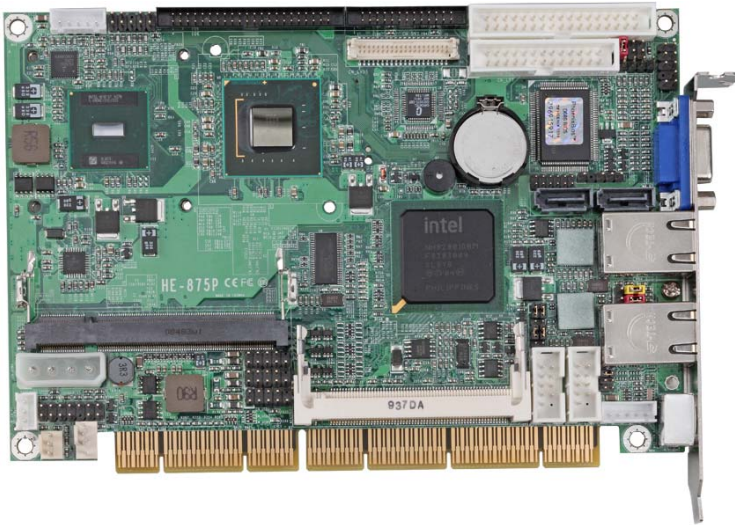


# Product Test Report



<b>Product Name</b>	<b>HE-875P</b>
<b>Product Version</b>	<b>A</b>
<b>Issued Date</b>	<b>3.Jul.2009</b>
<b>Report Edition</b>	<b>1.0</b>
<b>BIOS Version</b>	<b>1.0</b>
<b>Testing Engineer</b>	<b>RICK</b>
<b>Check Engineer</b>	<b>LES</b>

<b>REVISION HISTORY</b>			
<b>DATE</b>	<b>REVISION NO.</b>	<b>PAGE</b>	<b>DESCRIPTONS</b>
<b>3.Jul.2009</b>	<b>Ver.1</b>	<b>55</b>	<b>First release</b>

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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	PASS
6	USB 1/2/3/4/5/6	PASS
7	DDRII	PASS
8	Floppy	PASS
9	LPT	PASS
10	COM 1/2	PASS
11	VGA Port	PASS
12	PS2	PASS
13	CN_AUDIO	PASS
14	CD_IN	PASS
15	DIO	PASS
16	LAN 1/2	PASS
17	CPUFAN	PASS
18	SYSFAN	PASS
19	PCI 1/2/3/4	PASS
20	IDE	PASS
21	Mini PCI	PASS
22	DVI	PASS
23	LVDS	PASS
24	IrDA	PASS

25	CN_HDTV	PASS
26	ISA 1/2/3	PASS
27	CF	PASS

## Jumper

Item	Description	Result
1	JRTC	PASS
2	JCSEL1	PASS
3	JCSEL2	PASS
4	JVLCD	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	

<b>28</b>	<b>UART Mode Select</b>	PASS	
<b>29</b>	<b>RxD , Txd Active</b>	PASS	
<b>30</b>	<b>IR Transmission Delay</b>	PASS	
<b>31</b>	<b>UR2 duplex Mode</b>	PASS	
<b>32</b>	<b>Use IR Pins</b>	PASS	
<b>33</b>	<b>CPU Warning Temperature</b>	PASS	
<b>34</b>	<b>Shutdown Temperature</b>	PASS	
<b>35</b>	<b>HDD Power Down</b>	PASS	
<b>36</b>	<b>USB KB Wake Up by S3</b>	PASS	
<b>37</b>	<b>Smart Fan Temperature</b>	PASS	



## 1.3 Driver

### CD Edition : IPCi2-1.3

#### 1. Windows XP SP2 Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	9.0.0.1008
2	VGA Driver	PASS	6.14.10.4906
3	Audio Driver	PASS	5.10.0.6300
4	LAN Driver	PASS	10.3.49.0

#### 2 Windows 2000 SP4 Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	9.0.0.1008
2	VGA Driver	PASS	6.14.10.4906
3	Audio Driver	PASS	5.10.0.6300
4	LAN Driver	PASS	10.3.49.0

#### 3 Windows Server 2003 Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	9.0.0.1008
2	Audio Driver	PASS	5.10.0.6300
3	LAN Driver	PASS	10.3.49.0

#### 4 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	6.0.1.6285
4	LAN Driver	PASS	10.3.49.0

## 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	Cache Size	Result
<u>SLB73</u>	1.60 GHz	Atom	N270	533 Mhz	512 KB	PASS

## 2.2 Operation System Test

Item	Description	Result	Remark
1	Windows Vista 32 bit	PASS	
2	Windows Server 2008	PASS	
3	Windows XP SP2	PASS	
4	Windows Server 2003	PASS	
5	Windows 2000 SP4	PASS	
6	Cent OS 5 (2.6.18-8.e15)	PASS	
7	Suse 10 (2.6.13-15-smp)	PASS	
8	Red Hat 8 (2.4.18-14)	PASS	
9	Fedora Code 10 (2.6.27.5-117.fc10.i686)	PASS	

## 2.3 Memory Test

Test environment:

