

Report NO: 10E010012

RTC-1000A

10.2",XP-embedded,Rugged Tablet Computer

P5 Test Report

Summary	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Pass with Deviation Comment: _____			
	Test Result Summary			
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	0
Defect Unsolved	0	0	0	0

Issue date	Approval	Test Engineer
2010 / 06 / 11	Jansin Lee	Allen Hsu

Platform Information:

Product Model	RTC-1000A
Description	10.2",XP-embedded,Rugged Tablet Computer
Test Configuration	<input checked="" type="checkbox"/> New product <input checked="" type="checkbox"/> CPU Board : RTC-1000A Rev 0.2 <input checked="" type="checkbox"/> Carrier Board : N/A <input checked="" type="checkbox"/> BIOS : RTC-1000A BIOS Rev 1.0 (01/11/2010) <input checked="" type="checkbox"/> Chipset : <input checked="" type="checkbox"/> CPU : Onboard Intel ATOM CPU N270 @ 1.60GHz / FSB-533MHz <input checked="" type="checkbox"/> North Bridge : Intel 945GSE <input checked="" type="checkbox"/> South Bridge : ICH7-M <input checked="" type="checkbox"/> VGA Chipset : Intel 945GSE integrated Graphics VGA <input checked="" type="checkbox"/> Audio Chipset : Realtek ALC655 <input checked="" type="checkbox"/> Ethernet Chipset : Intel 82574L Gigabit Ethernet <input checked="" type="checkbox"/> I/O Chipset : IT8781F <input checked="" type="checkbox"/> Remark : P5 Test Report for RTC-1000A

Item	Device Information	Test Item
PCB Model / Version	RTC-1000A Rev A0.2	1~8
BIOS / Version	RTC-1000A BIOS Rev 1.0 (01/11/2010)	1~8
CPU Type	Onboard Intel ATOM CPU N270 @ 1.60GHz / FSB-533MHz	1~8
Memory Type	Team Group INC. DDR2 SO-DIMM 667 2GB / M2BB2755B25HS26 / Chip-Hynix H5PS1G83EFR	1~8
SATA HDD	WD 2.5" SATA H.D 80GB/ WD800BEVT-00ZCT0 /RPM-5400	1~8
LCD	HANNS.G LCD Monitor HK191H - HSG1049	1~8
Compact Flash	Transcend 2/4/8 G	1~8
Wireless LAN	QCOM Q802KG Wireless mini-card (802.11 b/g)	1~8
Bluetooth Model	QCOM QBTM400 BT2.0+EDR Class 2 module	1~8
Touch Panel	Liyitec PIC16F819 4-wire,Analog Resistive	1~8
OS Install	Windows XP Embedded(WES)	1~8
Power Supply	AC Power : LI SHIN – 0335A2065- 100V-240V,50~60Hz,65W	1~8
Battery	LI-ION RECHARGEABLE Battery / DR202 DC11.1V / 7800mAh	1~8

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There are 3 test results in this document; they are described as follows:

Pass: Function worked perfectly

Fail: Function failed and must be modified in the next version

N/A: Outside of specifications or no test equipment

The test report would be tested and updated after version changed.

Test Result for Certification

1. I/O Peripheral Function Test

I/O Peripheral Function Test –I/O Function	Result		
	Pass	Fail	N/A
Floppy Connector / Driver A:			X
IDE Channel 0 Master			X
IDE Channel 0 Slave			X
IDE Channel 2 Master	X		
IDE Channel 2 Slave			X
RAID 0 Function Test			X
RAID 1 Function Test			X
SATA1 / Serial ATA Connector 1	X		
SATA2 / Serial ATA Connector 2			X
SATA3 / Serial ATA Connector 3			X
SATA4 / Serial ATA Connector 4			X
Compact Flash	X		
DOC (Disk On Chip)			X
DOM (Disk On Module) – 40 Pin			X
DOM (Disk On Module) – 44 Pin			X
COM 1-232	X		
COM 2-232			X
COM 2-422			X
COM 2-485			X
COM 3-232			X
COM 4-232 (For GPS Controller)			X
COM 5-232			X
COM 6-232			X
PS/2 Mouse & Keyboard			X
Audio Connector	X		
Audio 2.1 Channel	X		
LPT 1			X
IRDA			X
USB 1/2 Ports	X		
USB 3 Ports Mini USB port	X		
USB 4/5/6 Ports			X
USB 7/8 Ports			X
USB 2.0 1/2 Ports	X		
USB 2.0 3 Ports Mini USB port	X		
USB 2.0 4/5/6 Ports			X
USB 2.0 7/8 Ports			X
DIO Connector			X

