0Rev.	Modified Chapters	Modification Description	Issued Dept.	Issued by	Revised Date
1.00		First release	GRMA	Ariel_wang	Jan.26.2011
1.01		Add new P/N(C1CQ55-A01)	GRMA	Ariel_wang	Feb.15.2011
1.02		Add new PCBA(C1CQ50-B11)	GRMA	Ariel_wang	Feb.15.2011
1.03		Add new PCBA(C1CQ55-B01)	GRMA	Ariel_wang	Mar.3.2011
1.04		Add new PCBA(C1CQ55-B13)	GRMA	Ariel_wang	Mar.11.2011
1.05		Add new P/N(C1CQ5K-A01)	GRMA	Ariel_wang	Mar.11.2011
1.06		Add new PCBA(C1CQ5K-A11)	GRMA	Ariel_wang	Mar.11.2011
1.07		Add new P/N(C1CQ5A-A01)	GRMA	Ariel_wang	Mar.15.2011
1.08		Add new P/N(C1CQ5F-A01)	GRMA	Ariel_wang	Apr.25.2011
1.09		Add new P/N(C1CQK0-A01)	GRMA	Ariel_wang	Apr.25.2011
1.10		Add new PCBA(C1CQ5F-A11)	GRMA	Ariel_wang	May.9.2011
1.11		Add new PCBA(C1CQ50-B43)	GRMA	Ariel_wang	May.31.2011
1.12		Add new PCBA(C1CQ5F-A21)	GRMA	Ariel_wang	Aug.12.2011
1.13		Add new PCBA(C1CQ5F-A31)	GRMA	Ariel_wang	Aug.12.2011
1.14		Add new PCBA(C1CQ5F-X31)	GRMA	Ariel_wang	Aug.12.2011
1.15		Add new PCBA(C1CQ5A-A12)	GRMA	Ariel_wang	Aug.12.2011
1.16		Add new PCBA(C1CQ5A-X12)	GRMA	Ariel_wang	Aug.12.2011
1.17		Add new PCBA(C1CQ50-W01)	GRMA	Ariel_wang	Aug.19.2011
1.18		Add new PCBA(C1CQ55-V16)	GRMA	Ariel_wang	Aug.19.2011
1.19		Add new PCBA(C1CQ5K-U13)	GRMA	Ariel_wang	Aug.19.2011
1.20		Add new PCBA(C1CQ5F-U31)	GRMA	Ariel_wang	Aug.19.2011
1.21		Add new PCBA(C1CQ5A-U12)	GRMA	Ariel_wang	Aug.19.2011
1.22		Add new PCBA(YV00V2-A41)	GRMA	Ariel_wang	Sep.26.2011
1.23		Add new PCBA(C1CQ5A-A22)	GRMA	Ariel_wang	Sep.26.2011
1.24		Add new PCBA(C1CQK0-A22)	GRMA	Ariel_wang	Sep.28.2011
1.25		Add new PCBA(C1CQ50-C01)	GRMA	Ariel_wang	Nov.24.2011
1.26		Add new PCBA(YV00V0-C12)	GRMA	Ariel_wang	Dec.16.2011
1.27		Add new PCBA(YV00V0-C32)	GRMA	Ariel_wang	Dec.16.2011
1.28		Add new P/N(YV01E1-A01)	GRMA	Ariel_wang	Dec.19.2011
1.29		Add new PCBA(YV00V2-U52)	GRMA	Ariel_wang	Jan.16.2012
1.30		Add new PCBA(YV01A0-U23)	GRMA	Ariel_wang	Feb.7.2012
1.31		Add new PCBA(YV00V0-C42)	GRMA	Ariel_wang	Feb.24.2012
1.32		Add new PCBA(YV00V0-C22)	GRMA	Ariel_wang	Apr.19.2012
1.33		Add new PCBA(YV00V0-C52)	GRMA	Ariel_wang	Apr.19.2012

Authorize by		**Review by**		**Originator By**	Ariel

| 1.34 | | Add new PCBA(YV00V4-A01) | GRMA | Ariel_wang | Apr.23.2012 |
| 1.35 | | Add new PCBA(YV00V0-C62) | GRMA | Ariel_wang | May.31.2012 |

1.Objectives

Create test procedure.