OS Windows XP professional SP2

Test program : PC MARK 2005

Manufacturer	Chip	Frequency	Capacity Mbytes	Result
Transcend	E1108AC BG	DDRII 800	2GB	PASS
PQI	7QE22D9 HNL	DDRII 667	2GB	PASS
GREENCOM	0743A908 Y	DDRII 667	1GB	PASS
Kingston	D6408TEB GWL37	DDRII 533	1GB	PASS
Transcend	A3R12E3 GEF	DDRII 533	512MB	PASS
DSL	DCHD	DDRII 533	256MB	PASS

## 2.4 VGA Graphic Quality Test

Test environment:

OS Windows XP professional SP2

Driver version : 6.14.10.4906

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	
1440*900	16 /32bit	PASS	
1400*1050	16 /32bit	PASS	
1600*900	16 /32bit	PASS	
1680*1050	16 /32bit	PASS	

## 2.5 Audio

Test environment:

OS Windows XP professional SP2

Driver version : 5.10.0.6300

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

OS Windows 2000 SP4

Driver version : 5.10.0.6300

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

## OS Windows Server 2003

Driver version : 5.10.0.6300

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

## OS Windows Vista 32 bit

Driver version : 6.0.1.6285

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

## 2.6 HDD Test

Test environment:

OS Windows XP professional SP2

<b>MODEL</b>	<b>INTERFACE</b>	<b>Capacity</b>	<b>Size Detect</b>	<b>Data Transfer</b>
<b>Western Digital WD800BB-5 5JKC0</b>	<b>IDE</b>	<b>80 GB</b>	<b>PASS</b>	<b>PASS</b>
<b>Western Digital WD800JD-0 0LSA0</b>	<b>SATA</b>	<b>80 GB</b>	<b>PASS</b>	<b>PASS</b>
<b>Western Digital WD800JD-7 5MSA3</b>	<b>SATA</b>	<b>80 GB</b>	<b>PASS</b>	<b>PASS</b>
<b>Hitachi HDT722525 DLA380</b>	<b>SATA</b>	<b>250 GB</b>	<b>PASS</b>	<b>PASS</b>
<b>Seagate ST3160815A S</b>	<b>SATA</b>	<b>160 GB</b>	<b>PASS</b>	<b>PASS</b>



## 2.7 CD-ROM Test

Test environment:

OS Windows XP professional SP2

<b>MODEL</b>	<b>INTERFACE</b>	<b>Detect</b>	<b>Data Transfer</b>	<b>PLAY DVD</b>
<b>SONY CDU4811</b>	<b>IDE</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>
<b>BenQ CB523C</b>	<b>IDE</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>
<b>LITE-ON SHW-1635S</b>	<b>IDE</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>
<b>ASUS DVD DRW-1814B LT</b>	<b>SATA</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>
<b>PIONEER DVD DVR-212BK</b>	<b>SATA</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>
<b>LG DVD GSA-H62L</b>	<b>SATA</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>
<b>LITEON DVD SOSC-2485 KX</b>	<b>USB</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>

<b>LITEON DVD SOSW-833S X</b>	<b>USB</b>	PASS	PASS	PASS
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## 2.8 USB device 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 2000 SP4

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 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	

#### 4. Windows Vista 32 bit

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

#### 5.Windows Server 2008

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

## 2.9 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 2000 SP4

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

### 3. 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	

### 4. 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	

## 5. Windows Vista 32 bit

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

## 6. Windows Server 2008

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

## 2.10 Print Port Test

### 1. MS-DOS

Item	Description	Result	Remark
1	PC Check	PASS	
2	TS	PASS	

### 2. Windows 2000 SP4

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 XP SP2re

Item	Description	Result	Remark
1	ECP/EPP PRINT TEST	PASS	

### 5. Windows Vista 32 bit

Item	Description	Result	Remark
1	ECP/EPP PRINT TEST	PASS	

### 6. Windows Server 2008

Item	Description	Result	Remark
1	ECP/EPP PRINT TEST	PASS	

## 2.11 Floppy Drive Test

<b>Floppy</b>	<b>Floppy Drive Detect</b>	<b>Floppy Data Transfer</b>
<b>Panasonic JU-257A606P</b>	PASS	PASS
<b>MITSUMI D353M3</b>	PASS	PASS
<b>MITSUMI D353M3D</b>	PASS	PASS
<b>MITSUMI D353T6</b>	PASS	PASS
<b>TEAC FD-235HF</b>	PASS	PASS



## 2.12 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 2000 SP4

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

### 3. Windows Server 2003

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

### 4. Windows XP SP2

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

## 5. Windows Vista 32 bit

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

## 6.Windows Server 2008

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

## 2.13 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 2000 SP4

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

### 3. Windows Server 2003

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

### 4. Windows Vista 32 bit

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

## 2.14 Power Supply Test

Item	TYPE	Description	Result	Remark
1	ATX Power	Seventeam ST-300BKV 300W	PASS	
2	ATX Power	FSP GROUP INC. FSP180-60SAV 180W	PASS	
3	ATX Power	CHANNEL WELL TECHNOLOGY CWT-250ATX 250W	PASS	
4	ATX Power	COOLER MASTER RS-390-PMSR-A3 390W	PASS	
5	ATX Power	CHANNEL WELL TECHNOLOGY CO.,LTD. CWT-300BS 300W	PASS	