PC/104			X
PC/104-Plus			X
PCI-104			X
CD-In Connector			X
TFT TTL LCD			X
System LVDS	X		
CRT	X		
TV-out / S Terminal			X
TV-out / AV Terminal			X
DVI			X
HDMI			X
Component Video : Y/ Pb /Pr			X
Touch Screen – 4 Wire	X		
Touch Screen – 5 Wire			X
Touch Screen – 8 Wire			X
DIMM Slots	X		
Watchdog Software Control	X		
CPU FAN Connector			X
System FAN Connector	X		
Front Panel	Result		
	Pass	Fail	N/A
Power On Button	X		
IDE LED	X		
External Buzzer			X
On Board Buzzer			X
Power LED	X		
Reset Switch	X		
Keyboard Lock			X
Jumpers Function	Result		
	Pass	Fail	N/A
Clear CMOS	X		
Power Connector & Function	Result		
	Pass	Fail	N/A
+12V DC Input AT/ATX			X
ATX Power Connector			X
AT Power Connector			X
AC Power Connector	X		
LAN Connector & Function	Result		
	Pass	Fail	N/A
LAN Link / Speed LED	LAN1		X
	LAN2		X
LAN Active LED	LAN1		X
	LAN2		X
LAN 10/100 Ethernet - LAN1	X		

LAN 1G Ethernet - LAN1	X		
PCI Connector & Function	Result		
	Pass	Fail	N/A
Mini PCI Slots			X
PCI Slots			X
PCI Express			X
Mini PCI Express card -QCOM Q802XKG Wireless mini-card(802.11b+g)	X		
PCMCIA card - Intel PRO/Wireless 2011B LAN PC Card (WPC2011BWW)	X		
PCMCIA card - Accton 10/100 Fast Ethernet CardBus PC Card	X		

