

FIRST INTERNATIONAL COMPUTER VC15 PCI/AGP SYSTEM NETWORK TEST REPORT

Document Number: VC15
Product Version: PCB 1.1
BIOS Version: IEF41

Supervisor	Tester
	Jeffrey, Chen

FIC Research & Development Department

Update: 08 -NOV -2001

Table of Contents

<u>1. Overview.....</u>	<u>3</u>
<u>1.1 System Features:.....</u>	<u>3</u>
<u>2. LAN on Motherboard Basic Function Test</u>	<u>3</u>
<u>3. Wake on LAN Test.....</u>	<u>4</u>
<u>4. Boot from LAN Test:.....</u>	<u>5</u>
<u>5. Stress Test.....</u>	<u>5</u>
<u>5.1 Reboot Test.....</u>	<u>5</u>
<u>6. Network Adapter Compatibility Test:.....</u>	<u>6</u>
<u>7. Operating System Compatibility Test:.....</u>	<u>6</u>
<u>8. Performance Test.....</u>	<u>8</u>
<u>8.1 ZD NetBench 6.0</u>	<u>8</u>
<u>8.2 ZD Serverbench 4.1</u>	<u>8</u>
<u>8.3 ZD Webbench 3.0</u>	<u>9</u>
<u>9. Append:.....</u>	<u>9</u>
<u>9.1 PCI Bus 6 Compatibility with Ethernet Card:.....</u>	<u>9</u>

1. Overview

1.1 System Features:

CPU	Intel Pentium4
Chipset	North Bridge : Intel 82845
	South Bridge : Intel 82801BA
Memory	PC133 SDRAM *2
Graphics	AGP 2X
Audio	AC97
LAN	Realtek RTL8100L
IDE Controller	Intel 82801BA (Support UDMA100)
Slots	AGP, PCI * 6, CNR

2. LAN on Motherboard Basic Function Test

■ Test Purpose:

This test measures the functions of LAN on Motherboard.

■ Test Configuration:

Test System	
OS	Microsoft DOS 6.22
CPU	Intel Pentium4 1.5G
DRAM	Winbond PC133 128MB
VGA	Nvidia Riva TNT2
HDD	WD28400 UDMA66 8.4G
LAN	Realtek RTL8100L
Test Network Adaptor	
Intel 82559 10/100 Pro Ethernet Adaptor	

■ Test Matrix:

Test Item		Comment	Result
MAC Address Verify		Check the MAC address, can't be FF:FF:FF:FF:FF:FF	PASS
Diagnostic Utility Test	Control Registers Test	Tests registers by sending commands to the LAN controller.	PASS
	FIFO Test	Tests FIFO memory by writing and reading patterns to and from the FIFO memory	PASS
	EEPROM Test	Reads the EEPROM contents and confirms that the checksum is correct.	PASS
	Loopback Test	Tests the LAN controller's ability to send and receive packets by sending packets to itself. This test uses both the MAC loopback and the Transceiver loopback modes.	PASS
	Cable Test (Link Test)	Checks the cable connection and the adapter's send and receive functionality by sending 1000 proprietary packets out on the network and retrieving those same packets.	PASS
Auto Negotiation Test	10Mbps Link Speed	Connect to 10Mbps hub. Sender start to send packets to Responder, Responder can echo packets normally under 10Mbps link speed	PASS



	100Mbps Link Speed	Connect to 10/100Mbps dual speed switch hub. Sender start to send packets to Responder, Responder can echo packets normally under 100Mbps link speed	PASS
IEEE802.3 Test	Bit Error Rat	Connect with 100M UTP Cat5 cable, the Bit Error Rat must be very low.	PASS

3. Wake on LAN Test

■ Test Purpose:

This test measures the capability of test system that wakes from a low-power via the LAN activity.

■ Test Configuration:

Test System	
CPU	Intel Pentium4 1.5G
DRAM	Winbond PC133 128MB
VGA	nVidia Riva TNT2
HDD	WD28400 UDMA66 8.4G
Resolution	1024x768 Full Color
Test Utility	winacpi.exe
Test OS	
Microsoft Windows 98 SE	
Microsoft Windows ME	
Microsoft Windows 2000 Professional	
Test Network Adapter	
Realtek RTL8100L	

■ Test Matrix:

