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| ASUSTeK COMPUTER INC. | MARS II Standard Operation Procedure | Doc. No: | |
| | | Date:Aug. 29. 2011 Revision:1.00 | |
| | | Page: 10 | Grade: |

| 0Rev . | Modified Chapters | Modification Description | Issued Dept. | Issued by | Revised Date |
|-----------|----------------------|--------------------------|-----------------|------------|--------------|
| 1.00 | | First release | GRMA | Ariel_wang | Aug.29.2011 |

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| Authorize by | | Review by | | Originator By | Ariel |
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1.Objectives

Create test procedure.

2.Scope

Model: MARS II

PN: C1CR50(A01)

3.Test Item

3.1 Diagnostic test in DOS

3.2 3DMark06(contain HDMI&DVI test)

3.3 Temperature test

3.4 Fan test

3.5 HW Fan button 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. Please use P7H55-M/USB3 to test in DOS.

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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.

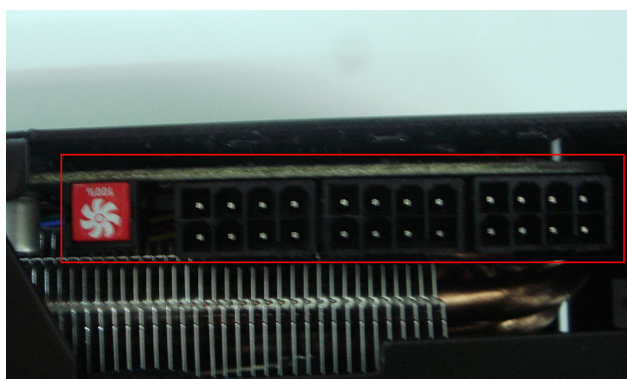
6.2.2 Install DDR3 Memory to DIMM1~4.

6.2.3 Plug PS2 Mouse and PS/2 Keyboard into P7H55-M/USB3 Motherboard.

6.2.4 Plug VGA Card **MARS II** into PCIEX16.

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

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

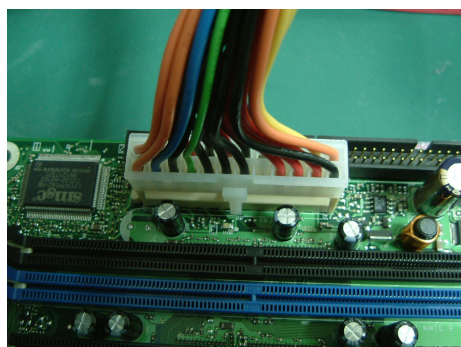


6.2.6 Connect SATA HDD with SATA CON.



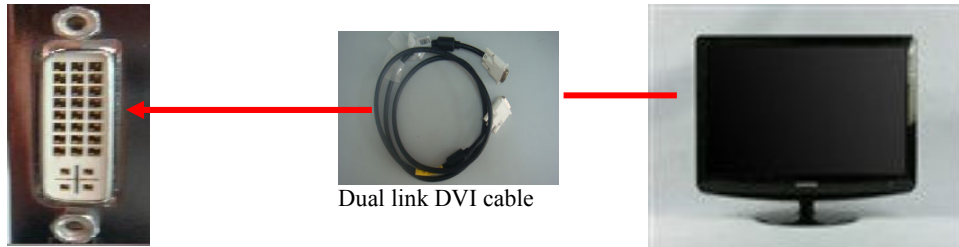
6.2.7 Plug 4PIN 12V (1200W) power cable into CON12V.

6.2.8 Plug ATX Power (1200W) on Power Connector.



6.3 Diagnostic test in DOS

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



6.3.2 Press Power Switch then turn on power button.

6.3.3 Press "Del" to enter CMOS setup menu while boot screen is displaying.

EXIT -> Load Setup Defaults.



6.3.4 System will reboot, select DOS to run test program.

Path: VBAT\MARSII\BATC\

Run the test program refer to the prompt.

6.3.5 Memory test

If you want to test memory, please run mats.exe.

Path: VBAT\MARSII\26533

6.3.6 Fan test

If you want to test fan, please run fantest.bat.

Path: VBAT\MARSII\BATC\

6.3.7 HW Fan button test

If you want to test HW Fan button, please run hwfan.bat.

