Rev.	Modified Chapters	Modification Description	Issued Dept.	Issued by	Revised Date
1.00		First Release	GRMA	Ariel_wang	Mar.9,2012
1.01		Add new P/N(YV0280-A02)	GRMA	Ariel_wang	Apr.11,2012
1.02		Add new P/N(YV01S1-A01)	GRMA	Ariel_wang	Apr.11,2012
1.03		Add new P/N(YV0281-A02)	GRMA	Ariel_wang	May.30,2012
1.04		Add new P/N(YV0281-A12)	GRMA	Ariel_wang	Jul.20,2012
1.05		Add new P/N(YV0280-A23)	GRMA	Ariel_wang	Jul.20,2012

Authorize by		Review by		Originator By	Ariel

1.Objectives

Create test procedure.

2.Scope

Model: HD7870
PN: YV01S0(A02) YV0280(A02&A23) YV01S1(A01) YV0281(A02&A12)

3.Test Item

3.1 Diagnostic test in 64-bit Linux
3.2 3DMark06(contain HDMI test)
3.3 Temperature test
3.4 FAN test

4.Relevant Document

None.

5.Definition :

1. If the model name contains P, please test HDCP function.
    Ex: EAH***/HTDP/512M/A
2. If you test HDMI already, it's unnecessary to test HDCP. The HDMI contains HDCP function.
3. System Memory: 1GB for a single GPU test station; please add an additional 512MB of system memory for each additional GPU used for the test configuration
4. HD7870 Test Program in 64-bit Linux system.

6. Operation Procedures:

6.1 Attention

6.1.1 To avoid damaging devices or M/B, please turn off A/C power then unplug VGA card.

6.1.2 While unplugging the card, do it in upright direction to avoid damaging slot & golden finger.

6.1.3 If any problem happens, please inform test supervisor. Base on ATX power specification, +5V standby voltage is existed while AC power is connecting. For safety reason, please turn off main power during break time or idling test.

6.1.4 Some test items should be tested under Windows environment. (Please install windows test environment by yourself).

6.2 Fixture connect

6.2.1 Install Intel P7 CPU & CPU Fan.

6.2.2 Install DDR3 Memory to DIMM1~4. **(a minimum memory of 2GB for Linux test)**

6.2.3 Plug USB Mouse and PS/2 Keyboard into MB.

6.2.4 Plug VGA Card HD7870 into PCIEX16_1.

6.2.5 If this card has 6 PIN or 8 PIN of Power supply,please connect power con of VGA card & Power supply via bundled power cable.

(6 PIN of Power supply to 6 PIN of VGA card)
(8 PIN of Power supply to 8 PIN of VGA card)
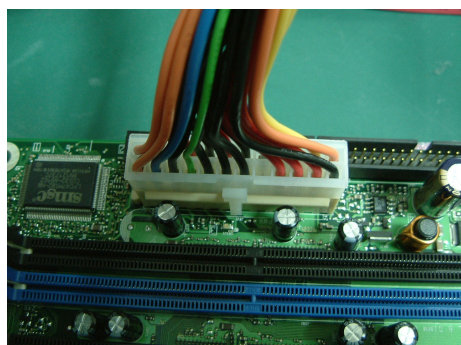

