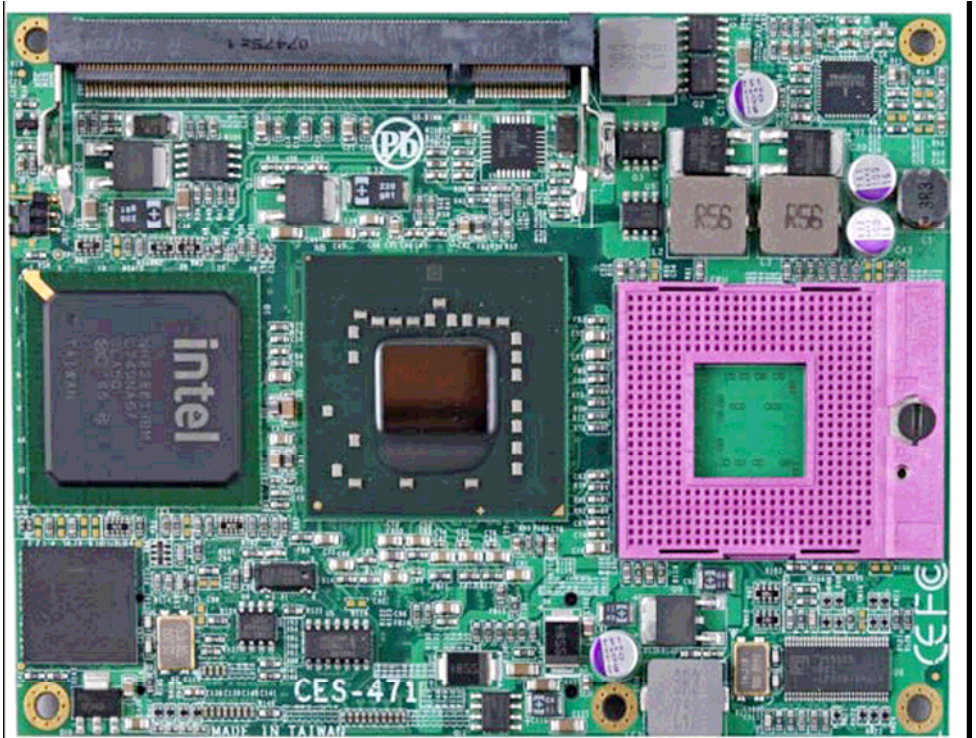


Product Test Report



Product Name	CES-471+CEB-8PE4
Product Version	A
Issued Date	9.Mar.2009
Report Edition	1.0
BIOS Version	1.0
Testing Engineer	RICK

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1. Function test

1.1 Hardware function

Base Function Test

Item	Description	Result
1	Power Button	Pass
2	Reset	Pass
3	Power LED	Pass
4	HDD LED	Pass
5	SATA 1/2/3	Pass
6	USB 1/2/3/4/5/6/7/8	Pass
7	DDRII	Pass
8	Floppy	Pass
9	LPT	Pass
10	COM 1/2	Pass
11	VGA Port	Pass
12	PS2	Pass
13	AUDIO	Pass
14	CN_AUDIO	Pass
15	CD_IN	Pass
16	DIO	Pass
17	MDUFAN	Pass
18	SYSFAN	Pass
19	PCI 1/2	Pass
20	IDE	Pass
21	PCI-express 16x	Pass
22	PCI-express 1x 1/2/3/4	Pass
23	LVDS	Pass
24	LAN	Pass

