

产品承认书

SPECIFICATION FOR APPROVAL

客户 Customer: _____

产品名称 Model Name: RT8152B 100M USB Ethernet Card

产品编号 Model number: TXA041

日期 Date: _____

SIGNATURE:

业务 SALES	工程 ENG	制造 MFG	品质 QUALITY
APPROVED BY	CHECKED BY	CHECKED BY	TESTED BY

CUSTOMER APPROVAL:

CUSTOMER APPROVAL BY	
DATE	

1、 Product Photo



2、 Product specification

Model number	TXA041
Chipset	Realtek RTL8152B
Port number	1* RJ45
Standard	IEEE 802.3x,IEEE 802.3,IEEE 802.3u,IEEE 802.1P, IEEE 802.1Q VLAN tagging IEEE 802.3az-2010 (EEE)
Network media	10Base-T,cat3 or above UTP,10Base-Tx,cat5 UTP
Data rate	10/100Mbps
Interface	USB2.0
Color	Black, white
LED Indicator	10/100Mbps(Link/Act)
Dimension	70*32.5*17mm,USB cable:150mm
Support OS	Windows 10 8.1 8 32-bit 64-bit Plug in Play Native Driver No installation Needed Windows 7 Vista XP Compatible
Environment	Operating Temperature: 0 °C-55 °C
	Relative Humidity: 10%-90%(non-condensing)
	Storage Temperature: -0°C-80°C
	Relative Humidity: 5%-90%(non-condensing)
Other features	plug and play Wake-On-LAN Flow control Auto-Negotiation with Next Page capability Selective suspend Remote wake-up ECMA Half Duplex and Full Duplex Mode

3、 Chipset Description :

The Realtek RTL815210/100M Ethernet controller combines an IEEE 802.3u compliant Media Access Controller (MAC), USB bus controller, and embedded memory. A linear regulator (LDO) is incorporated for reduced BOM cost.

With state-of-the-art DSP technology and mixed-mode signal technology, the RTL8152 offers high-speed transmission over CAT 5 UTP cable or CAT 3 UTP (10Mbps only) cable. Functions such as Crossover Detection and Auto-Correction, polarity correction, adaptive equalization, cross-talk cancellation, echo cancellation, timing recovery, and error correction are implemented to provide robust transmission and reception capabilities. The RTL8152 features embedded One-Time-Programmable (OTP) memory.

Advanced Configuration Power management Interface (ACPI)—power management for modern operating systems that are capable of Operating System-directed Power Management (OSPM)—is supported to achieve the most efficient power management possible. In addition to the ACPI feature, remote wake-up (including AMD Magic Packet and Microsoft Wake-Up Frame) is supported in both ACPI and APM (Advanced Power Management) environments.

The RTL8152 supports Microsoft Wake Packet Detection (WPD) to provide Wake-Up Frame information to the OS, e.g., PatternID, OriginalPacketSize, SavedPacketSize, SavedPacketOffset, etc. WPD helps prevent unwanted/unauthorized wake-up of a sleeping computer.

The RTL8152 supports ‘RealWoW!’ Technology which enables remote wake-up of a sleeping PC through the Internet. This feature allows PCs to reduce power consumption by remaining in low power sleeping state until needed.

Note: The ‘RealWoW!’ service requires registration on first time use.

The RTL8152 is fully compliant with Microsoft NDIS5, NDIS6 (IPv4, IPv6, TCP, UDP) Checksum features, and supports IEEE 802 IP Layer 2 priority encoding and IEEE 802.1Q Virtual bridged Local Area Network (VLAN). The above features contribute to lowering CPU utilization, especially benefiting performance when in operation on a network server.

The RTL8152 supports Protocol offload. It offloads some of the most common protocols to NIC hardware in order to prevent spurious wake-up and further reduce power consumption. The RTL8152 can offload ARP (IPv4) and NS (IPv6) protocols while in the D3 power saving state.

The RTL8152 supports the ECMA (European Computer Manufacturers Association) proxy for sleeping hosts standard. The standard specifies maintenance of network connectivity and presence via proxies in order to extend the sleep duration of higher-powered hosts. It handles some network tasks on behalf of the host, allowing the host to remain in sleep mode for longer periods. Required and optional behavior of an operating proxy includes generating reply packets, ignoring packets, and waking the host.