2.Scope

Model: ENGT 440

PN: C1CQ50 (B01&B11&B43&W01&C01)C1CQ55(A01&B01&B13&V16) C1CQK0(A01&A22)C1CQ5A(A01&A12&X12&U12&A22)C1CQ5F(A01&A11&A21 &A31&X31&U31)YV01A0(U23)C1CQ5K(A01&A11&U13)YV00V2(A41&U52)YV0 0V0(C12&C32&C42&C22&C52&C62)YV01E1(A01)YV00V4(A01)

3.Test Item

3.1 Diagnostic test in DOS

3.2 3DMark06(**contain HDMI&DVI test**)

3.3 Temperature 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 Nvidia platform (**P5Q/P7H55-M/USB3**) to test in DOS.

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 P5/P7 CPU & CPU Fan.
6.2.2 Install DDR2 667/800 2GB/DDR3 Memory to DIMM1~4.
6.2.3 Plug PS2 Mouse and PS/2 Keyboard into P5Q&P7H55-M/USB3 Motherboard.
6.2.4 Plug VGA Card ENGT 440 into PCIEX16.
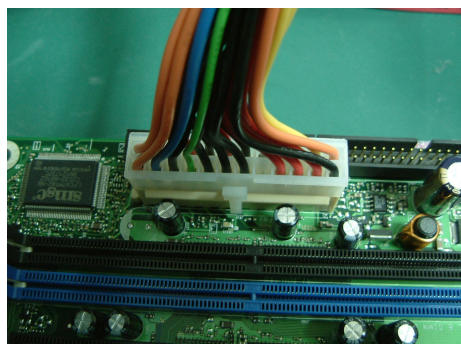6.2.5 Connect power con of VGA card & Power supply via bundled power cable.
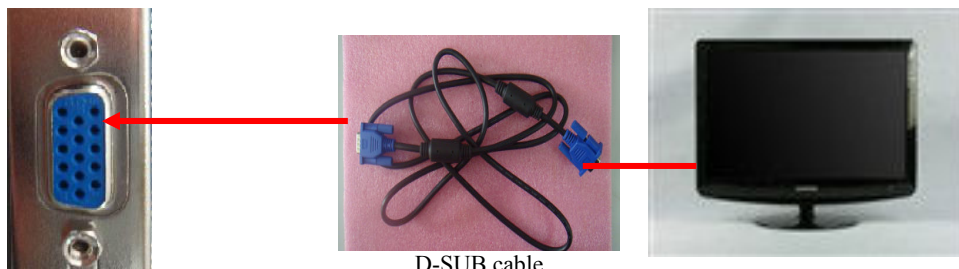
6.2.6 Connect SATA HDD with SATA CON.

SATA1

6.2.7 Plug 4PIN 12V (1200W) power cable into CON12V.
6.2.8 Plug ATX Power (1200W) on Power Connector.
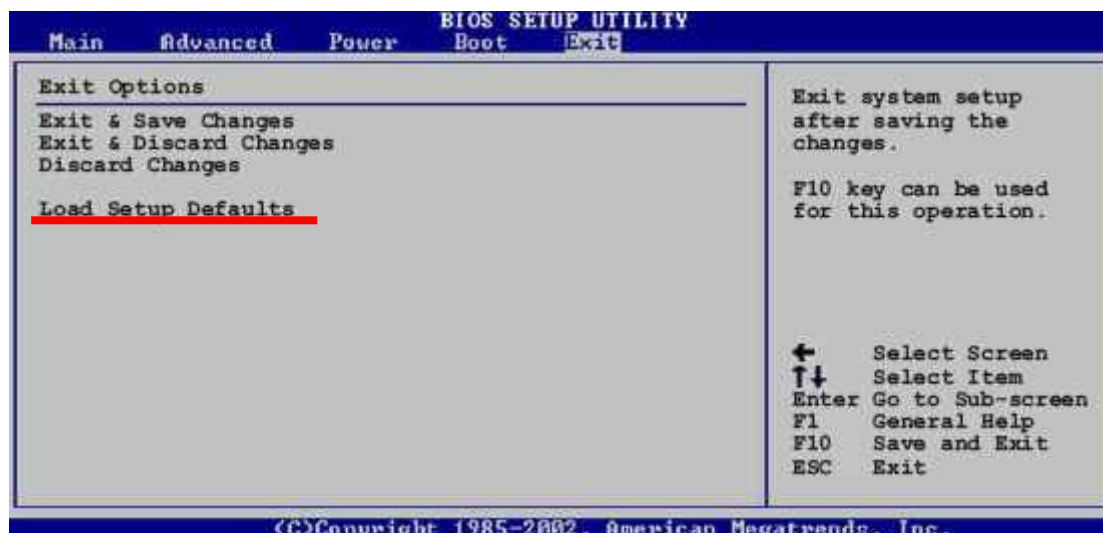
6.3 Diagnostic test in DOS

