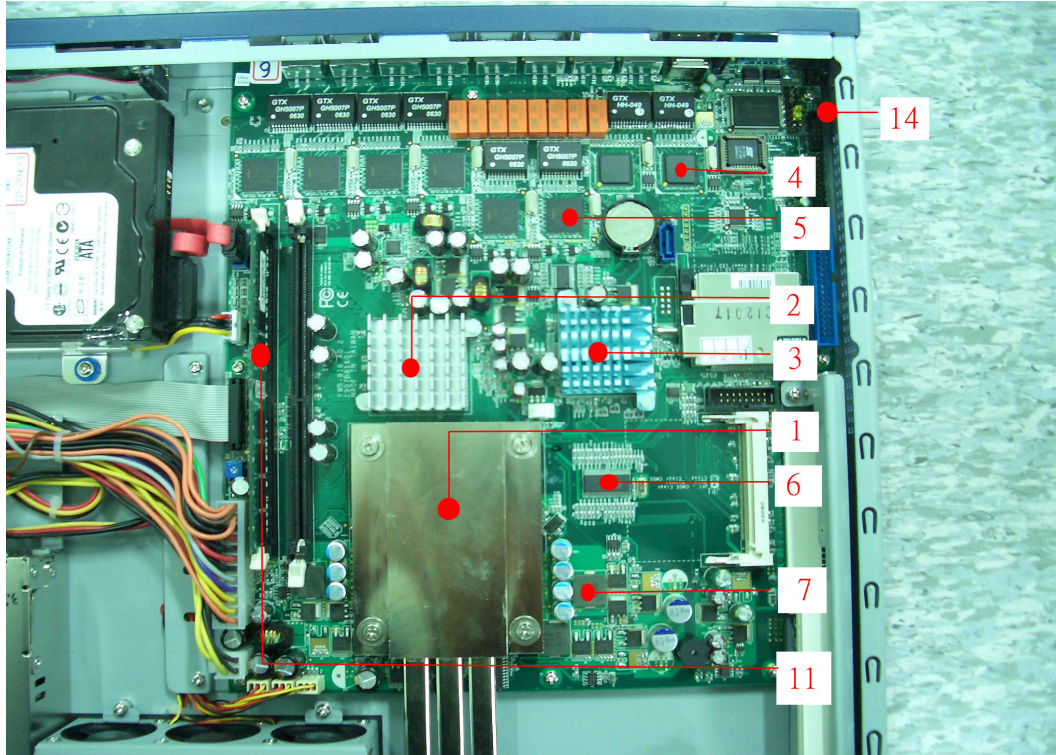
Temperature cycle test

Test O.S. / Software:

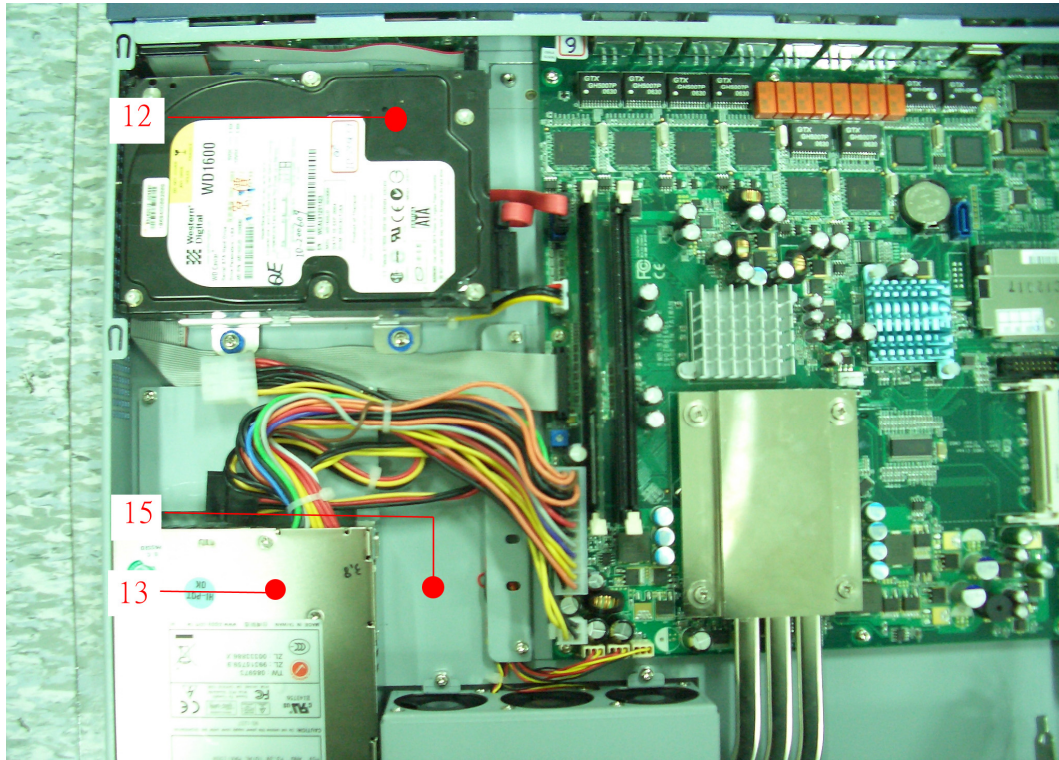
Windows 2000 / Run PassMark Burn In Test Pro 4.0

