DKMS Device Driver for WiFi Modules

Preparation

Automatically rebuilds and installs on kernel updates. DKMS is in official sources of Ubuntu, for installation do:

target

```
sudo apt install build-essential dkms git
```

WiFi Module 5 and 5A

Install rtl8812au-dkms Using apt

Kernel 5.15.0-46 under Ubuntu 22.04 seems to have some compatibility issue with rtl8812au-dkms|4.3.8.12175.20140902+dfsg-0ubuntu15.
If you were facing it, you should go Install build dkms from source code below and install it.

Update apt database with apt using the following command.

target

```
sudo apt update
```

After updating apt database, We can install rtl8812au-dkms using apt by running the following command:

target

```
sudo apt -y install rtl8812au-dkms
```

Install build dkms from source code

Clone the driver source from GitHub and the driver source must be copied to **/usr/src/8812au-4.2.2**

target

```
git clone https://github.com/gnab/rtl8812au
sudo cp -a rtl8812au /usr/src/8812au-4.2.2
```

Then add it to DKMS:

target

```
sudo dkms add -m 8812au -v 4.2.2
sudo dkms build -m 8812au -v 4.2.2
sudo dkms install -m 8812au -v 4.2.2
```

WiFi Module 5B and 5BK

Clone the driver source from GitHub.

target

```
git clone https://github.com/brektrou/rtl8821CU
cd rtl8821CU
```

Add this to DKMS.

target

```
sudo ./dkms-install.sh
```

If steps above worked fine and in order to avoid periodically having to make usb_modeswitch you can make it permanent
Then add the following contents to enable the WiFi feature in every boot.

Before editing usb_modeswitch rules, check whether it is on the list or not.

target

```
grep ".0bda.*1a2b" /lib/udev/rules.d/40-usb_modeswitch.rules
```

If it shows us as below, you don't need to add the line.

target

```
ATTR{idVendor}=="0bda", ATTR{idProduct}=="1a2b", RUN+="usb_modeswitch
```

```
'/%k'"
```

If the line doesn't show up, edit **usb_modeswitch rules**.

target

```
sudo vi /lib/udev/rules.d/40-usb_modeswitch.rules
```

Append before the end line **LABEL="modeswitch_rules_end"** the following:

target

```
# Realtek 8821CU Wifi AC USB
ATTR{idVendor}=="0bda", ATTR{idProduct}=="1a2b",
RUN+="/usr/sbin/usb_modeswitch '/%k'"
```

Reload udev rules to apply the changes without rebooting.

target

```
sudo udevadm control --reload-rules && sudo udevadm trigger
```

- If you lost the WiFi module 5B after rebooting your system, you can re-enable that by using the following command. To do this automatically, there're so many ways to do that such as using systemd, an init script, or a Python script.

target

```
sudo udevadm control trigger
```

References

1. GitHub for rtl8812au driver and DKMS
2. GitHub for rtl8821cu driver and DKMS