Sleep Method	Sleep Mode	Wakeup Method	Comment	Result			
				Win 98 SE	Win ME	Win 2K	Win XP
Start Menu	S1 (POS)	Magic	BIOS->S1,Start Menu->Standby,Waker->Magic Packet	PASS	PASS	PASS	PASS
		ARP	BIOS->S1,Start Menu->Standby,Waker->ARP Packet	PASS	PASS	PASS	PASS
	S3 (STR)	Magic	BIOS->S3,Start Menu->Standby,Waker->Magic Packet	PASS	PASS	PASS	PASS
		ARP	BIOS->S3,Start Menu->Standby,Waker->ARP Packet	PASS	PASS	PASS	PASS
	S4 (STD)	Magic	Start Menu->Hibernate,Waker->Magic Packet	N/A	PASS	PASS	N/A
		ARP	Start Menu->Hibernate,Waker->ARP Packet		PASS	PASS	
Power Button	S1 (POS)	Magic	BIOS->S1,Power Button->Standby,Waker->Magic Packet	PASS	PASS	PASS	PASS
		ARP	BIOS->S1,Power Button->Standby,Waker->ARP Packet	PASS	PASS	PASS	PASS
	S3 (STR)	Magic	BIOS->S3,Power Button->Standby,Waker->Magic Packet	PASS	PASS	PASS	PASS
		ARP	BIOS->S3,Power Button->Standby,Waker->ARP Packet	PASS	PASS	PASS	PASS
	S4 (STD)	Magic	Power Button->Hibernate,Waker->Magic Packet	N/A	PASS	PASS	PASS
		ARP	Power Button->Hibernate,Waker->ARP Packet		PASS	PASS	PASS
Timer	S1 (POS)	Magic Packet	BIOS->S1,System Standby->1min,Waker->Magic Packet	PASS	PASS	PASS	PASS
		ARP Packet	BIOS->S1,System Standby->1min,Waker->ARP Packet	PASS	PASS	PASS	PASS
	S3 (STR)	Magic Packet	BIOS->S3,System Standby->1min,Waker->Magic Packet	PASS	PASS	PASS	PASS
		ARP Packet	BIOS->S3,System Standby->1min,Waker->ARP Packet	PASS	PASS	PASS	PASS



	S4 (STD)	Magic Packet	System Hibernate->3min,Waker->Magic Packet	N/A	PASS	PASS	PASS
		ARP Packet	System Hibernate->3min,Waker->ARP Packet		PASS	PASS	PASS

4. Boot from LAN Test:

- **Test Purpose:**
This test measures the function of Boot from LAN

- **Test Configuration:**

Test System	
CPU	Intel Pentium4 1.5G
DRAM	Winbond PC133 128MB
VGA	nVidia Riva TNT2
HDD	WD28400 UDMA66 8.4G
Test Network Adapter	
Realtek RTL8100L	

- **Testing Matrix:**

Test Item		Result
Enable Boot from LAN	Boot from PXE Server	PASS
	Boot from RPL Server	PASS
Disable Boot from LAN		PASS

5. Stress Test

5.1 Reboot Test

- **Test Purpose:**
This test measures the stability of NIC

- **Test Configuration:**

Test System	
OS	Microsoft Windows ME
CPU	Intel Pentium4 1.5G
DRAM	Winbond PC133 128MB
VGA	nVidia Riva TNT2
HDD	WD28400 UDMA66 8.4G
Test Utility	Auto Reboot 3.0
Test Network Adapter	
Realtek RTL8100L	

- **Test Matrix:**

Test Item	Result
Run Auto Reboot over 500 times	PASS

6. Network Adapter Compatibility Test:

■ **Test Purpose:**

This test measures the compatibility of network adapter with test system.

■ **Test Configuration:**

Test System	
OS	Microsoft Windows ME
CPU	Intel Pentium4 1.5G
DRAM	Winbond PC133 128MB
VGA	nVidia Riva TNT2
HDD	WD28400 UDMA66 8.4G
Resolution	1024x768 Full Color

■ **Testing Matrix:**

Vender	Model	Specification	Comment	Result
3Com	3C905C	100Mb PCI	Connect to Network Neighborhood & Web site	PASS
	3C19250	10Mb USB	Connect to Network Neighborhood & Web site	PASS
Intel	82559	100 Mb PCI	Connect to Network Neighborhood & Web site	PASS
	82558	100 Mb PCI	Connect to Network Neighborhood & Web site	PASS
NETMATE	CATC	10Mb USB	Connect to Network Neighborhood & Web site	PASS
NS	DP83815	100 Mb PCI	Connect to Network Neighborhood & Web site	PASS
REALTEK	Rtl8139c	100 Mb PCI	Connect to Network Neighborhood & Web site	PASS
ACCTON	ADM AN983B	100 Mb PCI	Connect to Network Neighborhood & Web site	PASS

7. Operating System Compatibility Test:

■ **Test Purpose:**

This test measures the compatibility of Microsoft Windows 98 SE.