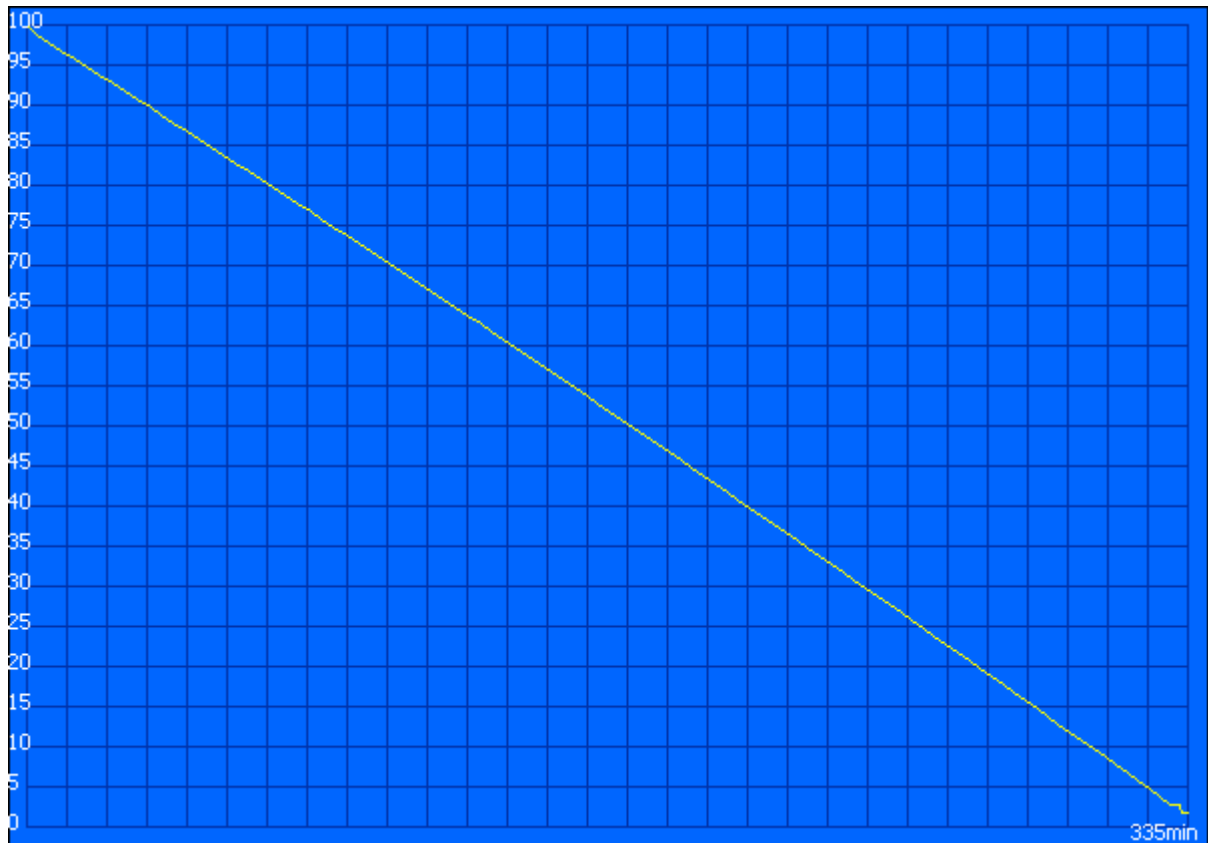
2. Battery Test

Platform Information:

System	RTC-1000A
CPU Board	RTC-1000A Rev A0.2
Carrier Board	N/A
BIOS	RTC-1000A BIOS Rev 1.0 (01/11/2010)
Operating System	Microsoft Windows XP Embedded Standard
LCD	CPT CLAA102NA0ACW/ 10.2" color TFT LCD/ 1024*600 /
Battery Mode	LI-ION RECHARGEABLE Battery / DR202 DC11.1V / 7800mAh
Test Software	Battery Eater Pro V2.70

Test Result

	Result	Notes
Total time	5:35:28	
Discharge rate (minimum)	67 mWh	
Discharge rate (maximum)	4294953266 mWh	
Discharge rate (average)	4292771849 mWh	



3. Timer Accuracy Test

System Clock & RTC Clock Test				
Test Method	Margin for error	Result		
		Pass	Fail	N/A
RTC Clock in Power On Mode	±3 second during 24 hours	X		
RTC Clock in Power Off Mode	±3 second during 24 hours	X		
Watchdog Timer Test		Result		
		Pass	Fail	N/A
Time-out Interval	10 sec	X		
	60 sec	X		
	120 sec	X		

4. Network HUB / LAN Connection Test

Location		LED Type				Result		
						Pass	Fail	N/A
LAN1 LED		Link / Speed LED						X
		Active LED						X
LAN2 LED		Link / Speed LED						X
		Active LED						X
Location	Speed	HUB Type	Cable Length	HUB Speed	Onboard LAN Speed	Result		
						Pass	Fail	N/A
Onboard LAN1	10/100/1000 Mbps	D-Link DGS-1008T	100M	1GBps	1000	X		
		Accton DeskTop-3005	100M	100 MBps	100	X		
		SVEC FD916H (10 Mbps HUB)	100M	10 MBps	10	X		
Onboard LAN2	10/100/1000 Mbps	D-Link DGS-1008T	100M	1GBps	1000			X
		Accton DeskTop-3005	100M	100 MBps	100			X
		SVEC FD916H (10 Mbps HUB)	100M	10 MBps	10			X

