How to identify authentic
ASIX USB to LAN Products

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Revision History

Revision	Date	Description
1.00	2013/07/16	Initial release.

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1. Introduction

This document indicates how to identify authentic ASIX USB to LAN products and only adapts to AX88772C/AX88772B/AX88772A/AX88760/AX88772 products.

Recently some USB to LAN devices with Non-authentic ASIX USB to LAN solution inside illegally use ASIX default VID/PID. The illegal USB to LAN devices might cause some abnormal network functionalities failure issues on your target platforms. Please refer to below sections to identify if your tested USB to LAN device is the authentic ASIX USB to LAN products or not.

NOTE:
ASIX DOES NOT GUARANTEE AND PROVIDE ANY SUPPORT FOR THOSE ILLEGAL NON-AUTHENTIC ASIX USB TO LAN PRODUCTS. PLEASE PURCHASE AUTHENTIC ASIX USB TO LAN PRODUCTS INSTEAD IF YOU ARE USING THE ILLEGAL NON-AUTHENTIC ASIX USB TO LAN PRODUCTS NOW.

ASIX authentic products should have the following ASIX mark on the top side of IC.

Of course, you might not be able to open the case of your tested USB to LAN device to check ASIX mark on the top side of IC. You can still refer to below sections to identify if your USB to LAN device is ASIX solution inside or not.

2. How to check the VID/PID of your USB to LAN device

Before installing ASIX's standard USB to LAN drivers, please refer to this section to check if the VID/PID of your tested USB to LAN device is supported in the following ASIX's default VID/PID table or not? If no, please contact the manufacturer of your USB to LAN device to get proper drivers.

ASIX Product	ASIX Vendor ID	Product ID
AX88772C	0B95h	772Bh
AX88772B	0B95h	772Bh/7E2Bh
AX88760	0B95h	772Ah
AX88772A	0B95h	772Ah
AX88772	0B95h	7720h

Figure 1. ASIX USB to LAN Products Default VID/PID

Note:
1. ASIX USB to LAN standard drivers might support some known customer's VID/PID. Please check ASIX USB to LAN standard drivers for details.
2. Some ASIX customers' USB to LAN products have their own VID/PID. In this case, you should contact the manufacturer of your USB to LAN device to get proper customized drivers.
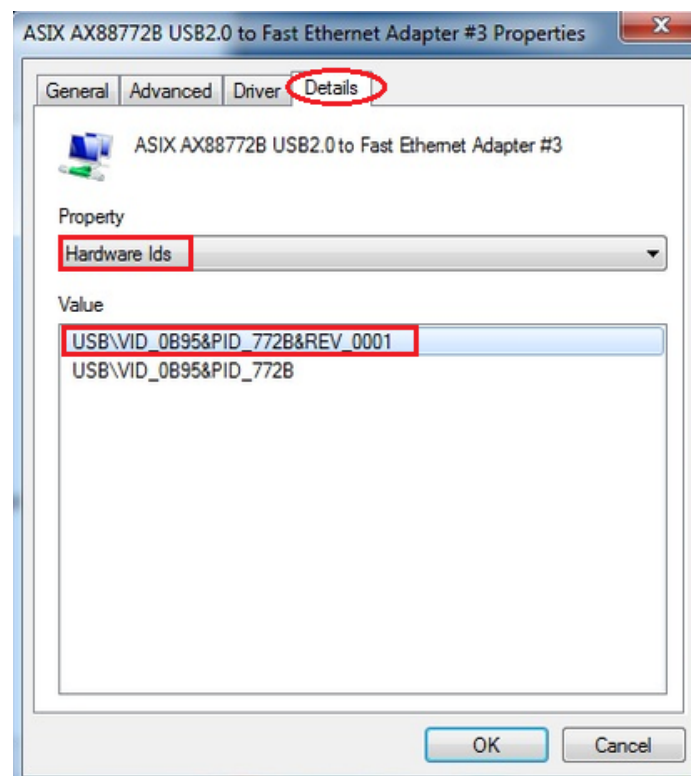