25	IrDA	Pass
26	CN_TV	Pass
27	ISA	Pass

Jumper

Item	Description	Result
1	JRTC	Pass
2	JCSEL1	Pass
3	JCSEL2	Pass

1.2 BIOS function

Item	Description	Result	Remark
1	Press 'Del' to run Setup Utility	Pass	
2	Ctrl-Alt-Del – Soft-Reboot	Pass	
3	Save & Exit Setup	Pass	
4	Date & Time Setting	Pass	
5	Drive A	Pass	
6	Quick Power On Self Test	Pass	
7	Boot Device Setting	Pass	
8	Boot Up Floppy Seek	Pass	
9	Boot Up Num Lock Status	Pass	
10	ACPI Suspend Type	Pass	
11	Halt On	Pass	
12	Onboard Serial Port	Pass	
13	USB Keyboard Support	Pass	
14	Onboard FDC Controller	Pass	
15	Soft-Off by PWRBTN	Pass	
16	Power On Function	Pass	
17	ACPI Function	Pass	
18	Hot Key Password	Pass	
19	Wake-up by PCI card	Pass	
20	Resume by Alarm	Pass	
21	Watch Dog Timer Select	Pass	
22	Init Display First	Pass	
23	Onboard Parallel Port	Pass	
24	PWRON After PWR-Fail	Pass	
25	Power On by Ring	Pass	
26	Set Supervisor Password	Pass	
27	Set User Password	Pass	

28	UART Mode Select	Pass	
29	RxD , Txd Active	Pass	
30	IR Transmission Delay	Pass	
31	UR2 duplex Mode	Pass	
32	Use IR Pins	Pass	
33	CPU Warning Temperature	Pass	
34	Shutdown Temperature	Pass	
35	HDD Power Down	Pass	
36	USB KB Wake Up by S3	Pass	

1.3 Driver

CD Edition : IPCi 2– 1.3

1. Windows XP SP2 Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	8.3.1.1009
2	VGA Driver	PASS	16.4.10.4906
3	Audio Driver	PASS	5.10.0.5464
4	LAN Driver	PASS	9.2.24.0

2. Windows Server 2003 Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	9.0.0.1008
2	Audio Driver	PASS	5.10.0.5464
3	LAN Driver	PASS	9.2.24.0

3. Windows Vista 32 bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	9.0.0.1008
2	VGA Driver	PASS	7.14.10.1409
3	Audio Driver	PASS	6.0.1.5473
4	LAN Driver	PASS	9.9.13.0

4. Windows Vista 64 bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	9.0.0.1008
2	VGA Driver	PASS	7.14.10.1409
3	Audio Driver	PASS	6.0.1.5473
4	LAN Driver	PASS	9.7.32.0

2. Compatibility test

2.1 CPU Test

Test environment:

OS Windows XP professional SP2

Test program : PC MARK 2005

Spec	CPU Speed	Family	Processor	FSB	L2 Size	Result
SLA2E	2.00GHz	Celeron	550	533 MHz	1 MB	Pass
SLB6M	2.00GHz	Celeron	575	667 MHz	1 MB	Pass
SLA43	2.40GHz	Core2Duo	T7700	800 MHz	4 MB	Pass
SLA4A	1.80GHz	Core2Duo	T7100	800 MHz	2 MB	Pass

2.2 Memory Test

Test environment:

OS Windows XP professional SP2

Test program : PC MARK 2005

Manufacturer	Chip	DDRII frequency	Capacity Mbytes	Memory test Score
PQI	7QE22D 9HNL	DDRII	2 GB	Pass
GREENCOM	0743A90 8Y	DDRII	1 GB	Pass
Transcend	7PE11D9 HNL	DDRII	2 GB	Pass

2.3 VGA Graphic Quality Test

Test environment:

OS Windows XP professional SP2

Driver version : 16.4.10.4906

Resolution	Color	Result	Remark
800*600	16 /32bit	PASS	
1024*768	16 /32bit	PASS	
1152*864	16 /32bit	PASS	
1280*600	16 /32bit	PASS	
1280*720	16 /32bit	PASS	
1280*768	16 /32bit	PASS	
1280*960	16 /32bit	PASS	
1280*1024	16 /32bit	PASS	
1400*1050	16 /32bit	PASS	
1600*900	16 /32bit	PASS	
1600*1200	16 /32bit	PASS	

2.4 Audio

Test environment:

OS Windows XP professional SP2

Driver version : 5.10.0.5464

Item	Description	Result	Remark
1	2 CH	PASS	
2	4 CH	PASS	
3	5.1 CH	PASS	
4	7.1 CH	PASS	
5	Microphone	PASS	
6	LINE	PASS	
7	CDIN	PASS	

OS Windows Server 2003

Driver version : 5.10.0.5464

Item	Description	Result	Remark
1	2 CH	PASS	
2	4 CH	PASS	
3	5.1 CH	PASS	
4	7.1 CH	PASS	
5	Microphone	PASS	
6	LINE	PASS	
7	CDIN	PASS	