The RTL8152 supports IEEE 802.3az-2010, also known as Energy Efficient Ethernet (EEE). IEEE 802.3az operates with the IEEE 802.3 Media Access Control (MAC) Sublayer to support operation in Low Power Idle mode. When the Ethernet network is in low link utilization, EEE allows systems on both sides of the link to save power.

The device also features USB 2.0 technology. It provides higher bandwidth and improved protocols for data exchange between the host and the device. In addition, USB 2.0 offers a more aggressive power management feature that enables selective suspend to save energy.

The RTL8152 is suitable for multiple market segments and emerging applications, such as desktop, mobile, workstation, server, communications platforms, docking station, and embedded applications.

Feature:

Hardware

- Integrated 10/100M transceiver
- Auto-Negotiation with Next Page capability
- Supports USB 2.0 and 1.1
- Supports pair swap/polarity/skew correction
- Crossover Detection & Auto-Correction
- Supports Wake-On-LAN and 'RealWoW!' (Wake-On-WAN) Technology (see note 1)
- Supports ECMA-393 ECMA ProxZzy Standard for sleeping hosts (see note 1)
- XTAL-Less Wake-On-LAN
- Supports 25MHz or 48MHz external clock (from oscillator or system clock source)
- Supports power down/link down power saving
- Transmit/Receive on-chip buffer support
- Embedded OTP memory
- Built-in linear regulator (LDO)
- Supports Customizable LEDs
- Controllable LED Blinking Frequency and Duty Cycle
- Supports hardware CRC (Cyclic Redundancy Check) function
- LAN disable with GPIO pin
- Supports LPM (Link Power Management)
- SPI Flash Interface
- Supports link change wake up
- Supports Microsoft WPD (Wake Packet Detection)
- Supports 16-set 128-byte Wake-Up Frame pattern exact matching
- Supports CDC-ECM
- 48-pin QFN 'Green' package

Software Offload

- Microsoft NDIS5, NDIS6 Checksum Offload (IPv4, IPv6, TCP, UDP) and Segmentation Task-offload (Large send v1 and Large send v2) support
- Supports Protocol Offload (ARP & NS)

4、RD test result

4.1 Compatibility test->PASS

NO.	Each Link(100MCAT5)	Internet Link	data packet (100MCAT5)
WindowsXP 32bit	PASS	PASS	PASS
Windows7 32bit	PASS	PASS	PASS
Windows7 64bit	PASS	PASS	PASS
Windows8 64bit	PASS	PASS	PASS
Windows10 64bit	PASS	PASS	PASS
Linux	PASS	PASS	PASS

4.2 Data traffic test-PASS

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TCP流量1-test
Client connecting to 192.168.0.2, TCP port 5001
TCP window size: 10.0 MByte
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[156] local 192.168.0.62 port 49253 connected with 192.168.0.2 port 5001
[ ID] Interval      Transfer      Bandwidth
[156] 0.0- 1.0 sec   21.2 MBytes   178 Mbits/sec
[156] 1.0- 2.0 sec   11.3 MBytes   94.8 Mbits/sec
[156] 2.0- 3.0 sec   11.3 MBytes   94.8 Mbits/sec
[156] 3.0- 4.0 sec   11.3 MBytes   94.7 Mbits/sec
[156] 4.0- 5.0 sec   11.3 MBytes   94.9 Mbits/sec
[156] 5.0- 6.0 sec   11.3 MBytes   94.6 Mbits/sec
[156] 6.0- 7.0 sec   11.3 MBytes   94.9 Mbits/sec
[156] 7.0- 8.0 sec   11.3 MBytes   94.8 Mbits/sec
[156] 8.0- 9.0 sec   11.3 MBytes   94.8 Mbits/sec
[156] 9.0-10.0 sec   11.5 MBytes   96.3 Mbits/sec
[156] 10.0-11.0 sec  11.3 MBytes   94.7 Mbits/sec
[156] 11.0-12.0 sec  11.3 MBytes   94.8 Mbits/sec
[156] 12.0-13.0 sec  11.3 MBytes   94.6 Mbits/sec
[156] 13.0-14.0 sec  11.3 MBytes   94.8 Mbits/sec
[156] 14.0-15.0 sec  11.3 MBytes   94.8 Mbits/sec
[156] 15.0-16.0 sec  11.3 MBytes   94.7 Mbits/sec
[156] 16.0-17.0 sec  11.3 MBytes   94.8 Mbits/sec
[156] 17.0-18.0 sec  11.3 MBytes   94.8 Mbits/sec
[156] 18.0-19.0 sec  11.3 MBytes   94.8 Mbits/sec
    
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