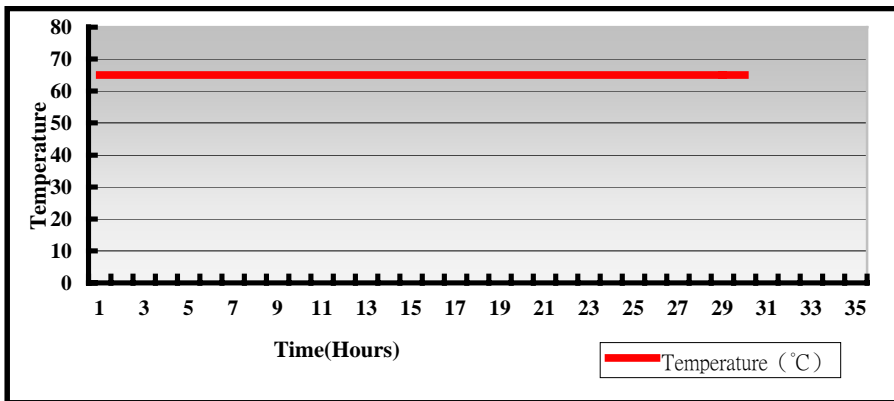
## 2.15 Back plane (PICMG1.3 or PICMG 1.0 or PISA )

Item	BRAND	MODEL	Result	Remark
1	IEI	IP-8S	PASS	

### 3. Environmental test

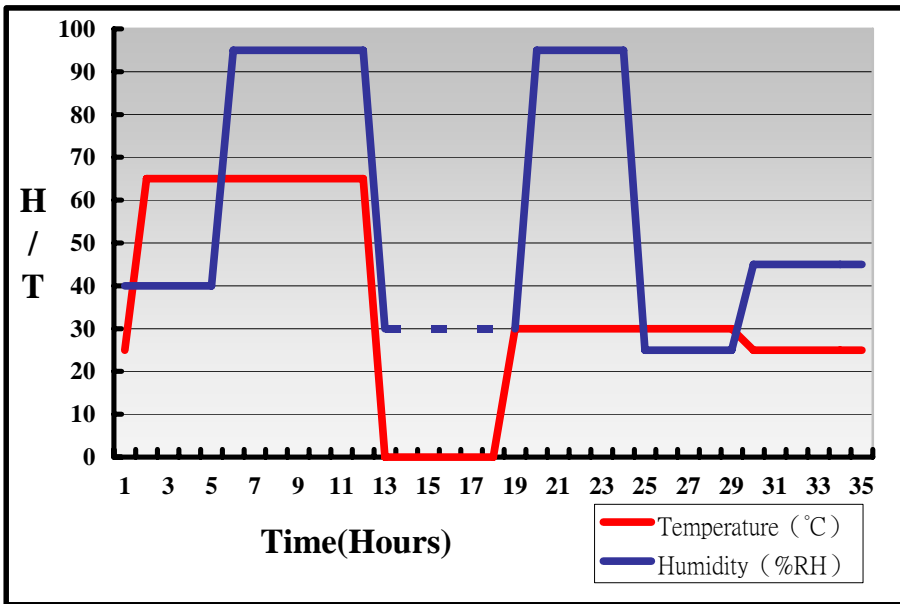
#### 3.1 Temperature Test

System Board	HE-875P
CPU	Intel(R) Atom(TM) Processor N270 1.60GHz
Memory	Transcend DDR2 667 2GB (E1108ACBG)
Operating OS	Windows XP
Test Equipment	GIANT FORCE (GTH-150-60-CP-AR)
Test Program	3DMark 2003



## Hardware Device list:

System Board	HE-875P
CPU	Intel(R) Atom(TM) Processor N270 1.60GHz
Memory	Transcend DDR2 667 2GB (E1108ACBG)
Operating OS	Windows XP
Test Equipment	GIANT FORCE (GTH-150-60-CP-AR)
Test Program	3DMark 2003



**Definition :** When the temperature is 30 degrees below arrive, humidity measurements have not, so by the dashed line express.

## Boot Up Test:

### Hardware Device list:

<b>System Board</b>	<b>HE-875P</b>
<b>CPU</b>	<b>Intel(R) Atom(TM) Processor N270 1.60GHz</b>
<b>Memory</b>	<b>Transcend DDR2 667 2GB (E1108ACBG)</b>
<b>HDD</b>	<b>Western Digital WD800BB-55JKC0 80GB</b>

<b>Temperature</b>	<b>Result</b>	<b>Remark</b>
<b>-40°C</b>	<b>PASS</b>	<b>50 Times</b>
<b>85°C</b>	<b>PASS</b>	<b>50 Times</b>