Path: VBAT\MARSII\26533

Notice: you can test HW Fan button function only after diag test, and press HW Fan button before HW Fan button test, thanks.

```

C:\UBAT\MARSII\26533>fantach Config.dat
Card Fan Speed Tachometer Tool V1.00 Copyrights 2011 Asustek Comput
st for GPU Internal Fantach Card
urrent Average FanSpeed = 2400, --> OK, Range: 2150 ~ 2750
e FanSpeed can fit the request's range->Pass

PPPPPP      AAA      SSSSS      SSSSS
PPPPPPPP    AAAAA    SSSSSSSSSS  SSSSSSSSSS
P      PPP  AAA  AAA  SSS      SSS  SSS      SSS
P      PPP  AAA  AAA  SSS      SSS  SSS      SSS
PPPPPPPP    AAA      AAA      SSS      SSS
PPPPPPPP    AAA      AAA      SSS      SSS
PP      AAA      AAA      SSS      SSS
PP      AAA      AAA      SSS      SSS
PP      AAAAAAAAAA  SSS      SSS
PP      AAAAAAAAAA  SSS      SSS
PP      AAA      AAA  SSS      SSS
PP      AAA      AAA  SSS      SSS
PP      AAA      AAA  SSS      SSS
PP      AAA      AAA  SSS      SSS
C:\UBAT\MARSII\26533>

```

6.3.8 BIOS flash

Please use the following command to flash bios and notice the size of character.

Path: VBAT\MARSII\BIOS

This card has 3 bios.

Flash first bios(bios name cr50a0)

Command: `nvflash cr50a0.rom -4 -5 -6 -i 0`

Flash Second bios(bios name cr50a0s)

Command: `nvflash cr50a0s.rom -4 -5 -6 -i 1`

Flash third bios(bios name cr50a0m)

Command: `nvflash cr50a0m.rom -4 -5 -6 -i 2`

Notice:

If you can not flash bios because of the bios locked, please use `nvflash.exe /r` to unlock bios. And then, please use `nvflash.exe /w` to lock bios after updating latest bios.

6.3.9 After finish DOS testing, please enter Windows environment to test 3DMark.

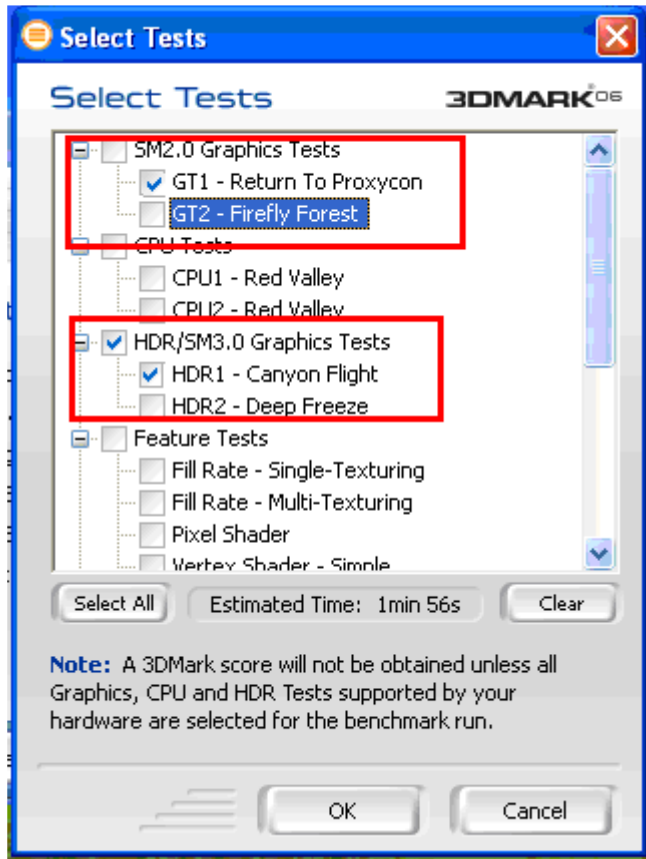
6.4 3DMark test(contain HDMI test)