6.3.1 Please connect LCD monitor & card's D-SUB CON via a D-SUB cable.

D-SUB 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\ENGT440\BATCH\

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\ENGT440\0256KP1

Path:VBAT\ENGT440\0256KP1C (For YV00V0-C62)

6.3.7 BIOS flash

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

Path: VBAT\ENGT440\BIOS
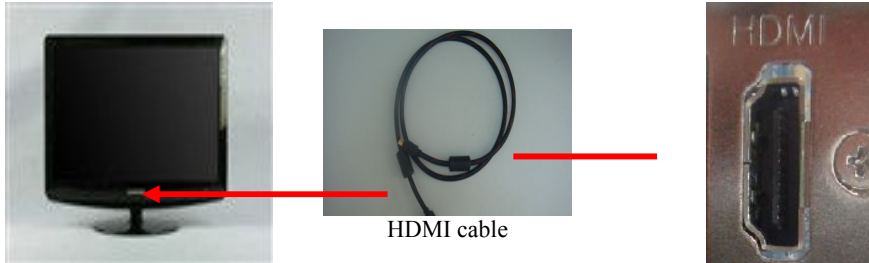
Command: nvflash xxx.rom -4 -5 -6 -A -y

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.

6.3.8 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.
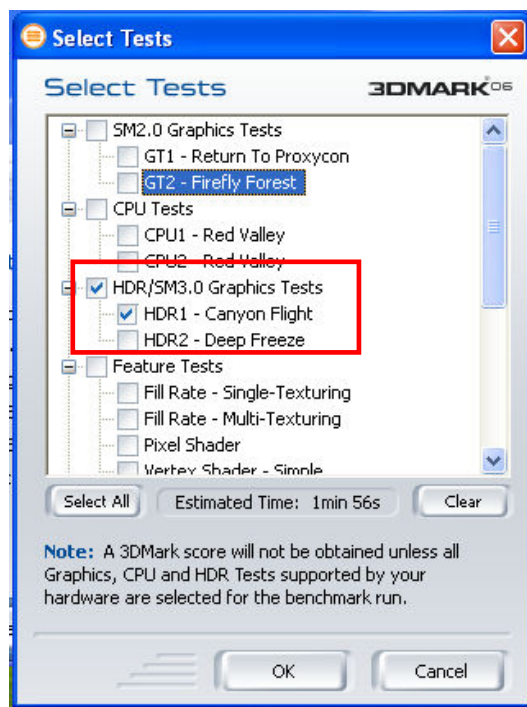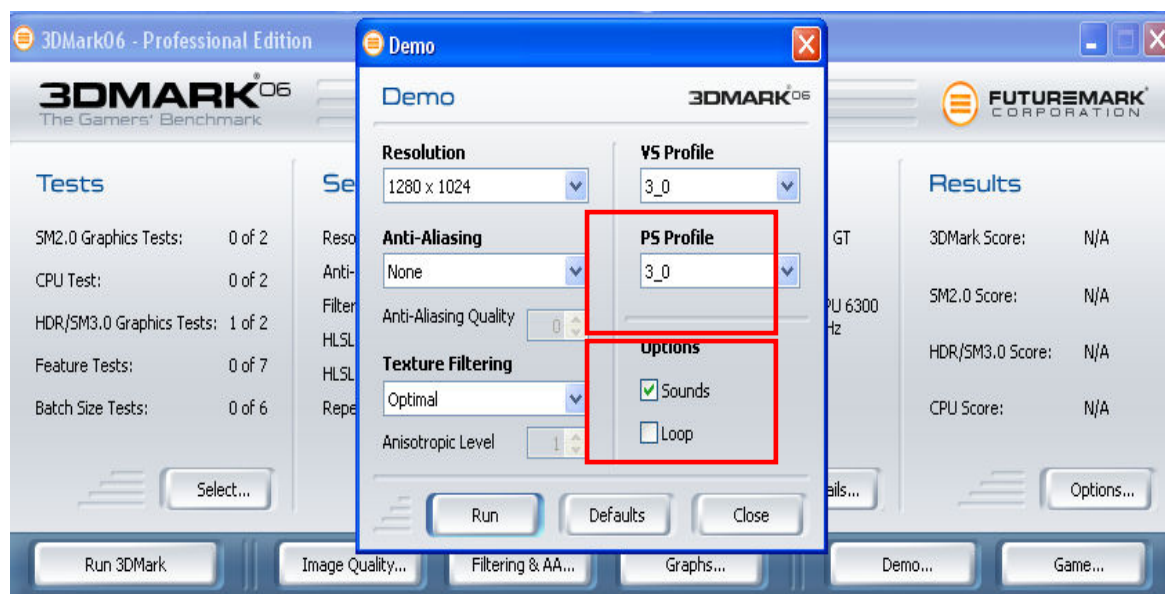