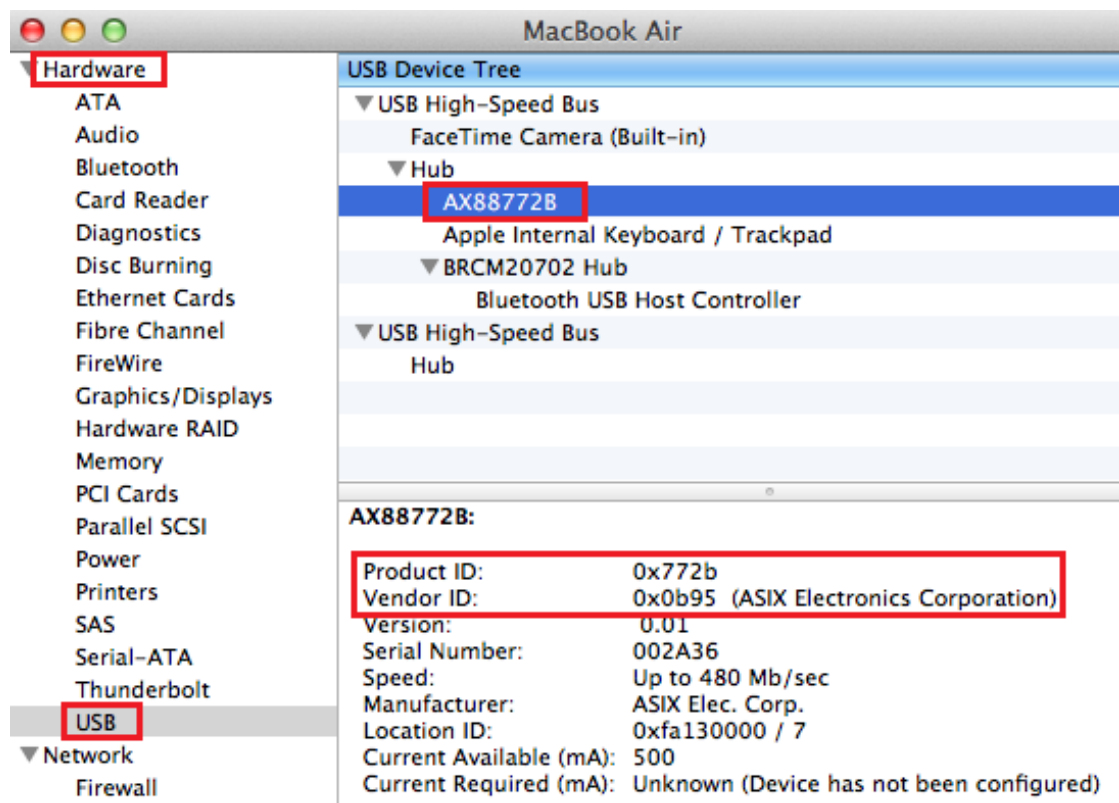Figure 2. How to check VID/PID on Windows system

Figure 3.   How to check VID/PID on Mac OSX system

```
# lsusb
Bus 002 Device 005: ID 0b27:0165 Ritek Corp.
Bus 002 Device 008: ID 0b95:772b ASIX Electronics Corp.
Bus 003 Device 002: ID 0461:4d16 Primax Electronics, Ltd
Bus 004 Device 002: ID 0461:0010 Primax Electronics, Ltd HP Keyboard
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 002 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 003 Device 001: ID 1d6b:0001 Linux Foundation 1.1 root hub
Bus 004 Device 001: ID 1d6b:0001 Linux Foundation 1.1 root hub
Bus 005 Device 001: ID 1d6b:0001 Linux Foundation 1.1 root hub
Bus 006 Device 001: ID 1d6b:0001 Linux Foundation 1.1 root hub
Bus 007 Device 001: ID 1d6b:0001 Linux Foundation 1.1 root hub
```