6.2.6 Connect SATA HDD & SATA con via SATA cable

SATA

6.2.7 Plug 4PIN 12V power**(a minimum power of 1200W)** cable into CON12V.

6.2.8 Plug ATX Power on Power**(a minimum power of 1200W)** Connector.

6.3 Certain test.

6.3.1 Diagnostic test in 64-bit LINUX system

6.3.1.1 Please connect LCD monitor & card's DVI CON via a DVI cable.
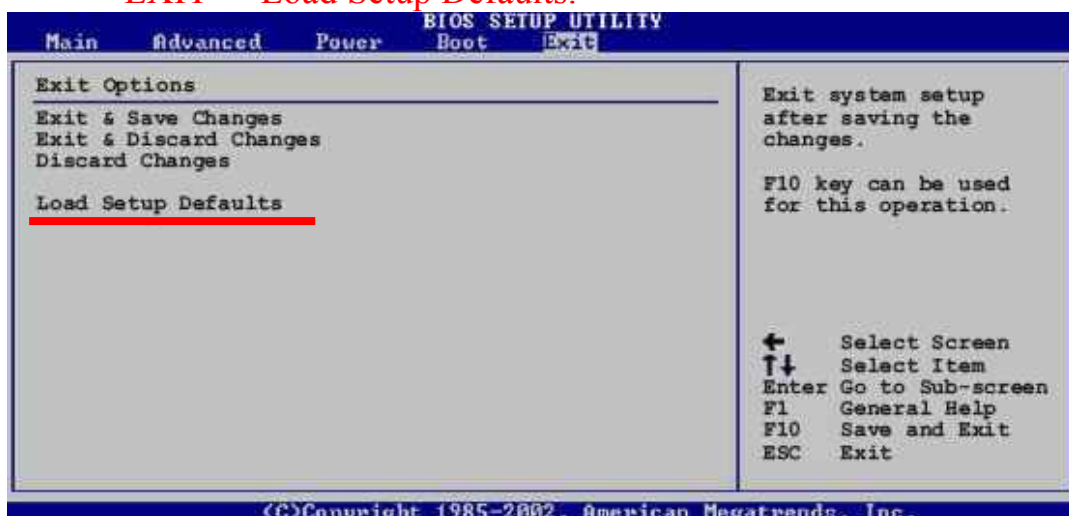

Dual link DVI cable

6.3.1.2 Press Power Switch then turn on power button.

6.3.1.3 Press "Del" to enter CMOS setup menu while boot screen is displaying.
EXIT -> Load Setup Defaults.

6.3.1.4 Run test program in 64-bit linux system.
Path:hd7870\yv01s0a0.sh or yv0280a0.sh or yv01s1a0.sh or yv0281a0.sh
Path:hd78701\yv0281a1.sh or yv0280a2.sh
Please enter into the file of hd7870 enter the following command: cd ./hd7870
Then, please
run ./yv01s0a0.sh ./yv0280a0.sh ./yv01s1a0.sh ./yv0281a0.sh ./yv0280a2.sh ./yv0281a1.sh

6.3.1.5 Memory test
If you want to test memory, please run ./tserver -test=memfa
Path:hd7870\
Path:hd78701\

6.3.1.6 BIOS Version
If you want to see the version of bios, please run ./atiflash –ai 0 or ./biosinfo.
Path:hd7870\
Path:hd78701\

6.3.1.7 BIOS flash
Please use the following command to flash bios and notice the size of character.
Path:hd7870\
Path:hd78701\
Command:./atiflash -p -f 0 xxx.rom
Notice:
After flash BIOS, please run i2c.sh to change CHil Address.

Path:I2c\
(For YV0280-A02&A23/YV0281-A02&A12)
If you can not flash bios because of the bios locked, please use ./atiflash –unlockrom 0 to unlock bios. And then, please use ./atiflash –lockrom 0 to lock bios after updating latest bios.

6.3.1.8 FAN Test
If you want to test FAN, please run ./aft.
Path: Path:hd7870\AFT_HD7870
Notice:
./aft apply the following Part Number
YV01S0-A02
Path: Path:hd7870\AFTSIP
Notice:
./aft.sh apply the following Part Number
YV0280-A02/YV0281-A02
Path: Path:hd7870\AFT
Notice:
./aft apply the following Part Number
YV01S1-A01
Path: Path:hd78701\AFT
Notice:
./aft.sh apply the following Part Number
YV0280-A23/YV0281-A12

6.3.1.9 After finishing 64-bit Linux testing, please enter Windows environment to test 3DMark.

6.3.2 3DMark test(contain HDMI test)
6.3.2.1 Please install 3DMark program by yourself.
6.3.2.2 Please connect VGA card to LCD via HDMI cable or MINI Display Port or Display Port to HDMI cable or Display Port cable.

MINI Display Port to HDMI cable

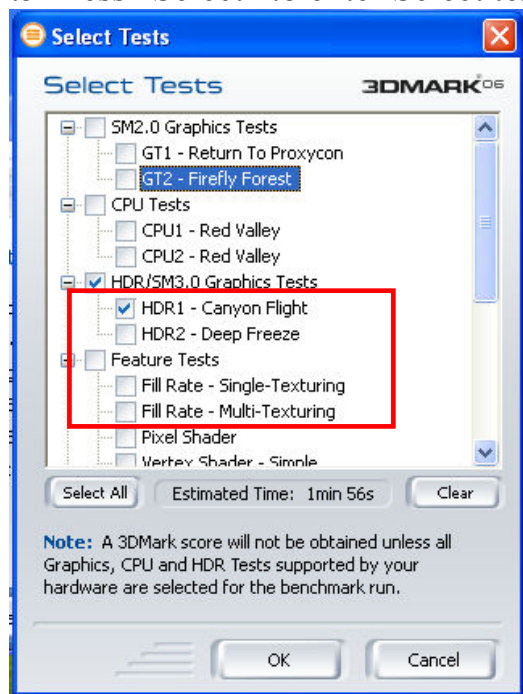MINI Display Port CON(*2)

