

# P5 Verification Test Plan

Release No : 09P010009

Product Model	<b>ONYX-175X</b>
Description	<b>Expert Medical Station 17"300 nits LCD with Intel® Core 2Duo processor and graphic accelerator</b>
Test Configuration	<ul style="list-style-type: none"> <li>↳ New product <ul style="list-style-type: none"> <li>↳ CPU Board : COM-945 Rev A1.0</li> <li>↳ BIOS : ONYX-175X BIOS Rev 1.0 (05/09/2009)</li> <li>↳ Carrier Board : PER-T070 RevA1.3</li> </ul> </li> <li>↳ Chipset : <ul style="list-style-type: none"> <li>↳ CPU : Intel ® Core 2 CPU T5500 @1.66GHz</li> <li style="padding-left: 40px;">Intel ® Core 2 CPU T7200 @2.00GHz</li> <li>↳ North Bridge : Intel i945GM</li> <li>↳ South Bridge : Intel ICH7-M</li> <li>↳ VGA Chipset : Mobile Intel 945 Express Chipset Family</li> <li>↳ Audio Chipset : Realtek AC'97 Audio</li> <li>↳ Ethernet Chipset : Intel PRO/1000 PL Network Connection</li> </ul> </li> <li>↳ TV Chipset : Intel i945GM</li> </ul> <p>↳ Remark : QE NPDP P5 Report for ONYX-175X</p>
<b>Test Result Summary</b>	
<input checked="" type="checkbox"/> <b>Pass</b> <input type="checkbox"/> <b>Fail</b> <input type="checkbox"/> <b>Pass with Deviation</b> <b>Comment:</b> _____ _____	

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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 specification or no test equipment

**Platform Information:**

Item	Device Information	Test Item
PCB Model	COM-945 Rev A1.0	
Carrier Board	PER-T070 RevA1.3	
BIOS / Version	ONYX-175X BIOS Rev 1.0 (05/09/2009)	
CPU Type	Intel ® Core 2 CPU T5500 @1.66GHz	
Memory Type	Transcend TS128MSQ64V5J 1G	
SATA HDD	FUJITSU MHZ2080BH G2 80GB	
Primary IDE Master	N/A	
Primary IDE Slave	N/A	
CRT	N/A	
LCD	17" SXGA color TFT LCDdisplay	
Compact Flash	Transcend CF Card 4GB for Industrial TS4GCF133	
PCI-104	N/A	
Backplane	N/A	
Expansion Board	N/A	
Operating System	[ ] Linux-RedHat 9.0 or [ ] Fedora Core 4.0 [ ] Fedora Core 8.0	N/A
	Windows Server 2003 English Version / Standard Edition 5.2.3790	N/A
	Windows Server 2003 English Version /Standard x64 Edition	N/A
	Windows XP Professional English Version V2002 Service Pack 3	1..3.4.5.6.7.8
	Windows XP Professional Simplified-Chinese Version V2002 Service Pack 3	N/A
	Windows XP Professional Japanese Version V2002 Service Pack 2	N/A
	Windows XP Professional English Version /Standard x64 Edition	N/A
	Windows 2000 Professional English Version V5.00.2195 Service Pack4	N/A
	Windows 2000 Professional Simplified-Chinese Version V5.00.2195 Service Pack4	N/A
	Windows 2000 Professional Japanese Version V5.00.2195 Service Pack4	N/A
	Windows Server 2000 English Version	N/A
	Windows 98SE English Version V4.10.2222A	N/A
	MS-DOS 6.22 English Version	1.3.4.5.6.7.8
Power Supply	AC ATX Power Supply : FSP180-50MP	1.3.4.5.6.7.8
	AT Power : AT-200703	N/A
	DC Power: N/A	N/A