Figure 4.   How to check VID/PID on Linux system

3. Download the latest ASIX USB to LAN Drivers

In order to identify the illegal Non-authentic ASIX USB to LAN products, please download the latest ASIX USB to LAN drivers from ASIX web site (http://www.asix.com.tw/products.php?op=ProductList&PLine=71).
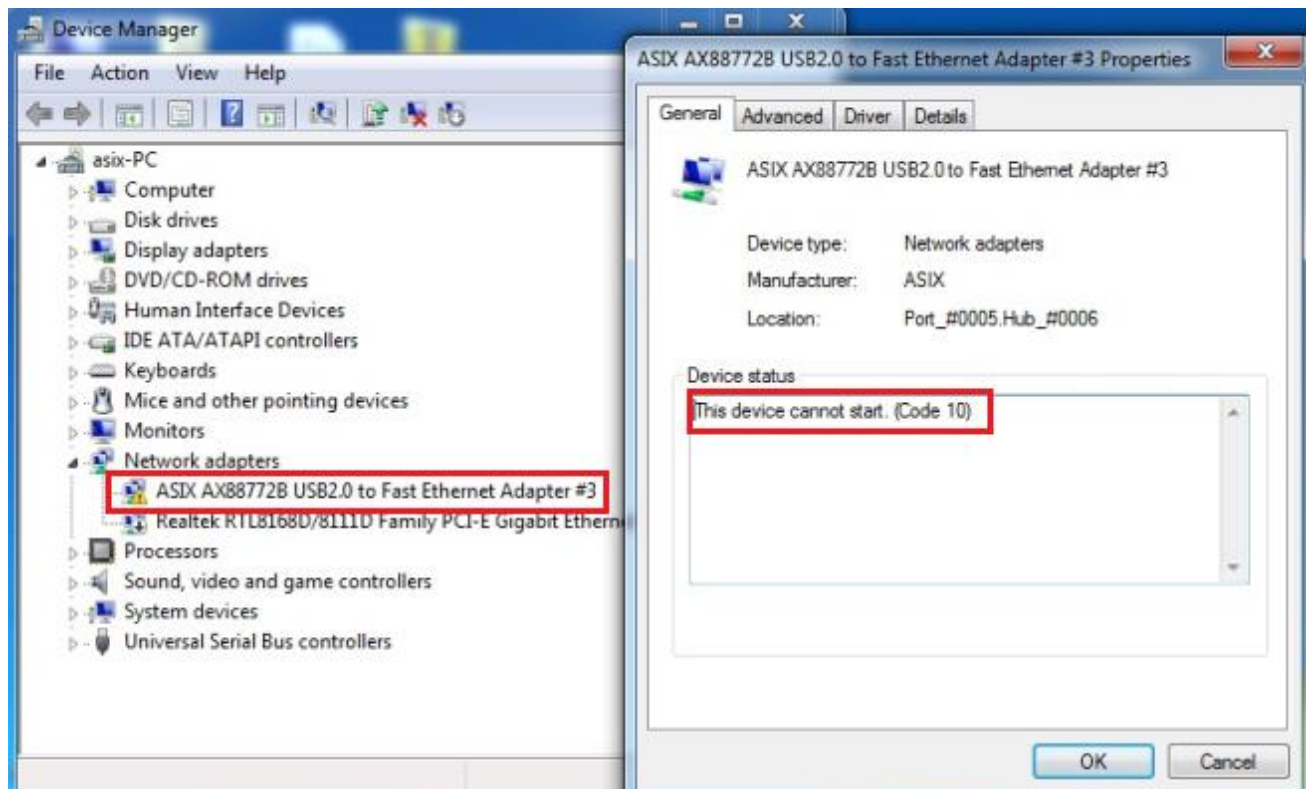
You can refer to Section 2 to get the VID/PID of your USB to LAN