Temperature Recorder:

Measuring Thermal Couple Position :



Temperature cycle test



Temperature cycle test

Thermal profile data:

FWS-816

Point	Temp. Stage(°C)	Spec	45	40	25	0	-5
1. CPU: Intel Pentium 4 3.8GHz/LGA775		70.8	74.1	69.1	54.1	29.1	24.1
2. U11-(TF) IC.SMD.Chipset LAKEPORT 945G.INTEL.QG82945G SL8FU A2		99	76.5	71.5	56.5	31.5	26.5
3. U12- (TF) IC.SMD.Chipset ICH7R.INTEL.NH82801GR SL8FY A1		100	59.3	54.3	39.3	14.3	9.3
4. U28-(TF) IC.SMD.PBGA 196P.PCI Ethernet 10/100BaseT.Intel.LU82551ER		85	59.8	54.8	39.8	14.8	9.8
5. U18-(TF) IC.SMD.BGA 196P.GigaBit Ethernet Chipset.Intel.PC82573L		70	60.8	55.8	40.8	15.8	10.8
6. U9-(TF) IC.SMD.SSOP56.Clock Generator.ICS. ICS954101DFLF		100	80.1	75.1	60.1	35.1	30.1
7. L4-(TF) COIL.GOTREND.GSTC133P-R68MF		85	80.1	75.1	60.1	35.1	30.1
8. U2- (TF) IC.SMD.SOIC 28Pin PWM Controller.Intersil.ISL6556BCBZ		80	67.5	62.5	47.5	22.5	17.5
9. L5-(TF) COIL.GOTREND.GSTC133P-R68MF		85	77.1	72.1	57.1	32.1	27.1
10. Heat -Pipe		N/A	63.2	58.2	43.2	18.2	13.2
11. Memory: KINGSTON DDR2-667 1GB (Hynix HY5PS12821B FP-Y5)		70	56.2	51.2	36.2	11.2	6.2
12. SATA HDD: Seagate ST3120827AS 120GB		N/A	50.6	45.6	30.6	5.6	0.6
13. Power Supply: Zippy H1U-6250P ATX Power 250W		70	54.1	49.1	34.1	9.1	4.1
14. Control box inside air temperature		N/A	46.5	41.5	26.5	1.5	-3.5
15. Control box inside air temperature		N/A	54.5	49.5	34.5	9.5	4.5
16. Chamber Air Temperature		N/A	45.5	40.5	25.5	0.5	-4.5
1. Tm (Measured operation temperature) must less than Tc (Specified case temperature) + 5 degree C. 2. Any Tm value showed in red words which meaning the value over the Tc + 5 degree C of this device specification.							

Sample Configuration & Quantity Under Test:

Quantity: 1 (FWS-816)

Test Result:

No problem was found during the high temperature operation test.

High temperature storage test

Test Date: 01-10~11-2007

Test Product: FWS-816

Test Site: AAEON QA Internal Lab.

Performed By: Sean Hsu

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: 12/14/05

Serial Number: 3898

Testing Item:

1. Test Temperature: 60°C
2. Test Times: 48Hrs
3. Test Software: Windows 2000 / Run PassMark Burn In Test Pro 4.0
4. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (FWS-816)

Test Result:

No problem was found after the high temperature storage test.

Test Date: 01-8~9-2007

Test Product: FWS-816

Test Site: AAEON QA Internal Lab.

Performed By: Sean Hsu

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: 12/14/05
Serial Number: 3898

Testing Item:

1. Test Temperature: -20°C
2. Test Times: 48Hrs
3. Test Software: Windows 2000 / Run PassMark Burn In Test Pro 4.0
4. Test Environment Curve:



Sample Configuration & Quantity Under Test:
Quantity: 1 (FWS-816)

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

Test Date: 01-16~17-2007

T Test Product: FWS-816

Test Site: AAEON QA Internal Lab.