5. Hardware Compatibility

CPU Compatible Test							
CPU Type	FSB	Prime95 Version	Result				
			Pass	Fail	N/A		
Onboard Intel ATOM CPU N270 @ 1.60GHz	FSB-533MHz	V.259	X				
Memory Compatibility Test							
Memory Brand	Memory Chipset	Frequency	Size	MemTest86 Version	Result		
					Pass	Fail	N/A
Team Group INC. DDR2 SO-DIMM	Hynix H5PS1G83EFR	667	1GB	V2.11	X		
Team Group INC. DDR2 SO-DIMM	Hynix H5PS1G83EFR	667	2GB	V2.11	X		
Audio Basic Function Test					Result		
					Pass	Fail	N/A
System Sound					X		
CD_In							X
CD_In Sound Recorder							X
Play Sound Recorder					X		
Line Out					X		
Line In							X
Line In Sound Record							X
MIC Speaker			Condenser		X		
MIC Sound Recorder			Condenser		X		
Audio 5.1 Channel with S/P DIF Function Test					Result		
					Pass	Fail	N/A
2-channel mode for stereo speaker output					X		
4-channel mode for 4 speaker output							X
6-channel mode for 5.1 speaker output							X
8-channel mode for 7.1 speaker output							X
S/P DIF function Test		Input					X
		Output					X
On Board TV Function Test					Result		
					Pass	Fail	N/A
NTSC		AV Terminal					X
PAL							X
NTSC		S Terminal					X
PAL							X
On Board LCD Function Test							

TFT LCD	Type	Voltage	Result		
			Pass	Fail	N/A
LVDS	AUO G065VN01 V.0 / 6.5" / 640x480 / 18bit (4:3)	3.3V			X
	AUO G065VN01 V.0 / 6.5" / 640x480 / 24bit (4:3)	3.3V			X
	Data Image 7" / 800*480 / 18bit (16:9)	3.3V			X
	AU G084SN05 V.3 / 8.4" / 800*600 / 18bit (4:3)	3.3V			X
	AU B104SN02 V.0 / 10.4" / 800*600 / 18bit (4:3)	3.3V			X
	AUO G084SN05 v7 / 8.4" / 800*600 / 24bit (4:3)	3.3V			X
	AU G150XG01 V.0 / 15" / 1024*768 / 18bit (4:3)	3.3V			X
	AU M150XN07 V.2 / 15" / 1024x768 / 24bit (4:3)	5V			X
	Toshiba /12.1"/1280 x 768 x 18bit (16:9)	5V			X
	AU M170EG01 V.D/ 17" / 1280*1024 / 48bit (4:3)	5V			X
	AU M170XW01 V.1 / 17" / 1280x768 / 24bit (16:9)	5V			X
	AUO T260XW02 / 26" / 1366x768 / 24bit	5V			X
	AU M201UN02 V.5 / 20.1" / 1600x1200x48bit	5V			X
	AUO T370HW01 / 37" / 1920x1080 / 48bit	12V			X
	AUO M190PW01 V0 / 19"/1440X900/48 bit	5V			X
Model LVDS	CPT CLAA102NA0ACW/ 10.2" / 1024*600 /		X		

PCI Slot Function (PCI Adapter Card) Test

Model	Type	Result		
		Pass	Fail	N/A
CHANTECH NVIDIA GeForce4 MX440-8X	VGA Card			X
Creative Sound BLASTER Live5.1	Sound Card			X
Takram DC-395U V1.02	SCSI Card			X
ADAPTEC Ultra160 SCSI ASC-29160	SCSI Card			X
I-VIEW CP-1400AS (with Age STD-477FAI CCD)	Capture Card			X
Intel GD82559 10/100 Mbps Fast Ethernet Adapter	LAN Card			X
3Com 3C905C-TXM ETHERLINK 10/100 PCI	LAN Card			X
D-Link DWL-520+ Wireless LAN	LAN Card			X
ADAPTEC 1420SA RoHS 4-Port SATA II RAID	RAID Card			X
D-Link DU-520 USB 2.0	USB Hub Card			X
Tekram TR-822 Serial ATA 150 [SA-001] + SATA HDD Seagate ST3120026AS 120GB	SATA Card			X