OS Windows Vista 32 bit

Driver version : 6.0.1.5473

Item	Description	Result	Remark
1	2 CH	PASS	
2	4 CH	PASS	
3	5.1 CH	PASS	
4	7.1 CH	PASS	
5	Microphone	PASS	
6	LINE	PASS	
7	CDIN	PASS	

OS Windows Vista 64 bit

Driver version : 6.0.1.5473

Item	Description	Result	Remark
1	2 CH	PASS	
2	4 CH	PASS	
3	5.1 CH	PASS	
4	7.1 CH	PASS	
5	Microphone	PASS	
6	LINE	PASS	
7	CDIN	PASS	

2.5 HDD Test

Test environment:

OS Windows XP professional SP2

HDD MODEL	INTERFACE	capacity	HDD Size Detect	HDD Data Transfer	HDD LED Check
IBM DTTA-351 010	PATA	10GB	PASS	PASS	PASS
Western Digital WD800JD -75MSA3	SATA	80GB	PASS	PASS	PASS
Seagate ST340016 A	PATA	40GB	PASS	PASS	PASS
Western Digital WD2500J B-00GVC0	PATA	250GB	PASS	PASS	PASS
IBM DTLA-305 010	PATA	10GB	PASS	PASS	PASS
Western Digital WD800BB -00JHC0	PATA	80 GB	PASS	PASS	PASS
Western Digital	SATA	300 GB	PASS	PASS	PASS

WD3000J S-22PDB0					
Seagate ST316081 5AS	SATA	160 GB	PASS	PASS	PASS

2.6 CD-ROM Test

Test environment:

OS Windows XP professional SP2

CD-ROM MODEL	INTERFACE	CD-ROM Detect	CD-ROM Data Transfer	PLAY DVD
SONY CDU4811	PATA	PASS	PASS	PASS
PIONEER DVD-127P	PATA	PASS	PASS	PASS
LG DVD GSA-H62L	SATA	PASS	PASS	PASS
NEC ND-3520A	PATA	PASS	PASS	PASS

2.7 USB Test

1. Windows XP SP2

Item	Result	Remark
External USB Keyboard Test	PASS	
External USB Mouse Test	PASS	
Hot plugging test	PASS	
CD ROM	PASS	
USB Mass storage	PASS	

2. Windows Server 2003

Item	Result	Remark
External USB Keyboard Test	PASS	
External USB Mouse Test	PASS	
Hot plugging test	PASS	
CD ROM	PASS	
USB Mass storage	PASS	

3. Windows Vista 32 bit

Item	Result	Remark
External USB Keyboard Test	PASS	
External USB Mouse Test	PASS	
Hot plugging test	PASS	
CD ROM	PASS	
USB Mass storage	PASS	

4. Windows Vista 64 bit

Item	Result	Remark
External USB Keyboard Test	PASS	
External USB Mouse Test	PASS	
Hot plugging test	PASS	
CD ROM	PASS	
USB Mass storage	PASS	

2.8 Serial Port Test

1. MS-DOS

Item	Description	Result	Remark
1	RS-232 Mouse Test	PASS	
2	RS-422 & RS-485	PASS	
3	PC Check	PASS	
4	TS	PASS	

2. Windows Server 2003

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	
3	b&b com port test	PASS	

3. Windows XP SP2

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	
3	b&b com port test	PASS	

4. Windows Vista 32 bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	

5. Windows Vista 64 bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	

2.9 PS2 Keyboard 、 Mouse Test

1. MS-DOS

Item	Description	Result	Remark
1	Keyboard LED Status Test	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

2. Windows XP SP2

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

3. Windows Server 2003

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

4. Windows Vista 32 bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

5. Windows Vista 64 bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

2.10 LAN Test

Data Transfer Test environment:

-CAT 6 UTP 100M

-8 HR. continuous

1. Windows XP SP2

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Data Transfer Test	PASS	

2. Windows Server 2003

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Data Transfer Test	PASS	

3. Windows Vista 32 bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Data Transfer Test	PASS	

4. Windows Vista 64 bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Data Transfer Test	PASS	

2.11 Power Supply Test

1. MS-DOS

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	PASS	FSP180-50PLA 180W
2	ATX Power On/Off	PASS	LACONIC ENTERPRISE CO.,LTD 1U150 150W
3	ATX Power On/Off	PASS	COOLER MASTER RS-390-PMSR-A3 390W