## Test Result for Certification

### 1. I/O Peripheral Function Test

I/O Peripheral Function Test –I/O Function	Result			Note
	Pass	Fail	N/A	
Floppy Connector / Driver A:			X	
Primary IDE Master			X	
Primary IDE Slave			X	
Secondary IDE Master			X	
Secondary IDE Slave			X	
Third IDE Master			X	
Third IDE 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 – Type I	X			
Compact Flash – Type II			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 3-232			X	
COM 4-232			X	
COM 5-232	X			
COM 6-232	X			
COM 2-422	X			
COM 2-485	X			
PS/2 Mouse & Keyboard (External)	X			
Audio Connector	X			
Audio 5.1 Channel / S/P DIF			X	
LPT 1	X			
SIR / 115.2 Kbps			X	
FIR / 4M bps			X	
USB 1/2 Ports	X			
USB 3/4 Ports	X			
USB 5 Ports	X			
USB 2.0 1/2 Ports	X			
USB 2.0 3/4 Ports	X			
USB 2.0 5 Ports	X			
DVI Function			X	
DIO Connector			X	

Card Bus			X	
PC/104			X	
PC/104-Plus			X	
PCI-104			X	
CD-In Connector			X	
TFT TTL LCD			X	
TFT LVDS LCD			X	
HDTV Function			X	
HDMI Output			X	
TV-out / S Terminal	X			
TV-out / AV Terminal			X	
Touch Screen – 8 Wire			X	
Touch Screen – 4/5 Wire			X	
DIMM Slots	X			
Watchdog IRQ n			X	
Watchdog Software Control	X			
FAN1 Connector			X	
FAN2 Connector			X	
Express card			X	
Speaker Connector	X			
LCD Backlight Power Button	X			
DC in Connector			X	
PCI Express Mini Card			X	
Power Button	X			
Battery 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	Pass	Fail	N/A	
AT/ATX Mode Select			X	
CFD Master / Slave Select			X	
LVDS-LCD +5V / 3.3V Select			X	
COM2 +12V/+5V/RING Selection			X	
CMOS Clear Selection			X	
Power Connector & Function (CN16)	Result			
	Pass	Fail	N/A	
Standard AC Power Connector	X			
Standard AT Power Connector			X	
Standard ATX Power Connector			X	
5V Only Power Connector			X	

DC Adapter				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		X			
LAN 1G Ethernet		X			
PCI Connector & Function		Result			
		Pass	Fail	N/A	
Mini PCI Slot				X	
PCI Slot				X	
PCI Express x1				X	
Mini PCI Express card				X	
Express card				X	

### 3. Timer Accuracy Test

System Clock & RTC Clock Test				
Test Method	Margin for error	Result		
		Pass	Fail	N/A
System Clock in Power On Mode	±1 second during 24 hours	X		
RTC Clock in Power On Mode	±1 second during 24 hours	X		
RTC Clock in Power Off Mode	±1 second during 24 hours	X		
Watchdog Timer Test		Result		
		Pass	Fail	N/A
Time-out Interval	10 sec	X		
	20 sec	X		
	60 sec	X		
	120 sec	X		

### 4. Network HUB / LAN Connection Test

Location		LED Type				Result		
						Pass	Fail	N/A
LAN1~2 LED		Active LED				X		
		Link LED				X		
		Speed LED				X		
Location	Speed	HUB Type	Cable Length	HUB Speed	Onboard LAN Speed	Result		
						Pass	Fail	N/A
		D-Link DGS-1008T	100M	1GBps	100	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		
Intel ® Core 2 CPU T5500 @ 1.66GHz	667	V2414	X				
Intel ® Core 2 CPU T7200 @ 2.00GHz	667	V2414	X				
Memory Compatibility Test							
Memory Brand	Memory Chipset	Frequency	Size	MemTest86 Version	Result		
					Pass	Fail	N/A
Transcend	TS128MSQ64V5J	533	1GB	V211	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			Dynamic		X		
			Condenser		X		
MIC Sound Recorder			Dynamic		X		
			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
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
	AU G084SN05 V.3 / 8.4" / 800*600 / 18bit (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)	3.3V			X
	AU G084SN05 V.3 / 10" / 800*600 / 24bit (4:3)	3.3v			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	5V			X
TTL	Toshiba LTM10C209A / 10.4" / 640*480 / 18bit (4:3)	5V			X
	NEC NL8060AC31-12 / 12.1" / 800*600 / 18bit (4:3)	3.3/5V			X
	Sharp LQ121S1DG11 / 12.1" / 800*600 / 18bit (4:3)	3.3V			X
	LG LM151X2-C2TH / 15.1" / 1024x768 / 18bit (4:3)	3.3V			X
	Fujitsu FLC38XGC6V-06 / 15" / 1024*768 / 36bit (4:3)	5V			X