## 3.2 Thermal measurements at various points on the board

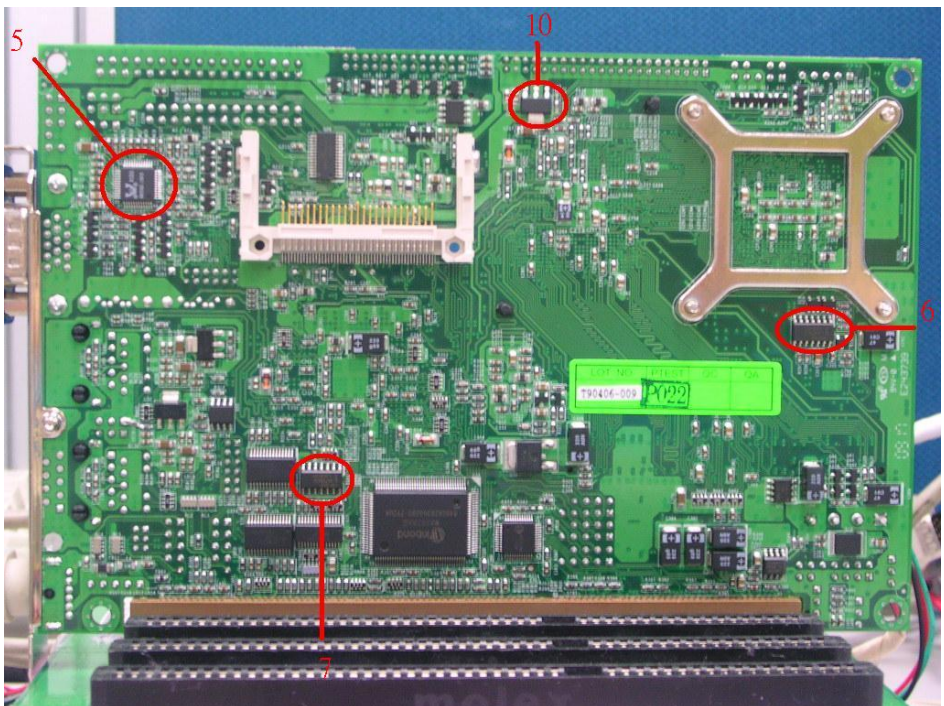
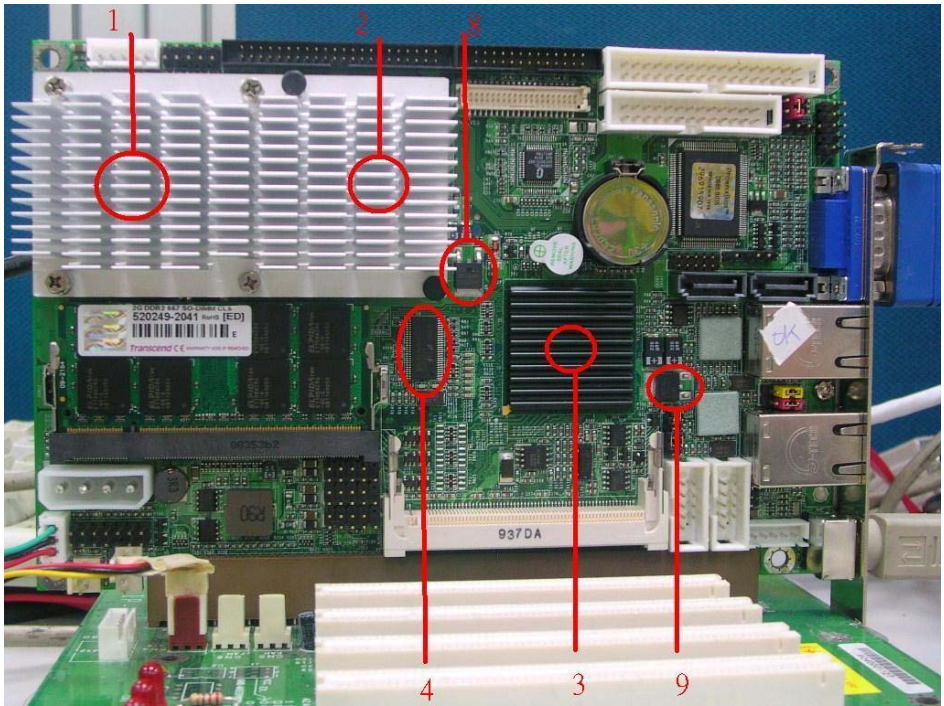
### Test Environment :

<b>CPU</b>	Intel(R) Atom(TM) Processor N270 1.60GHz
<b>Memory</b>	Transcend DDR2 667 2GB (E1108ACBG)
<b>HDD</b>	Western Digital WD800JD-75MSA3 80GB
<b>Power</b>	CHANNEL WELL TECHNOLOGY CWT-250ATX
<b>Operating System</b>	Windows XP
<b>Test Program</b>	Burnin 5.3

### Test Result:

Item	Environmental temperature	27°C
1	CPU	49°C
2	945GSE(Northbridge)	50.1°C
3	ICH7M(Southbridge)	53.2°C
4	U9(ICS9LP505)	63.2°C
5	U27(ICHALC655-LF)	53.4°C
6	U30(ITS74HC14)	53.9°C
7	U33(ITS74F125)	52°C
8	Q6(TMSTRFR3709ZTRPBF)	55.6°C
9	Q11(TRE1805)	52.4°C
10	Q18(TREL1117LG)	60.7°C