2. Windows XP SP2

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	PASS	FSP180-50PLA 180W
2	ATX Power On/Off	PASS	LACONIC ENTERPRISE CO.,LTD 1U150 150W
3	ATX Power On/Off	PASS	Enhance ENP-2120H 200W
4	ATX Power On/Off	PASS	COOLER MASTER RS-390-PMSR-A3 390W

3. Windows Server 2003

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	PASS	FSP180-50PLA 180W
2	ATX Power On/Off	PASS	LACONIC ENTERPRISE CO.,LTD 1U150 150W

4. Windows Vista 32 bit

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	PASS	LACONIC ENTERPRISE CO.,LTD 1U150 150W
2	ATX Power On/Off	PASS	FSP180-50PLA 180W
3	ATX Power On/Off	PASS	Enhance ENP-2120H 200W
4	ATX Power On/Off	PASS	COOLER MASTER RS-390-PMSR-A3 390W

5. Windows Vista 64 bit

Item	Description	Verification	
		Result	Remark
1	ATX Power On/Off	PASS	FSP180-50PLA 180W
2	ATX Power On/Off	PASS	COOLER MASTER RS-390-PMSR-A3 390W

2.12 Floppy Drive Test

Floppy	Floppy Drive Detect	Floppy Data Transfer
MITSUMI D353M3	PASS	PASS

2.13 Os Install

Item	Description	Result	Remark
1	Windows Vista 64 bit	PASS	
2	Windows Vista 32 bit	PASS	
3	Windows XP SP2	PASS	
4	Windows Server 2003	PASS	
5	Fedora 6	PASS	

2.14 Print Port Test

1. MS-DOS

Item	Description	Result	Remark
1	PC Check	PASS	
2	TS	PASS	

2. Windows XP SP2

Item	Description	Result	Remark
1	ECP/EPP PRINT TEST	PASS	

3. Windows Server 2003

Item	Description	Result	Remark
1	ECP/EPP PRINT TEST	PASS	

4. Windows Vista 32 bit

Item	Description	Result	Remark
1	ECP/EPP PRINT TEST	PASS	

5. Windows Vista 64 bit

Item	Description	Result	Remark
1	ECP/EPP PRINT TEST	PASS	

3. Environmental test

3.1 Thermal measurements at various points on the board

Test Environment:

CPU	Intel (R) Celeron (R) CPU 550 2.00GHz
Memory	PQI DDR2 667 (7QE22D9HNL) 2GB
HDD	IBM DTTA-351010 10GB
Power	FSP180-50PLA
Operating System	Windows XP
Test Program	3D WinMark2003

Test Result:

Environmental temperature	25.5°C
CPU	63.6°C
GME965 (Northbridge)	60°C
ICH8-M (Southbridge)	59.6°C
U3(82573L)	50.8°C
U6(ICS9LP505)	58.7°C
U12(ICS9DB108)	42.9°C
L1(L0705)	85.1°C
L2(L0445)	62.1°C
L3(L0445)	63.2°C
Lc1(L0445)	77.9°C
Lc2(L0445)	78.7°C
Q4(IRFR3709Z(TO252))	72.2°C
Q5(IRFR3709Z(TO252))	72.7°C
Q9(L1085(TO252))	58.4°C

4. Reliability Test

4.1 Power Consumption Test

1. Test Environment:

Motherboard	CES-471+CEB-8PE4
CPU	Intel (R) Celeron (R) CPU 550 2.00GHz
Memory	PQI DDR2 667 (7QE22D9HNL) 2GB
HDD	IBM DTTA-351010 10GB

Power Supply: FSP180-50PLA

Voltage	MS-DOS Boot up		Windows XP SP2 3DMARK 2003	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	3.97	47.64	4.92	59.04
5V	0.67	3.25	0.66	3.3
3.3V	0.19	0.627	0.2	0.66
5VSB	0.243	1.215	0.013	0.065

1.a.Test Environment:

