

Logic Supply Compact USB Wifi Adapter Installation on the BeagleBone Black

Models: Logic Supply [UWN100](#) and [UWN200](#)

Chipset: MT7601U

Driver Version: 3.0.0.3, Release date 2013-07-18

Installation on Angstrom Distribution release 2013-06-20 or later

Update: the latest [Angstrom and Debian images](#) (2013-09-04 and up) include the drivers for the UWN100 and UWN200. If you have the latest image installed, simply follow the "First Steps" section below and skip to [Connecting to Wifi](#) after that.

Arch Linux Arm: This tutorial describes installation on the default Angstrom image on the BeagleBone Black. For **Arch Linux Arm** an installation package has been added to the alarm repository. The driver can be installed with 'pacman -S dkms-mt7601'.

Ubuntu 13.04:

check that a "/etc/rcn-ee.conf" exists. If it does, add: third_party_modules=enable

If it does not,

```
echo "distro=Ubuntu" > /tmp/rcn-ee.conf
```

```
echo "deb_distribution=Ubuntu" >> /tmp/rcn-ee.conf
```

```
echo "third_party_modules=enable" >> /tmp/rcn-ee.conf
```

```
sudo mv /tmp/rcn-ee.conf /etc/rcn-ee.conf
```

Then run:

```
wget http://rcn-ee.net/deb/raring-armhf/v3.8.13-bone56/install-me.sh
```

```
sudo /bin/bash install-me.sh
```



[UWN100](#) shown with [BeagleBone Black Enclosure](#)

FIRST STEPS

Make sure the BeagleBone Black has an Internet connection through a LAN cable. Do not insert the USB Wifi module. Connect to `beaglebone.local` or `192.168.7.2` using SSH (username: root, password <enter>).

It's always a good idea to update your BeagleBone Black:

```
# opkg update  
# opkg upgrade
```

This process can take half an hour or more, so feel free to go do something else. You'll see some warnings; this is OK.

We'll make sure the right time gets set automatically upon restart. First find your local time zone:

```
# timedatectl list-timezones
```

The example below is for Eastern US, but you can set it to your own time zone by replacing `America/New_York`:

```
# timedatectl set-timezone America/New_York  
# /usr/lib/connman/test/set-global-timeservers pool.ntp.org
```

Reboot the BeagleBone Black:

```
# shutdown -r now
```

QUICK INSTALLATION

We have precompiled the drivers to make installation quicker. If you are having problems or if you're a purist and want to do the full installation, go to [FULL INSTALLATION](#) instead.

Enter these commands to download the precompiled drivers and install them:

```
# mkdir -p /etc/Wireless/RT2870STA
# curl -kO https://googledrive.com/host/0B\_JlgOR4VNe0Sjg4ei0ySEY4aUE/mt7601.tar.gz
# tar xzvf mt7601.tar.gz -C /etc/Wireless/RT2870STA/ RT2870STA.dat
# tar xzvf mt7601.tar.gz -C /lib/modules/$(uname -r)/ mt7601Usta.ko mtutil7601Usta.ko mtnet7601Usta.ko
# depmod -a
You may see some warnings, that's OK
# echo mtnet7601Usta > /etc/modules-load.d/mt7601.conf
```

Continue to [CONNECTING TO WIFI](#)

FULL INSTALLATION

These are the steps to compile the drivers from source and install them. If you did the steps in the Quick Installation, there is no need to do this section.

```
# opkg install kernel-dev
This will take a few minutes. Wait until you see the prompt again.
# shutdown -r now

# ln -s /usr/src/kernel /lib/modules/$(uname -r)/build
# make -C /usr/src/kernel scripts
```

Download the latest driver for the MT7601U from the [MediaTek website](#) and unzip it:

```
# tar -xvjpgf DPO_MT7601*
# cd DPO_MT7601*
```

Use Nano to edit the config.mk file: nano config.mk

Verify that this line is set to "y":

```
HAS_NATIVE_WPA_SUPPLICANT_SUPPORT=y
```

Exit and Save: <Ctrl-X>, Y, <enter>

```
# make all
# mkdir -p /etc/Wireless/RT2870STA
# cp RT2870STA.dat /etc/Wireless/RT2870STA
# cp MODULE/os/linux/mt7601Usta.ko /lib/modules/$(uname -r)
# cp UTIL/os/linux/mtutil7601Usta.ko /lib/modules/$(uname -r)
# cp NETIF/os/linux/mtnet7601Usta.ko /lib/modules/$(uname -r)
# depmod -a
# echo mtnet7601Usta > /etc/modules-load.d/mt7601.conf
```

CONNECTING TO WIFI

Insert the USB Wifi Adapter in the USB port of the BeagleBone Black and reboot the BeagleBone Black:

```
# shutdown -r now
```

The wireless interface is now set up. You should be able to see if the installation was successful by entering this:

```
# ifconfig ra0
```

```
root@beaglebone:~# ifconfig ra0
ra0      Link encap:Ethernet  HWaddr 00:0C:43:00:4A:6E
        inet addr:10.10.7.204  Bcast:10.10.15.255  Mask:255.255.240.0
        inet6 addr: fe80::20c:43ff:fe00:4a6e/64 Scope:Link
        UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
        RX packets:112243 errors:0 dropped:1176 overruns:0 frame:0
        TX packets:2985 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:1000
        RX bytes:18131439 (17.2 MiB)  TX bytes:398513 (389.1 KiB)
```

To connect to a WPA protected wireless network, first encrypt the WPA passphrase:

```
# wpa_passphrase [SSID] [passphrase]
```

Copy the output (psk), you'll need it in a sec.

```
root@beaglebone:~# wpa_passphrase "Access Point" passphrase
network={
    ssid="Access Point"
    #psk="passphrase"
    psk=c8494b93855608387cdf3824b16cd24e9e187b808f79c39028a8840e43a03a90
}
root@beaglebone:~# █
```

Use nano to edit Connman config file:

```
# nano /var/lib/connman/wifi.config
```

and enter:

```
[service_home]
```

```
Type = wifi
```

```
Name = YourSSID
```

```
Passphrase = YourEncryptedPassphrase
```

NOTE: do not put your SSID in quotes, even if it contains spaces

```
GNU nano 2.2.5      File: /var/lib/connman/wifi.config      Modified

[service_home]
Type = wifi
Name = Access Point
Passphrase = c8494b93855608387cdf3824b16cd24e9e187b808f79c39028a8840e43a03a90

^G Get Help  ^O WriteOut  ^R Read File  ^Y Prev Page  ^K Cut Text   ^C Cur Pos
^X Exit      ^J Justify   ^W Where Is   ^V Next Page  ^U UnCut Text ^T To Spell
```

Exit and Save: <Ctrl-X>, Y, <enter>

Reboot:

```
# shutdown -r now
```

NOTE: ethernet must be disconnected for wifi to automatically connect

To check if your connection is working:

```
# ifconfig ra0
```

TROUBLESHOOTING

- If Wifi is not working you can try restarting the connman service: `systemctl restart connman.service`
- If all else fails, [install the latest Angstrom distribution](#) and start all over.



[UWN200](#) shown with Logic Supply [BeagleBone Black Enclosure](#)

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