**PCI Slot Function (PCI Adapter Card) Test**

Model	Type	Result		
		Pass	Fail	N/A
CHAINTECH NVIDIA GeForce4 MX440-8X	VGA Card			X
SC3000 CMI8738/C3DX	Sound 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
D-Link DWL-520+ Wireless LAN	LAN Card			X
ADAPTEC 1420SA RoHS 4-Port SATA II RAID	RAID Card			X
LEMEL MD V1456VQH-P2 PCI MODEM Card	Modem 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
Creative CT4170 Sound Blaster Sound Card			X
Adaptec AHA-1510/20/22B SCSI Card			X

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

<b>HDD Compatibility Test</b>			
SATA Model	Result		
	Pass	Fail	N/A
FUJITSU MHZ2080BH G2 80GB	X		
<b>USB CD -ROM Compatibility Test</b>			
Model	Result		
	Pass	Fail	N/A
BENQ 4824WI-ON2 USB 2.0-CDR/RW	X		
<b>IDE Cable Function test</b>			
IDE Model	Result		
	Pass	Fail	N/A
40 Pin Cable ATA66			X
44 Pin Cable ATA33			X
80 Pin Cable ATA100			X
<b>USB Function Test</b>			
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		
<b>USB Device Full Loading Test</b>			
Model	Result		
	Pass	Fail	N/A
Mitsumi FLL3.5 D353GUE/FUE	X		
USB HDD 20GB	X		
USB Mouse	X		
USB Thumb drive Sandisk 1G	X		
SONY USB2.0 DVD-R/W DRX-830UL	X		
USB 2.0 HUB ATEN/ 4 Port UH-204	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	
<b>Peripheral Compatibility-Storage Device</b>					
Model	Interface	Result			
		Pass	Fail	N/A	
DOC				X	
Type-I CF	Fix / PIO Mode			X	
Type-I CF	Fix / UDMA Mode	X			
<b>Digital I/O Connector Test</b>		Result			
		Pass	Fail	N/A	
Input Address:				X	
Output Address:				X	
VCC: (5V)				X	
DIO-1 Function Test				X	
DIO-2 Function Test				X	
<b>Adapter Compatibility- Industry Control Card PC/104, PC/104+, PCI-104 Modules</b>					
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
<b>On-Board RAID Function Test</b>					
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	
<b>COM Function Test</b>		Result			
		Pass	Fail	N/A	
COM Port Burn In Test overnight		X			
<b>Disk On Module [DOM] Compatibility Test</b>					
Model	Interface	Result			
		Pass	Fail	N/A	
Transcend / TS512MDOM40V / 512MB	IDE 40 Pin			X	
Transcend / TS512MDOM44V / 512MB	IDE 44 Pin			X	
<b>Mini PCI Card Compatibility Test</b>					