6.4.1 Please install 3DMark program by yourself.

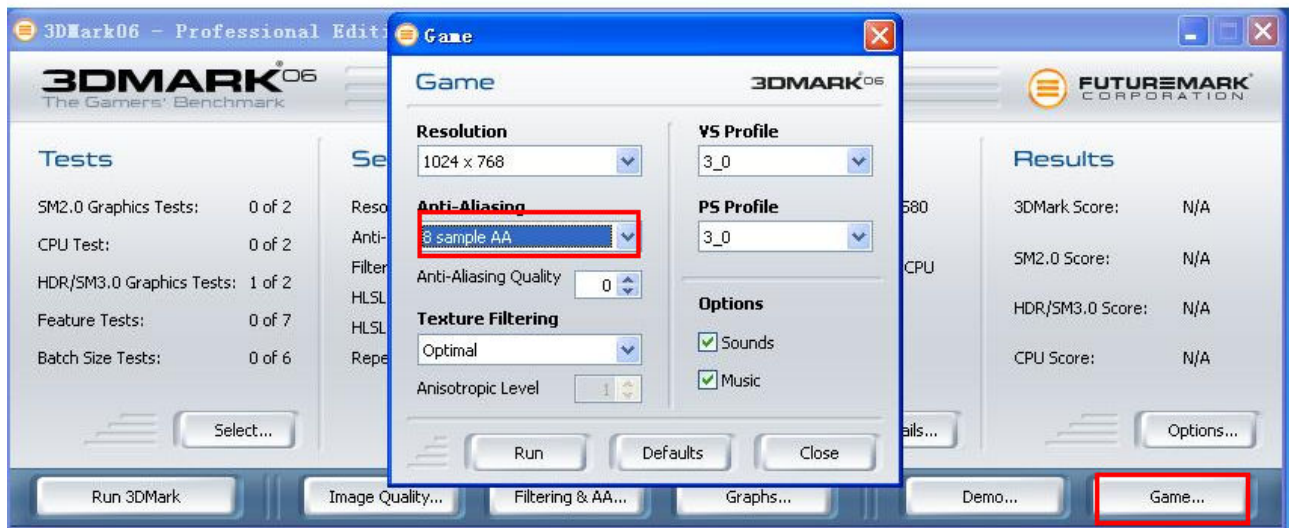
6.4.2 Please connect VGA card to LCD via HDMI cable.



- 6.4.3 Please install VGA card driver in Windows(You must use individual driver of this card).
- 6.4.4 Please run 3DMark06 base on this card (please test 1 cycle).
- 6.4.5 Press “Select” to enter Select test menu. You can choose “GT1” and “HDR1” for default setting.



- 6.4.6 Press “Game” to enter Demo menu. You can choose “8 Sample AA” of Anti-aliasing for default setting.



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

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



6.4.9 If test OK, please test **Display port**.

6.4.10 Connect VGA card to LCD via Display cable test HDMI function.
(Please refer to step 6.4.4&6.4.5&6.4.6&6.4.7&6.4.8)