## 4. Reliability Test

### 4.1 Power Consumption Test

#### 1. Test Environment:

<b>Motherboard</b>	HE-875P
<b>CPU</b>	Intel(R) Atom(TM) Processor N270 1.60GHz
<b>Memory</b>	Transcend DDR2 667 2GB (E1108ACBG)

Power Supply : COOLER MASTER RS-390-PMSR-A3

Voltage	MS-DOS Boot up		Windows XP SP2 Burnin 5.3	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
<b>12V</b>	0.15	1.8	0.26	3.12
<b>5V</b>	2.84	14.2	2.4	12
<b>3.3V</b>	0.01	0.033	0.01	0.033
<b>5VSB</b>	0.235	1.175	0.006	0.03

#### 1.a. Test Environment:

The same as above but with LCD panel

<b>Display Panel</b>	150XH-L01 15" LCD
----------------------	-------------------

Power Supply : COOLER MASTER RS-390-PMSR-A3

Voltage	MS-DOS Boot up		Windows XP SP2 Burnin 5.3	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
<b>12V</b>	1.79	21.48	1.72	20.64
<b>5V</b>	3.2	16	3.04	15.2
<b>3.3V</b>	0.01	0.033	0.01	0.033
<b>5VSB</b>	0.235	1.175	0.005	0.025

## 2.Test Environment:

<b>Motherboard</b>	<b>HE-875P</b>
<b>CPU</b>	<b>Intel(R) Atom(TM) Processor N270 1.60GHz</b>
<b>Memory</b>	<b>PQI DDR2 667 2GB (7QE22D9HNL)</b>

**Power Supply : COOLER MASTER RS-390-PMSR-A3**

<b>Voltage</b>	<b>MS-DOS Boot up</b>		<b>Windows XP SP2 Burnin 5.3</b>	
	<b>Current ( A )</b>	<b>Power ( W )</b>	<b>Current ( A )</b>	<b>Power ( W )</b>
<b>12V</b>	0.15	1.8	0.28	3.36
<b>5V</b>	2.96	14.8	2.48	12.4
<b>3.3V</b>	0.01	0.033	0.01	0.033
<b>5VSB</b>	0.231	1.155	0.003	0.015

## 2.a.Test Environment:

The same as above but with LCD panel

<b>Display Panel</b>	<b>150XH-L01 15" LCD</b>
----------------------	--------------------------

**Power Supply : COOLER MASTER RS-390-PMSR-A3**

<b>Voltage</b>	<b>MS-DOS Boot up</b>		<b>Windows XP SP2 Burnin 5.3</b>	
	<b>Current ( A )</b>	<b>Power ( W )</b>	<b>Current ( A )</b>	<b>Power ( W )</b>
<b>12V</b>	1.81	21.72	1.7	20.4
<b>5V</b>	3.3	16.5	3.05	15.25
<b>3.3V</b>	0.01	0.033	0.01	0.033
<b>5VSB</b>	0.193	0.965	0.003	0.015

### 3.Test Environment:

<b>Motherboard</b>	<b>HE-875P</b>
<b>CPU</b>	<b>Intel(R) Atom(TM) Processor N270 1.60GHz</b>
<b>Memory</b>	<b>Kingston DDR2 533 1GB (D6408TEBGWL37)</b>

**Power Supply : COOLER MASTER RS-390-PMSR-A3**

<b>Voltage</b>	<b>MS-DOS Boot up</b>		<b>Windows XP SP2 Burnin 5.3</b>	
	<b>Current ( A )</b>	<b>Power ( W )</b>	<b>Current ( A )</b>	<b>Power ( W )</b>
<b>12V</b>	0.15	1.8	0.27	3.24
<b>5V</b>	2.95	14.75	2.47	12.35
<b>3.3V</b>	0.01	0.033	0.01	0.033
<b>5VSB</b>	0.228	1.14	0.004	0.02

### 3.a.Test Environment:

The same as above but with LCD panel

<b>Display Panel</b>	<b>150XH-L01 15" LCD</b>
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**Power Supply : COOLER MASTER RS-390-PMSR-A3**

<b>Voltage</b>	<b>MS-DOS Boot up</b>		<b>Windows XP SP2 Burnin 5.3</b>	
	<b>Current ( A )</b>	<b>Power ( W )</b>	<b>Current ( A )</b>	<b>Power ( W )</b>
<b>12V</b>	1.85	22.2	1.73	20.76
<b>5V</b>	3.28	16.4	2.73	13.65
<b>3.3V</b>	0.01	0.033	0.01	0.033
<b>5VSB</b>	0.17	0.85	0.004	0.02

#### 4. Test Environment:

<b>Motherboard</b>	<b>HE-875P</b>
<b>CPU</b>	<b>Intel(R) Atom(TM) Processor N270 1.60GHz</b>
<b>Memory</b>	<b>DSL DDR2 533 256MB (DCHD)</b>

**Power Supply : COOLER MASTER RS-390-PMSR-A3**

<b>Voltage</b>	<b>MS-DOS Boot up</b>		<b>Windows XP SP2 Burnin 5.3</b>	
	<b>Current ( A )</b>	<b>Power ( W )</b>	<b>Current ( A )</b>	<b>Power ( W )</b>
<b>12V</b>	0.15	1.8	0.27	3.24
<b>5V</b>	2.51	12.55	2.22	11.1
<b>3.3V</b>	0.01	0.033	0.01	0.033
<b>5VSB</b>	0.231	1.155	0.006	0.03