The same as above but with LCD panel

Display Panel	AUO M170EG01 17" LCD
---------------	----------------------

Power Supply: FSP180-50PLA

Voltage	MS-DOS Boot up		Windows XP SP2 3DMARK 2003	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	6	72	6.83	81.96
5V	1.84	9.2	1.89	9.45
3.3V	0.2	0.66	0.21	0.693
5VSB	0.228	1.14	0.021	0.105

2.Test Environment:

Motherboard	CES-471+CEB-8PE4
CPU	Intel (R) Celeron (R) CPU 575 2.00GHz
Memory	PQI DDR2 667 (7QE22D9HNL) 2GB
HDD	IBM DTTA-351010 10GB

Power Supply: FSP180-50PLA

Voltage	MS-DOS Boot up		Windows XP SP2 3DMARK 2003	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	3.71	44.52	4.74	56.88
5V	0.92	4.6	1.13	5.65
3.3V	0.19	0.627	0.19	0.627
5VSB	0.217	1.085	0	0

2.a.Test Environment:

The same as above but with LCD panel

Display Panel	AUO M170EG01 17" LCD
---------------	----------------------

Power Supply: FSP180-50PLA

Voltage	MS-DOS Boot up		Windows XP SP2 3DMARK 2003	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	8.3	99.6	6.68	80.16
5V	2.07	10.35	2.08	10.4
3.3V	0.2	0.66	0.2	0.66
5VSB	0.426	2.13	0.024	0.12

5. Performance Test

5.1 Business Win Stone 2002

Windows XP SP2

WEIGHTED SUITE	Test Environment	Result	Remark
Business Win stone2002	Intel (R) Celeron (R) CPU 550 2.00GHz PQI DDR2 667 2GB (7QE22D9HNL) IBM DTTA-351010 10GB	Pass	23.8 24.5 24 24
Business Win stone2002	Intel (R) Celeron (R) CPU 575 2.00GHz PQI DDR2 667 2GB (7QE22D9HNL) IBM DTTA-351010 10GB	Pass	22.7 21.4 20.3 21.2

5.2 3D MARK(2001、2003、2005)

Windows XP SP2

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Scores	Intel (R) Celeron (R) CPU 550 2.00GHz PQI DDR2 667 2GB (7QE22D9HNL) IBM DTTA-351010 10GB	Pass	2514
3DMARK2003 Scores		Pass	942
3DMARK2005 Scores		Pass	138

Windows XP SP2

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Scores	Intel (R) Celeron (R) CPU 575 2.00GHz PQI DDR2 667 2GB (7QE22D9HNL) IBM DTTA-351010 10GB	Pass	3026
3DMARK2003 Scores		Pass	1126
3DMARK2005 Scores		Pass	552

5.3 3D MARK2006

Windows XP SP2

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Score	Intel (R) Celeron (R) CPU 550 2.00GHz PQI DDR2 667 2GB (7QE22D9HNL) IBM DTTA-351010 10GB	Pass	210
2	SM2.0 Score		Pass	72
3	HDR/SM3.0 Score		Pass	73
4	CPU Score		Pass	743

Windows XP SP2

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Score	Intel (R) Celeron (R) CPU 575 2.00GHz PQI DDR2 667 2GB (7QE22D9HNL) IBM DTTA-351010 10GB	Pass	248
2	SM2.0 Score		Pass	86
3	HDR/SM3.0 Score		Pass	86
4	CPU Score		Pass	883

5.4 PC MARK2002

Test Environment
Intel (R) Celeron (R) CPU 550 2.00GHz PQI DDR2 667 2GB(7QE22D9HNL) IBM DTTA-351010 10GB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	CPU test Score	Pass	7802
2	Memory test Score	Pass	8746
3	HDD test Score	Pass	170

Test Environment
Intel (R) Celeron (R) CPU 575 2.00GHz PQI DDR2 667 2GB(7QE22D9HNL) IBM DTTA-351010 10GB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	CPU test Score	Pass	7855
2	Memory test Score	Pass	9701
3	HDD test Score	Pass	211

5.5 PC MARK2004

Test Environment
Intel (R) Celeron (R) CPU 550 2.00GHz PQI DDR2 667 2GB(7QE22D9HNL) IBM DTTA-351010 10GB

Windows XP PS2

Item	WEIGHTED SUITE	Result	Remark
1	PCMark Score	Pass	3807
2	CPU test Score	Pass	4265
3	Memory test Score	Pass	4174
4	Graphic test Score	Pass	847
5	HDD test Score	Pass	N/A