Model (Use PCI-104 transform board: MBC-1TM Rev.A1.0)	Interface	Result		
		Pass	Fail	N/A
GM-100 WLAN 11g Mini PCI Card (Model: Sky Thru GC-100)	LAN			X
GM-101 WLAN 11b/g 54Mbps Mini PCI Card (Model: VNT6655AM)	LAN			X
PER-C20S SATA RAID MiniPCI Card (Silicon Image Sil3512ECTU128 QF7227.1-1)	SATA			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		X		
COM3				X
COM4				X
COM5		X		
COM6		X		
LPT1		X		
LPT2				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 TypeII 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-RedHat 9.0 or [ ] Fedora Core 4.0 [ ] Fedora Core 6.0					X
Windows Server 2003 English Version / Standard Edition 5.2.3790					X
Windows Server 2003 English Version /Standard x64 Edition					X
Windows Vista™ Ultimate English Version					X
Windows XP Professional English Version V2002 Service Pack 3			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 98SE English Version V4.10.2222A					X
DOS 6.22 English Version			X		
Utility and Driver Test					
OS	Drivers Version		Result		
			Pass	Fail	N/A
Linux-Fedora Core 60	Chipset Software	N/A			X
	Graphics Media	N/A			X
	LAN Driver	N/A			X
	Audio Driver	N/A			X
Windows Server 2003 English Version Standard Edition 5.2.3790	Chipset Software	N/A			X
	Graphics Media	N/A			X
	LAN Driver	N/A			X
	Audio Driver	N/A			X
Windows Vista™ Ultimate English Version	Chipset Software	N/A			X
	Graphics Media	N/A			X
	LAN Driver	N/A			X
	Audio Driver	N/A			X
Windows XP Professional English Version V2002 Service Pack 3	Chipset Software	Intel (R) Chipset Software Installation Utility 8.1.1.1010 (11/8/2006)	X		
	Graphics Media	ATI MOBILITY RADEON HD 2400 8.561.0.0 (12/1/2008)	X		
	LAN Driver	Intel (R) PRO/1000 PL Network Connection 9.5.12.0 (7/26/2006)	X		
	Audio Driver	Realtek AC97 Audio 5.10.0.6190 (11/6/2006)	X		
Windows XP Professional x64 Edition English Version Service Pack 2 V2002	Chipset Software	N/A			X
	Graphics Media	N/A			X
	LAN Driver	N/A			X
	Audio Driver	N/A			X
Windows 2000 Professional English Version V5.00.2195 Service Pack 4	Chipset Software	N/A			X
	Graphics Media	N/A			X
	LAN Driver	N/A			X
	Audio Driver	N/A			X
Windows Server 2000	Chipset Software	N/A			X

English Version	Graphics Media	N/A			X
	LAN Driver	N/A			X
	Audio Driver	N/A			X
Windows 98SE English Version V4.10.2222A	Chipset Software	N/A			X
	Graphics Media	N/A			X
	LAN Driver	N/A			X
	Audio Driver	N/A			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		
<b>Power Management Test</b>			
AT Power Management Test			X
ATX 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 (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
<b>PC Health Status</b>			
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	COM-945 A1.0
Carrier Board	PER-T070 RevA1.3
BIOS	ONYX-175X BIOS Rev 1.0 (05/09/2009)
Operating System	Windows XP Professional Service Pack 3 V2002
CPU	Intel ® Core 2 CPU T5500 @1.66GHz
Memory	Transcend TS128MSQ64V5J 1G
SATA HDD	FUJITSU MHZ2080BH G2 80GB
Primary IDE Master	N/A
Primary IDE Slave	N/A
CRT	N/A
LCD	17" SXGA color TFT LCDdisplay
Compact Flash	Transcend CF Card 4GB for Industrial TS4GCF133
Backplane	N/A
Riser Card	N/A
Expansion Board	N/A
Chipset Software	Intel (R) Chipset Software Installation Utility 8.1.1.1010 (11/8/2006)
Graphics Media	ATI MOBILITY RADEON HD 2400 8.561.0.0 (12/1/2008)
LAN Driver	Intel (R) PRO/1000 PL Network Connection 9.5.12.0 (7/26/2006)
Audio Driver	Realtek AC97 Audio 5.10.0.6190 (11/6/2006)
Touchscreen Driver	Serial Touchsreen Controller 4.3.3.2616 (2/16/2006)
Power Supply	FSP180-50MP 180W

### Test result:

<b>Final Reality V1.01—BenchMark Test (Reality Marks)</b>		
2D Image	37.99	
3D	5.19	
Bus transfer	38.81	
Overall	20.07	
<b>3Dmark2001SE Pro (Demo version)</b>		
3DMark2001SE Build 330_Benchmark mode	15183	
<b>PCMark2002</b>		
CPU	6530	
Memory	13088	
HDD	1352	
<b>PCMark05</b>		
PCMark	N/A	
CPU	4268	
Memory	3405	
Graphics	N/A	
HDD	4645	
<b>3Dmark2003 v360</b>		
3Dmark Score	5593	