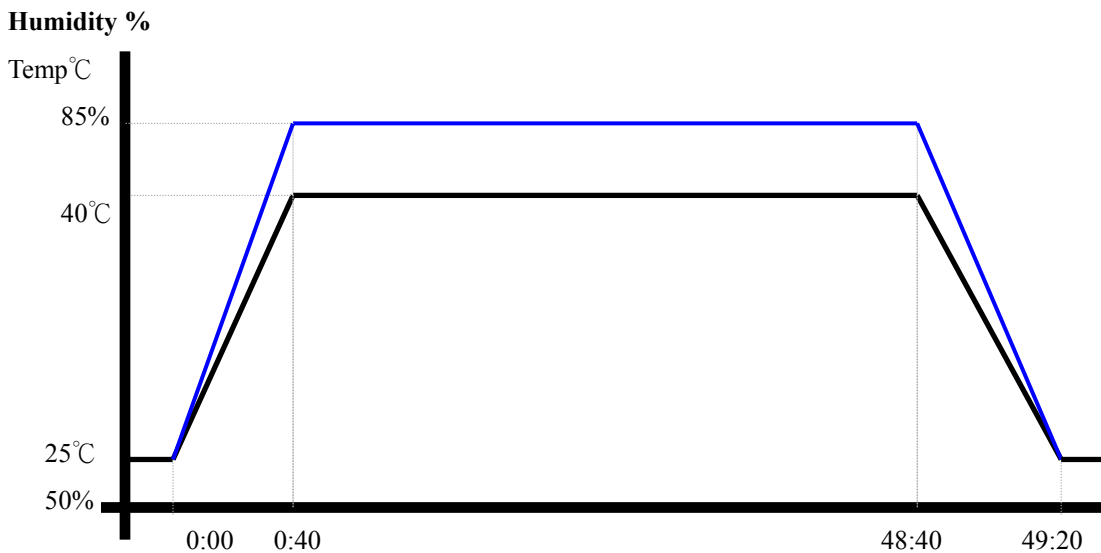
Performed By: Sean Hsu

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: 12/14/05
Serial Number: 3898

Testing Item:

1. Test Temperature: 40°C
2. Test Humidity: 85%RH
3. Test Times: 48Hrs
4. Test Software: Windows 2000 / Run PassMark Burn In Test Pro 4.0
5. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (FWS-816)

Test Result:

No problem was found after the humidity test.

Hot Start test

Test Date: 01-18-2007

Test Product: FWS-816

Test Site: AAEON QA Internal Lab.