device and then refer to Figure 1 to identify which ASIX product drivers should be downloaded.
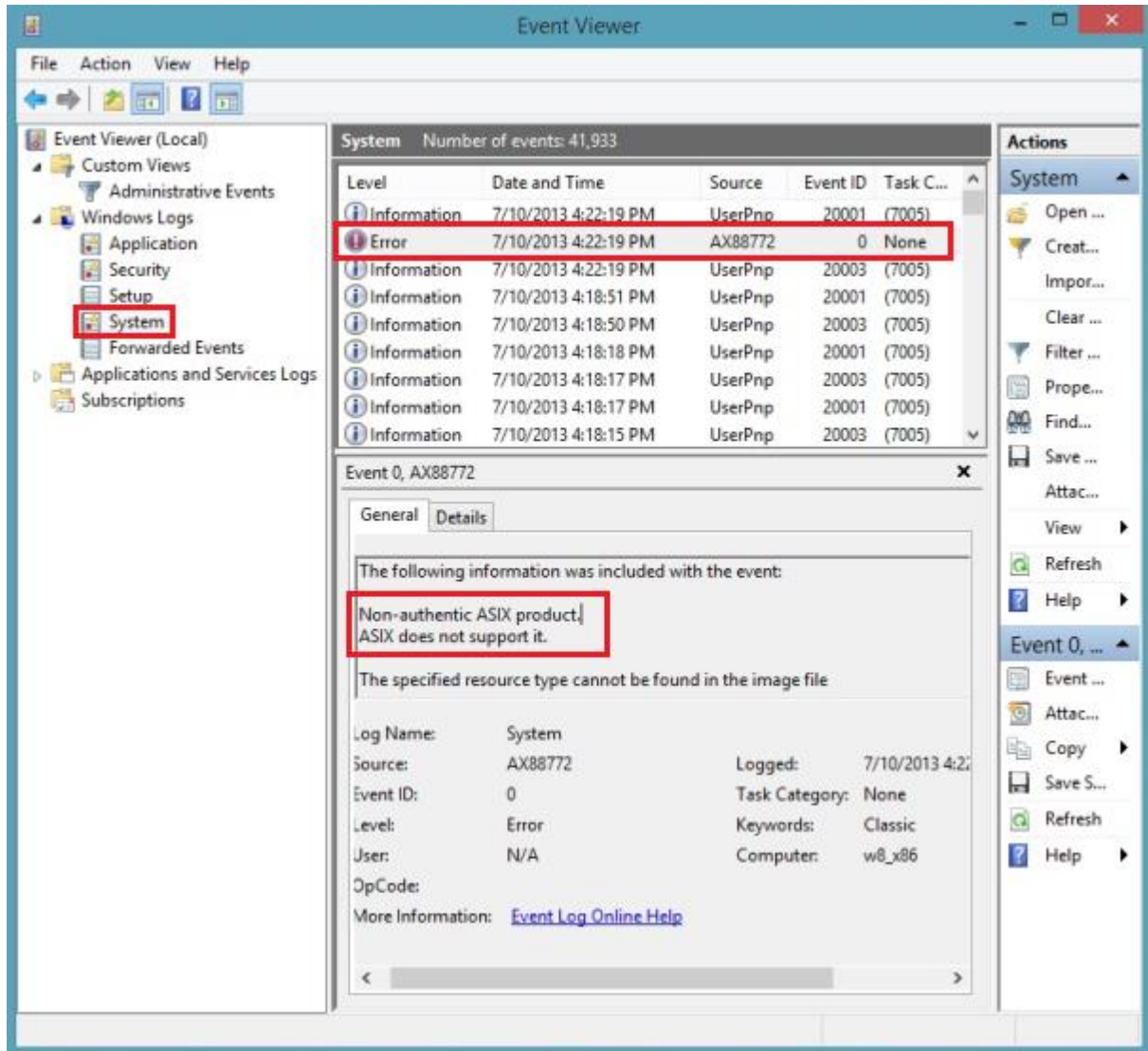
4. How to identify authentic ASIX USB to LAN Product on Windows

1. Refer to Section 3 to download the latest ASIX USB to LAN Windows driver.

2. Install the ASIX USB to LAN Windows driver on your Windows platform and make sure if the driver can be installed successfully or not?