HDMI cable

HDMI Port

DISPLAY cable

Display Port CON

6.3.2.3 Please install VGA card driver in Windows(You must use individual driver of this card).
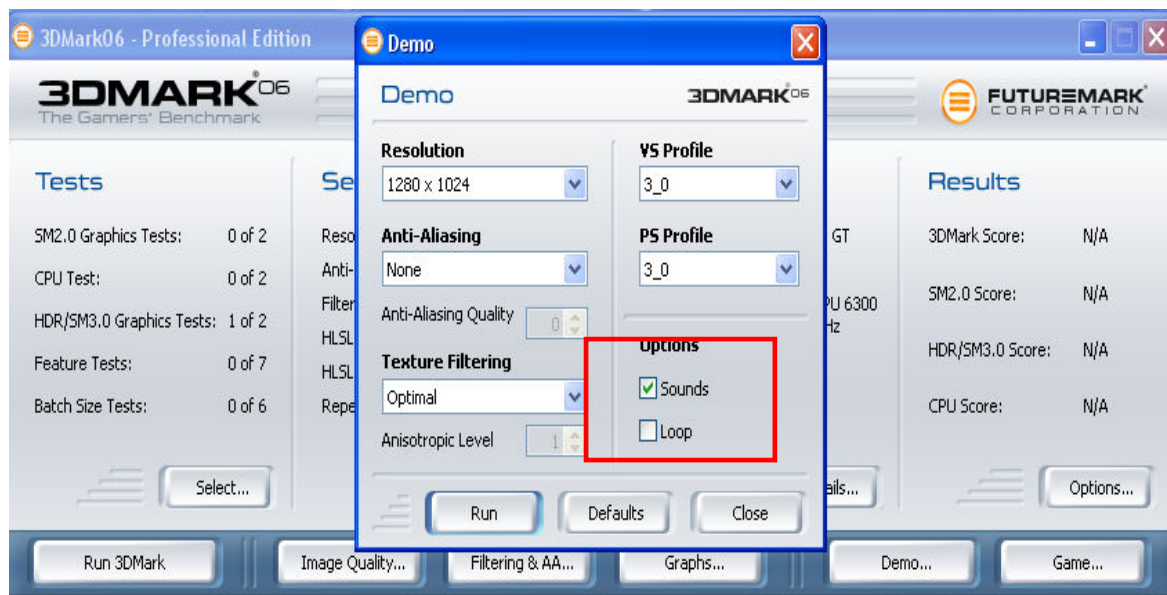
6.3.2.4 Please run 3DMark06 base on this card (please test 1 cycle).

6.3.2.5 Press "Select" to enter Select test menu. You can choose "HDR1" for default setting.

6.3.2.6 Press "Demo" to enter Demo menu. You can choose "Sounds" for default setting.

6.3.2.7 Please pay attention to check if there is flickering, discolor, crash and so on.
If there's no problem, it can be judged OK!