ISA Slot Function Test

	Result		
	Pass	Fail	N/A
NE2000 Compatible LAN Card (RTL8019AS)			X
Adaptec AHA-1510/20/22B SCSI Card			X

PCI-Express Function Test

Model	Result		
	Pass	Fail	N/A
SUNIX SATA1414 VER 1.1 PCI-Express x1 SATA Card			X
SksKonnnect SK-9E21D 10/100/1000 Base-T Adapter PCI-Express x1 LAN Card			X

Adaptec AAR-1430SA SATAII HostRAID Controllers PCI-Express x4 RAID Card			X
ASUS EAX1600PRO/TD/256M/A (ATI Chipset) PCI-Express x16 VGA Card			X
WinFast PX6200 TC TDH PCI-Express x16 VGA Card			X
Mini PCI-Express card - QCOM Q802XKG Wireless mini card 3DSP Wireless 802.11 B+G	X		
HDD Compatibility Test			
Model	Result		
	Pass	Fail	N/A
WD 2.5' SATA H.D 80G / WD800BEVT-00ZCT0	X		
			X
IDE Cable Function test			
IDE Model	Result		
	Pass	Fail	N/A
40 Pin Cable ATA100			X
44 Pin Cable ATA33			X
80 Pin Cable ATA100			X
USB Function Test			
USB Basic Function Test	Result		
	Pass	Fail	N/A
USB Controller	X		
USB 2.0 Controller	X		
USB Keyboard Support	X		
USB Mouse Support	X		
USB 1.1 Compatible Test	Result		
	Pass	Fail	N/A
USB 1.1 Compatible Test	X		
USB 2.0 Compatible Test	Result		
	Pass	Fail	N/A
USB 2.0 Compatible Test	X		
USB 2.0 Function Test	Result		
	Pass	Fail	N/A
Install Windows XP Professional from HighSpeed Device: USB2.0 DRW-1604P-D/WHT/G/ASUS	X		
USB Device Full Loading Test	Result		
	Pass	Fail	N/A
Model			
Mitsumi FLL3.5 D353GUE/FUE	X		
USB HDD 20GB	X		
USB Card Reader	X		
USB Mouse	X		
USB Flash drive Transcend 2GB	X		

Floppy Disk Controller Function Test		Result			
		Pass	Fail	N/A	
Copy and compare file between C: and A / B:				X	
Change Floppy to None value				X	
Swap FDD				X	
Peripheral Compatibility-Storage Device					
Model	Interface	Result			
		Pass	Fail	N/A	
FUJITSU MCB3064SS	SCSI			X	
IOMega ZIP 100 parallel port	Parallel			X	
IOMega ZIP100MB Internal ATAPI Drive	IDE			X	
DOC				X	
Type-I CF	Fix / PIO Mode	X			
Type-I CF	Fix / UDMA Mode	X			
Digital I/O Connector Test		Result			
		Pass	Fail	N/A	
Input Address: H				X	
Output Address: H				X	
VCC: (5V) , Position : (CN)				X	
DIO-1 Function Test				X	
DIO-2 Function Test				X	
Adapter Compatibility- Industry Control Card PC/104, PC/104+, PCI-104 Modules					
Interface	Model	Type	Result		
			Pass	Fail	N/A
PC/104	AAEON PCM-5600	Modem Module			X
	AAEON PCM-3115B	PCMCIA Module			X
PC/104+	AAEON PCM-3430	SCSI Module			X
PCI-104	AAEON PCM-FA00	Mini-PCI Converter			X
	AAEON PCM-3794	SCSI Module			X
	AAEON PCM-3730	Intel 82559 LAN Module			X
PCI/104 Express	AAEON PER-123			X	
On-Board RAID Function Test					
Model	Interface	Result			
		Pass	Fail	N/A	
Set SATA HDDs as RAID 0	SATA			X	
Set SATA HDDs as RAID 1	SATA			X	
Set SATA HDDs as RAID 10	SATA			X	
Set SATA HDDs as RAID 5	SATA			X	
COM Function Test		Result			
		Pass	Fail	N/A	