#### 4.a. Test Environment:

The same as above but with LCD panel

<b>Display Panel</b>	<b>150XH-L01 15" LCD</b>
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**Power Supply : COOLER MASTER RS-390-PMSR-A3**

<b>Voltage</b>	<b>MS-DOS Boot up</b>		<b>Windows XP SP2 Burnin 5.3</b>	
	<b>Current ( A )</b>	<b>Power ( W )</b>	<b>Current ( A )</b>	<b>Power ( W )</b>
<b>12V</b>	1.78	21.36	1.72	20.64
<b>5V</b>	2.64	13.2	2.71	13.55
<b>3.3V</b>	0.01	0.033	0.01	0.033
<b>5VSB</b>	0.22	1.1	0.005	0.025

## 5. Performance Test

### 5.1 Business Win Stone 2002

#### Windows XP SP2

WEIGHTED SUITE	Test Environment	Result	Remark
<b>Business Win stone2002</b>	<b>Intel(R) Atom(TM) Processor N270 1.60GHz Transcend DDR2 667 2GB (E1108ACBG) Western Digital WD800JD-75MSA3 80GB</b>	PASS	23 23.1 22.6 22.5
<b>Business Win stone2002</b>	<b>Intel(R) Atom(TM) Processor N270 1.60GHz Kingston DDR2 533 1GB (D6408TEBGWL37) Western Digital WD800BB-55JKC0 80GB</b>	PASS	21.5 21.7 21.3 21.3
<b>Business Win stone2002</b>	<b>Intel(R) Atom(TM) Processor N270 1.60GHz DSL DDR2 533 256MB (DCHD) Western Digital WD800JD-75MSA3 80GB</b>	PASS	20.4 20.7 20.5 20.2

## 5.2 Business Win Stone 2004

### Windows XP SP2

WEIGHTED SUITE	Test Environment	Result	Remark
<b>Business Win stone2004</b>	<b>Intel(R) Atom(TM) Processor N270 1.60GHz Transcend DDR2 667 2GB (E1108ACBG) Western Digital WD800JD-75MSA3 80GB</b>	PASS	10.8 13.6 12.4 11.6
<b>Business Win stone2004</b>	<b>Intel(R) Atom(TM) Processor N270 1.60GHz Kingston DDR2 533 1GB (D6408TEBGWL37) Western Digital WD800BB-55JKC0 80GB</b>	PASS	12.4 11.7 12.2 12.3
<b>Business Win stone2004</b>	<b>Intel(R) Atom(TM) Processor N270 1.60GHz DSL DDR2 533 256MB (DCHD) Western Digital WD800JD-75MSA3 80GB</b>	PASS	11.6 11.5 11.6 11.7

## 5.3 Content Creation Winstone 2004

Windows XP SP2

WEIGHTED SUITE	Test Environment	Result	Remark
<b>Content Creation Winstone 2004</b>	<b>Intel(R) Atom(TM) Processor N270 1.60GHz Transcend DDR2 667 2GB (E1108ACBG) Western Digital WD800JD-75MSA3 80GB</b>	PASS	14.1 14.1 14.1 14.1
<b>Content Creation Winstone 2004</b>	<b>Intel(R) Atom(TM) Processor N270 1.60GHz Kingston DDR2 533 1GB (D6408TEBGWL37) Western Digital WD800BB-55JKC0 80GB</b>	PASS	13.4 13.4 13.4 13.3
<b>Content Creation Winstone 2004</b>	<b>Intel(R) Atom(TM) Processor N270 1.60GHz DSL DDR2 533 256MB (DCHD) Western Digital WD800JD-75MSA3 80GB</b>	PASS	12.9 13 12.8 12.8



## 5.4 3D MARK(2001、2003、2005)

### Windows XP SP2

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Score	Intel(R) Atom(TM) Processor N270 1.60GHz Transcend DDR2 667 2GB (E1108ACBG) Western Digital WD800JD-75MSA3 80GB	PASS	2186
3DMARK2003 Score		PASS	729
3DMARK2005 Score		PASS	255

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Score	Intel(R) Atom(TM) Processor N270 1.60GHz Kingston DDR2 533 1GB (D6408TEBGWL37) Western Digital WD800BB-55JKC0 80GB	PASS	2819
3DMARK2003 Score		PASS	714
3DMARK2005 Score		PASS	237

## Windows XP SP2

<b>WEIGHTED SUITE</b>	<b>Test Environment</b>	<b>Result</b>	<b>Remark</b>
<b>3DMARK2001 Score</b>	<b>Intel(R) Atom(TM) Processor N270 1.60GHz</b>	PASS	2778
<b>3DMARK2003 Score</b>	<b>DSL DDR2 533 256MB (DCHD)</b>	PASS	657
<b>3DMARK2005 Score</b>	<b>Western Digital WD800JD-75MSA3 80GB</b>	PASS	184