    If your USB to LAN device is Non-authentic ASIX product inside, you should see below Yellow Exclamation mark on AX88772B Windows driver with Error Code 10 error message on the Device Manager console as below figure.

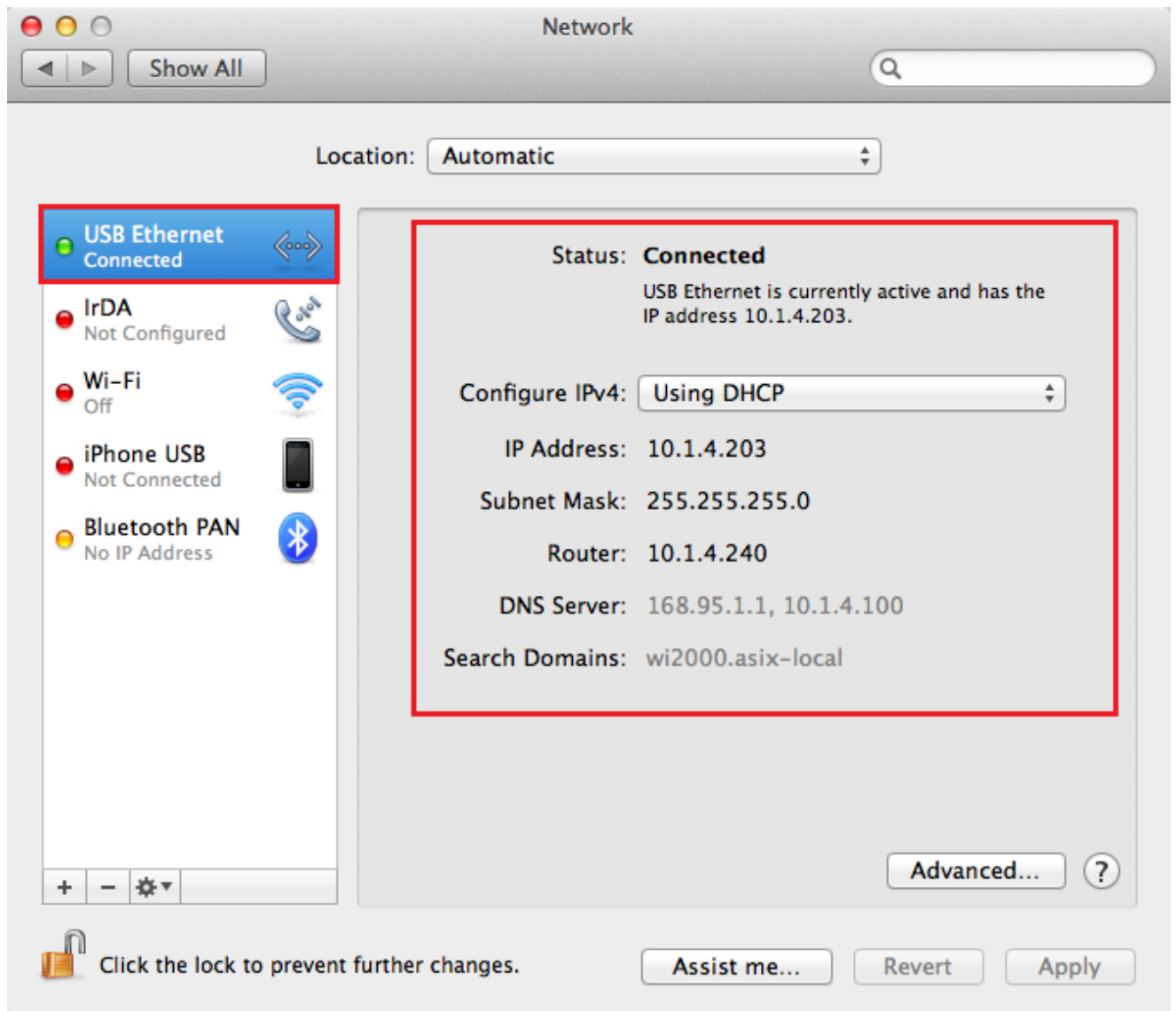Copyright (C) 2013 Reserved by ASIX Electronics Corporation