COM Port Burn In Test overnight		X		
Disk On Module [DOM] Compatibility Test				
Model	Interface	Result		
		Pass	Fail	N/A
Transcend / TS512MDOM40V / 512MB	IDE 40 Pin			X
Transcend / TS512MDOM44V / 512MB	IDE 44 Pin			X
Mini PCI Card Compatibility Test				
Model	Interface	Result		
		Pass	Fail	N/A
PCI 10/100 LAN Mini PCI Card (Model:PER-C10L)	LAN			X
GM-101 WLAN 11b/g 54Mbps Mini PCI Card (Model: VNT6655AM)	WLAN			X
COM/LPT Ports & RS-232/422/485 Function Test		Result		
		Pass	Fail	N/A
RS-422 for COM2				X
RS-485 for COM2				X
COM1		X		
COM2				
COM3				X
COM4				X
COM5				X
COM6				X
LPT1				X
Card Bus(PCMCIA) Compatibility Function Test				
Model	Result			
	Pass	Fail	N/A	
Intel PRO/Wireless 2011B LAN PC Card (WPC2011BWW)	X			
PQI 16MB Compact Flash Adapter (64MB PQI CF Card inserting)	X			
Kingston datapack DP-PCM2 / 2GB (PC Card Typell HDD)	X			
PCi GW-NS54SG Cardbus Adapter Wireless LAN Type-II	X			

6. O.S. Compatibility Test

Installation Operation System Compatibility Test			Result		
			Pass	Fail	N/A
[] Linux-Red Hat 9.0 or [] Fedora Core 10 -Kernel 2.6.27					X
Windows Vista TM Ultimate English Version					X
Windows Vista TM Ultimate x64 Edition English Version					X
Windows XP Embedded(WES)			X		
Windows XP Professional English Version /Standard x64 Edition					X
Windows 2000 Professional English Version V5.00.2195 Service Pack4					X
Windows Server 2000 English Version					X
Windows Server 2003 English Version / Standard Edition 5.2.3790					X
Windows Server 2003 English Version /Standard x64 Edition					X
Utility and Driver Test					
OS	Drivers Version		Result		
			Pass	Fail	N/A
Linux-Fedora 10 Kernel- 2.6.27	Chipset Software				X
	Graphics Media				X
	LAN Driver				X
	Audio Driver				X
Windows Vista TM Ultimate English Version	Chipset Software				X
	Graphics Media				X
	LAN Driver				X
	Audio Driver				X
Windows Vista TM Ultimate x64 Edition English Version	Chipset Software				X
	Graphics Media				X
	LAN Driver				X
	Audio Driver				X
Windows XP Embedded(WES)	Chipset Software	Intel Chipset Device software - 9.0.0.1008 - 2008/05/01	X		
	Graphics Media	Mobile Intel 945 Express Chipset Family - 6.14.10.4926- 2008/02/15	X		