## 5.5 3D MARK2006

### Windows XP SP2

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Score	<b>Intel(R) Atom(TM)</b> <b>Processor N270 1.60GHz</b> <b>Transcend DDR2 667 2GB</b> <b>(E1108ACBG)</b> <b>Western Digital</b> <b>WD800JD-75MSA3 80GB</b>	PASS	120
2	SM2.0 Score		PASS	55
3	HDR/SM3.0 Score		NO SUPPORT	N/A
4	CPU Score		PASS	495

### Windows XP SP2

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Score	<b>Intel(R) Atom(TM)</b> <b>Processor N270 1.60GHz</b> <b>Kingston DDR2 533 1GB</b> <b>(D6408TEBGWL37)</b> <b>Western Digital</b> <b>WD800BB-55JKC0 80GB</b>	PASS	81
2	SM2.0 Score		PASS	37
3	HDR/SM3.0 Score		NO SUPPORT	N/A
4	CPU Score		PASS	493

## Windows XP SP2

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Score	Intel(R) Atom(TM) Processor N270 1.60GHz DSL DDR2 533 256MB (DCHD) Western Digital WD800JD-75MSA3 80GB	PASS	18
2	SM2.0 Score		PASS	8
3	HDR/SM3.0 Score		NO SUPPORT	N/A
4	CPU Score		PASS	294

## 5.6 PC MARK2002

Test Environment
Intel(R) Atom(TM) Processor N270 1.60GHz Transcend DDR2 667 2GB (E1108ACBG) Western Digital WD800JD-75MSA3 80GB

### Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	CPU test Score	PASS	2658
2	Memory test Score	PASS	6371
3	HDD test Score	PASS	1359

Test Environment
Intel(R) Atom(TM) Processor N270 1.60GHz Kingston DDR2 533 1GB (D6408TEBGWL37) Western Digital WD800BB-55JKC0 80GB

### Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	CPU test Score	PASS	2656
2	Memory test Score	PASS	6121
3	HDD test Score	PASS	650

<b>Test Environment</b>
<b>Intel(R) Atom(TM) Processor N270 1.60GHz</b> <b>DSL DDR2 533 256MB (DCHD)</b> <b>Western Digital WD800JD-75MSA3 80GB</b>

**Windows XP SP2**

<b>Item</b>	<b>WEIGHTED SUITE</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>CPU test Score</b>	PASS	2656
<b>2</b>	<b>Memory test Score</b>	PASS	6064
<b>3</b>	<b>HDD test Score</b>	PASS	1201

## 5.7 PC MARK2004

Test Environment
Intel(R) Atom(TM) Processor N270 1.60GHz Transcend DDR2 667 2GB (E1108ACBG) Western Digital WD800JD-75MSA3 80GB

### Windows XP PS2

Item	WEIGHTED SUITE	Result	Remark
1	PCMark Score	PASS	2057
2	CPU test Score	PASS	2121
3	Memory test Score	PASS	3019
4	Graphic test Score	PASS	754
5	HDD test Score	PASS	N/A

Test Environment
Intel(R) Atom(TM) Processor N270 1.60GHz Kingston DDR2 533 1GB (D6408TEBGWL37) Western Digital WD800BB-55JKC0 80GB

### Windows XP PS2

Item	WEIGHTED SUITE	Result	Remark
1	PCMark Score	PASS	2048
2	CPU test Score	PASS	2114
3	Memory test Score	PASS	2900
4	Graphic test Score	PASS	632
5	HDD test Score	PASS	3185

<b>Test Environment</b>
<b>Intel(R) Atom(TM) Processor N270 1.60GHz</b> <b>DSL DDR2 533 256MB (DCHD)</b> <b>Western Digital WD800JD-75MSA3 80GB</b>

**Windows XP PS2**

<b>Item</b>	<b>WEIGHTED SUITE</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PCMark Score</b>	PASS	N/A
<b>2</b>	<b>CPU test Score</b>	PASS	N/A
<b>3</b>	<b>Memory test Score</b>	PASS	2918
<b>4</b>	<b>Graphic test Score</b>	PASS	631
<b>5</b>	<b>HDD test Score</b>	PASS	N/A



## 5.8 PC MARK2005

<b>Test Environment</b>
<b>Intel(R) Atom(TM) Processor N270 1.60GHz</b> <b>Transcend DDR2 667 2GB (E1108ACBG)</b> <b>Western Digital WD800JD-75MSA3 80GB</b>

### Windows XP SP2

<b>Item</b>	<b>WEIGHTED SUITE</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PCMark Score</b>	PASS	1598
<b>2</b>	<b>CPU test Score</b>	PASS	1501
<b>3</b>	<b>Memory test Score</b>	PASS	2428
<b>4</b>	<b>Graphic test Score</b>	PASS	618
<b>5</b>	<b>HDD test Score</b>	PASS	3938

<b>Test Environment</b>
<b>Intel(R) Atom(TM) Processor N270 1.60GHz</b> <b>PQI DDR2 667 2GB (7QE22D9HNL)</b> <b>Western Digital WD800JD-75MSA3 80GB</b>