3. You can refer to below figure to double check if your USB to LAN device is ASIX product inside or not? If your USB to LAN device is Non-authentic ASIX product inside, you should see below Error Message "**Non-authentic ASIX product. ASIX does not support it.**" on the Windows Event Viewer console.

5. How to identify authentic ASIX USB to LAN Product on Mac OSX

1. Refer to Section 3 to download the latest ASIX USB to LAN Mac OSX driver.

2. Refer to the MAC OSX Driver Installation Guide to install the ASIX USB to LAN Mac OSX driver on your Mac OSX platform and make sure if the driver can be installed successfully or not?

    If your USB to LAN device is ASIX product inside, you should install ASIX USB to LAN Mac OSX driver successfully as below figure.

3. If you can't install ASIX USB to LAN driver successfully, you can refer to below figure to double check if your USB to LAN device is ASIX's product inside or not? If your USB to LAN device is Non-authentic ASIX product inside, you should see below "**Non-authentic ASIX product, ASIX does not support it.**" error message by running the "**sudo dmesg**" command on the Mac OSX Terminal console.

    allan$ sudo dmesg
    Password:
    …..
    DSMOS has arrived
    macx_swapon SUCCESS
    AppleUSBMultitouchDriver::handleReport - not in path binary mode, received 0x74 data packet of length 58
    virtual bool IOHIDEventSystemUserClient::initWithTask(task_t, void *, UInt32): Client task not privileged to open IOHIDSystem for mapping memory (e00002c1)

    Authentic ASIX product normal messages

    AppleUSBEthernet: start - Version number 3.9.0
    AppleUSBEthernet: Input buffers 64, Output buffers 64
    AppleUSBEthernet: Ethernet address 00:0e:c6:00:2a:36
    AppleUSBEthernet::monitorLinkStatus - Link up at 100 Mbps - Full Duplex (PHY regs 5,6:0xc1e1,0x000b)

    Sandbox: sandboxd(344) deny mach-lookup com.apple.coresymbolicationd
    AppleUSBEthernet::disable - Link down.

    Non-authentic ASIX product error messages

    AppleUSBEthernet: start - Version number 3.9.0
    AppleUSBEthernet: Non-authentic ASIX product, ASIX does not support it.
    …..
    …..