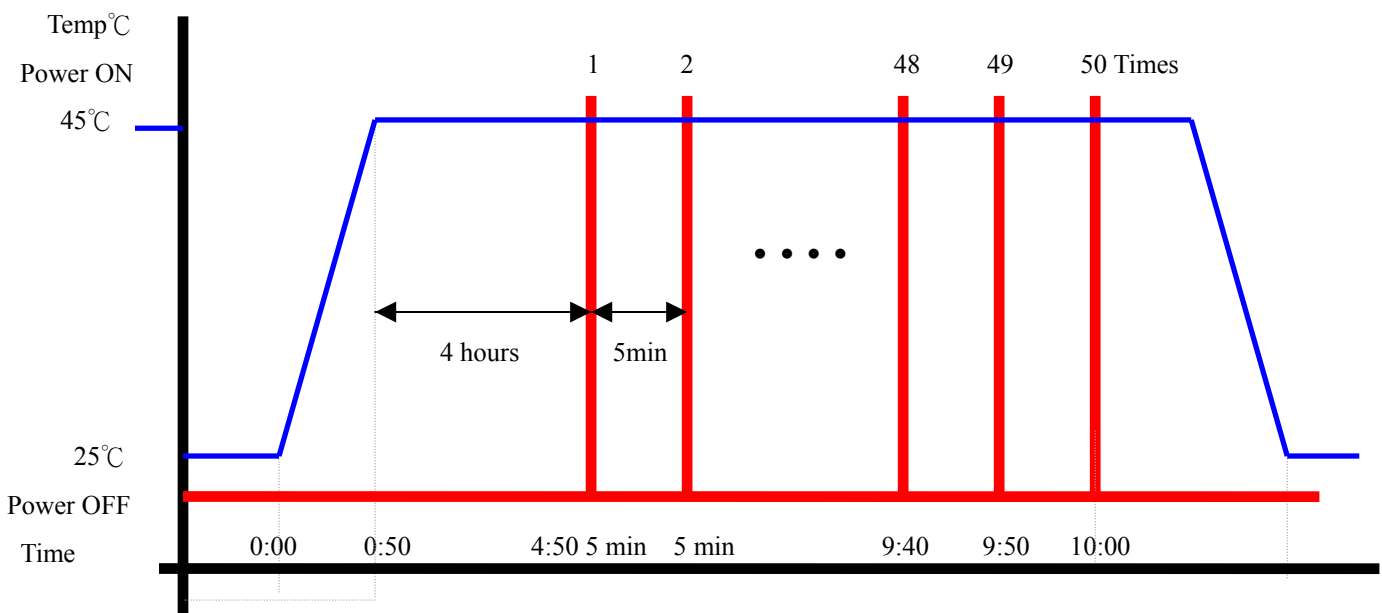
Performed By: Sean Hsu

Test Standard: Reference IEC 68-2-2 Testing procedures
Test Bb: Dry Heat Test

Test Equipment:
Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D7S-100+1 N2
Date of Calibration: 12/14/05
Serial Number: 3898

Test Condition:

1. Test Temperature: 45°C
2. Test Times: 5 Hours or 50 times of ON/OFF
 - (1) Power off for 4 hours after 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: Windows 2000
5. Test Environment Curve:



Test Result: No problem was found during the hot start test.

Cold Start test

Test Date: 01-19-2007

Test Product: FWS-816

Test Site: AAEON QA Internal Lab.

Performed By: Sean Hsu

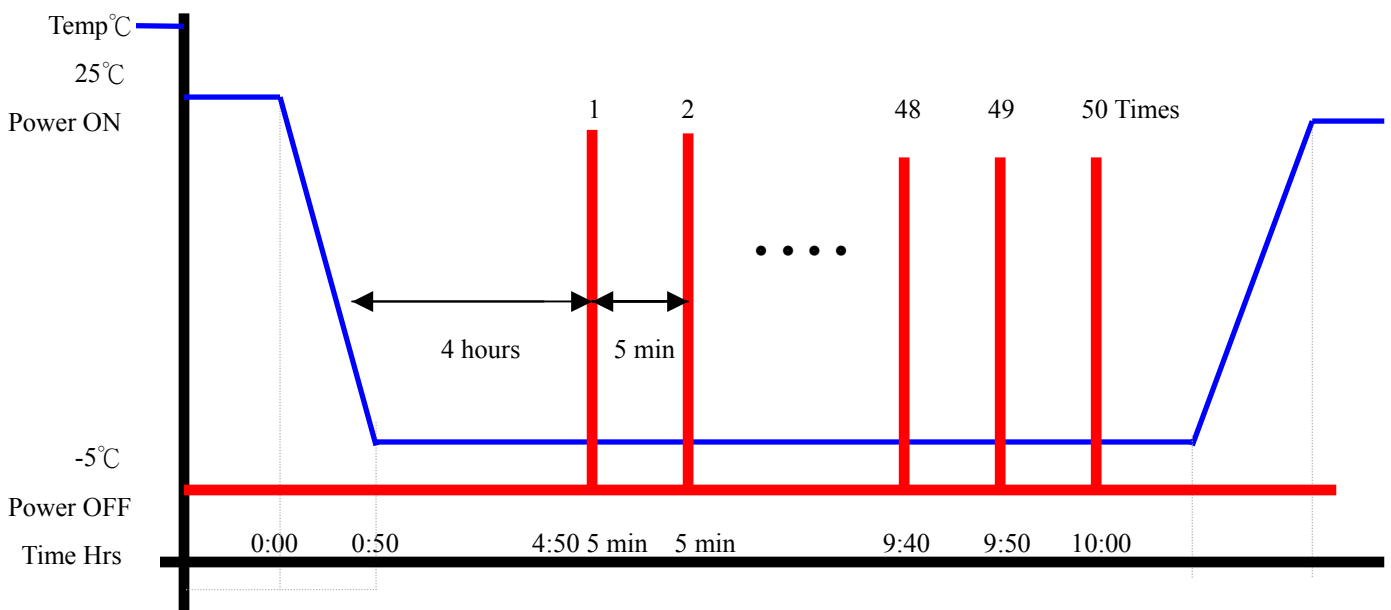
Test Standard: Reference IEC 68-2-1 Testing procedures
Test Ab: Cold Test

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D7S-100+1 N2
Date of Calibration: 12/14/05
Serial Number: 3898

Test Condition:

1. Test Temperature: -5°C
2. Test Times: 5 Hours or 50 times of ON/OFF
 - (5) Power off for 4 hours after 1st power on. Then once complete boot, power off immediately.
 - (6) After 5 min later power on again and wait until booting is completed.
 - (7) Repeat (2) for around 4:50
 - (8) Power off then wait for 5 min before final power on operation.
3. Number of test: 50 times
4. Test Software: Windows 2000
5. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (FWS-816)

Test Result:

No problem was found during the cold start test.