■ **Test Configuration:**

Test System	
OS	Microsoft Windows 98 SE
CPU	Intel Pentium4 1.5G
DRAM	Winbond PC133 128MB
VGA	nVidia Riva TNT2
HDD	WD28400 UDMA66 8.4G
Test Network Adapter	
Realtek RTL8100L	
Test OS	
Microsoft Windows 98 SE	
Microsoft Windows ME	
Microsoft Windows NT Workstation 4.0 + SP6a	
Microsoft Windows 2000 Professional + SP2	
Microsoft Windows XP Professional	
Novell Netware 5.0	



■ Test Matrix For Microsoft OS :

Test Item	Result				
	Win 98SE	Win ME	Win NT+SP6a	Win 2000+SP2	Win XP Pro
Connect to Network Neighborhood	PASS	PASS	PASS	PASS	PASS
Logon File Server	PASS	PASS	PASS	PASS	PASS
Download files form File Server	PASS	PASS	PASS	PASS	PASS
Upload files to File Server	PASS	PASS	PASS	PASS	PASS
Browse Web Site	PASS	PASS	PASS	PASS	PASS
Send/Receive E-Mail	PASS	PASS	PASS	PASS	PASS
Print to Network Printer	PASS	PASS	PASS	PASS	PASS

■ Test Matrix For Novell Netware 5.0 :

Item	Comment	Result
Installation	Install from CDROM	PASS
Basic Function	Bootting	PASS
	Logon Server	PASS
Burn in test	NWTEST.EXE Test (12 hours)	PASS

8. Performance Test

8.1 ZD NetBench 6.0

- **Test Purpose:**
This test measures the throughput of NIC in both server and clients.

- **Test Configuration:**

Test System (Server)	
OS	Microsoft Windows 2000 Server
CPU	Intel Pentium4 1.5G
DRAM	Winbond PC133 128MB
VGA	nVidia Riva TNT2
HDD	WD28400 UDMA66 8.4G
Test Network Adapter	
Realtek RTL8100L	

- **Test Matrix and result:**

Test Suite	Result	
	Throughput (Mb)	Response Time (ms)
NBDM_60	23.436	0.035

8.2 ZD Serverbench 4.1

- **Test Purpose:**
This test measures the throughput of NIC in both server and clients.

- **Test Configuration:**

Test System (Server)	
OS	Microsoft Windows 2000 Server
CPU	Intel Pentium4 1.5G
DRAM	Winbond PC133 128MB
VGA	nVidia Riva TNT2
HDD	WD28400 UDMA66 8.4G
Test Network Adapter	
Realtek RTL8100L	

- **Test Matrix and result:**

Test Suite	Result	
	Throughput (Mb)	
Sys_60	26	
N_60	178	
P_60	40	
D_60	15	

8.3 ZD Webbench 3.0

- **Test Purpose:**
This test measures the throughput of NIC in both server and clients.

- **Test Configuration:**

Test System (Server)	
OS	Microsoft Windows 2000 Server
CPU	Intel Pentium4 1.5G
DRAM	Winbond PC133 128MB
VGA	nVidia Riva TNT2
HDD	WD28400 UDMA66 8.4G
Test Network Adapter	
Realtek RTL8100L	

- **Test Matrix and result:**

Test Suite	Result	
	Throughput (Mb)	Response Time (ms)
ZD_STATIC_V30	583,753.210	94.539

9. Append:

9.1 PCI Bus 6 Compatibility with Ethernet Card:

Test Configuration:

Test System (Server)	
PCB	1.1
BIOS	IEF41
OS	Microsoft Windows98SE English
CPU	Intel Pentium4 1.5G
DRAM	Winbond PC133 128MB
VGA	nVidia Riva TNT2 (Driver ver 4.12.01.0776)
HDD	WD 315300 UDMA 66 15 G
TEST DADE	27.NOV.2001

- **Test Matrix and result:**

LAN Vendor	LAN Card Description	Install & Connected to Internet Result
INTEL	Intel 82559 Pro 10/100 Adaptor (Driver ver 5.11)	PASS
ACCTON	Accton 1207F-TX /WOL 10/100 Adaptor (Driver ver 2.02)	PASS
REALTEK	Realtek 8139C 10/100 Adaptor (Driver ver 397)	PASS
NS	NS DP83815 10/100 Adaptor (Driver ver 5.00.125)	PASS
3COM	3COM 3C905C 10/100 Adaptor (Driver ver 4.08)	PASS