6. How to identify authentic ASIX USB to LAN Product on Linux

1. Refer to Section 3 to download the latest ASIX USB to LAN Linux driver.

2. Change to the ASIX USB to LAN Linux driver source folder and then refer to below commands to build and install the compiled ASIX USB to LAN Linux driver on your Android/Linux platform. Run "**ifconfig -a**" and "**dmesg**" commands to make sure if the ASIX USB to LAN Linux driver was installed successfully or not?

```
# make
make -C /lib/modules/3.5.7/build
SUBDIRS=/home/allan/AX88772C_772B_772A_760_772_178_LINUX_Driver_v4.9.0_Source modules
make[1]: Entering directory `/usr/src/linux-3.5.0'
  CC [M]  /home/allan/AX88772C_772B_772A_760_772_178_LINUX_Driver_v4.9.0_Source/asix.o
/home/allan/AX88772C_772B_772A_760_772_178_LINUX_Driver_v4.9.0_Source/asix.c: In function
'ax88772b_suspend':
/home/allan/AX88772C_772B_772A_760_772_178_LINUX_Driver_v4.9.0_Source/asix.c:812:6:
warning: unused variable 'tmp32'
  Building modules, stage 2.
  MODPOST 1 modules
  CC      /home/allan/AX88772C_772B_772A_760_772_178_LINUX_Driver_v4.9.0_Source/asix.mod.o
  LD [M]  /home/allan/AX88772C_772B_772A_760_772_178_LINUX_Driver_v4.9.0_Source/asix.ko
make[1]: Leaving directory `/usr/src/linux-3.5.0'
# make install
su -c "cp -v asix.ko /lib/modules/3.5.7/kernel/drivers/net/usb && /sbin/depmod -a"
`asix.ko' -> `/lib/modules/3.5.7/kernel/drivers/net/usb/asix.ko'
# insmod asix.ko
# ifconfig -a
eth0    Link encap:Ethernet  HWaddr 90:e6:ba:d8:94:84
        UP BROADCAST MULTICAST  MTU:1500  Metric:1
        RX packets:0 errors:0 dropped:0 overruns:0 frame:0
        TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:1000
        RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

eth28   Link encap:Ethernet  HWaddr 00:0e:c6:00:2a:36
        inet addr:192.168.20.144  Bcast:192.168.20.255  Mask:255.255.255.0
        inet6 addr: fe80::20e:c6ff:fe00:2a36/64 Scope:Link
        UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
        RX packets:59 errors:0 dropped:0 overruns:0 frame:0
        TX packets:67 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:1000
        RX bytes:16945 (16.9 KB)  TX bytes:9426 (9.4 KB)

lo      Link encap:Local Loopback
        inet addr:127.0.0.1  Mask:255.0.0.0
        inet6 addr: ::1/128 Scope:Host
        UP LOOPBACK RUNNING  MTU:16436  Metric:1
        RX packets:1558 errors:0 dropped:0 overruns:0 frame:0
        TX packets:1558 errors:0 dropped:0 overruns:0 carrier:0
```

```
        collisions:0 txqueuelen:0
        RX bytes:126300 (126.3 KB)  TX bytes:126300 (126.3 KB)


# dmesg
[ 620.345602] usb 2-6: new high-speed USB device number 15 using ehci_hcd
[ 620.490014] usb 2-6: New USB device found, idVendor=0b95, idProduct=772b
[ 620.490025] usb 2-6: New USB device strings: Mfr=1, Product=2, SerialNumber=3
[ 620.490033] usb 2-6: Product: AX88772B
[ 620.490038] usb 2-6: Manufacturer: ASIX Elec. Corp.
[ 620.490043] usb 2-6: SerialNumber: 002A36
[ 620.518127] ASIX USB Ethernet Adapter:v4.9.0 23:06:44 Jul 11 2013
[ 620.518127]    http://www.asix.com.tw
[ 621.151696] eth%d: status ep1in, 8 bytes period 11
[ 621.152152] eth1: register 'asix' at usb-0000:00:13.2-6, ASIX AX88772B USB 2.0 Ethernet,
00:0e:c6:00:2a:36
[ 621.152209] usbcore: registered new interface driver asix
[ 621.189489] eth28: rxqlen 0 --> 5
[ 621.189489]
[ 621.190067] eth28: ax88772b - Link status is: 0
[ 621.208486] IPv6: ADDRCONF(NETDEV_UP): eth28: link is not ready
[ 621.208606] IPv6: ADDRCONF(NETDEV_UP): eth28: link is not ready
[ 622.978626] eth28: ax88772b - Link status is: 1
[ 622.979022] IPv6: ADDRCONF(NETDEV_CHANGE): eth28: link becomes ready
```

3. You can refer to below figure to double check if your USB to LAN device is ASIX's product inside or not? If your USB to LAN device is Non-authentic ASIX product inside, you should see below "**Non-authentic ASIX product, ASIX does not support it**" error message by running the "**dmesg**" command on the Linux Terminal console.

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