6.3.2.8 Please listen to voice carefully to check whether it outputs sounds. If not, HDMI test fail.

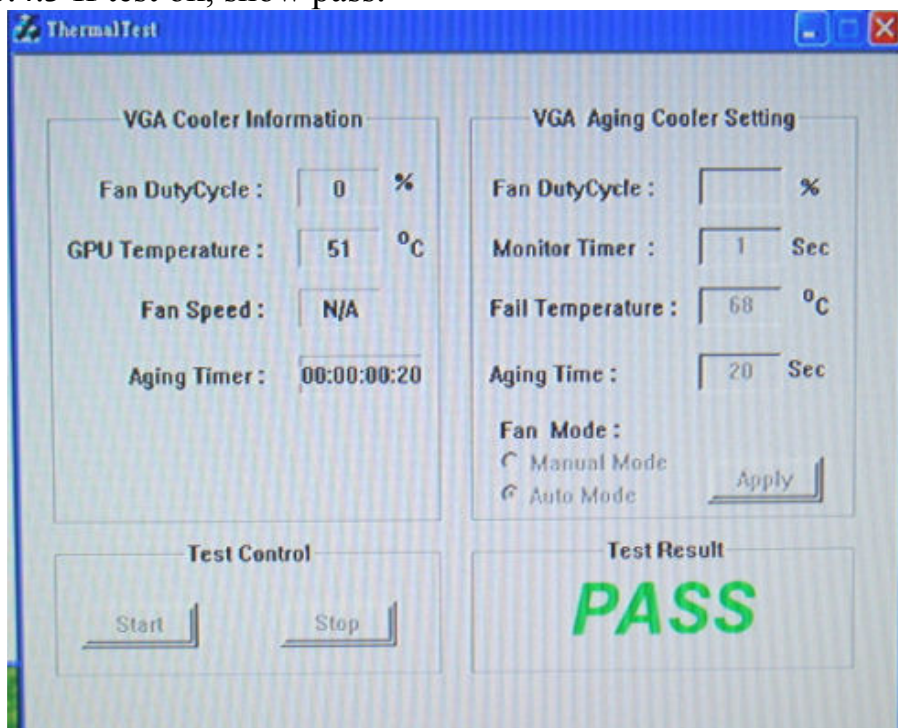6. 3.2.9 If test OK, please test temperature test.

6.4 Temperature test

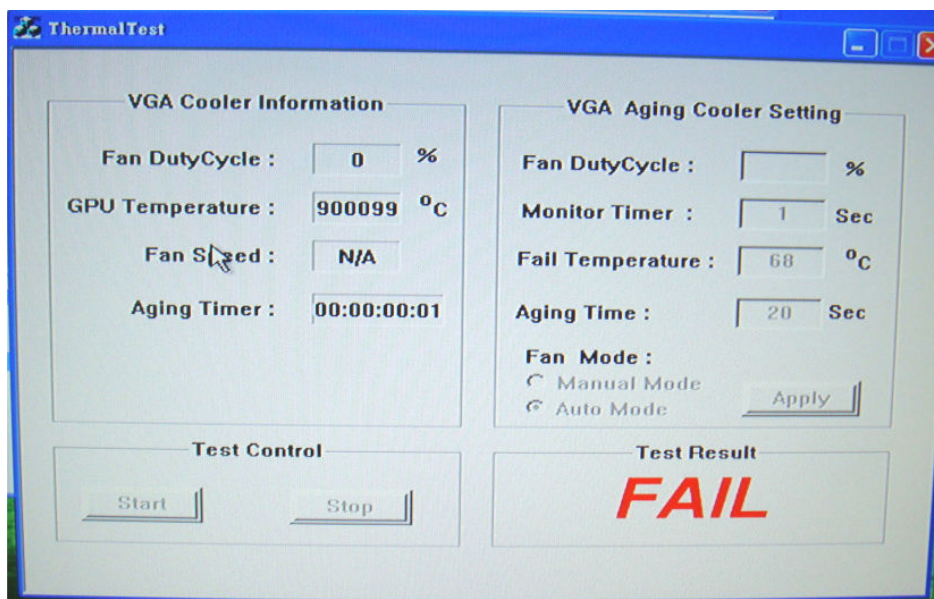6.4.1 Please copy Thermaltool(1.0.05) to Windows by yourself.

6.4.2 Please run ThermalTest.exe.

6.4.3 If test ok, show pass.

6.4.4 If test fail, show fail.

6.4.5 If test OK, please NTF test.

7.Appendix

NO#	Equipment Description	ASUS Part#	Supplier	Quantity	Remarks
1	Dell 30 inches (3008WFP) (Buying a local LCD by yourself)			1	
2	USB MOUSE			1	
3	PS/2 KEYBOARD			1	
4	ATX POWER SUPPLY(a minimum power of 500W)			1	
5	Intel CPU Intel(R) Core(TM)2 CPU		local	1	
6	Heat sink + FAN	22-240000160		1	
7	DDR3 1333 2G	20-TT2605618	local	4	
8	TEST HDD			1	
9	SATA HDD Cable	14-000107070	ASUS	1	
10	PCIEX16 VGA CARD			1	
11	Dual link DVI cable (Buying a local DVI cable by yourself)			1	
12	HDMI extend cable (Buying a local HDMI cable by yourself)			1	
13	P7H55-M/USB3 MB	80- MIBBKA-*		1	
14	Mini Display port to HDMI cable (Buying a local Mini Display port to HDMI cable by yourself)			1	
15	Display port cable (Buying a local Display port cable by yourself)			1	