Test Environment
Intel (R) Celeron (R) CPU 575 2.00GHz PQI DDR2 667 2GB(7QE22D9HNL) IBM DTTA-351010 10GB

Windows XP PS2

Item	WEIGHTED SUITE	Result	Remark
1	PCMark Score	Pass	N/A
2	CPU test Score	Pass	N/A
3	Memory test Score	Pass	4696
4	Graphic test Score	Pass	820
5	HDD test Score	Pass	N/A

5.6 PC MARK2005

Test Environment
Intel (R) Celeron (R) CPU 500 2.00GHz PQI DDR2 667 2GB(7QE22D9HNL) IBM DTTA-351010 10GB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	System test Score	Pass	2100
2	CPU test Score	Pass	3499
3	Memory test Score	Pass	3651
4	Graphic test Score	Pass	1107
5	HDD test Score	Pass	N/A

Test Environment
Intel (R) Celeron (R) CPU 575 2.00GHz PQI DDR2 667 2GB(7QE22D9HNL) IBM DTTA-351010 10GB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	System test Score	Pass	N/A
2	CPU test Score	Pass	3633
3	Memory test Score	Pass	3901
4	Graphic test Score	Pass	1167
5	HDD test Score	Pass	1366

5.7 PATA Performance

5.7.1 PATA HDD

Test environment:

OS Windows XP professional SP2

Program (HD Tune)

HDD MODEL	INTERFACE	capacity	Average	Burst Rate	Access time
IBM DTTA 351010	PATA	10 GB	9.3 MB/sec	29.8 MB/sec	15.5 ms
Seagate ST320413A		20 GB	1.7 MB/sec	1.8 MB/sec	18.8 ms
Seagate ST340016A		40 GB	1.7 MB/sec	1.7 MB/sec	14.7 ms
Western Digital WD2500JB-00GVC0		250 GB	1.7 MB/sec	1.7 MB/sec	13.5 ms
Western Digital WD800BB-00JHC0		80 GB	1.7 MB/sec	1.8 MB/sec	20.1 ms

5.7.2 PATA CD-ROM

Test environment:

OS Windows XP professional SP2

Program (NERO)

CD-ROM MODEL	INTERFACE	Average speed	Full READ	Burst Rate	CD
NEC ND-3520A	PATA	24.49 x	147 ms	12 MB/s	52 X CD-R
SONY CDU4811		15.02 x	97 ms	2 MB/s	

5.8 SATA Performance

5.8.1 SATA HDD

Test environment:

OS Windows XP professional SP2

Program (HD Tune)

HDD MODEL	INTERFACE	Capacity	Average	Burst Rate	Access time
Western Digital WD3000J S-22PDB0	SATA	300 GB	52.6 MB/sec	133.7 MB/sec	13.8 ms
Seagate ST316081 5AS		160 GB	59.5 MB/sec	161.1 MB/sec	15.4 ms

5.8.2 SATA CD-ROM

Test environment:

OS Windows XP professional SP2

Program (NERO)

CD-ROM MODEL	INTERFACE	Average speed	Full READ	Burst Rate	CD
LG DVD GSA-H62L	SATA	27.93 x	166 ms	42 MB/s	52 X CD-R

5.9 USB Performance

5.9.1 USB HDD

Test environment:

OS Windows XP professional SP2

Program (HDTune)

HDD MODEL	INTERFACE	Capacity	Average	Burst Rate	Access time
TDK LoR Trans-It Drive	USB	4 GB	16.7 MB/sec	17.8 MB/sec	0.8 ms
ACTIONS USB DISK DEVICE		261 MB	0.5 MB/sec	0.5 MB/sec	6.0 ms
Sony Storage Media		4 GB	17.6 MB/sec	18.1 MB/sec	1.2 ms

5.9.2 USB CD-ROM

Test environment:

OS Windows XP professional SP2

Program (NERO)

CD-ROM MODEL	INTERFACE	Average speed	Full READ	Burst Rate	CD
LITEON DVD SOSC-2485KX	USB	14.37 x	124 ms	22 MB/s	52X CD-R
LITEON DVD SOSW-833XS		14.28 x	125 ms	21 MB/s	