HDMI cable

HDMI CON

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 "HDR1" for default setting.

6.4.6 Press "Demo" to enter Demo menu. You can choose "Sounds" for default setting(for HDMI function).

6.4.7 Please pay attention to check if there is flickering, discolor, crash and so on.
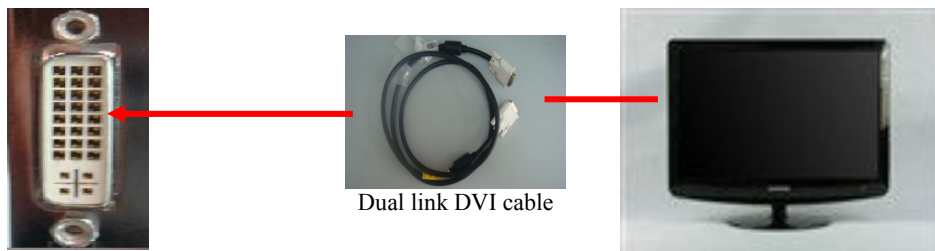   If there's no problem, it can be judged OK!
6.4.8 Please listen to voice carefully to check whether it outputs sounds. If not, HDMI test
     fail(for HDMI function).

6.4.9 Please connect LCD monitor & card's DVI CON via a DVI cable.
 (Please refer to step 6.4.4&6.4.5&)

Dual link DVI cable

6.4.10 Press "Run 3DMark" to enter 3DMark , Please pay attention to check if there is flickering, discolor, crash and so on. f there's no problem, it can be judged OK!

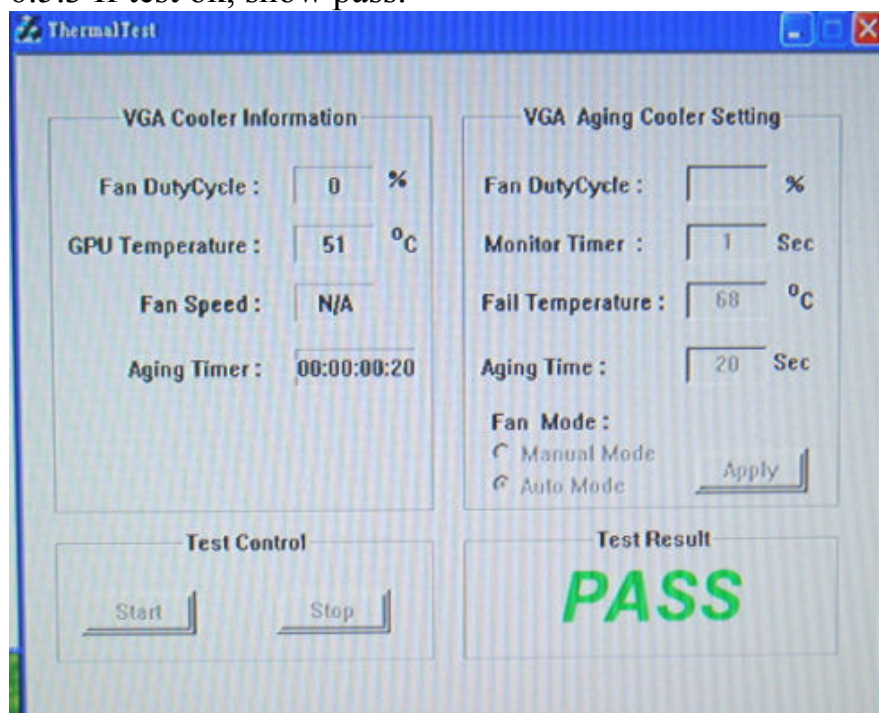6. 4.11 If test OK, please test **Temperature test**.