### Windows XP SP2

<b>Item</b>	<b>WEIGHTED SUITE</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PCMark Score</b>	PASS	N/A
<b>2</b>	<b>CPU test Score</b>	PASS	1501
<b>3</b>	<b>Memory test Score</b>	PASS	2401
<b>4</b>	<b>Graphic test Score</b>	PASS	N/A
<b>5</b>	<b>HDD test Score</b>	PASS	3892

<b>Test Environment</b>
<b>Intel(R) Atom(TM) Processor N270 1.60GHz</b> <b>GREENCOM DDR2 667 1GB (0743A908Y)</b> <b>Western Digital WD800JD-75MSA3 80GB</b>

**Windows XP SP2**

<b>Item</b>	<b>WEIGHTED SUITE</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PCMark Score</b>	PASS	1600
<b>2</b>	<b>CPU test Score</b>	PASS	1502
<b>3</b>	<b>Memory test Score</b>	PASS	2400
<b>4</b>	<b>Graphic test Score</b>	PASS	517
<b>5</b>	<b>HDD test Score</b>	PASS	4402

<b>Test Environment</b>
<b>Intel(R) Atom(TM) Processor N270 1.60GHz</b> <b>Kingston DDR2 533 1GB (D6408TEBGWL37)</b> <b>Western Digital WD800BB-55JKC0 80GB</b>

**Windows XP SP2**

<b>Item</b>	<b>WEIGHTED SUITE</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PCMark Score</b>	PASS	N/A
<b>2</b>	<b>CPU test Score</b>	PASS	1495
<b>3</b>	<b>Memory test Score</b>	PASS	2413
<b>4</b>	<b>Graphic test Score</b>	PASS	N/A
<b>5</b>	<b>HDD test Score</b>	PASS	2901

<b>Test Environment</b>
<b>Intel(R) Atom(TM) Processor N270 1.60GHz</b> <b>PQI DDR2 533 512MB (A3R12E3GEF)</b> <b>Western Digital WD800JD-75MSA3 80GB</b>

**Windows XP SP2**

<b>Item</b>	<b>WEIGHTED SUITE</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PCMark Score</b>	PASS	N/A
<b>2</b>	<b>CPU test Score</b>	PASS	1500
<b>3</b>	<b>Memory test Score</b>	PASS	2414
<b>4</b>	<b>Graphic test Score</b>	PASS	N/A
<b>5</b>	<b>HDD test Score</b>	PASS	N/A

<b>Test Environment</b>
<b>Intel(R) Atom(TM) Processor N270 1.60GHz</b> <b>DSL DDR2 533 256MB (DCHD)</b> <b>Western Digital WD800JD-75MSA3 80GB</b>

**Windows XP SP2**

<b>Item</b>	<b>WEIGHTED SUITE</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PCMark Score</b>	PASS	N/A
<b>2</b>	<b>CPU test Score</b>	PASS	1501
<b>3</b>	<b>Memory test Score</b>	PASS	2412
<b>4</b>	<b>Graphic test Score</b>	PASS	N/A
<b>5</b>	<b>HDD test Score</b>	PASS	N/A

## 5.9 Storage Performance

### 5.9.1 HDD

Test environment:

OS Windows XP professional SP2

Program (HD Tune)

HDD MODEL	INTERFACE	capacity	Average	Burst Rate	Access time
Western Digital WD800BB-55 JKC0	IDE	80 GB	26.7 MB/sec	28 MB/sec	18.3 ms
Western Digital WD800JD-00 LSA0	SATA	80 GB	47 MB/sec	92.9 MB/sec	13.6 ms
Western Digital WD800JD-75 MSA3	SATA	80 GB	47.2 MB/sec	92.3 MB/sec	18.6 ms
Hitachi HDT722525D LA380	SATA	250 GB	53 MB/sec	96.8 MB/sec	12.8 ms
Seagate ST3160815A S	SATA	160 GB	59.5 MB/sec	91.7 MB/sec	15.5ms
TDK LoR Trans-It Drive	USB	4 GB	16.3 MB/sec	16.8 MB/sec	0.9 ms

<b>ACTIONS USB DISK DEVICE</b>	<b>USB</b>	<b>261 MB</b>	0.5 MB/sec	0.5 MB/sec	5.7 ms
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## 5.9.2 CD-ROM

Test environment:

OS Windows XP professional SP2

Program (NERO)

CD-ROM MODEL	INTERFACE	Average speed	Full READ	Burst Rate	CD
SONY CDU4811	IDE	13.71 x	133 ms	2 MB/s	52 X CD-R
BenQ CB523C	IDE	35.99 x	149 ms	22 MB/s	52 X CD-R
LITE-ON SHW-1635S	IDE	34.53 x	178 ms	21 MB/s	52 X CD-R
ASUS DVD DRW-1814BLT	SATA	22.55 x	176 ms	36 MB/s	52 X CD-R
PIONEER DVD DVR-212BK	SATA	29.05 x	177 ms	39 MB/s	52 X CD-R
LG DVD GSA-H62L	SATA	33.49 x	185 ms	36 MB/s	52 X CD-R
LITEON DVD SOSC-2485KX	USB	16.8 x	160 ms	18 MB/s	52 X CD-R

<b>LITEON DVD SOSW-833SX</b>	<b>USB</b>	16.28 x	173 ms	18 MB/s	52 X CD-R
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