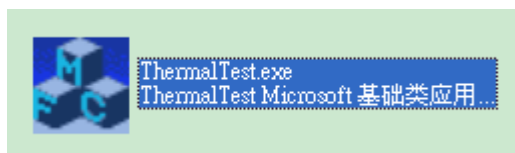


DISPLAY CON

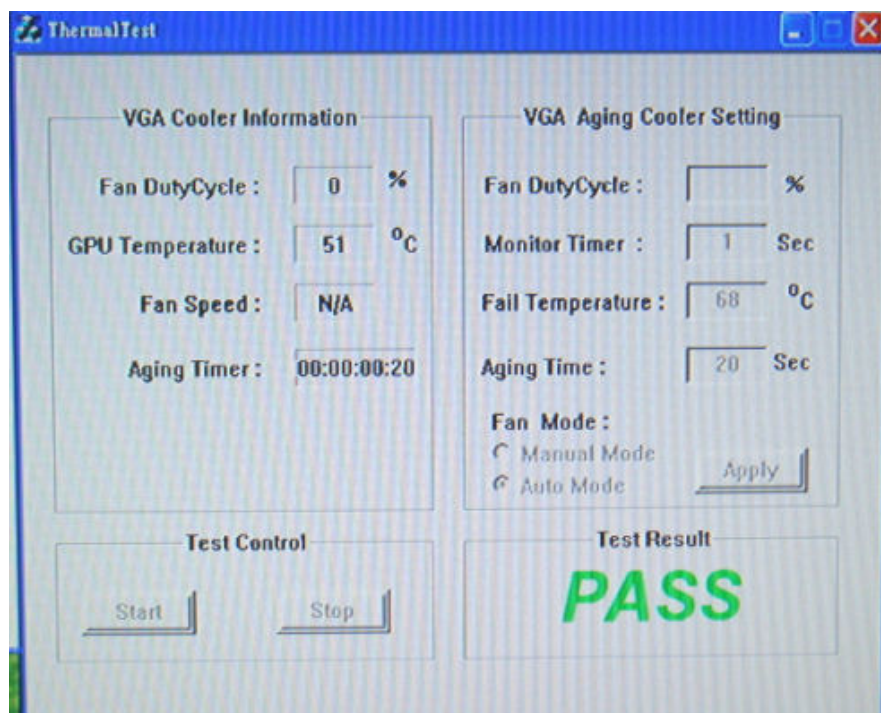
6.5 Temperature test

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

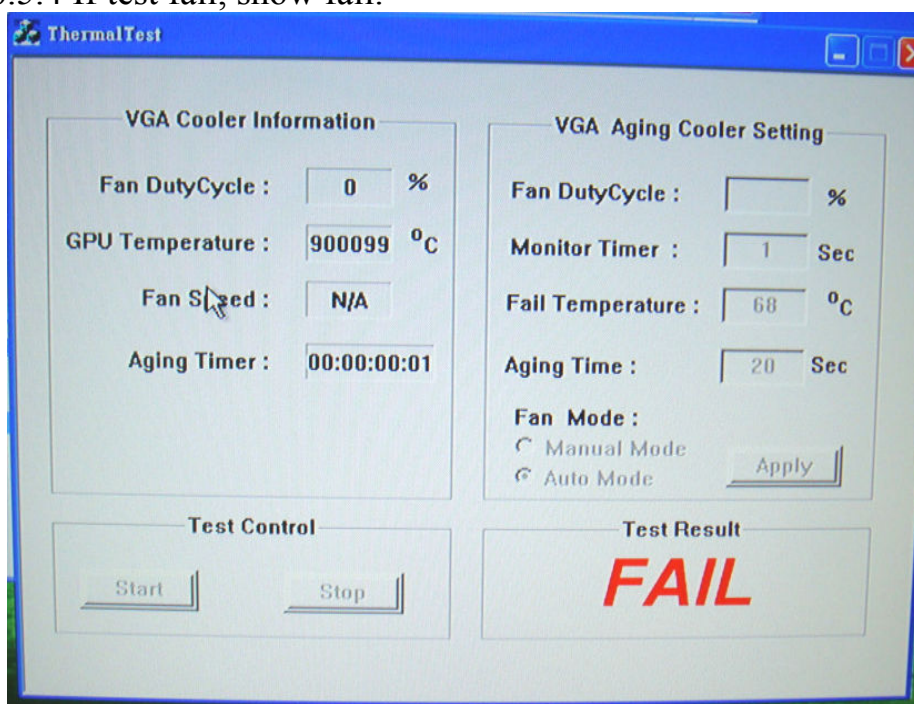
6.5.2 Please run ThermalTest.exe.



6.5.3 If test ok, show pass.


















6.5.4 If test fail, show fail.



6.5.5 If test OK, NTF test.

7 Appendix

| NO# | Equipment Description | ASUS Part# | Supplier | Quantity | Remarks |
|-----|--|-------------------------------|----------|----------|---|
| 1 | SAMSUNG 2232MW | | | 1 |  |
| 2 | USB MOUSE | | | 1 | |
| 3 | PS/2 KEYBOARD | | | 1 |  |
| 4 | ATX POWER SUPPLY(1200W) | | | 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 | SATA HDD | | | 1 |  |
| 9 | SATA HDD Cable | 14-000107070 | | 1 |  |
| 10 | PCIEX16 VGA CARD | | | 1 | |
| 11 | D-SUB extend cable (Buying a local D-SUB cable by yourself) | | | 1 |  |
| 12 | Dual link DVI cable (Buying a local DVI cable by yourself) | | | 1 |  |
| 13 | HDMI extend cable (Buying a local HDMI cable by yourself) | | | 1 |  |
| 14 | TV extend cable (Buying a local TV cable by yourself) | | | 1 |  |
| 15 | DVI-HDMI | 04G460002400 /04G460002450 | | 1 |  |
| 16 | LCD "Y" Cable | 14-010230000 | | 1 |  |
| 17 | P7H55-M/USB3 MB | 80- MIBBKA-* | | 1 | |
| 18 | Display port cable (Buying a local TV cable by yourself) | | | 1 |  |