6.5 Temperature test

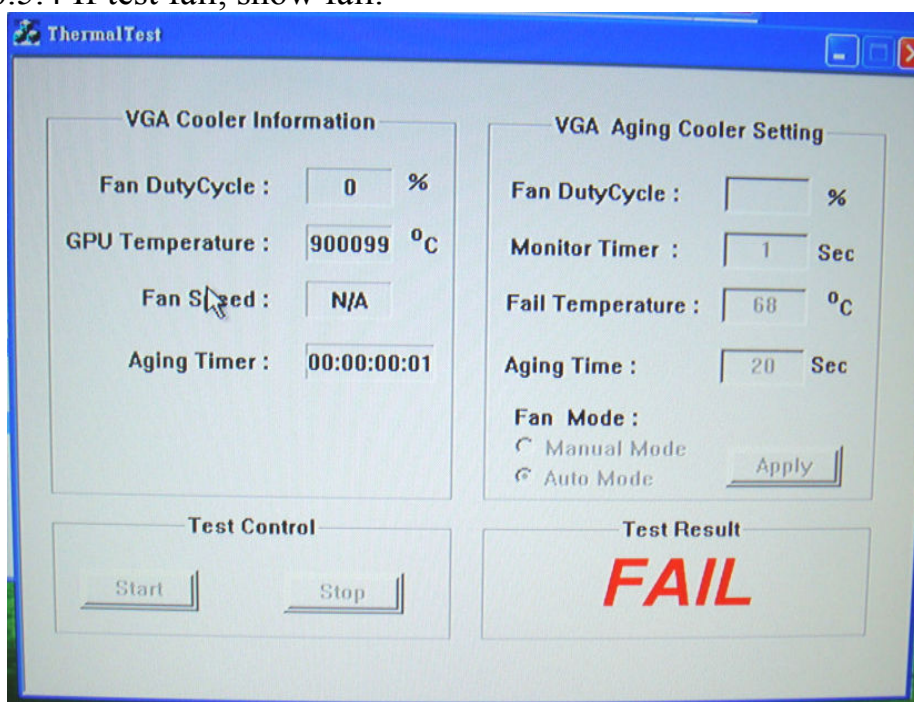6.5.1 Please copy Thermaltool(1.0.05) to Windows by yourself.

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 Celeron E1200**			**1**	
6	**Intel CPU Intel(R) Core(TM)2 CPU**		**local**	**1**	
7	**Heat sink + FAN**	**22-240000160**		**1**	
8	**APACER 800MHz 1G**			**2**	
9	**DDR3 1333 2G**	**20-TT2605618**	**local**	**4**	
10	**SATA HDD**			**1**	
11	**SATA HDD Cable**	**14-000107070**		**1**	
12	**PCIEX16 VGA CARD**			**1**	
13	**D-SUB extend cable (Buying a local D-SUB cable by yourself)**			**1**	
14	**Dual link DVI cable (Buying a local DVI cable by yourself)**			**1**	
15	**HDMI extend cable (Buying a local HDMI cable by yourself)**			**1**	
16	**TV extend cable (Buying a local TV cable by yourself)**			**1**	
17	**DVI-HDMI**	**04G460002400 /04G460002450**		**1**	

18	LCD "Y" Cable	14-010230000		1	
19	P5Q	80-MIB4P0-G0A01		1	
20	P7H55-M/USB3 MB (From C1CQ50-B43 and after)	80- MIBBKA-*		1	