	LAN Driver	Intel Gigabit CT Desktop Adapter -10.3.49.0 - 2008/08/05 3DSP Wireless 802.11 B+G USB Adapter - 1.1.0.0 - 2007/04/18 Bluetooth PAN Network Adapter - 6.0.12.56 - 2007/03/05	X		
	Audio Driver	Realtek High Definition Audio – 5.10.0.5672 - 2008/07/24	X		
Windows XP Professional x64 Edition English Version Service Pack 2 V2002	Chipset Software				X
	Graphics Media				X
	LAN Driver				X
	Audio Driver				X
Windows 2000 Professional English Version V5.00.2195 Service Pack 4	Chipset Software				X
	Graphics Media				X
	LAN Driver				X
	Audio Driver				X
Windows Server 2000 English Version	Chipset Software				X
	Graphics Media				X
	LAN Driver				X
	Audio Driver				X
Windows Server 2003 English Version Standard Edition 5.2.3790	Chipset Software				X
	Graphics Media				X
	LAN Driver				X
	Audio Driver				X
Windows Server 2003 English Version Standard x64 Edition	Chipset Software				X
	Graphics Media				X
	LAN Driver				X
	Audio Driver				X

7. BIOS Function Test

Test Item	Result		
	Pass	Fail	N/A
Memory Beep Test			X
Standard CMOS Setup Test	X		
Boot Sequence Test	X		
Power Management Test			
ATX Power Management Test	X		
AT Power Management Test			X
Power On Function Test			X
Wake Up Event Test			X
Power On after Power Failure Test			X
CMOS Backup / Clear CMOS Test	X		
Boot ROM Test (RPL/PXE)	X		
Supervisor / User Password Test	X		
CRT / LCD / Function Test	X		
TV Standard Function Test			X
Init Display First Function Test			X
On-Chip Serial ATA Function Test	X		
SATA Mode-IDE/RAID Function Test			X
PC Health Status			
Voltage Monitor Test	X		
FAN Speed Monitor Test	X		
Temperature Monitor Test	X		
Swap Floppy Drive & Boot up Floppy Seek Function Test			X
USB Onboard Device Function Test	X		
COM Address / IRQ Test	X		
LPT Address / IRQ Test			X
BIOS AWDFLASH Program Test	X		

8. Performance Test

Platform Information:

PCB Model / Version	RTC-1000A
BIOS	RTC-1000A BIOS Rev 1.0 (01/11/2010)
Operating System	Windows XP Professional English Version V2002 Service Pack 3
CPU	Intel ATOM CPU N270 @ 1.60GHz / FSB-533MHz
Memory	Team Group INC. DDR2 SO-DIMM 667 2GB / M2BB2755B25HS26 / Chip-Hynix H5PS1G83EFR
SATA HDD	WD 2.5" SATA H.D 80GB/ WD800BEVT-00ZCT0 /RPM-5400
LCD	CPT 10.2 LCD / CLAA102NA0ACW
Chipset Software	Intel Chipset Device software – 9.0.0.1008 – 2008/05/01
Graphics Media	Mobile Intel 945 Express Chipset Family – 6.14.10.4926– 2008/02/15
LAN Driver	Intel Gigabit CT Desktop Adapter -10.3.49.0 - 2008/08/05 3DSP Wireless 802.11 B+G USB Adapter - 1.1.0.0 - 2007/04/18 Bluetooth PAN Network Adapter - 6.0.12.56 - 2007/03/05
Audio Driver	Realtek High Definition Audio – 5.10.0.5672 - 2008/07/24
AC Power Supply	LI SHIN AC ADAPTER / input-100-240V 50-60Hz 1.7A / output-200 / V0335A2065

Test Result:

Testing Software	Result	Unit
PCMark2002 (1024*600)		
CPU	1265	
Memory	N/A	
HDD	N/A	
Final Reality V1.01—BenchMark Test (1024*600)		
2D image	9.02	
3D	3.01	
Bus transfer	29.21	
Overall	8.75	Reality marks
3Dmark2001SE Pro (1024*600)		
3Dmark2001SE Build 330_Benchmark mode	1503	
Testing Software	Result	Unit
PCMark05 (1024*600)		

PCMark	N/A	PCMarks
CPU	716	
Memory	1465	
Graphics	N/A	
HDD	4154	
3Dmark2003 v360 (1024*600)		
3Dmark Score	378	